

Report No. 11176-UA

Ukraine

Employment, Social Protection, and Social Spending in the Transition to a Market Economy

April 14, 1993

Europe and Central Asia Departments III/IV (EC3/4HR)
Human Resources Division

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CURRENCY EQUIVALENTS
Currency Unit-Karbovanets (Krb)

Exchange Rates: KRB per \$
(End of Period)

| | |
|---------------|------|
| December 1992 | 715 |
| March 1993 | 2000 |
| April 1993 | 3000 |

WEIGHTS AND MEASURES
Metric System

GLOSSARY OF ABBREVIATIONS AND ACRONYMS

| | |
|--------|--|
| AIDS | Acquired Immune Deficiency Syndrome |
| BCG | Tuberculosis vaccine |
| BMW | Bavarian Motor Works |
| CEM | Country Economic Memorandum |
| CSFR | Czech and Slovak Federal Republic |
| DPT | Diphtheria, pertussis, and tetanus vaccine |
| EC | European Community |
| ES | Employment Service |
| FY | Fiscal Year |
| G7 | Group of Seven (highly industrialized countries) |
| GDP | Gross Domestic Product |
| HIV | Virus hypothesized to causes AIDS |
| IAS | Industrial Adjustment Service |
| ILO | International Labor Organization |
| IMF | International Monetary Fund |
| MOE | Ministry of Education |
| MOF | Ministry of Finance |
| MOH | Ministry of Health |
| MOL | Ministry of Labor |
| MOS | Ministry of Statistics |
| MSW | Ministry of Social Welfare |
| OECD | Organization for Economic Coordination and Development |
| R | Ruble |
| SDR | Standardized Death Rate |
| SSR | Soviet Socialist Republic |
| SSUZ | Technical college |
| UN | United Nations |
| UNDP | United Nations Development Program |
| UNFPA | United Nations Family Planning |
| UNICEF | United Nations International Children's Emergency Fund |
| USSR | Union of Soviet Socialist Republics |
| VUZ | Universities |
| WDR | World Development Report |
| WHO | World Health Organization |

FISCAL YEAR

January 1 to December 31

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During the mission, members participated in a seminar on July 7, 1992, to discuss 15 background reports that had been prepared by Ukrainian consultants. Titles of the reports and their authors are listed in the bibliography. The background reports provide an invaluable base for understanding and analyzing social sector issues in Ukraine.

Mr. Basil Kavalsky, Director, Europe and Central Asia Department IV, led discussions of the draft report with government officials, February 1-5 1993. Mr. Mykola Zhulinsky, Vice-Premier, Humanitarian Affairs, coordinated the government's response. Bank staff, which included Ms. Michelle Kiboud, staff economist, and Mr. William McGreevey also met with members of Parliament and the press.

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ACRONYMS AND ABBREVIATIONS

| | |
|---------------|---|
| AIDS | Acquired Immune Deficiency Syndrome |
| BCG | Tuberculosis vaccine |
| BMW | Bavarian Motor Works |
| CEM | Country Economic Memorandum |
| CSFR | Czech and Slovak Federal Republic |
| DPT | Diphtheria, pertussis, and tetanus vaccine |
| EC | European Community |
| ES | Employment Service |
| FY | Fiscal Year |
| G7 | Group of Seven (highly industrialized countries) |
| GDP | Gross Domestic Product |
| HIV | Virus hypothesized to causes AIDS |
| IAS | Industrial Adjustment Service |
| ILO | International Labor Organization |
| IMF | International Monetary Fund |
| MOE | Ministry of Education |
| MOF | Ministry of Finance |
| MOH | Ministry of Health |
| MOL | Ministry of Labor |
| MOS | Ministry of Statistics |
| MSW | Ministry of Social Welfare |
| OECD | Organization for Economic Coordination and Development |
| R | Ruble |
| SDR | Standardized Death Rate |
| SSR | Soviet Socialist Republic |
| SSUZ | Technical college |
| UN | United Nations |
| UNDP | United Nations Development Program |
| UNFPA | United Nations Family Planning |
| UNICEF | United Nations International Children's Emergency Fund |
| USSR | Union of Soviet Socialist Republics |
| VUZ | Universities |
| WDR | World Development Report |
| WHO | World Health Organization |

EXECUTIVE SUMMARY

INTRODUCTION

1. The purpose of this report is to assess how well Ukraine's economy, society, and government are dealing with the challenge of adjustment to market determination of prices and production. Can labor-market policies see workers through the transition to a economy based on private production without their first descending into poverty? Is there an adequate social safety net to protect the poor, the disabled, and pensioners? Will public social services of education and health survive in a market economy, offering basic support to all citizens, regardless of their success or failure under competition? The answers to these questions will affect policy makers' attitudes and actions on virtually all aspects of economic policy. Without adequate security, the process of economic change, insofar as it requires positive action by government, will be slowed and distorted by fear of the unknown. Decisionmakers need to know what to expect, what policies can ease the transition, and what decisions will promote economic development while assuring an enhanced level of well-being for all.

2. This report lays out a strategy for Ukraine to make the transition to a market economy in the social sectors, taking into account the widespread system of benefits and the high spending on education and health inherited from the former Soviet Union. A central part of the strategy is the need to protect vulnerable groups during the transition but within a financially sustainable framework. After a description of social conditions and social protection in Chapter 1, it considers the

shift of the labor force from a command to a market economy; second, it examines the advantages of converting the current system of social protection to a poverty-focused, sustainable safety net approach, including support for labor-force reassignment; and third, it explores opportunities for enhancement of the efficiency and quality of social service, education, and health programs. Key elements of these programs must be maintained through the transition as part of a safety net and as a cornerstone of policies encouraging economic growth investments and in human capital.

3. The introduction of effective macroeconomic policies, reform of the enterprise sector, price reform, and financial restructuring all require an effective social safety net. Social policies, the subject of this report, are an integral part of any economic reform in Ukraine and cannot be neglected or deferred. National economic leadership must ensure that the social costs of adjustment are anticipated and to the extent possible provided for, and that the implementation of policy changes minimizes the social pain of conversion.

CAN UKRAINE AFFORD ITS PROGRAM OF SOCIAL PROTECTION?

4. The cost of the overall package of social protection amounted to over 40 percent of GDP and two-thirds of consolidated spending by Ukraine's state, social funds, and oblast budgets in 1992. This share of GDP assigned to pensions, allowances, subsidies and social services far exceeded the estimated level of 25 percent of GDP allocated to social spending in 1989/90. Virtually no other government in the

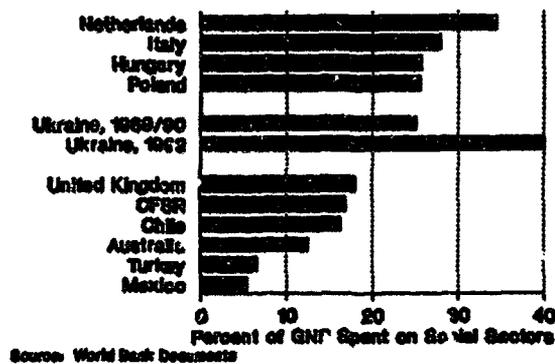


Figure S.1: International Comparison of GDP Devoted to Social Sector Spending

world bears such a burden (see Figure S.1). This high share is the result of the several negative changes. Most significant has been the collapse of output in state enterprises since 1989, thus lowering the denominator, which is GDP. Another factor was the effort to protect the real value of pension benefits paid to 13.5 million recipients, stipends and in-kind assistance for 11.4 million students, and salaries paid to the nearly 6 million employees from state and oblast budgets, over half of whom deliver education and health services as part of the social safety net. The burden of providing benefits or wages to nearly two-thirds of the population, with only one-third working on directly-productive activities has come to, exceed any possibility of the economy and government to finance it.

5. This report seeks to identify a basic safety net that can protect those most in need and to find ways to reduce public outlays among those current beneficiaries who can get along without subsidy, at least until the transition to a market economy is well along and the economy has been stabilized. In the near term, however, even the best prepared safety net will fail to protect Ukraine, absent a sound macroeconomic environment with price stability and balance between revenues and expenditures in the public accounts.

6. The data in Table S.1, and in other tables on which it is based, provide a framework in which to analyze the problem of aggregate social spending. These data express public social spending as a share of GDP, which is a measure of economic output that can be expected to change substantially over the next several years. Between 1990 and 1991, for example, GDP declined by about 15 percent, and there was a further 14 percent decline between 1991 and 1992. Thus the denominator of this ratio, because it is not a constant, complicates the interpretation of aggregate social spending. For example, if the economy contracts further in 1993, social sector, then spending, for pensions, allowances, and wages for education and health workers, among other things, would all have to contract even more than does the economy as a whole. Otherwise, the goods-and-services producing sectors of the economy, which are the source of current wages and current consumption, would have to contract relative to the system of social protection. It is difficult to imagine how the pressing needs of current consumption, exportable products that can pay for imports, and expansion of the private sector could occur with so heavy a burden of taxation to pay for social protection. Looking further into the future, once the phase of output expansion begins, resources for the social safety net can grow with the rest of the economic system.

7. In 1992, there was a notable increase in the *share* of public resources allocated to social protection and social services (Table S.1); if this level is unsustainable, as is argued later in this summary and in this report as a whole, some principles must govern the means by which the obligations of the state are trimmed back to a level that can be financed. A principle that has guided analysis in other countries of Eastern Europe and the former Soviet union is that those who are poor, or are likely to be made poor by the events associated with the collapse of output, must be *protected fully* against erosion of their levels of living with adequate subsidies and social services. A first step in articulation of

this principle is establishment of a realistic poverty line, which may be considerably lower than a level of living that the government might currently wish to protect. *The Plan of Action* for 1993 of the Government of Ukraine recognizes that "payments are made even to the wealthiest strata of society." Concentrating resources on the poor and vulnerable groups is even seen as an essential policy decision. Financing difficulties led the government, early in 1993, to propose cutting the number of family-allowance recipients down to two million families from what had been 20 million families.

This step would require that government have available some means to identify poor and vulnerable groups, building on demographic characteristics, such as family size, structure, and composition, and including features of residence, disability, and dependency on friends or relatives outside the household, as well as economic means that include the ability to work and to earn from past saving". The identification of those poor and vulnerable enough to require public assistance will change, perhaps dramatically, over time if unemployment strikes specific regions or single-industry towns,

Table S.1: Past, Current, Suggested, and Sustainable Policy for Public Social Spending

| Spending Category | Percent of GDP under Alternative Approaches | | | | Policy Actions Required |
|--------------------------------------|---|---------------------|----------------------------|---------------------------------|---|
| | Actual Experience in 1989/90 | Current Policy 1992 | Suggested Program for 1993 | Sustainable Program Beyond 1993 | |
| Employment and Labor Market Policies | — | 0.8 | 2.4 | 3.7 | Expand active policies by strengthening Employment Service; all cash benefits at single rate near minimum wage |
| Pensions | 8 | 13.9 | 11.3 | 7.7 | Flat-rate pension for 1993 near minimum wage; introduce personal saving accounts in 1994; gradually raise retirement age beginning in 1993 |
| Family Allowances | 1 | 8.8 | 6.2 | 3.4 | Target on Single Parents and families with three or more children, and elderly living alone |
| Consumer Subsidies | 8 | 5.1 | 3 | 0 | Reduce in 1993 then eliminate all untargeted subsidies after 1993 |
| Education | 5 | 7.8 | 7.0 | 6.0 | Reduce unnecessary staff by attrition; eliminate stipends for foreign students; reform vocational training to support active labor policies |
| Health | 3 | 7.7 | 7.0 | 6.0 | Reduce hospitalizations and staff with out-patient care; cut numbers of new medical students; expand pharmaceutical imports and production for selected essential drugs |
| Total | 25.0 | 44.1 | 36.9 | 26.8 | Introduce budgeting by objective in selected ministries |

Source: See Tables 4.2, 6.4, 7.3, 8.8, and 9.7 for sectoral details for 1992 and beyond. Estimates for 1989/90 based on IMF, World Bank, OECD and EBRD (1991).

so government must have the capacity to monitor continuously and reshape its policies to address new needs. The groups and their needs once identified, government must then establish benefit levels necessary to keep those at risk out of poverty. As prices continue to rise, benefits would of course have to be adjusted periodically to assure respect for the principle that those at risk be protected fully.

8. A second principle is that all benefits above the poverty line should be continued only to the extent that resources permit. The collapse in output, should it continue into 1993 and beyond, will severely limit the capacity of the state to make its principal transfer payments to retirees, the disabled, and other pensioners, as well as to Chernobyl victims, workers on sick leave, families with minor children, and, most notably, the unemployed, displaced workers. Available resources may be driven down, for a time at least, to a level that would permit no payments, even those representing clear and certain obligations of government, beyond social protection for the poor and vulnerable. At that point, government must make hard choices that distinguish falling into poverty from maintenance of a reasonable standard of comfort. Inaction, or lack of a clear policy choice in favor of protecting those at greatest risk, would probably result in acute misery for a significant share of the poorest, particularly the rural elderly living alone and children in single-parent households.

9. The 1989-1990 program, which required 25 percent of GDP, was barely sustainable, and it left many of the rural poor uncovered while still permitting inefficiencies and overstaffing in the area of social services. The 1992 program required more than two-fifths of GDP and is a source of macroeconomic destabilization. A strategy to reduce social-sector spending substantially in 1993, and to return to a sustainable level by the following year would include three key features:

- Shift resources to favor cash benefits for vulnerable groups, training for displaced

workers, curriculum development in technical training, and strengthening of basic maternal and child health services;

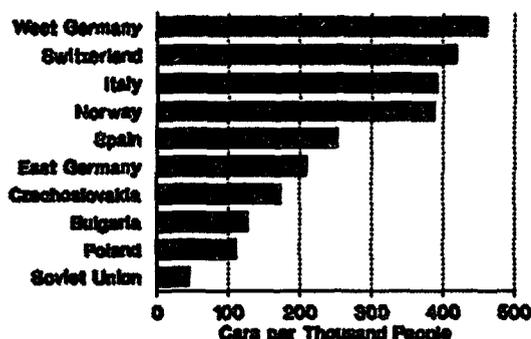
- Reduce public spending on food subsidies, pensions for persons that remain in the work force, stipends for students who can finance their own education, and general family allowances given irrespective of need;
- Seek efficiencies in social-services spending by reducing unnecessary staff, introducing innovative approaches such as outpatient treatment in health and computerized learning in education, and expanding the role of private providers who can cut costs but maintain quality.

The strategic vision cannot be one principally of expenditure reductions but rather of shifting resources to priority tasks of government. One means to assure that programs improve social conditions and provide social protection is to introduce a systematic budgeting arrangement for all social spending. Budgeting by objective is one approach to consider. Such a technique requires that all users of public social funds present their program goals and intended approaches for central budget review, usually by the Ministry of Finance. Allocations then depend on the importance of the goals and the cost-effectiveness of the approaches offered.

10. The central economic authorities can help the line ministries increase their effectiveness by challenging them to use resources more efficiently toward very specific program objectives. Reorganization of the more than sixty family allowances and other benefits will require direction from a central authority; reshaping labor-market policies to get a more effective response from training programs offered by the Ministry of Education will also require inter-ministerial coordination that would be difficult to achieve without central direction.

11. Private sector development in support of

a public social safety net will depend on the creation of a sound legal framework, which does not currently exist. The government must create both laws and detailed regulations that clarify the rules of the game for such complex new tasks as tax accountancy, privately-provided training, and a structure of fees and prepayments for health-care services. Progress will be slow until the framework for private initiative is in place.

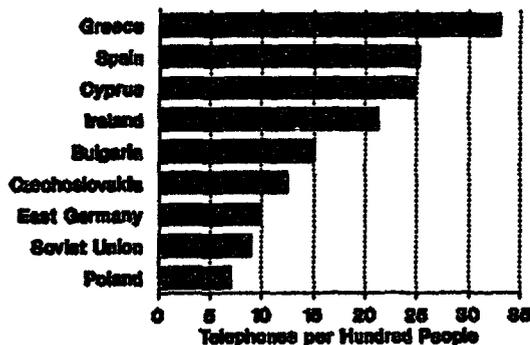


Source: Korndt 1990, 304-305

Figure S.2: International Comparison of Density of Automobile Ownership, 1987

THE PROBLEM OF EMPLOYMENT

12. On the day in December, 1991, that Ukrainians voted for the nation's independence, there was virtually no open unemployment -- the recorded rate was less than 0.2 percent. In that same month unemployment ranged between 2 percent (Japan) and 11 percent (Canada and France) in the G7 countries. Was Ukraine



Source: Korndt 1990, 304-305

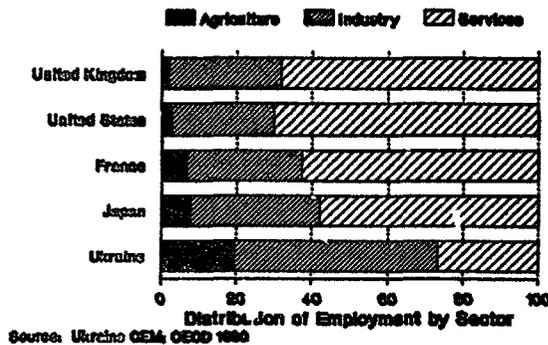
Figure S.3: International Comparison of Density of Main Telephone Lines, 1986

therefore better off with its full employment? The answer is no: The command economy, based on state orders, did not force high-cost producers to cut costs to be competitive or respond to consumer demand by combining low price and high quality that could win markets. On two measures of consumer demand, the availability of private automobiles and telephones, the USSR was far below both Western and Eastern European countries (see Figure S.2 and Figure Figure S.3). With the change to consumer-demand-driven production, the structure of output and the demand for labor will change dramatically as well. As they move into new productive activities, especially in the private sector, some periods of unemployment for millions of workers is almost inevitable.

From Command to Market Economy

13. The command economy operates like a single firm; exchange between departments is carried on with orders for physical balances, and central decision makers cause each branch or state enterprise to operate as part of a fully-integrated unit. Enterprises deliver specified quantities of outputs but are left to acquire inputs, especially labor, with no requirement to minimize costs or to achieve cost-effective strategies in production. Without the price signals of a market economy, enterprise managers acquire all the labor they can: By construction of whole cities, as with new mining or manufacturing enterprises located outside existing urban centers; provision of education, day care, health services, vacation centers and other nonwage remuneration that could attract workers when direct wages were fixed by central authorities. The command economy produces wholesale hoarding of labor to assure adequate stocks to meet the only goal of the central planning authorities, namely, to produce a specified quantity of output from the firm, regardless of the inputs used. Such a firm would, because of the inefficiently high costs of inputs, expire in a market economy. Where efficient competitors would sell products below the cost of this very large firm.

14. In most respects, the Ukrainian economy in 1993, after more than a year of political independence from central authorities in Moscow, continues to operate like a command economy, though with the further debilitating



Sources: Ukraine OEM; OECD 1988

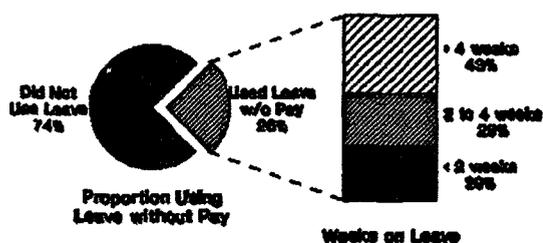
Figure S.4: International Comparison of Employment by Economic Sector, Late 1980s

absence of clear central direction and a vast breakdown in the flows of inputs and outputs that characterized the integrated firm that was the Soviet economy as recently as 1985. The structure of the economy's labor force is decidedly different from that of high-income (OECD) and upper-middle-income economies. A larger share of Ukrainians work in agriculture and industry, a smaller share in services (see Figure S.4). Even in the services sector, as will be clear in the discussion below about education and health services, there are significant distortions that have led too many into public employment and too few into service occupations that are usually found in the private sector of developed economies. Restructuring the labor force will be quicker and easier if the government abandons the system of resident permits and the practice of imposing a tax on the employer or employee when a permit is issued (the *propiska* system). Overall, a third of Ukraine's labor force will have switched from primary and secondary, and into tertiary service activities, by the end of the transition to a market economy.

CONFRONTING UNEMPLOYMENT

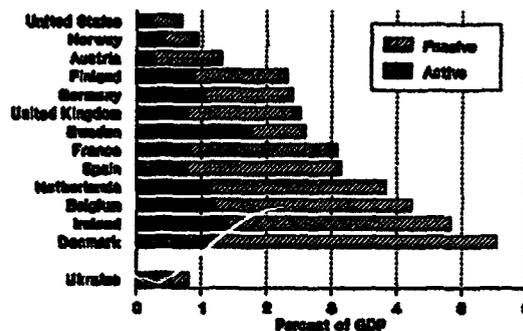
15. All OECD countries combine, in different measure, *active* and *passive* labor market policies and spend in a range from less than 1 percent of GDP to more than 5 percent (see Figure S.6).¹ (Chapter Notes appear at the end of the text). Sweden, which is in the middle of the range, relies on active labor market policies; the United States favors passive incomes support, and most other countries blend these approaches. Since March 1991 Ukraine has had an Employment Fund, managed by the Employment Service (ES) of the Ministry of Labor, that can finance both active and passive policies. In 1992, active labor market policies will use 62 percent of Employment Fund resources, 28 percent will go to passive policies, especially cash benefits to laid-off workers, and administration will absorb the remaining 10 percent. These services are financed by a 3 percent payroll tax on enterprises that provided 18.8 billion rubles to the Employment Fund, in 1992. Total cost was 0.8 percent of GDP in 1992, excluding the three-month severance pay that enterprises must give to redundant workers. When unemployment eventually rises, more resources and a wage-tax rate higher than 3 percent will be needed unless general revenues can be allocated to employment services.

16. The illusion of full employment is beginning to disappear. A recent survey by the Employment Service of the Ministry of Labor asked 333 firms that employ nearly half a million people how many are on unpaid leave. About a quarter of all workers were in such a position in the first half of 1992, many on leave for a month or more (see Figure S.5; Chapter 2 offers further details). Today's hidden unemployment would become open if enterprises lose access to credit and their managers sense an irreversible collapse of demand. The social and political costs of mass layoffs are high, and government will probably put them off as long as possible; in Eastern Europe, about two years elapsed between the start of adjustment and the point at which unemployment began to rise.



Source: Survey of 233 Enterprises

Figure S.5: Industrial Employees on Leave without Pay, 1992



Source: OECD, various estimates for Ukraine

Figure S.6: Percentage of GDP Spent on Active and Passive Labor Market Policy in OECD Countries and Ukraine, 1992

Based on that experience and the 25 percent decline in output so far in Ukraine, there may be 3 million unemployed, about 12 percent of the labor force, by 1995. Chapters 3 and 4 consider what measures can be taken to reduce the negative impacts of unemployment but also examines ways in which the transition can enhance Ukraine's productivity in the future with active labor market policies.

Active Labor Market Policies

17. Expenditure on active policies divides equally between job matching (creation) and training/retraining. Worker retraining, job and skills matching for the unemployed can pay for themselves and can be a cost-effective solution to rising unemployment as command economies undergo the transition to a market economy. A policy of equipping displaced workers with new skills can increase their employability and facilitate their movement into new jobs. In 1992, ES retrained only 2,500 of some 30,000 unemployed workers. If unemployment were to rise to 3 million, a hundred times the current level, ES would face a considerable challenge to expand its active labor market policies. With adequate external technical and financial assistance, it can do so. The Employment Service needs computers to automate its job-matching service; advice on software development to make its systems work; training

for its staff; and, perhaps most important, assistance in reforming worker training programs, which must be made much more flexible to deal quickly with the needs of the large numbers of displaced workers. Private-sector, enterprise-based training where skill requirements are well understood, have proved to be the most successful training programs. Experience in OECD countries suggests that early interventions in cases of mass layoffs can shorten the period of unemployment and get workers reemployed. Assistance to the unemployed to create small enterprises and to purchase raw materials and production tools can increase the productivity of the displaced worker who is willing to become self-employed. Such programs may be suitable for 2-3 percent of displaced workers and must include complementary services of technical assistance on production, marketing, accounting, and management.

18. At the same time, there is a need to assure a minimum *absolute* level of consumption to poor and vulnerable groups that might fall below a subsistence level. It is unlikely that many people fail to meet minimum caloric standards. Nonetheless, government must be

vigilant about the risks of undernutrition. Protection of the needs of future generations, now at risk of malnutrition, must receive high priority in assigning the limited resources available to the needs of poor and vulnerable groups.

Passive Policies: Unemployment Benefits

19. Enterprises must pay 100 days of wages from the date of notification of layoff, according to the March 1991 Employment Law. Thereafter, the dismissed worker reports to the local employment office and is eligible, after a ten-day waiting period, for cash benefits, which are 75 percent of the worker's past average wage for the next three months and 50 percent of average wage for the following six months but never less than the minimum nor more than the average wage.

Passive Policies: Wage Subsidies

20. Some employment offices use Employment Fund resources to pay wage subsidies to selected state enterprises to induce them to keep redundant workers. Wage subsidies will slow the pace of adjustment. International experience suggests that the costs of such subsidies far outweigh any benefits, because they just substitute the unemployment of one group for another and go mostly to labor-intensive enterprises that hire unskilled workers even without subsidy.

What Works Best

21. Active labor-market policies can help address the problem of unemployment and should not be crowded out by the need to provide unemployment benefits. With training, displaced workers can find new jobs; spending on an active Employment Service that counsels workers may pay off in a faster transition to a new work environment; and a job-matching program can facilitate job search. Nonetheless, mass layoffs will put a premium on spending Employment Fund resources on immediate cash

benefits, which may be essential social protection but do little to put workers in new jobs. The conflict between these two uses of a single source of money suggests that separate financing may be essential. A solution may be to guarantee that not less than half of Employment Fund resources should be assigned to active labor market policies. For example, if the need for cash benefits exceeds half of Employment Fund resources in any three-month period, those needs should be financed from general revenues of the state budget.

Design of the Unemployment Benefit

22. With millions unemployed, it will be much simpler to pay all claimants the same benefit, regardless of their past wage; to scale payments individually would swamp the capacity of the ES. An alternative would be to set two or three payment levels depending on age and experience. In Poland, an earnings-based system proved to be too expensive and complex. Additional cash benefits based on family size should be eliminated as they are inconsistent with the principles of an insurance system. There is little justification for giving benefits to voluntary quits, school leavers, and other new entrants to the labor force. The current cost of benefits would be cut 16 percent by excluding these claimants. Money saved from unnecessary benefits can be devoted to help train the unemployed and find them new jobs.

Employment Program Administration

23. The ES staff is adequate to handle 1993 year-end estimates of 400,000 unemployed. Mass layoffs may not occur at all in 1993, and substantially higher unemployment could be forestalled until 1995. There is time to prepare adequately to address the problem. That preparation will require four steps:

- Training.** Train ES staff in management and provision of active labor-market services of job matching, early intervention in mass layoffs, training program development and management,

and administration of a cash-benefits system.

•**Procurement.** Procure essential equipment and software to support staff work and training.

•**Infrastructure.** Develop training-program infrastructure in cooperation with the Ministry of Education and private entities that can offer training.

•**Monitoring and Analytic Capacity.** Enhance capacity to monitor and respond to the changing labor market, both mass layoffs in failing state enterprises and new employment opportunities in the private sector.

The Ministry of Labor must begin soon to reassign staff and train them for work in the ES; it must also acquire a management information system and related equipment (between 1,500 and 5,000 personal computers) as soon as possible to support staff work. The Ministry of Labor has a management plan for this area of its work and has itemized its needs for staffing, technical assistance, and training, some of which will require substantial external assistance. The World Bank and others could help in this area, beginning with an assessment of needs and consultant services on system design; assistance with the procurement and set-up training and support would be warranted.

24. In Table S.1, the line entitled "Employment and Labor Market Policies," describes current, suggested, and sustainable spending in these areas, as a percentage of GDP, for the years 1992, 1993, and beyond 1993, respectively. There is then a summary statement of policy actions required in this area of social sector policy. This line appears in Chapter 4 as the bottom line of Table 4.2 (page 62), which provides further details about spending and policy actions that are discussed in the full text of this report. Table S.1, Table S.2 (page 19) is similar to Table S.1, except that it offers details on a possible program of external technical and financial assistance that could support government policies in this area. This same

approach at summarizing policy action required, and possible external technical and financial assistance, is followed in each of the areas reviewed for this report.

SOCIAL PROTECTION

25. Social protection under socialism included labor pensions related to labor or labor service and social pensions paid to the dependent or disabled. The basic legislation regulating cash transfers includes the 1956 all-union law on pensions for workers and employees, the 1965 all-union law on pensions for collective farmers, and the 1990 pension law, which provided that cash-transfer payments, at a base rate of 55 percent of pre-retirement wages, are not taxable and are paid regardless of other income. The 1990 law increased the cost of benefits, and the numbers receiving them, considerably; there were then 9.7 million old-age and disabled pensioners in Ukraine, and the number had grown to 13.5 million by the middle of 1992, including 362,000 people in the security sector (see Figure S.7).

26. Recently, over half the population received one or more cash benefits: A quarter of the population receive disability, retirement, or survivors' benefits; twenty percent receive student stipends and related free board and room; over half receive family allowances for children under age sixteen; more than 10 percent received Chernobyl Fund payments and a small percentage receive unemployment benefits. The state subsidizes food, transportation, and shelter. Education and health care are provided at no cost at the point of service; enterprises provide day care services for children under age six, paid maternity leave for three years, and vacation sanatoria for employees. Ukraine has implicitly adopted a policy of income smoothing that complements its assistance to low-income families. Periodic wage adjustments and the expansion of the numbers of pensions and family allowances are recent steps taken to insure against declines in real incomes, even for those

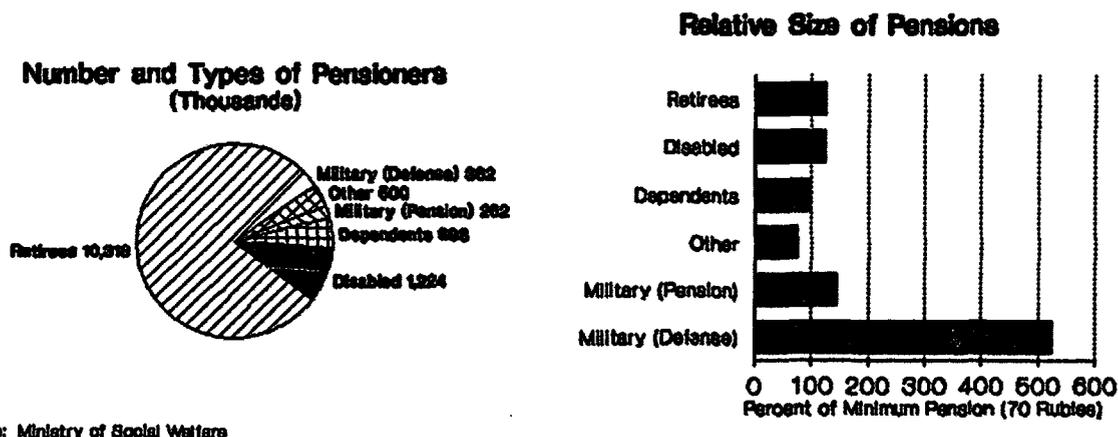


Figure S.7: Pensioners and Their Benefits, January 1, 1992

well above poverty levels. A major issue is whether the objective of income smoothing can be pursued simultaneously with social protection for the poor and vulnerable during conditions of extreme austerity.

27. In the longer run, the principles of risk sharing, social insurance, and earnings-related benefits should gradually be restored as the economy strengthens and public obligations no longer constitute a threat to macroeconomic stability. Unemployment insurance and workers' compensation are prepaid benefits with fee schedules that vary by industrial group according to risk in many OECD countries. Successful social insurance schemes protect members of many societies from income loss associated with illness and aging and against the risks of high costs for health care where private medicine prevails. Government can create a regulatory framework that encourages saving so that individuals and families self-insure for their old age and other financial needs and risks that differ widely from person to person. All these steps require a broad legal framework that defines private-sector development and its responses to the demand for financial services that help reduce social risk. Experience among Eastern European countries in recent years indicates that false steps in these areas,

particularly in the design of unemployment and health-insurance schemes, may prove to be costly and thus must be carefully conceived prior to implementation.

Retirement, Disability, and Survivors' Benefits

28. Pensions are the largest component of the social safety net, and they are essential to the well-being of millions of the elderly poor and disabled. At least several million live on the edge of poverty in rural areas, often alone and with no relative to provide any means of support. Eight million of the pension beneficiaries have income so low as to qualify for low-income allowances. Data from the 1989 census show that 10.9 million people have passed retirement age of 55 for women and 60 for men; their numbers are projected to grow to 12.3 million in the year 2000 and 12.6 million in 2010, thus increasing the demands on pension fund resources.

29. There are anomalies in the pension law. Benefits are not provided to the elderly because they retire; they are provided automatically because of reaching retirement age. Thus as many as a quarter of the 11 million recipients of retiree pensions continue to have wage earnings. A quarter of disability pensioners may also be

working because once the pension is awarded it is permanent, and many of those declared disabled subsequently recover and return to work. Some workers, of whom miners are perhaps the largest group, can begin to receive a pension on the basis of 20 (women) or 25 (men) years of service completed, which may occur well before pensionable age is reached. About 7 percent of workers retire early on this basis. Reducing some of the payments to some of these recipients would probably not cause them to fall into poverty.

30. Despite the obvious importance of pensions in the well-being of many recipients, there may be ways to reduce pension payments while maintaining benefits for those who need them. One option is to allow inflation to erode the real value of pensions to a level that can be financed. The burden of that policy will fall heaviest on those least able to defend themselves from price increases, the poorest members of society. A second option, the one recommended here, is to eliminate benefits to those who do not urgently need them. Several measures could, when taken together, result in significant reductions in payment while still protecting poor and vulnerable groups:

- **Retirement Age.** Raise normal retirement age to 62 or 65 for both women and men. Men have a life expectancy of 72.4 at age 60, women's life expectancy is 79.5 at the same age, so there is little justification for earlier retirement for women. The reduction in the dependency burden is shown in Figure S.7 for the year 2000 and 2010. Retirement age could be raised by one year for each of the next two or five years for men and by one year for each of the next seven or ten years for women, and current beneficiaries would not lose their entitlements. By the year 2000 pension payments would be 20 percent lower than they would have been without raising the retirement age, which is equivalent to about 3.5 percent

of GDP.

- **Benefits.** Reduce the benefits of the 25 percent of elderly and disabled pensioners who continue to work, saving up to 19 percent of total pension spending.
- **Early Retirement.** Abolish the option of early retirement, saving up to 5 percent of total pension spending.

Raising retirement age would yield no immediate savings since that reform would have to be phased in gradually over a number of years. It may also be inappropriate to cut all benefits to those still working or who retired early. The Government of Ukraine is reviewing its options but does not expect to raise retirement age immediately.

Personal Security Accounts

31. A more attractive option than raising retirement age, one being considered in the Ministry of Social Welfare, is to institute a system of personal-security accounts that would permit a more flexible approach to retirement. Able-bodied workers could continue to work as long as they wish, with related provisions for many means to transfer pension rights to third parties or to use them for such purposes as financing private annuities or other expenses that do not interfere with the income-security provisions of pension law.² Personal accounts could be built initially with the distribution of ownership rights in mutual funds made up of publicly-distributed shares of privatized state enterprises. Retirees' claims to such shares could be designed as annuities that, like current retirement benefits, terminate with the recipient's death, the shares then reverting to the Pension Fund for subsequent distribution to new claimants. Identification of practical designs for such a scheme would merit high priority in any program of external technical assistance.

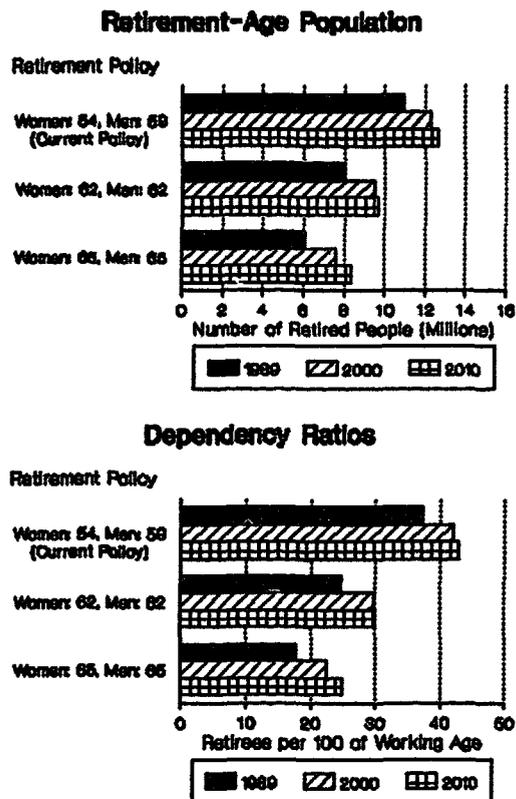
32. To reduce pension spending along lines

suggested for 1993 in Table S.1, that is, to reduce the share of GDP allocated to pensions from 13.9 percent of GDP in 1992, to 11.3 percent of GDP in 1993, and 7.7 percent of GDP beyond 1993, would require that immediate measures be undertaken on an emergency basis: Introduce a *unitary benefit* for all pensioners at a level that protects pensioners fully against the risk of acute poverty. This flat-rate benefit would be a temporary measure until the economy improves. Such a change could result in savings equivalent to about 30 percent of total pension spending, about 4 percent of GDP. The cuts would fall on those best able to absorb them; they would leave a program that should improve the safety net for the most vulnerable pension recipients.

33. Table S.1, Table S.2 suggests key areas of external technical and financial assistance that would be required to strengthen pension programs. These include advice on data collection and analysis to describe more accurately the characteristics of the recipient population by age, sex, income, residence, family size, support systems, and other features that would inform the Ministry of Social Welfare about the needs of the beneficiary population. The ministry and the pension fund also need advice on how possible changes in benefits will affect various individuals and groups in the population. There is also the need to strengthen management and administrative capability given the great responsibilities placed on these agencies.

Allowances and Benefits

34. In 1992 Ukraine offered over 60 cash allowances and assistance programs, some aimed at low-income and vulnerable groups, others designed for the general population, and those targeted to Chernobyl victims. Benefits targeted to Chernobyl victims accounted for 39 percent of social assistance spending; aid to vulnerable groups, 37 percent; allowances available to the population as a whole, 23 percent. Many



Source: World Bank Projections

Figure S.8: Effects of Alternative Retirement Age Policies on Number of Retired and Dependency Ratios, 1939 through 2010

allowances did not differ substantively from one another; simplification and reduction in the number of benefits is an objective that led the government to recommend a new, simpler program early in 1993. Still, many allowances are funded, administered and distributed by several agencies; others are funded by one agency, administered by a second and distributed by a third. Government spent less on family allowances in the past than it does now; Chernobyl costs were covered more broadly across the USSR, for example. According to

the data in Table S.1, these programs now require 8 percent of GDP. If they are to be reduced because of resource limits of government, the reduction should respect the need to protect vulnerable groups and other fundamental claimants to state support. The following suggestions point to programs that deserve priority and others that may be candidates for reduction:

- **Protect Important Benefits.** Allowances for sick pay, maternity leave, short-term disability, and benefits for Chernobyl victims, should be generally protected.
- **Shift The Burden of Sick Pay.** Enterprises should be held responsible for sick pay and at least some portion of short term disability pay to avoid overburdening the sickness fund.
- **Retarget Other Benefits.** Most other benefits should be offered only to families in specific vulnerable groups.³

Savings from these guidelines could be as much as 25 percent of total allowance spending in the first year it was implemented. Details of recommended changes appear in Chapter 7. Again in reference to Table S.1, a reduction of spending in this area from 8.8 percent of GDP in 1992 to 6.3 percent of GDP in 1993, and 4.4 percent thereafter would be in the right direction of fiscal balance while protecting the needs of vulnerable groups. Early in 1993, the Government of Ukraine was already taking steps in the right direction by reducing the number of benefits and targeting those that remain on vulnerable groups.

35. There is considerable need for technical assistance to support reforms in this area (see Table S.1, Table S.2). The most important would be to help the government reorganize and rationalize its many programs. Budgeting by objective could combat the likely waste that may have emerged over time in the proliferation of

programs.

Consumer Subsidies⁴

36. Consumer subsidies, especially those for food, were meant to compensate for the immediate price increases expected in January 1992; the government proposed to abandon them thereafter. In the event, consumer subsidies cost 5.1 percent of GDP in 1992. There is general agreement that such subsidies are inefficient as a means to provide social protection; their elimination could thus save 5 percent of GDP. Part of that savings could complement family allowances and assistance for pensioners living in poverty. The suggestions in Table S.1 recognize that elimination of all subsidies will not be possible in 1993, for which year 3 percent of GDP might still be expected to be spent. Thereafter, however, it should be possible to do away with this costly, inefficient, and inequitable use of resources.

PUBLIC SOCIAL SERVICES

37. Government in Ukraine finances and provides the key social services of education and health, and the budget needs of these essential activities should be protected and their quality enhanced where necessary. These programs are scheduled to spend 14 percent of GDP in 1992, far more than the 8 percent (5 percent for education and 3 percent for health) that was typical of the 1980s. Employment in these sectors has grown far faster in the past decade than in other sectors. Teachers and health workers now seek salary parity with the industrial sector where wages have traditionally been 50 percent higher. Increasing costs of imported pharmaceuticals, and the need to absorb the additional costs of converting to Ukrainian as the language of instruction, put added strains on these services. A major challenge is to maintain quality while reducing future spending in these areas back to the level, as a share of GDP, that prevailed before the current crisis.

EDUCATION AND TRAINING SERVICES

38. Ukraine has a large and diversified education system. Its coverage is extensive from preschool through secondary, and enrollment rates at post-secondary level compare favorably with those in countries with similar income levels. The dropout rate is negligible and the repetition rate is very low. Teacher qualifications are high, with most teachers in urban areas having several years of post-secondary education. There are 10.9 million full-time students, and hundreds of thousands of part-time students, enrolled in 47,500 establishments employing 1.8 million, of whom 1.1 million are teachers, resulting in an overall student/staff ratio of 5:1. And in higher education, Ukraine's student-teacher ratio is but a third to a tenth the level prevailing in most countries. In the 1980s, the number of teachers' college graduates nearly doubled, while education graduates at higher-level institutions increased by 60 percent. But there are now too few complementary resources for the education system to be able to maintain the level of quality already achieved.

39. Chapter 8 briefly describes the levels of instruction and some of the key issues at each level. The most serious problem is that resources are needed to introduce innovations in teaching, such as use of computers, modern software, new texts, and teaching materials that can raise the quality of instruction. Staff reductions, perhaps by attrition, could help solve the resource problem. It is vital to reform and strengthen education, but those objectives must be sought within the deteriorating financial resources that will realistically be available to the sector over the next few years. The Law on Education provides that 10 percent of GDP should be allocated to education, and other recent legislation proposes that teacher salaries should be made equal to those in manufacturing. Neither condition is feasible during this era of budget stringency.

40. Education spending, 7.8 percent of GDP

in 1992, should probably decline to 7 percent of GDP in 1993, and 6 percent of GDP thereafter, to what would be a sustainable level (Table S.1). Staffing ratios are high when compared to other countries, suggesting some possibility of saving on staff costs. UNESCO data show that developing countries spend 3.8 percent of GDP on education and developed countries spend 5.8 percent of GDP on this sector. The former Soviet Union spent roughly the same share as developed countries. These comparisons across countries and across time suggest that 6 percent of GDP for public education spending may be the highest sustainable level. These changes would be accomplished by several key measures:

- **Staffing.** Reduce staff to levels commensurate with the student-teacher ratios observed in other countries; cut the production of new teachers by the pedagogical institutes and schools.
- **Technical Curriculum.** Reform vocational and educational training and the technicums to make them better able to serve the needs of displaced workers who need retraining.
- **General Education.** Speed reforms of general education by introducing lycees, magnet schools, optional courses, and other innovations that are already proving to strengthen education.
- **Day Care.** Assist private-sector efforts to replace the declining role of enterprises in provision of day care.

There is an urgent need for a careful study of how many teachers will be required at each level, from preschool to higher education, and in the various sub-specialties of education. In the aggregate, raising student-staff ratios to the average level in developed countries would cut personnel costs by 44 percent and total education spending by 24 percent, to under 6 percent of GDP. Such a change could not and should not be accomplished overnight, but one million

productive former education staff could produce an additional 4 percent of gross product. The net gain to aggregate output could exceed 5 percent by the year 2000.

41. Along with staff reductions, education authorities could seek alternative means to finance education, including voluntary contributions, parental in-kind assistance in labor and goods, and, especially at higher levels of education, the introduction of tuition fees. Specific actions might include the following:

- **Complementary Services.** Save up to 4 percent by targetting the recently enacted free lunch for preschoolers to needy families; provide free textbooks, student stipends, and room and board only to students from poor families;
- **Foreign Student Subsidies.** Save 5 percent of the MOE budget by gradual attrition of the 20,000 foreign students now supported and suspension of any new invitations for costly, subsidized study;
- **Language of Instruction.** Introduce Ukrainian-language texts at a pace consistent with normal replacement to cut out extra printing costs;
- **Vocational Schools.** Eliminate some of the 1,242 vocational schools that cannot adapt to training for a market economy.
- **Displaced Workers.** Seek donor assistance, as Germany has already provided, that addresses training needs for displaced workers.

Early in 1993, the Government of Ukraine was already taking a number of these steps. The government will undertake more intensive study of key sector issues following up on the major conference report, "Ukraine Education in the Twenty-First Century," now being prepared.

HEALTH SERVICES

42. At birth, life expectancy in Ukraine was 70.5 years in 1990, well below most European neighbors. The infant mortality rate is also higher than in the rest of Europe although infectious and communicable disease has largely



Figure S.9: Potential Years of Life Lost by Cause of Death

been brought under control. The greatest loss of life in Ukraine, males and females considered together, is from circulatory and respiratory diseases, neoplasms and injury. Many of these causes can be attributed to smoking, high cholesterol and fatty diet, alcohol consumption, and lack of exercise (see Figure S.9). Emphasis on curative medicine may be leading to misplaced priorities; more attention needs to be given to preventing than to curing disease. Abortion is the principal form of birth control; modern contraceptives could prevent unwanted pregnancies at considerable savings: Hospital costs of treatment for complications of abortion have been estimated at 3-4 billion rubles in 1991. Only 30 percent of contraceptive needs are being met; adequate services would cost but a quarter of what is spent on hospital care for treating post-abortion complications. A reorientation of disease priorities could provide a basis for considerable savings and greater effectiveness in pursuit of the Ministry of Health's goal to reduce the principal causes of death and extend useful life.

43. Health care spending accounted for 7.7 percent of GDP in 1992, two-thirds of it allocated to hospital costs (see Figure S.10). While pharmaceutical prices have risen faster than those of almost any other input, it has become extremely difficult to obtain drugs; hence spending declined on that essential input. Construction declined from 5.2 percent of total spending in 1989 to 0.1 percent in 1992, reflecting the fact that the state has no resources to maintain its facilities.

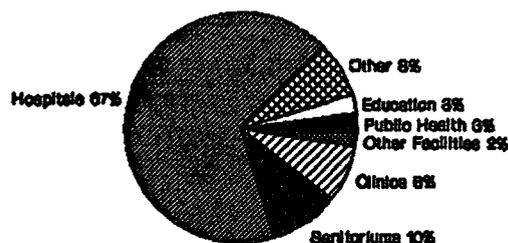
44. The Ministry of Health could improve sector efficiency and bring down somewhat the high level of public spending on health. Spending could be brought down from 7.7 percent of GDP in 1992 to 7 percent of GDP in 1993, and 6 percent of GDP in subsequent years, which is a level substantially higher than was prevailing in the 1980s. Sector objectives would be served by the following steps:

- **Admissions.** Reduce hospital admissions by one-third, treating many conditions on an outpatient basis, along lines already adopted in OECD countries; reduce hospital bed supply to North American levels making comparable reductions in staff; withdraw unnecessary hospital beds from service, preferably by closing whole wards in order to gain full impact of staffing reductions.
- **Preventive Care.** Focus staff resources and additional financial resources outlined in Chapter 9 on preventive care, especially maternal and child health programs. Develop health education and communications programs promoting a more healthy diet, less smoking, lower consumption of alcohol, and beneficial exercise.
- **Management.** Strengthen sector management capability.

- **Pharmaceutical Production.** Enhance capacity to import and produce essential drugs.
- **Health Finance.** Consider options for health insurance, prepayment systems and other innovations that can reduce and improve quality of services.

Health Sector Human Resources

45. From 1993 there will be a reduction in the intake of first-year students by 500 per year for a period of 3 years to achieve a norm of 32 physicians per ten thousand population. Some medical schools have been considered for



Source: Draft 1992 Budgets

Figure S.10: Distribution of Public Spending on Health Services

closure to take into account what is now seen to be an oversupply of physicians. There are plans to decrease first-year intakes and close some nursing schools.

Pharmaceuticals Production

46. The extreme scarcity of essential medicines and certain equipment available only in the West creates serious immediate problems for health care in Ukraine. The breakdown of exchange within the former USSR has left Ukraine manufacturers without some key inputs. About one-third of the medicines of former USSR are produced in Ukraine, mostly by 50 state-owned enterprises that had an aggregate pharmaceutical output of R1.2 billion in 1990

and R1.8 billion in 1991. The industry faces a serious deterioration of its equipment and plant, and production is near to stopping for lack of key inputs.

47. Drug shortages at hospitals have become common; barter among health care facilities was being used to obtain required drugs. Extensive substitution is common, and the substituted drugs are not considered an optimal choice for treatment. Urgent needs include insulin, oral anti-diabetics, hormones, syringes, needles, cold-chain equipment, medical and surgical supplies, insulin purification equipment, and sterilization supplies and equipment. There is an immediate need to finance imports of essential drugs and supplies for pharmaceutical production. Many of these steps were already underway early in 1993. External technical and financial assistance could be useful in support of such a program, given the long period of experience of international agencies such as WHO and UNICEF, and the health agencies of the OECD countries, in addressing similar issues. Table S.1, Table S.2 summarizes some priority areas for such assistance. There is considerable interest in developing a health insurance scheme as a means to inject more resources into the sector; technical assistance should be provided by knowledgeable international experts on this topic, given that it is extremely complex and can lead to problems in the efficiency and equity of services.

EXTERNAL ASSISTANCE

48. Table S.2 follows the same categories of action as Table S.1, indicating technical and financial assistance requirements for social sector programs. Government can make effective use of assistance only if the move to sustainable social programs is part of an overall restructuring of the role and obligations of the public sector in the economy of Ukraine.

49. Each of the areas of expenditure and public action discussed in this report could benefit substantially from external technical and

financial assistance; the brief descriptions of such assistance in Table S.2 summarize lengthier discussions in the body of the report. In general terms, this assistance would have three aims: First, to modernize the systems that manage programs offering cash benefits and social services; second, to achieve significant efficiency gains in the systems of public finance and delivery of these benefits and services; and third, to develop mechanisms that can assure that those in greatest danger of poverty and its ill effects are protected to the extent possible.

50. The Government of Ukraine reorganized some of its functions in 1992 giving overall responsibility for social programs to the office of the Vice Premier for Social Rehabilitation. That office recently formulated some priority areas for international technical and financial assistance that can be briefly presented here, by area of concern and ministry.

51. *Employment Services, Ministry of Labor.*

Information and inquiry system for development of the necessary documentation; training and on-the-job training, and purchase of equipment and applied computer programs;

Creation of training and retraining centers for employees being released as a result of unemployment.

52. *Standards for Education, Ministry of Education.*

Definition of educational levels and their integration into international standards;

Curriculum development for professional training programs;

Procurement of foreign hardware, software and computer control systems;

Labor demand and training analyses,

including study of international experience in specialist training under market-economy conditions;

Development of a certification system for educational institutions, including study of certification experience in selected OECD countries;

Creation of information-and-analysis data bank on educational institutions.

53. *Social Assistance, Ministry of Social Welfare.*

Computer system for compilation and analysis of information to define categories of citizens for whom social assistance is needed; development of the system of state support for such citizens, including documentation development, on-the-job training for staff, procurement of equipment and software;

Adoption of new technologies for modern prosthetic devices and invalid rehabilitation, including development and acquisition of new technologies, their implementation, and training of personnel for their use;

Social program management, including creation and maintenance of a Cabinet-level administrative office for strategic management with appropriate related units in oblast administrations, including development and implementation of the essential information systems, conduct of seminars, and symposia.

54. *Health Improvement, Ministry of Health.*

Implementation of health insurance, including development of the documents needed for analysis of international experience, personnel training, setting up private insurance companies and equipping them;

Strengthen system of immunization and vaccination system, including scientific research, purchase of technologies and germ cultures;

55. The Government of Ukraine also seeks assistance in reform of education and worker training programs that would include, *inter alia*, merging some higher-education institutions, initiating structural changes of some professional training to improve response to the market economy, reducing subsidies to evening and correspondence courses by fifty percent in 1993 and eliminating them over five years, giving higher-education institutions greater control over admissions and budgets, permitting them to charge fees as appropriate.

56. The ministries of Economy, Education, and Labor propose to develop estimates of their staffing needs for technical specialists. They will also prepare proposals for the creation of new regional scientific and educational complexes that can complement the expected growth of the market economy.

57. The ministries of Labor and Education will revise qualification requirements of specialists and employees based on a new multilevel system of specialists' preparation that can lead to attrition in the number of higher-education, subsidized students. The ministries would then upgrade capacity to meet the needs of regional employment centers with their financing provided from Employment Fund.

58. Overall, these actions could reduce spending for education and training by up to five percent and hence contribute to the efficiency objectives outlined above. Nonetheless, success in these actions may well require effective technical and financial assistance in support of the proposed ministries' improvements.

59. Insofar as government develops an effective response, by adopting a sustainable social program, the international community will seek means to provide such additional support as

may be needed to ameliorate the effects of the crisis of restructuring. Interested governments and financing agencies will be anxious to guide their support to priority needs consistent with each of their own comparative advantages in aiding the transition.

60. Several governments are already actively discussing areas where they can be of help, including labor-market analyses, health-care financing, effective pension and allowance schemes, and overall financial management and budgeting. Various modes of coordination need to be considered for social protection as a whole, and in each of the specific areas considered in this report.

61. The government might consider periodic meetings of interested donors and agencies that would review progress in social protection and complementarity of donor assistance. Such reviews provide one means of setting goals and checking on their achievement; they can invigorate external assistance by restatement of priorities. The meetings can also confirm the efficacy of donor assistance or point to ways in which new assistance may play a useful role.

Table S.2: Technical and Financial Assistance Requirements for Execution of Social Sector Reform Program, 1993-1995.

| Category | Principal International Technical and Financial Assistance Needed | Principal Sources of Assistance |
|--------------------------------------|--|--|
| Employment and Labor Market Policies | Machinery and equipment to strengthen the Employment Service; development of training programs and curricula appropriate to market economy; advice on handling mass layoffs; management of program to select and develop labor force concepts and definitions that are consistent with international standards; develop administrative sources of institutions | Labor ministries, ILO and related UN and regional agencies; agencies with experience in OECD countries; international financial institutions |
| Pensions | Training for pension-fund management; actuarial analyses of projected fund balances; planning and evaluation support on benefits and allowances | Social security agencies in OECD countries; international financial institutions |
| Family Allowance | Advice on restructuring benefits to fit needs of poverty and vulnerable groups | Welfare ministries in OECD countries; |
| Consumer Subsidies | -- | -- |
| Education and Training | Curriculum development for vocational and technical training and technicums to strengthen private-sector response; | Education ministries in OECD countries; international financial institutions |
| Health | Assess capacity of local pharmaceuticals industry; international procurement of essential drugs; hospital management reform; strengthening of maternal and child care and related outreach; health education and communications reform | Health ministries in OECD countries; WHO, UNICEF, UNFPA, and UNDP; international financial institutions |
| Overall | Introduce budgeting by objective in selected ministries; analysis of the political economy of alternative responses to unemployment and spending cuts | International financial institutions |

SOCIAL CONDITIONS AND SOCIAL PROTECTION

INTRODUCTION

1. As part of the former USSR, Ukraine participated in a socialist society that tried to guarantee universal access to a minimum standard of living. Two statistics often used to assess the standard of living are life expectancy and infant mortality: on these indicators, Ukraine stood, on the eve of its independence, well below the West (and East) European countries but somewhat above middle-income countries from other parts of the world (see Table 1.1). Some analyses show that the former socialist countries fell behind Western Europe on

these indicators in the past score of years, with adult mortality having risen perceptibly because of the higher incidence of circulatory and respiratory diseases, which were being brought under control by modern preventive medicine in the West. Ukraine was probably somewhat better off in terms of schooling attainment, ranking nearer its European neighbors and performing well in international competitions. An extensive system of day care facilities may have assisted early learning, in addition to permitting very high levels of women's participation in the labor force.

Table 1.1: International Comparison of Social Indicators

| Country | Population (Millions) | GDP Per Capita (Dollars) | Life Expectancy at Birth | Infant Mortality Per Thousand Live Births | Total Fertility Rate |
|-------------|-----------------------|--------------------------|--------------------------|---|----------------------|
| Ukraine | 52 | n.a. | 71 | 20 | 1.9 |
| Turkey | 56.1 | 1,630 | 67 | 60 | 3.5 |
| Poland | 38.2 | 1,690 | 71 | 16 | 1.8 |
| Chile | 13.2 | 1,940 | 72 | 17 | 2.5 |
| Mexico | 86.2 | 2,490 | 70 | 39 | 3.3 |
| Hungary | 10.6 | 2,780 | 71 | 15 | 1.8 |
| CFSR | 15.7 | 3,140 | 72 | 12 | 2.4 |
| Australia | 16.8 | 14,360 | 77 | 8 | 1.9 |
| UK | 57.2 | 14,610 | 76 | 9 | 1.8 |
| Italy | 57.5 | 15,120 | 76 | 9 | 1.3 |
| Netherlands | 14.8 | 15,920 | 77 | 7 | 1.5 |
| France | 56.2 | 17,820 | 77 | 7 | 1.8 |
| Germany | 80 | 20,440 | 75 | 8 | 1.4 |
| USA | 248.8 | 20,910 | 76 | 10 | 1.9 |

Sources: WDR 91, 92; IMF et al. 1991 report on USSR for Ukraine, 1989; and Poland social sector study (World Bank).

2. The system of social protection included state-provided education and health; pension benefits for the elderly, disabled, orphans and widows; family allowances and student stipends and subsidies for basic foods and services that lowered living costs for all consumers. The cost was about 25 percent of GDP (8 percent each for social services, pensions, and food subsidies, and 1 percent for family allowances; see Table 1.2 and Figure S.1 on page 1). About 40 percent of all Ukrainians were entitled to one or more cash benefits at the time of independence.

3. The collapse of output in the state enterprises, combined with the urgency of maintaining the real value of cash benefits and public salaries, led to a crisis in 1992 in which programmed spending for social protection reached an inordinately large proportion of a shrunken GDP. A major issue is how to continue to provide for social needs despite the extreme scarcity of resources. To help address that issue it is helpful to review the basic demographic structure, how the labor force is deployed, what the safety net now provides, and what vulnerable groups require priority attention.

Population Size and Structure

4. Ukraine's population is 51.8 million, making it one of the larger countries of Europe and growing over the past decade by about 0.3 percent per year. Two thirds of the population is urban, and one-third is rural. The three largest of the 26 oblasts are highly industrialized: Donetsk (5.3 million), Dnipropetrovsk (3.9 million), and Kharkiv (3.2 million). The smallest are the western oblasts of Chernivtsi (0.9 million), Volyn (1.1 million) and Ternopil (1.2 million). See Table 1.3.

5. The age structure of Ukraine is very close to that of Portugal with 21.4 percent of the population less than 15 years of age, 66.4 percent between 15-64 and 12.1 percent 65 or more years of age. The population is somewhat older than Europe as a whole or the neighboring

Table 1.2: International Comparison of Public Spending on the Social Sectors, 1989-1990

| Country | Percent of GDP Spent on Social Sectors ¹ | | |
|-------------|---|----------------------|--------------------|
| | Welfare ² | Education and Health | Total ³ |
| Ukraine | 9 | 8 | 25 |
| Turkey | 0.9 | 5.6 | 6.5 |
| Poland | 16.1 | 8.3 | 24.4 |
| Chile | 11.1 | 5.2 | 16.3 |
| Mexico | 2.4 | 2.9 | 5.3 |
| Hungary | 19.6 | 6.1 | 25.7 |
| CFSR | 15.5 | 1.3 | 16.8 |
| Australia | 7.9 | 4.6 | 12.5 |
| UK | 12 | 6 | 18 |
| Italy | 18.5 | 9.4 | 27.9 |
| Netherlands | 22.1 | 12.3 | 34.4 |
| France | 17.3 | 11.9 | 29.2 |
| Germany | 14.3 | 5.5 | 19.8 |
| USA | 6.7 | 3.4 | 10.1 |

- Notes:
1. Excludes state and local government spending for most countries, which distorts comparisons by making large federal systems, like the US, appear small.
 2. Includes housing, amenities, social security and welfare.
 3. Ukraine includes 8 percent of GDP in general consumer subsidies

Sources: WDR 91, 92; IMF et al. 1991 report on USSR for Ukraine, 1989; and Poland social sector study (World Bank).

countries of Belarus and Poland, or North American countries like Canada, but younger than the United Kingdom and Sweden⁵. This structure has several implications for social programs. First, the demands of the elderly are substantial and growing, particularly because

women receive pensions beginning at age 55 and men at age 60, with some workers eligible for an even earlier pension entitlement. (Continuing to work does not reduce pension rights.) The pension-eligible population will grow from under 11 million in 1989 to over 12.2 million by the year 2000; there were 37 retirees for each 100 people of working age, and there will be 42 per 100 at century's end. The resource requirements for retirement benefits will grow accordingly, unless steps are taken to raise the age of retirement, now 55 for women and 60 for men, to the level of most OECD countries, which is 65 for both sexes. Second, the requirements for heavy spending on child health and education so familiar in developing countries should pose less of a burden. As evidence consider the high labor-force participation rate of about 50 percent. Only 40 percent of the population in most countries, both richer and poorer, are working; women in Ukraine usually have but one birth or two (the total fertility rate is 1.9) and with maternity leave and day care are able to continue in their working careers. With relatively fewer children than most middle-income countries, the requirements for education spending could also be less burdensome. Finally, the mature demographic structure implies a more mature labor force that should as a result be more productive than one dominated by youthful and inexperienced workers. The age structure differs by oblast; those with the largest proportion of persons 60 or more years of age are Chernihiv (24.7 percent), Poltava (22.7 percent) and Cherkasy (22.5 percent) while those with the smallest proportion are

Zakarpattia (12.6 percent), Kiev city (12.7 percent) and Crimea (15.0 percent).

Ratio of Females to Males

6. Ukraine has a high female-to-male ratio. There were 116.7 females per 100 males reported in the 1989 census, a markedly larger ratio than 105.2 in Poland in the same year, reflecting losses during the second world war. This ratio is more pronounced with increasing age and in certain oblasts. In Ukraine as a whole 22.4 percent of women are 60 or more years of age compared to 12.8 percent of men, while in oblasts like Chernihiv, Poltava and Sumy 28-31 percent of women are 60 or more years of age compared to 15-17 percent of men. One in ten women in the country as a whole is 70 or more years old. One in seven is 70 or older in these three latter oblasts. The largest number of women 60 or more is found in Donetsk, Dnipropetrovsk and Kharkiv, the largest oblasts.

7. A World Health Organization (WHO) report estimates that 2 million pensioners in Ukraine live alone. Many of these are likely to be elderly women living without spouses, alone and in rural areas. Of the 0.5 million pensioners estimated to require daily social or medical assistance only a third receive such care, much of it in hospitals and smaller health facilities. Health-service institutions care for the lonely elderly who cannot care for themselves. Elderly women make up a vulnerable group that is growing and deserves priority for social and

Table 1.3: Population Growth Ukraine, 1981-1992 (in Thousands)

| | 1981 ¹ | 1985 | 1990 | 1991 ² | 1992 |
|--------|-------------------|----------|----------|-------------------|----------|
| Total | 50,169.8 | 50,914.1 | 51,636.8 | 51,745.8 | 51,801.9 |
| Male | 22,954.3 | 23,402.9 | 23,884.1 | n/a | n/a |
| Female | 27,215.5 | 27,511.1 | 27,752.7 | n/a | n/a |

Source: 1. Years 1981-1990 WHO/EURO-ESR Unit May 19, 1992 Mid Year Estimates
2. Years 1991-1992, MOH. Ukraine 1992 is as of 1st January

health support programs. Dislocations expected during the transition to a market driven economy will add to the difficulties faced by this group in the future.

Life Expectancy

8. At birth, life expectancy in Ukraine was 70.5 years in 1990, up from 69.7 in 1981, but significantly below the target of 75 years set by the European Regional Office of WHO for its region (WHO/EURO) and actual experience in Europe. The average life expectancy at birth for twenty seven countries in Europe in 1989 was 74.0 years and for European Community countries in 1988 was 76.2 years. From birth, 4males had a life expectancy in 1990 of 65.6 years, an 87.9 percent chance of surviving to age 45 and a 59.7 percent chance of reaching

age 65. From birth, females had a life expectancy of 74.9 years and chances of survival to ages 45 and 65 are 95.2 percent and 81.7 percent, respectively. This survival pattern to ages 45 and 65 is marginally worse than in neighboring Belarus and Poland, and much worse than Portugal, the United Kingdom, Sweden, and Canada (see Table 1.4).

Vital Events

9. Since 1983 the birth rate in Ukraine has been falling more quickly than the death rate, which showed a relatively sharp upswing in 1990. Data for 1991 and first quarter of 1992 show a net natural decrease in the population, -1.1 and -3.1 per hundred thousand population, respectively. The total fertility rate fell from 2.1 in 1985-86 to 1.9 in 1990; the net decrease

Table 1.4: Life Expectancy and Survival by Gender, Ukraine and Selected Countries

| | Ukraine 1990 | | Belarus 1990 | | Poland 1990 | | Portugal 1990 | | United Kingdom 1990 | | Sweden 1988 | | Canada 1989 | |
|----------------|-----------------|-------|-----------------|-------|----------------|-------|------------------|-------|---------------------------|-------|----------------|-------|----------------|-------|
| | L | S | L | S | L | S | L | S | L | S | L | S | L | S |
| Males | | | | | | | | | | | | | | |
| Age | | | | | | | | | | | | | | |
| 0 | 65.6 | 100.0 | 66.2 | 100.0 | 66.5 | 100.0 | 70.1 | 100.0 | 73.0 | 100.0 | 74.2 | 100.0 | 73.7 | 100.0 |
| 1 | 65.6 | 98.5 | 66.1 | 98.6 | 66.7 | 98.2 | 70.0 | 98.8 | 72.6 | 99.1 | 73.7 | 99.3 | 73.3 | 99.2 |
| 15 | 52.2 | 97.6 | 52.6 | 97.8 | 53.1 | 97.6 | 56.5 | 98.0 | 58.9 | 98.7 | 59.9 | 99.0 | 59.6 | 98.8 |
| 45 | 25.8 | 87.9 | 26.2 | 88.4 | 26.1 | 89.7 | 29.3 | 91.5 | 30.4 | 95.3 | 31.5 | 95.2 | 31.5 | 94.5 |
| 65 | 12.5 | 59.7 | 12.9 | 60.7 | 12.5 | 61.8 | 13.8 | 72.4 | 14.2 | 78.2 | 15.0 | 80.3 | 15.3 | 78.4 |
| Females | | | | | | | | | | | | | | |
| Age | | | | | | | | | | | | | | |
| 0 | 74.9 | 100.0 | 75.8 | 100.0 | 75.6 | 100.0 | 77.3 | 100.0 | 78.7 | 100.0 | 80.1 | 100.0 | 80.6 | 100.0 |
| 1 | 74.8 | 98.9 | 75.5 | 99.0 | 75.6 | 98.6 | 77.0 | 99.0 | 78.2 | 99.3 | 79.5 | 99.5 | 80.1 | 99.4 |
| 15 | 61.2 | 98.3 | 62.0 | 98.5 | 61.9 | 98.2 | 63.4 | 98.5 | 64.4 | 99.0 | 65.7 | 99.3 | 66.3 | 99.1 |
| 45 | 32.6 | 95.2 | 33.2 | 95.6 | 33.1 | 95.6 | 34.6 | 96.0 | 35.3 | 97.2 | 36.6 | 97.3 | 37.3 | 97.1 |
| 65 | 15.8 | 81.7 | 16.5 | 82.8 | 16.2 | 82.8 | 17.0 | 86.6 | 18.1 | 86.3 | 18.8 | 88.9 | 19.8 | 87.9 |

Note: L: Life Expectancy at Age X. For example, a male age 0 has a life expectancy of 65.6 years in Ukraine; a male age 65 has a life expectancy of 12.5 additional years.

S: Percent of the Population Surviving to Age X. For example, 98.5 percent of males survive to age 1 in Ukraine; 59.7 percent survive to age 65.

Source: 1991 World Health Statistics Annual, WHO Geneva 1992

in population is also linked to deterioration in health status of mothers and infants during the economic crisis (see Health Annex Tables 5, 6 and Figure 3). The collapse of output and declining incomes in 1991 and 1992 undoubtedly led to deferral of marriages and births. Ukrainian authorities fear that this demographic reversal of normal conditions (births exceeding deaths) will have negative implications in the longer run.

IMPLICATIONS OF DEMOGRAPHY FOR HEALTH

10. The demographic picture of an aging population with growth rates below natural replacement has important implications for the health system. There is a critical need to develop family planning policy that responds to the social and other factors contributing to demographic losses. A shorter term need is to improve the care of mothers and infants. And, just as the industrialized countries, Ukraine must redirect its health system to respond to present and new needs in the next decade arising from an aging population and greater numbers of adults of working age. The redirection will affect the training of health care workers, the present structure of different levels of health facilities and their roles and locations. Viewing health in its contemporary terms as a resource rather than object of daily living will be fundamental to resolving care problems as numbers of frail elderly persons grow and the burden of chronic conditions and diseases associated with age increases.

11. The relatively poor health status of people in Ukraine compared to other European countries demonstrates the effects of age and chronic conditions. It also points to the need to deal with communicable disease, to assure safe food water and air quality, to provide for ongoing acute care needs and to meet needs unique to the ecological conditions of the country.

MORTALITY AND HEALTH STATUS

Mortality

12. The leading causes of death in Ukraine are much the same as for the OECD countries. Over 75 percent of deaths are from diseases of the circulatory system (44.9 percent M, 60.0 percent F), malignant neoplasms (19.1 percent M, 13.5 percent F) and injury, adverse effects, homicide and other violence (14.4 percent M, 3.8 percent F). Respiratory diseases are the fourth leading cause of death. The crude mortality rate is 1,219 per 100,000 (1,246 for males, 1196 for females).

13. The Standardized Death Rate (SDR) for Ukraine, 1142 per 100,000, is comparable to Poland but 6 percent higher than Belarus, 20 percent higher than Portugal, 30 percent higher than the European average, and 57 percent higher than Canada. The SDR for circulatory diseases is 45 percent greater than Portugal's and two times the rate for Canada. The cerebrovascular SDR is particularly high, 29 percent higher than Belarus's, 2.6 times the rate in Poland and 3.7 times the rate in the United Kingdom. Mortality from malignant neoplasms was the third highest in the former Soviet Union including trachea, bronchus and lung cancers, and has been increasing. Mortality rates from ischemic heart disease, injury and poisoning and motor vehicle injury are relatively high and increasing.

14. Infectious disease continues to cause avoidable deaths. The SDR for infectious diseases is 55 percent higher than in Belarus, 33 percent higher than in Poland and three times as high as in the United Kingdom. About 4500 people died from tuberculosis in 1990. Except for persons 75 and older, age-specific SDRs for tuberculosis in Ukraine are greater by two to nine times than in Poland which is generally acknowledged as having one of the significant tuberculosis problems in Europe (see Health Annex Tables 7, 8, 9). The World Bank's *World Development Report 1993*, "Investing in

Health," gives special emphasis to tuberculosis control as one of the highest priority and most cost-effective, public health interventions.

HEALTH OF MOTHERS AND CHILDREN

Infant Mortality

15. Infant mortality has been gradually decreasing over the past decade and reached a low of 13.0 per thousand live births in 1990 but then began a sharp upward swing reaching 15.0 in the first quarter of 1992. This high rate is still well within the WHO/EURO Region target of 20 per thousand live births and is 25 percent less than Poland, but it is 25 percent higher than Belarus and Portugal and more than twice as high as Canada and Sweden. Some local studies, e.g., in Ivanofrankiusk, have shown rates well above 20.

16. Infectious and parasitic diseases, respiratory infections and birth defects are the main causes of infant mortality in Ukraine. The SDR for infants (less than one year old) from infectious and parasitic diseases was 82.5 per 100,000 for males and 64.6 per 100,000 for females in 1990. This was better than Poland, worse than Belarus and worse by a factor of 8-9 than Canada, where the 1989 rates were 8.9 for males and 6.3 for females per 100,000. The SDRs for diseases of the respiratory system are twice the level of infectious diseases, 162.3 per hundred thousand for males and 136.4 for females. Two-thirds of the rate is due to pneumonia. Canadian rates for respiratory diseases were 15.5 for males and 12.5 for females, per hundred thousand. Most infant deaths, however, were from congenital malformations, birth trauma and conditions originating in the perinatal period. These birth defects account for two-thirds of all infant mortality on a standardized basis. One quarter of all mortality is from congenital birth malformations (414.4 M and 355.5 F per 100,000). Mortality from birth defects in Ukraine is generally comparable to Belarus, better than Poland but much worse than

Portugal, the United Kingdom, Sweden or Canada. The SDRs for the United Kingdom for congenital birth deformations, for example, are 173.9 for males and 139.8 for females, per 100,000.

Maternal Mortality

17. The maternal mortality ratio was 32 deaths per 100,000 live births in 1990, the same as Belarus and an improvement from 44.5 ten years previous, in 1980. The rate is well above the WHO/EURO target of 10 and is triple the rate in Poland, four times the rate in the United Kingdom and eight times the rate in Canada. Approximately 45 percent of maternal mortality is caused by obstetrical conditions and abortions. Age-specific abortion mortality rates are comparable to Belarus but higher than Poland, four times as high as Portugal and the United Kingdom, and significantly higher than Sweden and Canada (see Health Annex Figures 5,6,7).

18. Maternal and infant health remain poor despite the fact that all births occur in hospitals, and primary and secondary care services are widely available. Improvements are necessary in laboratory and technical equipment for diagnosis of prenatal and perinatal conditions.

Abortion and Contraception

19. Abortion is the principal form of contraception due to lack of information and access to modern contraceptives. Estimates indicate up to two thirds of the population is uninformed about modern contraceptives and their use. The incidence of contraception for women of fertile age (15-49) including abortion, oral contraceptives and intrauterine devices (IUDs) is 17.9 percent and varies among oblasts from a high in Zhytomyr of 31.0 percent to a low in Lviv of 4.9 percent. The incidence of abortions as the sole means of contraception for Ukraine is 8.3 percent and ranges from 14.2 percent in Zaporizhzhia to 3.7 percent in Lviv. Ukraine does not produce its own contemporary contraceptive products. Access to contraceptives

will deteriorate with increases in prices and curtailment of imports in the transition to a market driven economy. The abortion rate was 155 per 100 live births in 1990, among the highest of former Soviet Union countries. The rate has been increasing since 1987 when it was 145. This is equivalent to 82.6 abortions per thousand women in the fertile age and compares to 55.7 live births per thousand women in the same age. The total number of abortions has decreased from 1.66 million in 1986 to 1.02 million in 1990, but the number of live births and females of fertile age has also decreased. Many women have multiple abortions.

20. The impact of abortion on the health of women and on health system costs is significant. In Ukraine 30 percent of women who had an abortion suffer from subsequent inflammatory diseases of internal genital organs, 50-60 percent from secondary sterility, 50 percent from complication of pregnancy, 22 percent from miscarriages and 13-15 percent from uterine bleeding during deliveries. Because of these complications of abortion, the health system must provide added numbers of gynecological beds and resources for treatment that would be unnecessary with fewer abortions. Hospital costs of treatment for complications of abortion have been estimated at 3-4 billion rubles in 1991(see Box 1.1).

Family Planning

21. The combination of poor infant and maternal health, the high rate of abortions, and demographic patterns of net natural decrease in the population indicate a need to make family planning policy an important social priority. Progress towards a national program is slow, indicating insufficient government support. A priority within the new policy must be to ensure access to modern contraceptives as an alternative to abortions. Family planning services need to be strengthened. They are available in theory in marriage counseling centers and from health workers, but their focus is on diagnosis and treatment of infertility rather than on providing

Table 1.5: Ministry of Health Estimated Demand for Contraceptives for 1991

| Denomination | Number | Value in Million Rubles | \$US (Million) |
|---------------------------------|----------------------|-------------------------------|-------------------|
| Condoms | 468 million items | 702 | 14.04 |
| Hormonal Contraceptives | 9.9 million packs | 114 | 18.05 |
| Intra-uterine Contraceptives | 2.4 million items | 39.6 | 40.32 |
| TOTAL | | | 72.41 |

Source: Ministry of Health

advice on family planning methods. Only 30 percent of contraceptive needs are being met. The Ministry of Health estimated the cost of meeting the contraceptive needs of the population at 846 million rubles in 1991, significantly less than the 3-4 billion rubles estimated as the cost of hospital care for treating post-abortion complications. A decrease of 14 percent in total number of abortions between 1986 and 1990 is attributed to the greater availability of contraceptives. This trend needs to be supported by further increasing the availability of contraceptives and family planning services (see Table 1.5). External technical and financial assistance could play a critically important role in providing such services until the availability of foreign exchange eases with the expansion of export earnings.

MORBIDITY

22. More than for mortality, interpretation of data on morbidity is difficult in Ukraine, as in other former Soviet Union countries. An all-union institute in Moscow developed norms for supply and utilization of facilities and services. Expectations were clear that the norms should be met. Politically safe utilization data often followed, resulting in information that now

Box 1.1: Indicators of Hospital Resource Allocated to Abortion 1991

| | | |
|-----|---|-----------------|
| 1. | Supply of gynecological beds (including abortion cases) | 37,055 |
| | • rate per 10,000 total population | 7.2 |
| | • estimated rate per 10,000 females | 13.4 |
| 2. | Excess average days occupancy of gynecological beds over average occupancy of total beds | 6 days |
| 3. | Number of women undergoing abortion | 957,000 |
| 4. | Abortion cost of an abortions in Kiev | 650 rubles |
| 5. | Percent and number subsequently treated for complications of inflammation disease as a result of abortion | 30 percent |
| 6. | Proportion and number that can expect to be cured with one treatment | half |
| 7. | Proportion and number requiring treatment for resulting chronic condition | half 143,550 |
| 8. | Average number of courses of treatment for chronic condition | 5-6 |
| 9. | Average courses of treatment | 21 days |
| 10. | Average 1991 cost per treatment | 3,505 rubles |
| 11. | Number of women undergoing treatment for infertility (largely associated with complications of abortion) | 52,161 |

Source: Khodorovsky, G., 1992

presents an ambiguous picture of the use of health services. Based on the number of outpatient consultations and admissions to hospital the estimated rates for morbidity reported in Ukraine are among the highest of former Soviet Union republics. Incident and prevalent cases of respiratory disease account for the largest proportion of reported morbidity, 53.5 percent and 33.9 percent, respectively. Incidence of diseases of the nervous system and sense organs is next highest (8.1 percent) followed by diseases of skin and subcutaneous tissues (5.5 percent). For prevalence, circulatory system diseases are next (16.3 percent) followed by diseases of the nervous system and sense organs (9.3 percent).

23. WHO reports that circulatory disease

morbidity accounts for 21 percent of all adult morbidity, the highest in the former Soviet Union, similar to Belarus. Respiratory morbidity in children accounts for 60 percent of childhood disease and 25 percent of adult diseases. Since the accident at Chernobyl the incidence of certain respiratory diseases, particularly pneumonia and asthma, is reportedly increasing. Children suffer at the highest rate of congenital anomalies among the former Soviet republics. There is particular attention paid to the diagnosis, monitoring and treatment of increasing thyroid related pathologies, cancers, related hematological diseases and genetic defects in newborns of parents at risk. Reports indicate 60 percent of children have some degree of thyroid modular hyperplasia, particularly in highly irradiated areas of the country.

Infectious Diseases and Immunization

24. Mortality from infectious and parasitic diseases is about twice the European Community (EC) average. Diarrheal diseases are reported on the increase partially due to decreasing quality of water supplies. According to WHO, diarrheal diseases caused by bacterial infections are rarely diagnosed. A UNICEF/WHO mission in early 1992 estimated the real coverage for infants in 1991 by vaccination for DPT is 75-79 percent rather than the much higher reported levels. Coverage was 89 percent for measles in children under 2, and 81 percent for poliomyelitis for infants. BCG, measles, and DPT vaccines were found to be in short supply; WHO standards on cold chain maintenance were not always met.

25. An increase of 29 percent in reported Hepatitis A is one indicator of poor sanitation and hygiene conditions. There is a risk that Hepatitis B may be transmitted through inadequately sterilized syringes that are reused. As of the end of 1991, 257 HIV positive cases were reported and identified; 8 cases of AIDS have been documented, which resulted in 6 recorded deaths. Authorities believe there are some 500 HIV infected individuals in the country.

Selected Risk Factors

26. Incidence of alcoholism was the second highest in former Soviet Union republics, 136.4 per hundred thousand in 1990. Incidence of drug abuse was also the second highest at 7.1 per hundred thousand. There is concern at the Ministry of Health about levels of tobacco use but apparently no survey data. Interest is emerging among the international tobacco industry firms in marketing tobacco products in the country and exploiting Ukrainian-produced leaf and products. These developments could pit the health of the population against immediate economic gain for a few. The government should develop public health policy to limit tobacco use by means of education, limits on

advertising and other measures to convince the young not to start smoking. If successful, thousands of lives could be saved and unhealthy dependence on a disease-causing product avoided.

27. Food-consumption patterns in Ukraine traditionally relied on satisfactory levels of cereals, potatoes and meat; diets were relatively high in dairy products and sugar. Price increases and shortages are distorting these patterns. In 1991 reports indicate people ate 5-8 percent less meat, milk and eggs than in the previous year and the consumption of fruits and vegetables dropped by 20-30 percent. Health promotion requires an effective nutrition, food, and health policy. Changing to a healthier diet with less fat and cholesterol but more fiber, fruits and vegetables could solve the current high levels of adult mortality caused by stroke, heart attack, and cancer.

OCCUPATIONAL INJURY AND POLLUTION

28. High rates of occupational injury are documented most notably among miners in Donetsk oblast. Occupational diseases are under-reported, but pneumoconiosis, chronic dust bronchitis, and other occupational diseases are documented, mainly in coal miners. A large secondary lead smelter in Konstantinovka accounts for the very high exposure of its 1600 workers, and many of the city's residents, to lead poisoning. Other heavy-metal and chemical-exposure-related incidents and illness have been reported in industrialized areas.

29. High concentrations of pollutants in ambient air, including dust, oxides of nitrogen, and carbon monoxide, are documented in concentrations considerably higher than guidelines of the former Soviet Union and of the United States would permit. Metallurgical plants in a number of cities account for most of their total air pollutants. Resultant illness, such as exacerbation of chronic lung disease or occurrence of lung cancer, cannot be readily documented with public health statistics. The

Ministry of Health reports, however, that morbidity from oncological, skin, blood and urinary-system diseases is higher than average in certain cities, suggesting that illness may be attributable to elevated levels of industrial pollutants. The rate of spontaneous abortions (miscarriages) in two industrial cities with high air pollution has been found to be twice the rate of a clean control city. The rate of congenital anomalies was found to be three times the control rate in the same study.

30. Apart from reported increases in thyroid cancers, and an indication of increased mortality and morbidity of congenital effects over the past few years, data from the Ministry of Chernobyl has not yet revealed clear-cut evidence of health effects from the Chernobyl disaster. More time will be required before there is sufficient statistical data to relate leukaemia and various cancer incidents to the release of radioactive materials. A recent *Lancet* editorial of 3 October 1992 reviewed 30 scientific studies of mortality and concluded that "environmental pollution is unlikely to result in gross excess mortality and therefore cannot be responsible for variations in death rates between populations."⁶

LABOR FORCE

31. About half of the population of 52 million work, a fifth in agriculture, over half in manufacturing and a quarter in services (see Figure S.4). This structure differs considerably from other countries and may be expected to change along lines suggested in chapter 2 below, with serious implications for problems of labor productivity and unemployment. If consumer demand, in contrast to state orders and spending on the security forces, is permitted to manifest itself, about a third of all workers might shift out of agriculture and manufacturing into services, with many complications and costs of disruption if the process occurs quickly.

32. A mature population, one in which births are roughly equal to deaths, also approximates a situation in which new entrants

to the labor force equal the number exiting into retirement. The potential labor force includes all persons aged 15 to 65 years; each year, about two percent enter as youths and two percent exit as elderly retirees. Thus in 1993, for example, about half a million new entrants will seek jobs, many of them in the nascent private sector, especially in service activities. Of the half-million retirees, many of them will leave farming occupations and perhaps even more will be leaving declining defense-related industries. Thus a substantial part of the transformation of the labor force can occur with no one losing a job or being unemployed. The movement into service-sector employment of one-third of the labor force could occur in 17.5 years, i.e., by the year 2010, with no one changing jobs, but just as the result of natural labor-force turnover. These considerations may help demonstrate that structural change need not be a socially-disruptive process. On the other hand, government must take care not to block these natural processes with inhibiting regulations. For example, the system of *propiska*, which severely limits internal migration, may already be blocking the transformation of the labor force by keeping potential movers out of major cities.

32. In virtually all countries, most working-age males are in the labor force; Ukraine is distinctive because of the high participation rates of working-age females. The benefits from wage incomes are probably offset in some measure by lost leisure time and less parental attention to child raising, but there are no studies that analyze this feature of work. Many enterprises are beginning to abandon their past support of day care facilities for minor children. This change may have significant negative effects on women's option to work.

THE SOCIAL SAFETY NET

33. At the same time the Soviet economy was beginning to fray at the seams in the 1980s, there was a growing awareness that social protection under socialism fell short on objectives of fairness and equity. The Soviets

divided cash transfer payments (*pensiya* in Russian) into two kinds: labor pensions, which are either directly or loosely related to labor or labor service; and social pensions, which are paid to disabled individuals with no labor service. The basic legislation regulating cash transfers includes the 1956 all-union law on pensions for workers and employees, the 1965 all-union law on pensions for collective farmers, and the 1990 pension law, which provided that cash transfer payments, at a base rate of 55 percent of pre-retirement wages, are not taxable and are paid regardless of other income.

34. This legislation increased the cost of benefits, and the numbers receiving them, considerably. By the beginning of 1993, about two-thirds of all persons in Ukraine were receiving one or more cash benefits: A quarter of the population receive disability, retirement, or survivors' benefits; twenty percent receive students stipends and related free board and room; twenty-five percent receive family allowances for children under age sixteen and special allowances from the Chernobyl Fund; and a small percentage receive short-term assistance from the sickness fund to pay for lost work time or from the Employment Fund in the case of unemployment. The state also finances massive subsidies that wax and wane with administratively-determined prices for food, transportation, and shelter, and reached 8 percent of GDP in 1992. Education and health care are provided to all at no cost at the point of service; enterprises are required to provide day-care services for children under age six and paid maternity leave for three years, but they are increasingly failing to meet this obligation. The social safety net was stretched to cover a majority of the population as 1993 began, but it was, as a result, failing to provide adequate assistance for the minority of the poor and vulnerable most in need.

RETIREMENT, DISABILITY, AND SURVIVORS' BENEFITS

35. In 1990, there were 9.7 million old-age pensioners in Ukraine, receiving an average monthly pension of 109.69 rubles. The minimum pension was 70 rubles, and 3.6 million elderly pensioners, 37 percent of all old-age pensioners, received only the minimum benefit. For each full year of work beyond 25 years for men and 20 years for women, the pension was increased by one percent of earnings, thus raising the maximum replacement rate from 55 percent to 75 percent of highest-ever earnings. About a quarter of both disability and elderly pensioners continued to work with no reduction of benefits. There were 1.3 million disabled receiving benefits, ranging from 47 to 127 rubles per month in 1990 (for background on the USSR cash-benefit system see chapter 5).⁷

36. The number of pensioners had grown to 13.5 million by the middle of 1992, including 362,000 people in the security sector (see Table 1.6). The average of pensions was 22 percent above the minimum, but Pension Fund payments to military pensioners exceed the minimum by 144 percent, and pensions issued by the Ministry of Defense averaged 5.2 times the minimum.

ALLOWANCES AND BENEFITS

37. This paragraph describes the allowances that prevailed in the middle of 1992. Family assistance programs were substantially revised early in 1993 with the objective of focusing cash benefits on fewer and needier groups. In 1992, Ukraine offered a large number of cash allowances and assistance programs, some aimed at low-income and vulnerable groups; others designed for family assistance to assist child-rearing among the general population; and those targeted to Chernobyl victims. Allowances accounted for 20 percent of social sector spending in 1992 and about 8.8 percent of GDP. About 47 percent of total allowance funding was derived from general government revenues, 38

percent from the Chernobyl payroll tax, 11 percent from the social insurance fund and 4 percent from the pension fund. Benefits targeted to Chernobyl victims accounted for 39 percent of social assistance spending; aid to vulnerable groups, 37 percent⁸; allowances available to the population as a whole, 23 percent.

- **Chernobyl.** About two-thirds of *Chernobyl* allowance spending goes to wage bonuses to workers in areas of radiation contamination. Housing and relocation benefits account for about 9 percent of Chernobyl-related allowance spending; disability and death compensation, 9 percent; supplemental family allowances, 4 percent; food provision, 4 percent; and other allowances, 6 percent.⁹

- **Food Allowances.** Allowances to low-income families for the purchase of food products accounted for 48 percent of spending on low-income and vulnerable groups. This benefit was paid monthly for each child under 18 and pensionable adult and ranged from 30-40 percent of the minimum wage. Allowances to compensate for increases in children's clothing prices accounted for 24 percent of vulnerable groups' allowances, and were also introduced to protect families from price decontrol; non-cash benefits to the infirm elderly accounted for 10 percent of funding; stipends to low-income families with children from age 3 to age 6, 6 percent;¹⁰ additional allowances to low-income families and single mothers, 8 percent; and maintenance of

orphanages, 4 percent.

- **Consumer Subsidies.** Assistance to the general population and specific non-vulnerable groups includes stipends to all families with children under age 3, 41 percent of this category; sick leave and short-term disability pay, 27 percent; benefits for the disabled, 11 percent; ¹¹ recreation benefits, 8

Table 1.6: Pensioners and Their Benefits, January 1, 1992

| Pensioners | Number in Thousands | Percent of Total | Average Pension as a Percent of the Minimum Pension ¹ |
|--|---------------------|------------------|--|
| Pension Fund Supported | 12,997 | 97 | 122 |
| Retirees | 10,318 | 77 | 125 |
| Disabled | 1,224 | 9 | 123 |
| Dependents | 693 | 5 | 96 |
| Other ² | 500 | 4 | 75 |
| Military | 262 | 2 | 144 |
| Military Paid from Ministry of Defence | 362 | 3 | 522 |
| Total | 13,359 | 100 | 133 |

Notes: 1. Figures do not reflect July and October 1992 increases.
2. People who never worked including those disabled from childhood and hobos.

Source: Ministry of Social Welfare

percent, maternity benefits, 6 percent; and other benefits, 7 percent. The Social Insurance Fund pays for 42.5 percent of non-targeted benefits; state and local general revenues, 40 percent; and the Pension Fund, 17.5 percent (for details see chapter 7).

There were over 50 allowances and benefits, many of which did not differ substantively from

one another.¹² Many allowances were funded, administered and distributed by several agencies; others were funded by one agency, administered by a second and distributed by a third.¹³ There are special benefits for servicemen's families, cars (or the cash equivalent) for some disabled persons, telephone service for veterans, and free access to vacation camps. Early in 1993, government officials were in the midst of a serious effort to redefine and limit benefits to those in greatest need. The results of their efforts remain to be determined in the future.

POVERTY GROUPS

38. Official estimates of the Former Soviet Union placed the share of Ukrainian population living in poverty at about 8 percent in 1988, which was above the Soviet average. Assuming the poverty level in 1990 was 100 rubles, then poverty increased to 11.3 percent of the Ukrainian population. The true poverty line for 1990 is an unknown, but there are data on the distribution of income, 1988-90 (see ?). There are no data on the characteristics of households living in poverty, but they would include aged rural people living alone, orphans, the seriously disabled, families with three or more children, single parents and pensioners receiving less than 1.5 times the minimum pension. These groups

Box 1.2: Key Issues for the Social Sectors

Three major issues confront Ukraine in assessing its inherited program of public social spending. First, what share of GDP can the government afford to devote to social compensation? Ukraine's stabilization will not accommodate so large a share of GDP as 41 percent. Reduction to perhaps 20 percent of GDP is probably required.

Second, on what basis will the Government make the choices of allocation of social spending within the several components of pension benefits, food subsidies, family allowances, unemployment compensation and training, and the social services of education and health? These choices need to be informed by two kinds of concerns:

- That public resources be efficiently used, and
- That the implicit and explicit subsidies provided by government go preferentially to those most in need.

These changes would require reducing general subsidies, a step already taken, rescinded, and taken again by the government in the difficult policy environment of 1992. Government officials have also recognized the need to concentrate limited resources, especially family allowances, on vulnerable groups, including *inter alia* single-parent families and the rural poor.

Third, how will the Government strike the balance between spending that supports current well-being and spending that builds capacity for future productivity, such as education, health, and training services provided by government? In difficult times, such as those faced now by Ukraine, there will be a bias against investment and in favor of spending for current benefits. This bias ought to be the subject of continuing review to assure that government invests enough in its children, in their good education and health, and in the equipment, pharmaceuticals, textbooks, and other inputs that, in difficult times, are put off in favor of protecting current benefits, such as salaries, pensions, and family allowances.

constitute from 10 to 20 percent of the population. The numbers living in poverty have undoubtedly risen in the past two years of economic crisis. An unpublished study based on a special survey in the Russian Federation found that 36.7 percent of population are below a poverty line. Characteristics of households that appear to be associated with poverty are the presence of children under age six in the household and presence of an unemployed or handicapped person (Popkin, Mazhina and Baturin 1993, Table 1). As Russia and Ukraine have both suffered from the decline of trade within the former union, the incidence of poverty and related problems may be similar.

Table 1.7: Income Distribution, 1988-1990

| Income Class (Rubles Per Capita Per Month) | Percent of the Population | | |
|--|---------------------------|------|------|
| | 1988 | 1989 | 1990 |
| Under 75 | 8.1 | 6.0 | 2.7 |
| 75-100 | 16.8 | 14.2 | 8.6 |
| 100-150 | 38.5 | 37.2 | 31.2 |
| 150-200 | 22.4 | 24.5 | 28.0 |
| over 200 | 14.2 | 18.1 | 29.5 |

Source: Braithwaite (1992).

39. Women may constitute a vulnerable group that is susceptible, under various circumstances, to fall into poverty. Even at current low rates of unemployment, the number of women unemployed is nearly double that of men. Single women heading households are likely to be poor (see background papers by Pirozkhov and Lakiza-Sachuk; Libanova; and Khodorovsky, all prepared in 1992). Unavailability of family planning and frequent complications of abortions frequently endanger the reproductive health of women of childbearing age. Although earlier retirement is an advantage women enjoy over men, women's longevity often leaves them as unsupported widows with inadequate pensions. The onset of

crisis has led many enterprises to cut back on day-care services essential to women. Finally, maternity leave and other benefits have the effect of raising the relative cost of hiring women thus potentially aggravating their employment problems during periods of labor shedding.

MAIN ISSUES FOR SOCIAL PROGRAMS

40. This review of social conditions and social protection raises a number of issues that will be addressed in succeeding chapters. The most general issue is that resources available to government during this period of crisis seem totally inadequate to meet the vast responsibilities bestowed on the state by its predecessor. The productive economy has shrunk due to the shock of dislocation for the integrated system of the Former Soviet Union, and available resources of social protection shrunk as well. In the competition for program survival, government is trying to spend more than it has available thus generating the basis for inflation. Unless managers set priorities for the distribution of benefits, there will surely be considerable waste, inefficiency, and payment to many who may not be absolutely dependent on assistance for their well-being (see Box 1.2). Setting priorities, which is the subject of much of the rest of this report, can help to assure more effective use of limited resources.

41. There is a risk that open unemployment will rise, and it is probable that there is already considerable hidden unemployment in many state enterprises as shown in chapter 2, which follows. What actions should government take to address the problem of unemployment? The next three chapters of this report offer a number of suggestions.

42. The government has more obligations to its citizens than it can serve: How then can government trim back those obligations yet still attend to the most basic social-assistance needs of pensioners, families, students, and the poor?

Chapters 4 through 7 address the many aspects of the match between needs and program assistance to try to find the least painful way to bring resources and obligations back into balance.

43. Social services, particularly education and health, are essential components of social well-being. Sustainable development will depend on providing adequate social services as they promote productivity. Currently-available programs are acknowledged by their managers to be inefficient. Chapters 8 and 9 summarize current issues in each area and summarize areas in which efficiency improvements, most of which are contemplated for introduction by managers of public education and health services, could reduce spending yet maintain the quality of services. Regrettably, resources did not permit this study to include related social sector ministries that support programs of culture, youth and sport, and smaller components of the aggregate public effort to provide for the broad range of social needs. In reviewing a draft of this document, the authorities asked for followup studies that could include this broad range of programs. Certainly these areas of responsibility that are adjacent to education and health are at considerable risk of budget reductions and some analysis of highest priority services needs to be made in conjunction with an overview of sector needs.

A BIAS FOR HOPE

44. Recent surveys in Russia, Bulgaria and Czechoslovakia indicate that a mood of pessimism is more deeply embedded in the first of these countries than in the second two (Rose 1992). Ukraine may share Russia's mood of uncertainty about the economic and social future. A major objective of social protection must be to protect vulnerable groups and bring the country out of a process of transition into a better condition than prevailed before the commitment to independence and restructuring. No one should suffer unnecessarily in this

process. The collapse in economic output imposes nearly impossible conditions on a government intent on protecting its population; nonetheless, sound priorities, especially a determination to attend to the needs of those most vulnerable during the next year or two, coupled with timely external financial and technical assistance, should be adequate. The following chapters review in more detail how a bias for hope can build a framework for continued dynamic economic growth while limiting the social costs of adjustment. There are ways to reduce public outlays among those current beneficiaries who can get along without subsidy, at least until the transition to a market economy is well along and the economy has been stabilized. At the same time, there is space within the safety net to accommodate those who might, through no fault of their own, fall into unemployment and need social protection and assistance in the shift to new lines of work.

SOURCES AND USES OF FUNDS FOR THE SOCIAL SECTOR, 1992

45. Today, the state is trying to protect pension benefits of 13.5 million recipients, family allowances for a broad spectrum of recipients, stipends and in-kind assistance for 11.4 million students, and real salaries among the nearly 6 million employees paid from state and oblast budgets, over half of whom deliver education and health services as part of the social safety net. If to these are added a potential three million unemployed, then 34 million persons, or 65 percent of the population, will be beneficiaries or workers in the system of social protection. It seems unlikely that the productive economy can readily support such a large burden; thus this report seeks to identify a basic safety net that might stretch to accommodate that smaller share of the population that is most in need (see Box 1.2 on key issues for the social sectors).

Sources of Funds

46. Funding of the social sector reached above R1.2 trillion in 1992. According to budgets made in May and June 1992, general revenues from state and local governments would account for from 53-57 percent of total sources of funds; earmarked payroll taxes 40-43 percent; and enterprises and individuals for 3 percent (see Figure 1.1.).

47. General revenues are derived primarily from a value-added tax (VAT) and an enterprise income tax. The VAT could account for about 45 percent of general government revenues in 1992; the enterprise income tax, 29 percent; the personal income tax, 10 percent; and excise and trade taxes and non-tax revenues, 16 percent.

48. Payroll taxes, at 53 percent of gross wages, even though reduced from the 84 percent that prevailed in the first quarter of 1992, remain among the highest in the world. The pension and social insurance taxes, 37 percent of wages, feed into the Social Insurance Funds. A 1 percent tax is levied on employee earnings and accrues to the Pension Fund. The Chernobyl tax is 12 percent of the wage bill, down from 19 percent in spring, 1992. The Employment Fund tax is 3 percent of wages. Moreover, the enterprise profits tax partially includes salary expenses as income.

Uses of Funds

49. In July 1992, social spending was forecast to reach 44 percent of GDP; by February 1993, most analysts thought such spending had indeed exceeded 40 percent of GDP in 1992.

Sector Budgeting Issues

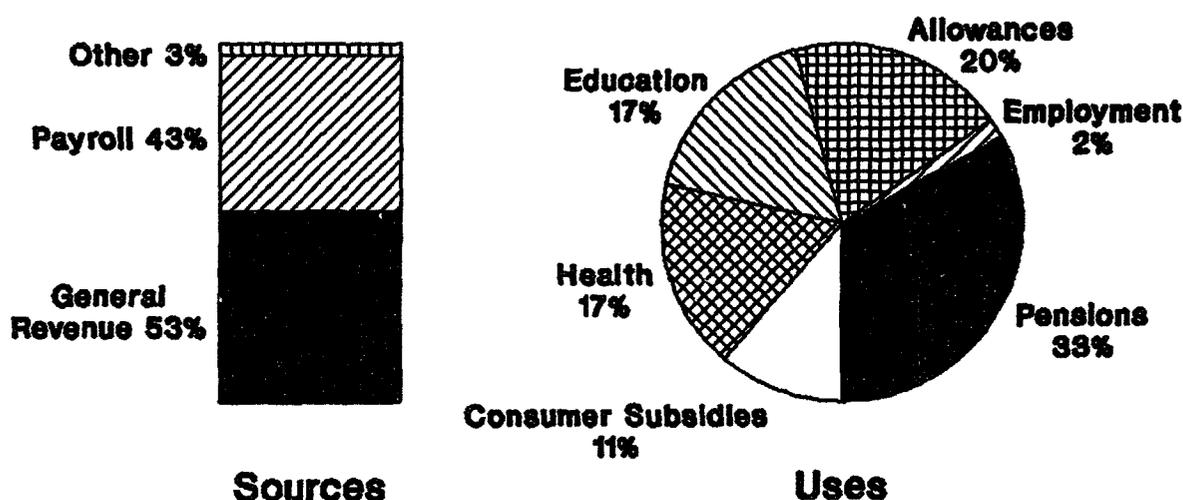
50. The preceding description shows that the means to finance and provide social protection is extremely complex. Certain legislation earmarks funds for specific purposes, such as the wage taxes paid into several funds that in turn pay for pensions, allowances, sickness, and employment services, according to specified rates set by

government. Other programs depend on general revenues; these include most spending for education and health. Some programs, especially preschool and some health services, have been financed on a voluntary basis by enterprises out of their profits. Because this complex system of finance has no central focus, there may be considerable inefficiency that emerges from the lack of central control. Allocations for the social funds may have been correct in the past, but they may now need to be increased (as with employment services) or decreased (as with resources for the sickness fund) depending upon changing national priorities.

51. Succeeding chapters discuss current and emerging issues that could lead the government to set new priorities for its social programs. For example, the hardening of budget constraints for state enterprises may lead to labor redundancy and unemployment, which will require an active response of job matching and training, as well as resources to pay unemployment benefits (see chapters 2, 3, and 4). The resources to support such new programs may have to come from scaling back somewhere else. Pensions and family allowances (chapters 5, 6, and 7) offer some opportunities for selected spending reductions that do not reduce effective social protection. The principal public social services offered in the areas of education, training, and health require continued support, but they may also offer some opportunities to achieve efficiencies while expanding some key areas (pharmaceuticals availability, retraining for redundant workers, and education for nation-building) deemed essential by government and society (chapter 8 and 9).

52. One means to assure that programs improve social conditions and provide social protection is to introduce a systematic budgeting arrangement for all social spending. Budgeting by objective is one approach to consider. Such a technique requires that all users of public social funds present their program goals and intended approaches for central budget review,

usually by the Ministry of Finance. Allocations then depend on the importance of the goals and the cost-effectiveness of the approaches offered. A periodic publication by the Brookings Institution in Washington DC, *Setting national priorities*, a review of the USA federal budget, offers an interesting example of how a budget can be reviewed against national objectives. Given the importance of social protection in Ukraine, and the substantial public resources



Source: Mission estimates based on information from government sources in July 1992.

Figure 1.1: Percentage Distribution, Sources and Uses of Funds in the Social Sectors

allocated to achieving improvements in social well-being, the government might wish to consider this approach as a means to bring social spending under control yet assure that social protection is maintained. It could help assure that limited resources contribute as well as they can to meeting diverse, important objectives of social protection.

THE CHANGING LABOR MARKET

THE LABOR MARKET IN A COMMAND ECONOMY

1. Several features distinguish the command economy with central planning from a market economy; a number of those features affect the labor market. First, the command economy operates the entire economic system as if it were a single firm. Coase (1988) has shown that the size of firms in a market economy is determined by the relative costliness of acquiring each particular commodity or service needed by the firm through internal, non-price acquisition, or through purchase in the market. In a command economy, however, there is no market discipline and the various branches of the single firm acquire inputs from each other at centrally-determined rates in physical, not necessarily in price, terms. Similarly, the firm acquires labor in an environment without market discipline so that the price paid is set overall by the single firm that is the state.

2. Because the goals of each enterprise are set in physical terms as outputs (of tons of steel or coal, for example), and because over time soft budget constraints came to characterize the operating environment of enterprises, there was no signaling mechanism that gave enterprises incentives to use labor efficiently. Labor hoarding is a term used to describe the enterprises' tendency to overuse labor.¹⁴ Because wages are set overall in the command economy, individual enterprises offer extensive nonwage compensation (free housing, child care, paid vacations, education and health services) to attract and retain workers. Coexistence of labor hoarding and labor scarcity is thus a chronic condition in the command economies of Eastern Europe and the Former Soviet Union (Kornai 1980). School leavers normally had jobs

arranged prior to graduation and there has been no visible unemployment in these economies.

3. Certain additional distortions of the labor market of the USSR derive from the Marxian labor theory of value, from differential treatment of productive and nonproductive labor, and from systematic undervaluation of services directed at the management of capital assets. The labor theory of value, in contrast to classical and neoclassical economics, attempted to identify the value of all production as a direct or indirect result of labor inputs. No productive value was associated with capital except insofar as it is 'congealed labor.' As a result, the price of waiting goes unpaid and the productivity of capital as waiting goes unrewarded. Prices of the factors of production do not reflect their true scarcity and productivity values, and there is as a result chronic underinvestment in capital goods, such as housing, that were inconsistent with the aims of central planners. The Marxian theory of value came over time to undervalue so-called nonproductive work; the measurement of net material product, for example, excludes many services, notably those provided by state employees in the provision of education and health services.

4. The Marxian system recognizes three classes as they relate to the means of production: peasants, workers, and the intelligentsia. These groups are broadly consistent with the neoclassical division, usually attributed in this century to the empirical work of Colin Clark and Simon Kuznets, of primary, secondary, and tertiary workers. The Marxian system, however, has had an ideological bias favoring workers, a tolerance for peasants, and a certain tradition of skepticism about the contribution of the intelligentsia. This bias was reflected in the

relatively high (as percentage of the average) wages of certain segments of the working class (miners, transport and construction workers). Nonetheless, the evolution of demand in any economy that experiences a rise in per capita output is toward a decreasing application of resources in primary activities; growing efficiency in secondary activities that permits an eventual reduction of resources applied there, and the growth of tertiary or support services.

5. This evolution created a tension in the Soviet economy because the system emphasized secondary (mining and manufacturing) work yet many nonpecuniary rewards derived for many labor force participants from becoming part of the intelligentsia and the service sector. In Ukraine, for example, the education and health sectors have absorbed a far larger share of the labor force than is typical of OECD countries, let alone the middle-income countries around the world that apply even fewer of their labor-force participants to these activities. The lack of alternative lines of work, particularly in the management of the economy's capital assets, has led to an overuse of service-sector workers in the provision of social services.

LABOR MARKET STRUCTURE

6. Ukraine is characterized by a comparatively high level of economic activity within its population, a typical feature of Eastern Europe. More than 50 percent of the population is employed somewhere, whereas in Western Europe the number is about 40 percent. As far as the structure of employment is concerned, by Western European standards, and by standards of other middle income countries, Ukraine has a high share of employment in agriculture (19.8 percent) and manufacturing (53.8 percent), and a very low share in services (26.4 percent), in particular in the banking and insurance sector (0.5 percent). Comparative evidence is shown in ?. However, the Ukrainian employment

structure is similar to other Eastern European countries. A comparison of the dynamics of Ukrainian employment with Western European employment shows that the Ukrainian employment structure changed much less than in Western Europe in the 1970s, and almost did not change in the 1980s, when the Western European employment structure shifted remarkably toward services.

7. The division of labor between agriculture, manufacturing, and services broke down to some extent in response to demand for service work associated with the growing complexity of the Soviet economy. Many workers in Ukrainian agriculture and

Table 2.1: Employment by Sector in International Perspective

| | Ukraine | United States | United Kingdom | France | Japan |
|---------------------------|---------|---------------|----------------|--------|-------|
| Agriculture (Primary) | 19.8 | 2.9 | 2.3 | 6.8 | 7.9 |
| Manufacturing (Secondary) | 53.8 | 26.9 | 29.6 | 30.3 | 34.1 |
| Services (Tertiary) | 26.4 | 70.2 | 68.1 | 62.9 | 58.0 |

Source: For Ukraine, CEM data. For other countries, OECD, Labor Force Statistics, 1990.

manufacturing do service work, such as equipment repair, cleaning, and materials supply. Differences of labor-force structure between Ukraine and developed OECD countries are real, not just a statistical artifact, for several interrelated reasons. First, the structure reflects the priorities of the Soviet system. Investment decisions in the USSR were biased towards investment goods. There was a self-reinforcing process in that the production of investment goods was raised so as to have more fixed capital, which had to produce investment goods that contributed in turn to the growth of fixed capital. This spiral advanced, resulting in more investment and more fixed capital.

8. Second, the manufacture of tangible material goods was viewed as the productive

sphere, and the provision of most services as a nonproductive sphere of economic activity. The nonproductive sphere was neglected because of lack of private producers where the sovereignty of consumers prevails in Western countries through market reflection of consumer demand. Moreover, a lack of democratic procedures made impossible the existence of political parties that otherwise would have been willing to vote the sums to developing public services.

9. Third, defense policies favored big, new installations and the arms industry; it was easier to build a new factory than to maintain properly the existing one. The phenomenon was not confined to material production, and diseconomies of scale are also visible in the service sector. The authorities attempted also to create better wage and labor conditions in the defense industry. Two decades ago wages of scientific personnel in the defense industry in the USSR were higher than those of their civilian counterparts by up to 50 percent, but over time this advantage has been decreasing (see Oxenstierna 1990, pp. 146-147).

10. Fourth, productivity in agriculture was very low and hence an unusually large share of the labor force had to be retained in the primary sector of production to supply basic consumer demand for foodstuffs. Related agricultural processing industries are also low in productivity compared to European or even middle-income countries, so these areas of manufacture require more workers than would be the case if normal levels of productivity were to be obtainable in these activities.

11. Despite high demand, queuing, shortages and waiting lists, levels of consumption by individuals in Ukraine (as in the whole Soviet Union) lag behind consumption by those living under capitalism. The lag is greater in consumption goods than in production goods, a result of the strategy of accumulation for production and weaponry, in which investment in military hardware was given priority over consumption. The population was compelled to

Table 2.2: An International Comparison of Car and Telephone Density

| | Number of Cars | |
|----------------|-----------------------------|-------------------------------------|
| | per 1,000 inhabitants, 1987 | Main lines per 100 inhabitants 1986 |
| West Germany | 462 | |
| Switzerland | 418 | |
| Italy | 392 | |
| Norway | 387 | |
| Spain | 251 | 25.2 |
| Greece | | 33.0 |
| Cyprus | | 24.7 |
| Ireland | | 21.2 |
| Bulgaria | 127 | 15.1 |
| Czechoslovakia | 174 | 12.5 |
| East Germany | 209 | 9.8 |
| Poland | 111 | 7.0 |
| Soviet Union | 44 | 9.0 |

Source: Kornai (1990, pp. 304-305)

sacrifice present consumption to investments that support military policy. Table 2.2 presents differences in density of cars and telephones between the Soviet Union and other countries; these differences demonstrate how completely the demand for private consumption has been suppressed. Once effective consumer demand becomes the main determinant of what is produced, employment will shift to a pattern more like that of other market economies.

OPEN AND HIDDEN UNEMPLOYMENT

12. The rate of unemployment in Ukraine was negligible, around 0.15 percent, in July 1992 and continues to be low, though rising slowly, early in 1993. The number unemployed has more than tripled since the first quarter of 1991. Of this number almost 70 percent are white-collar workers, and more than 70 percent are women. The unemployment rate in July 1992 varied from 0.01 percent in Vinnytsia

oblast to 0.56 percent in Ivano-Frankivsk oblast. About one-third of the unemployed lost their jobs due to liquidation or reorganization of state enterprises. There are reports of a widespread practice of cutting working hours in the enterprises and keeping idle labor. Credits from the state budget enable the enterprises to go on paying wages without producing, thus avoiding layoffs. The resultant public deficit and inflation lead to the conclusion that this arrangement must eventually collapse. Unemployment may accelerate in an unmanageable way, and the steps undertaken to prepare for it may prove insufficient.

13. Historically, since the late 1950s, labor hoarding has prevented any major manifestation of open unemployment in Ukraine. As in other countries in Eastern Europe, labor hoarding was accompanied by labor shortages. Labor shortages prevented firms from firing unnecessary workers, yet numerous workers on the payroll were underemployed. In the period 1970-1989, when employment growth slightly exceeded labor force growth, the number of vacancies was consistently much higher than the small number of registered unemployed. This pattern was typical of Eastern Europe, indicating an excessive demand for labor, which even accelerated in the late 1980s due to relaxation in monetary and fiscal policy. A majority of vacancies have been for blue-collar male workers. In July 1992 the number of vacancies was still higher than the number of unemployed (see Annex A: Employment and Labor Force, Tables 40 and 41).

14. As a result of the disruption of the economy, price liberalization, imbalance between orders and available raw and technical materials, the breakdown in trade with Eastern Europe and the Baltics, and a decline in state orders for various types of production, Ukraine is experiencing a collapse in output. Most managers believe the drop in the volume of production will be temporary. Anticipating a renewal of economic ties and increase of demand, managers continue to hoard labor.

There has been a sharp increase in the incidence of extended administrative leave without pay, transfer to jobs with shorter working hours, discontinuance of shift work, and related changes that reduce hours worked while disguising the reality of unemployment. This process has become prevalent in all branches of the economy, as the following evidence based partly on surveys, and partly anecdotal, will indicate.

15. Based on a sample survey conducted by local employment centers in 333 enterprises in Ukraine, the incidence of leave without pay has affected 26.3 percent of the average monthly employment; 29.5 percent of leave takers were on leaves up to two weeks, 27.7 percent between 2 and 4 weeks, and 42.8 percent over a month (see Figure S.4 in the Executive summary and the statistical annex). Some were on indefinite leaves. Casual observation and occasional surveys provide various examples of temporary layoffs associated with lack of raw materials. Gorlovska knitted textile factory, with 2,420 staff, worked but one day in 1992 until March 1, 1992; Kiev "Ukrkabel" plant had 1,350 people working a 32-hour week. For the same reasons, in February, 1992 Zaporozhska textile/garment factory went through a 17-day stoppage, with 645 workers affected, and the Mukachevska textile/garment factory with its 723 employees stopped for almost a month. Both the Uzhgorodskoe Footwear company, with 2,000 workers, and "Elektrodivigatel" with its 1,004 employees had stoppages of 2 weeks. Kharkov "Malshieva" factory worked a shorter hour week, with its 3,000 employees; Rovno radio plant with its 7,165 workers, and textile/garment factory, with its 1,400 workers. Following the disruption of economic ties, partly with Russia, "Tos" factory in Yvano-Frankovskoi oblasti expects a R7-8 million decline in its output, and a 130 people lay off. 463 workers in the Troskianeykom factory "Elektrobitpribor" and 270 workers at Belopolski tool-machine factory (Sumskaia Oblast) were given a leave of 2 months. Ternopol baking plant closed for almost 2

months. In the Donetsk oblast, due to shortage of power and raw materials, lost working time increased by 2.3 times in January 1992 in comparison to January 1991.

16. A survey of 13 state enterprises employing 65,000 workers in Kiev found that they cut employment by 13 percent in 1992, much more among producers of civilian goods (25 percent) than military (10 percent, with two large firms having no layoffs). Interviews with 350 of the laid-off workers showed that most got new jobs, the exceptions being workers over 50 years of age. Over half the redundant workers under age 35 got jobs in the private sector (Simon and Ustenko 1993, reported in Financial Times, 14 February 1993). These findings suggest that the labor market can absorb younger, male (women fared less well than men in the search for new jobs), big-city workers in the burgeoning private sector of major cities. But for older workers in single-industry towns far from cities, the prospects will remain bleak.

17. As there has been no unemployment in the past, there are no statistical systems that study it. In the future Ukraine will need to develop a systematic approach to gathering unemployment data so that effective policies can address employment problems as, when, and where they arise. For the present, policy data are far from adequate to design effective responses as problems emerge.

LABOR MOBILITY AND MIGRATION

18. Labor mobility is constrained by the system of residence permit, "propiska," the lack of affordable housing, and the rigid and overspecialized education system. The tightness of the Ukrainian labor market varies across regions. Opportunities for work are weakest in the Eastern Region, in particular in the cities of Donetsk, Krivoy Rog, Dnepropetrovsk, and Kharkiv where a huge concentration of mining, metallurgy and machine building industries exist, the bulk of them being a part of the defense complex, and where mass layoffs can be

expected in the future. The Odessa Region (in particular its south-west part) suffers from disguised agricultural unemployment. The situation is better in the Western Region, where the number of new openings in the private sector is the highest, and where excess labor travels informally to neighboring countries.

19. An additional strain on the Ukrainian labor market may come from international migrants. Ukraine has experienced net immigration since 1985, mainly from Crimean Tatars who are returning to Crimea, and refugees from Armenia, Azerbaijan and Moldova. This immigration may adversely affect local labor markets, as the migrants cluster in some regions with few job opportunities. The government is beginning to develop international agreements on migration with neighboring countries.

WAGES AND INCOMES

20. In the Ukrainian Soviet Socialist Republic, wages and employment were strictly controlled. Wage setting was based on a tariff system. In addition to tariff wages set centrally, most employees were earning bonuses, which were determined and allocated at the enterprise level. Tariff wages were based on skill scales reflecting differentials relative to the least skilled. There were basic rates for the least skilled, and additional coefficients for arduous work.

21. Throughout 1991 the old system of wage setting was still in place, although beginning in March, enterprises could set their own tariffs, subject to ministerial approval. All wages were adjusted for through changes of the minimum wage when the monthly price rise exceeded 5 percent. Wages lower than twice the minimum wage have been fully indexed, wages of two to three times the minimum have been increased by 50 percent, and those higher were not indexed at all. Up to the end of 1991 indexation was mandatory for both Government and enterprises.

22. Earnings by sector used to be unrelated to the workers' educational attainment by sector, perhaps indicating that monetary returns to education are low. For instance, the three lowest paid sectors were education, culture, and health sectors in which the number of university graduates is the highest. The two highest-paid sectors were construction and industry where the majority of the workforce had no secondary education. This anomalous situation is changing with banking and insurance earnings overtaking all others. Wage differentials between managers, specialists, and workers vary by sector, but are low as well. In the government sector, according to salary schedules, specialists earn 25-30 percent more than workers; managers, 80-100 percent more. The rules for indexation of government workers' salaries have compressed salary schedules; unless the rules change, the compression is going to deepen with inflation. Early in 1993, the Government's Plan of Action provided for significant changes in wage policy. With inflation near 30 percent per month, wage adjustments were seen to be essential. At the same time, it was clear that across-the-board increases exacerbate inflation. Some enterprises were raising real wages. Government policy sought to cap enterprise wage bills to keep real wages from rising beyond productivity increases and hence begin to suppress inflation. The effectiveness of these policies remains uncertain.

COLLECTIVE BARGAINING AND UNIONS

23. In the long run, in an open European economy, the collective bargaining scheme may enhance or impede productivity growth and development. The current Ukrainian system impedes wage setting in the enterprises by making wages subject to collective agreements at the industry level. There are 33 such agreements in the country, some of them very detailed, specifying various obligations of employers not mentioned elsewhere. Since Ukraine is a large country, the Swedish-type setting of collective bargaining, based on centralized relations between government and

union representation does not seem appropriate; agreements at the enterprise level could suit the country better. Such a system would contain wage pressure and involve trade unions in anti-unemployment actions consistent with the market economy, allowing for a more serious involvement of trade unions in supplementary unemployment compensation, industrial relations improvement, and labor productivity issues.

UNEMPLOYMENT FORECAST

24. Projections of high unemployment at the end of 1992, which were made in March and April of that year, were not confirmed. This experience suggests the need for a different estimating procedure. A simple unemployment forecast for Ukraine can be done on the basis of the assumption that Ukraine is going to follow the Eastern European path of adjustment. Table 2.3 shows proportions between the GDP drop and unemployment rise in Eastern European countries and compares those data to Ukraine's situation.

25. Across Eastern European countries, the elasticity of unemployment to GDP in the third year of recession varied between -0.33 and -0.58, and, excluding Germany, between -0.46 and -0.58. In Ukraine unemployment has not responded to the drop in output, raising two important questions: (1) Why does labor hoarding persist in Ukraine?, and (2) How long will it persist? For the first question note that in Ukraine the first year of output decline was 1991. Eastern European experience of 1989 and 1990 shows that labor shedding does not start together with *any* recession but only when recession is caused by a *demand shock*. For instance, Poland had zero unemployment until December 1989, although industrial output in 1989 was already falling and GDP stagnated. But the drop in 1989 was, similarly to Ukraine in 1991, influenced primarily by the supply shock resulting from a break-up of economic ties with the other Comecon countries. In January 1990, when a huge demand shock occurred, labor shedding began. Therefore, it is

reasonable to expect acceleration in unemployment in Ukraine as soon as the demand shock comes into the picture.¹⁵

26. For the second question the relevant observation is that expected GDP for 1992 stabilized in some countries (Hungary, Poland) or slightly dropped in others (Bulgaria, Czechoslovakia), indicating that reform-induced recession lasts 3-4 years. In Eastern Europe recession started in 1988 or 1989; one may expect Ukraine to reach the Eastern Europeans' situation in 1994 or 1995. A GDP drop of one-quarter, coupled with an employment elasticity of -0.5, would yield an unemployment rate of

Older, displaced workers in single-industry towns pose a much more serious adjustment problem. Succeeding chapters consider what policies can most effectively address the challenge of unemployment and economic revival to find new jobs for all workers.

Table 2.3: GDP Drop and Unemployment Rates in Selected Eastern European Countries and Ukraine, 1988-92

| | GDP Drop compared with 1988 (Percent) | Unemployment Rate (Percent) | Proportion Unemployment Rate : GDP Drop |
|----------------|---|--------------------------------|---|
| Bulgaria | 32 | 13 | 0.46 |
| Czechoslovakia | 15 | 7 | 0.47 |
| E. Germany | 42 | 14 | 0.33 |
| Hungary | 13 | 7 | 0.54 |
| Poland | 19 | 11 | 0.58 |
| Ukraine | 9 | 0 | 0 |

Source: For Eastern Europe, National Official Statistics.
For Ukraine, IMF Economic Review, April 1992.

12.5 percent in 1994-95, about 3 million people. The Eastern European experience shows that the higher open or repressed inflation at the outset of a stabilization program, the larger will be the following GDP drop (compare Poland and Bulgaria on one hand and Czechoslovakia and Hungary on the other hand). In Ukraine inflation in 1993 is already running above 20 percent monthly, which may indicate that GDP could decline even more than one-quarter from its late-1980s peak before rising again. Therefore, the working assumption of 3 million unemployed for 1995 may be justified. For younger, big-city workers, the transition to new, private-sector jobs may be relatively painless.

POLICY RESPONSES TO EMPLOYMENT PROBLEMS

INCOMES POLICY

1. In January 1992, government liberalized wages and wage-setting in state-owned enterprises but imposed a new salary scale for budget employees, those employed and funded from government revenues. Periodic minimum wage adjustment, with less-than-equivalent percentage changes for all wages above the minimum, was the main tool to adjust wages to inflation. The level and distribution of income changed in 1992; the minimum wage fell behind price increases in the early months of the year, but wage increases in most state enterprises, and even for budget employees, overtook price increases. In May 1992, the average wage in the economy was R3,052.4, 88.4 percent more than in January, when it had been R1655.9. Prices of the minimum basket of goods, the only proxy for a true consumer price index, rose by 59 percent. The minimum wage was increased by a factor of 2.25, from R400 on January 1, to R900 on May 1, 1992.

2. In principle, according to the government's law of October 1991, indexation of wages and social benefits should be a second instrument of adjusting incomes. The law provided for a sliding scale of index compensation that varied according to the relationship of income to the minimum wage. Automatic indexation would be 100 percent for that part of wages up to twice the minimum wage, and 50 percent for the amount between two and three times the minimum wage. There would be no automatic indexation for that part of wages above three times the minimum wage. Such adjustments would be obligatory for wages in the government sector and for social benefits, but would be indicative for the enterprise sector, where wage determination has been freed.

Indexation is supposed to be enacted only in those months when the minimum wage remains unchanged. These policies were overtaken by the reality of virtual hyperinflation. Special compensation for children and pensioners was tried for several months then abandoned as inflationary and too costly early in 1993.

3. Incomes policies are in flux: Parliament introduced requirements that teacher and health workers' average wages must equal the average wage in industry; average wages in the Culture sector must equal the average wage in the economy. A tax-based incomes policy was introduced on July 1, 1992, that allowed for tax-free wage increases in proportion to output growth at the enterprise level. Increases above this threshold resulted in an increase in the rate-of-profit tax by 2-5 times depending on the level of excessive wage-bill growth. Provisions for an excess-wage tax were strengthened early in 1993. These measures may be inconsistent with the objective of balancing the supply and demand for labor in the various sectors of the economy.

ACTIVE LABOR MARKET POLICIES

4. Active labor market policies can increase the productivity of workers, enhance their employability, and improve the operation of labor markets. These policies facilitate labor mobility in a market economy as workers respond to changing economic opportunities. Examples of active labor market policies that increase productivity include retraining and small enterprise development; policies that improve the operation of labor markets include the delivery of employment services, the development and dissemination of labor market information, and mobility assistance. Active

labor market policies work in combination with passive labor market policies that protect the incomes of workers displaced from their jobs by economic adjustment, while encouraging their movement to new employment. Unemployment benefits and separation payments play this passive role.

5. Industrial countries differ in how they combine active and passive labor market policies. Sweden, which has had one of the lowest unemployment rates in Western Europe, relies on active labor market policies; the United States favors passive incomes support, and most other countries blend these approaches (See Figure S.6, page 7, which shows the share of GDP spent on active and passive labor market policies in Ukraine and selected OECD countries). Evaluations of various active labor market policies show these policies can produce savings in passive incomes support that exceed their cost by reducing the time required to move displaced workers to new employment. Stated somewhat differently, active labor market policies, though partial, can pay for themselves and could be a cost-effective, though partial, solution to rising unemployment.¹⁶ Ukraine has both types of labor market policies, but spends a smaller share of GDP on them than OECD countries, but for the obvious reason that the command economy leaves almost no one unemployed.

RETRAINING

6. The transition to a market economy will mean a decline of employment in some economic sectors and growth in others as employers adjust to market-driven demand instead of the system of state orders that drove the command economy. New technologies and methods of production will be introduced that change skill requirements. Wages will rise or fall for specific skills in proportion to the balance of their demand and supply. These features of a market economy will mean a displacement of workers in some jobs and a subsequent expansion in others. Displaced

workers, however, may not possess the skills needed for employment in growing sectors of the economy. A policy of equipping displaced workers with new skills can increase their employability and facilitate their movement into new jobs. The pace at which this job shift occurs determines the cost of the transition in lost income for workers and their families and foregone production and potential social disruption.

7. Resources for retraining displaced workers are located in the Ministry of Labor in the Employment Service (ES). The ES controls expenditures of the Employment Fund which can be used to procure skills training for displaced workers. This Fund was created by the Ukrainian Law on Employment of 1991. During its first year of operation, the Fund was used to retrain 2,500 workers (1 in 12 of the unemployed) nationally at an average cost of 10,000 rubles. The ES used the Fund to purchase training from vocational schools in the Ministry of Education, from other ministerial training programs, including city training centers, and from special training institutes attached to enterprises or sectors of the economy. The Fund gives the ES flexibility in the choice of training provider and the type of skills training purchased.

8. The Ministry of Labor is considering to establish its own retraining centers. Four or five regional administrative centers would be established, each with a cluster of local training centers. Approximately 600 to 700 training centers would be established with some existing centers taken over by the Ministry of Labor. A second option under consideration would continue the present procurement of skills training from existing schools and training centers and create a smaller number of Ministry of Labor training centers for areas of special need.¹⁷ The best choice will depend on which option can meet the needs of displaced workers flexibly. International experience shows that displaced workers have different training needs than youth seeking training for their first job.

Older workers may lack basic computational and communications skills and require upgrading. Displaced workers may be at different stages of job readiness and need training that allows them to enter at different levels of proficiency. The timing of displacements, which cannot be expected to fit traditional school openings and closings, requires training that is flexible with regard to entry and exit. The opportunity cost of time spent in training for displaced workers in lost incomes creates a need for training that allows trainees to accept jobs when competency goals are reached rather than when a fixed amount of time is spent in training.

9. A city-owned training center in Kharkiv offers skills training of very high quality for a broad spectrum of occupational specializations in the command economy. Simulators were in use where trainees practice their theoretical skills in such trades as elevator repair, crane operation, and building engineering. Repairs and operating conditions could be simulated and trainees tested for situations that would not be easy to replicate on the job, except at considerable expense. The learning environment is attractive. Classrooms are clean and well lighted, and libraries are stocked with current trade publications. Recurrent budgets showed 80 percent of expenditures for salaries and the balance available for supplies and other teaching materials. Over 90 percent of graduates were immediately placed in employment. The annual capacity of the training center is about 12,000 trainees.

10. This training center may be above average; it serves the needs of the command economy very well with its predictable flow of trainees and demand for skills but may do less well in serving a new market economy and displaced workers. The center lacks flexibility in adjusting to market demands for skills. Its heavy investment in simulators in the short run locks it into training for certain skills. The simulators were designed for a specific technology as monopolistic State enterprises produce only one elevator system or type of

crane. A market economy will quickly increase the number of producers, domestic and foreign, and the technologies in place. Training in such centers will need to become more general, leaving specific skills to be learned on the job with particular equipment or in supplier training programs. Although theoretically possible with simulators, competency-based training was not employed, nor was training packaged in modules for flexible entry and exit.

11. This was not the only mode of training offered, however. The center offers training in more than 300 specializations with some of the training delivered in enterprises outside the classroom and laboratory. Curricula were taken from Moscow. The large number of occupational specialties is an indicator of its job-specific nature.¹⁸ This degree of specialization is perhaps appropriate for an economy where expected labor mobility is low and the need for workers to adapt to different jobs and technologies is limited. In this environment, general skills are less important. Ukraine's transition to a market economy, however, will increase the demand for general skills.

12. Training is closely linked to employers. Some centers are tied to particular sectors, such as the Aviation Institute, while others are connected with State enterprises. Most training is paid for by enterprises, thus directly regulating the balance of demand and supply. In other cases, as mentioned above, training is paid for by the ES from the Employment Fund with the training theoretically tied to actual job listings. Trainees in a small number of cases may pay for their own training. These arrangements appear to be both effective now and promising for the future.

13. Ukraine is approaching a period of adjustment and mass layoffs with limited capacity to offer training that is suitable to the needs of a market economy and displaced workers. Solutions could include reforming components of the existing training system or establishing a new system within the Ministry of

Labor. For the near term, with projected closings and restructuring of State enterprises and their attendant labor displacement, there is a threat to the State's ability to finance this training. Reform issues will have to address the inflexibility of the current system, its focus on job-specific rather than general skills, and its ability to meet the special needs of older workers displaced from jobs in the command economy.

GRANTS FOR THE UNEMPLOYED

14. Retraining displaced workers is one type of active labor market policy to increase the productivity and employability of workers. Another is the granting of credit to the unemployed to create small enterprises by capitalization and prepayment of unemployment benefits. The ability to purchase raw materials, production tools, and other productive resources can increase the productivity of the displaced worker who is willing to become self-employed. The start-up of small enterprises can create new jobs for other displaced workers and provide important goods and services to consumers. Although the new employment law permits the ES to provide unemployed workers with grants for this purpose, such grants have not yet been made.

15. Experience in a wide range of industrialized and developing countries indicates that grants or loans often result in fraud and abuse. The failure rate of small business start-ups is very high. Few of the unemployed have the aptitude for self-employment and ability to produce a marketable product. The availability and cost of space is a major constraint to private employment expansion. Excessive regulation and taxation constrain small-enterprise development still further. Libanova (1992) reports an active black market for labor providing services in construction, trade, food products, health care, and even private tutoring. In other economies this is recognized as the informal sector. It is a vibrant, active source of employment absorbing many of those unable to

find work in the regulated sector of the economy, the so-called modern or formal sector. Faced with regulation and taxation, enterprises remain small and hidden under the surface of the economy, thereby limiting their expansion and contribution to employment and public revenue. A survey of 223 enterprises in April 1992 found that high taxes and regulatory instability are the principal obstacles perceived by entrepreneurs.

16. In most industrialized countries, small enterprise development programs are suitable for less than 5 percent of displaced workers. The ES role is best limited to that of screening displaced workers for their suitability for this service. In other countries, non-governmental organizations, representing private or not-for-profit enterprises, are more effective in delivering a package of small enterprise development services. The ES role is usually that of procuring these services and screening displaced workers as clients. It is premature to consider such programs in Ukraine.

WAGE SUBSIDIES

17. Wage subsidies should be avoided as they can slow the pace of the transition in the economy. Officially, the Employment Fund can pay wage subsidies, but the ES is not doing so. However, anecdotal evidence based on field visits in Ukraine indicates that some employment offices use Employment Fund resources to pay wage subsidies to selected state enterprises to induce them to keep redundant workers. In general, wage subsidies paid to enterprises to retain workers is a potential impediment to adjustment by slowing the pace at which workers are encouraged to look for alternative productive employment. International experience with wage subsidies suggests their costs far outweigh any benefits. When given to specific groups of workers, such as unemployed youth, the subsidies tend to substitute the unemployment of one group for another, encouraging the hiring of youths in preference to adults who are ineligible for the subsidy. The net job-creation potential

is modest; subsidies go mostly to labor-intensive enterprises that hire unskilled workers even without subsidy.

PUBLIC WORKS

18. The ES is authorized to use the Employment Fund to create public works and jobs for the unemployed. Like grants for the unemployed and wage subsidies, public works have been used only on a small scale and should continue to be avoided. Public works projects are a counter-cyclical employment tool and a source of employment-of-last-resort for disadvantaged workers. The share of the unemployed provided with jobs, however, has been small. Wages are set below market wages for unskilled workers to encourage self-targeting. That is, workers who elect employment in public works are those unable to find jobs for higher wages elsewhere. Potential public works projects include flood control, care and maintenance of public grounds and facilities, community public health projects which would not compete with private market provision of these goods. The ES in Kiev has used public works on a small scale for unskilled workers. It has contracted with a firm that places unemployed workers in jobs doing grounds and maintenance work. To use the program successfully, the ES will need to work closely with local community governments that are best equipped to identify public works projects. Delivery of these works may be contracted out to non-governmental organizations or local governments. It is unlikely public works can be used as an active labor market policy because their labor intensive nature rarely offers extensive opportunities for skills training.

EMPLOYMENT SERVICES

19. Ukraine's employment centers deliver a wide array of services to job seekers through a network of 636 local offices at city or local (*raiyon*) level that report to 27 regional offices. Regional centers provide retraining for the

unemployed, occupational testing, and assessment. The local offices receive notices of vacancies from enterprises; the Employment Law requires they be notified two months in advance of any dismissal of employees and that vacancies be listed with the office. The mandatory listing of vacancies and the absence of private employment agencies makes the local offices the sole labor exchange; still, 80 percent of hiring is done by enterprises themselves at the factory gate, through referral of their own workers and in other informal manners. Nevertheless, the State Employment Service gives priority to its labor-exchange function: Job matching is its primary mission. Before passage of the March 1991 employment law, staff worked mostly with the "5 percent quota" groups -- special categories of hard-to-place workers, such as alcoholics or ex-convicts, for whom enterprises are required to reserve 5 percent of vacancies. Since the command economy was characterized by labor shortages, most other job seekers found work by themselves. Only a small percentage of workers who had left their previous job voluntarily used the system.

20. The Employment Service system has expanded its offices and staff to meet current conditions and handle the expected influx of job seekers. ES has 11 staff for each 100,000 population performing both the Employment Service and unemployment benefits functions, and can increase to 16 staff per 100,000 population in the near future. Local offices authorize retraining programs through the regional retraining centers; a laid-off worker seeking a job, retraining, or benefits visits the same location for assistance.

UNEMPLOYMENT BENEFITS

21. Most industrialized nations have a system of income support for the unemployed; Ukraine's system was enacted in the March 1991 Employment Law, which provides earnings-based benefits that differ according to separation reason or labor status. The most generous

benefits are reserved for so-called "Category One" unemployed: Persons dismissed from employment due to layoffs, bankruptcy, or closure of the enterprise. They receive one month's severance pay in advance for the first month of unemployment and then receive two additional months of 100 percent pay, paid for by the enterprise. Thus the enterprise is responsible for the first 3 months of assistance. During these months, the dismissed employee has not achieved the status of unemployed and does not count in the unemployment statistics.

22. At the end of three months, the dismissed worker must report to the local employment office to register for benefits by making a joint application for benefits and for job-matching assistance. The local office has ten days to match the applicant with a suitable vacancy before benefits start. Applicants must follow the instructions of the office staff as to job referrals and can reject a job offer if the wage level is below the prior wage or the job is beyond traveling distance. Two refusals of work trigger sanctions or disqualification.

23. Unemployment begins officially if the worker is not employed prior to the end of the ten-day, job-matching period, that is, 100 days after the last day of actual work in the former employer's enterprise. As long as job search requirements are met, they will receive 75 percent of their average wage for the next three months and 50 percent of their average wage for the following six months but in no case less than the minimum wage nor more than the average wage, between 900 and 2010 rubles in July 1992. The upper ceiling is lifted in the case of unemployed persons entering professional retraining programs as an incentive to enter retraining.

24. The law provides for somewhat lower benefits for other categories of unemployed, while the 10-day waiting period and job search requirements remain the same. Voluntary quits, and those who have only worked in 9 out of the last 12 months, receive 50 percent of

average salary for six months (with the previously described minimum and maximum applied). They will also be eligible for another period of three months in year 2 and 3 months in year three, so that they also get 12 months of assistance, but not in one year. New entrants receive 75 percent of minimum wage for 6 months. Higher-education graduates and servicemen (non-officers) receive 100 percent of minimum wage. An additional benefit of 50 percent of the minimum wage for each dependent is available upon application up to twice each year. This provision is not widely used as yet, as illustrated by the fact that for the first 6 months of 1992, 44,000 persons received benefits but only 2,058 applied for and received this benefit.

25. Unemployment benefits are administered by the Ministry of Labor, which uses the regional and local offices of the Employment Service described above. Of 700 offices in the system, the 636 city and local-level offices actually work with clients. Payment is by check and is given in-person and cashed at a bank. There is a choice to the claimant of payment weekly, bi-monthly or once a month. Regardless of frequency of payment, claimants must see their inspector once a week at his or her discretion, based on local labor market conditions. Only 400 of the 700 offices of the Employment Service have computers; some do not even have one computer on which to calculate benefits, maintain case records and vacancy lists, match recipients and other job-seekers with available vacancies, or to collect aggregate data for statistical reporting and management information. Where computers do exist, the ES has developed the capability to calculate benefits based on the category of unemployment, the application date and the average wage, as certified by enterprises in each worker's employment book. Written applications are filled out by the claimant, since Ukraine courts require written documentation of legal transactions. Claimants must sign an acknowledgement of rights and responsibilities and must sign for each check and each refusal of

an offer of employment.

FINANCING LABOR MARKET POLICIES

26. Forecasts for benefits and services to unemployed people call for this category to account for about 2 percent of social sector spending and slightly less than 1 percent of GDP in 1992. According to Ukrainian law, unemployment benefits are to be funded by enterprises directly, with a 3 percent payroll tax and government contributions of 3 percent of state and local revenues. Nevertheless, due to the economic crisis and the slower-than-anticipated growth in explicit unemployment, the government did not contribute to the fund in 1992. Final figures were not available in time for this report; the projected sources appear in Table 3.1. These numbers have been made obsolete by inflation and the switch from the ruble to the coupon.

27. The payroll taxes from enterprises are collected at the local level and 80 percent of funds are retained for local use. The remaining 20 percent are sent to the Employment Service, where they are used to fund administrative costs (including the purchase of computer equipment for the local offices) and for use as a reserve to subsidize offices in areas of particularly high unemployment. This reserve will be crucial as unemployment grows, since areas that experience the greatest number of enterprise failures will have lower Employment Fund revenues to retain at the local level.

28. In July 1992, the ES estimated that cash benefits to unemployed workers (passive labor market policies) would require about 28 percent of

total funds; active labor market policies, 62 percent; and administration and overhead expenses, 10 percent (see Table 3.2). While cash benefits are available to a number of different groups, including first time job seekers and people who voluntarily left their employment, 84 percent of cash benefits will go to workers who lost their place due to restructuring or bankruptcy of their employer. Active labor market policies spending is divided almost equally between job creation and training/retraining see (Table 3.2).

29. Local offices receive an allowance from the state office to cover their administrative costs. Their active and passive labor market policies are funded from the revenues they receive from the 3 percent payroll tax levied on enterprises in their area and local government payments. The state office also may use its 20 percent share of collections as a reserve to subsidize local offices in areas of particularly high unemployment. While all local employment offices must pay benefits based on norms established at the national level, spending

Table 3.1: Sources of Funds for Unemployment-Related Activities, May 1992 Projection for Full Year

| | Total in Million Rubles | Percent of Total | Percent of GDP |
|-------------------------|-------------------------|------------------|----------------|
| Employment Fund | 20,322 | 93.5 | 0.7 |
| Enterprise Payroll Tax | 18,870 | 86.8 | |
| State Government | 1,000 | 4.6 | |
| Surplus from 1991 | 452 | 2.1 | |
| Est. Enterprise Direct* | 1,407 | 6.5 | 0.1 |
| Total | 21,729 | 100 | 0.8 |

Notes: * Payments to workers for the first three months of their joblessness at a 100 percent replacement rate would amount to approximately 1.4 billion rubles in 1992. This estimate is based on the pension fund's May 1992 estimate of the total number of laid off workers in 1992 and their average wage. An adjustment was made for the assumption that some workers would find employment before their three months of benefits had expired.

Source: Employment Fund 1992 Budget (May Draft) and mission estimates.

on active labor market policies is at the discretion of the local office.

30. The combination of financing for active and passive labor market policies in the Employment Fund could pose a potentially serious problem when mass layoffs begin in the Ukrainian economy. Unemployment benefits will consume the funding available for active labor market policies. Enterprise contributions to the fund will fall once hard budget constraints are imposed and supplier credits disappear. The failure of some enterprises and the downsizing of others will lower the tax base. In a period of

reduced aggregate demand and falling output, it will be all the more difficult to raise the enterprise tax rate to produce additional revenues. Cash benefits will draw down the resources of the Employment Fund at the expense of retraining. International experience suggests that a third of displaced workers may qualify for existing jobs and that two-thirds will need retraining and assistance for self-employment. In some instances, this training may be as simple as on-the-job or job-search training, but in other cases it may require a more costly investment. To control this cost, the ES will need to develop its diagnostic

Table 3.2: Uses of Funds for Unemployment-Related Activities

| | Total 1992 in Million Rubles | Percent of Total | Percent of GDP |
|---------------------------------------|------------------------------|------------------|----------------|
| BENEFIT PAYMENTS | 6,142 | 28.5 | 0.2 |
| Restructuring/Bankruptcy ¹ | 5,152 | 23.9 | |
| Labor Force Returnees | 405 | 1.9 | |
| First Time Job Seekers | 223 | 1.0 | |
| Voluntarily Left Job | 211 | 1.0 | |
| Fired from Job | 41 | 0.2 | |
| Other ² | 49 | 0.2 | |
| Additional Benefits for Needy | 62 | 0.3 | |
| ACTIVE LABOR MARKET POLICIES | 13,371 | 61.9 | 0.5 |
| Job Creation ³ | 5,921 | 27.5 | |
| Training and Retraining | 6,919 | 32.1 | |
| Job Information System | 274 | 1.3 | |
| Public Works | 234 | 1.1 | |
| Labor Market Mobility/Other | 5 | 0.0 | |
| ADMINISTRATION/OVERHEAD | 2,068 | 9.6 | 0.1 |
| Maintenance of Centers | 993 | 4.6 | |
| Building Acquisition | 797 | 3.7 | |
| Fund for Local Centers | 505 | 2.3 | |
| Research and Staff Training | 53 | 0.2 | |
| Deduction by MOF | -281 | -1.3 | |
| TOTAL | 21,564 | 100 | 0.8 |
| SURPLUS | 165 | 0.8 | |

- Notes: 1. Includes mission estimates of direct employer payments.
 2. Includes wives of returning military personnel, refugees and people newly released from prison or institutions.
 3. Includes reduction required by Ministry of Finance.

Source: Employment Fund and Ministry of Finance May and June 1992 draft budgets for the Employment Fund and mission estimates.

capacity for skills assessment and build an effective job bank to match skill needs with existing jobs. Other countries have addressed this problem by separating the funding for active and passive labor market policies.

STATISTICAL INFORMATION

31. The currently available statistical information on unemployment in Ukraine comes from administrative records based on the employment offices register of the unemployed. Other labor market data, such as the number, educational level, or age status of the jobless, are collected from administrative sources. The monitoring and evaluation of labor market trends and developments rests primarily with the Ministry of Labor (MOL), and the Employment Service. To the extent that labor-market issues touch on the overall socio-demographic and economic structure of the country, the Employment Service depends on supplementary data from the Ministry of Statistics, such as the population census, or sector information, included in the Ministry's routine analytical work and reporting.

32. The MOL receives information in a summary form from its 25 oblast and 2 city employment offices, based on the primary information coming from enterprises through local employment centers. Any discrepancies detected in the reporting are resolved over the phone, which occasionally results in further distortions due to the poor communication system. There is no quick and reliable communication system for data transmission between the MOL and the oblasts. While this information channel has remained unchanged since the past, the data requirements have recently grown substantially and changed qualitatively. Computer equipment in the oblasts is used more on an experimental than routine basis, since many offices have only one computer (there are 400 computers and 700 centers) and few staff are trained to use them.

33. In terms of its experience and

organizational structure, the Ministry of Statistics (MOS) is better equipped for data collection and processing than MOL but nonetheless lacks the equipment and staff skills usually found in OECD countries. The 1989 Census provides fundamental information on employment structure, labor force participation, and labor-force supply by oblast. Labor resource balances, with employment coefficients, are prepared twice a year, by oblast and branch. Computation and data processing are done by the internal computing center equipped with slow Russian computers, while much routine work is done by hand, and typed. The low capacity of the statistics print shop is a bottleneck in data dissemination.

34. The MOS is considering steps to reform its organization, switch to innovative methods of data collection, such as sample surveys, and improve the speed and quality of its work. Contacts with Eurostat, the United States Census Bureau Center for International Research, and the International Labor Organization will contribute to the reform program.

35. Administrative records, though less costly than other forms of data collection, are insufficient for the purpose of labor market information. More detailed information is needed on the incidence of joblessness and unemployment than is available from the employment registers. Those who have not filed with the employment services and undertake a job search on their own are uncounted. There may also be some double-counting, when a registrant finds himself a private-sector job and fails to report this outcome to the Employment Service. Private-sector reporting, though mandated by the law, will be increasingly difficult to maintain as employment there expands. The monthly and quarterly labor market reports sent to the Employment Service from regional offices need several improvements. They lack information on the length of the unemployment spell, characteristics on the unemployed, such as age, educational level, skills of the affected workers. Left out as

well are pensioners seeking employment. Those without a job for over a year are grouped together with those who, for personal reasons, did not hold a job. No information is given on hidden unemployment, such as leaves without pay, shorter working week, and incidence of voluntary shorter hours, e.g., by women with small children. Labor-resource balances, with employment coefficients, though prepared twice a year, are not done on the branch/town level, which would be more helpful operationally. It is expected that incidence of unemployment will be disproportionately high in the single-industry towns once the main employer closes down. A clarification as to the composition of various subgroups, such as homemakers or private agriculture, is needed.

RESHAPING LABOR MARKET POLICIES

1. This chapter considers policies to address employment problems associated with converting a command economy to a market economy. It suggests some necessary changes in incomes policies; active labor market policies that could pay for themselves by speeding the conversion of workers to market-based production; effective approaches to mass layoffs; design of cash benefits that can minimize the degree to which they inhibit or slow the conversion process; and means to strengthen the capacity of labor markets to adjust and keep on adjusting to the changes that are characteristic of market economies. It presents recommendations for improving labor statistics and discusses policies that inhibit labor mobility and exacerbate the problems likely to arise in smaller, single-industry towns that may be faced with mass layoffs and nowhere for the work force to go. It ends with suggested investments in labor market policies expenditures and how these can be complemented with external technical and financial assistance.

INCOMES POLICIES

2. The type of indexation the Government introduced in July 1991 was inflationary and inefficient; it was abandoned in 1993 in favor of ad hoc adjustments to protect excessive falls in earnings in the budgetary sector, rather than to fuel inflationary inertia. Incomes policy now caps wage growth to block overcharging by monopoly enterprises. A maximum rate of wage increase is now linked to a price index; enterprises that exceed this rate are subject to a substantial financial penalty. A case for an incomes policy can be made for socialist countries on *a priori* grounds (see Box 4.1¹⁹);

however, it is not clear-cut. World experience with incomes policies is mostly negative, mixed at best; the lessons, however, are instructive for Ukraine (see Box 4.2).

ACTIVE LABOR MARKET POLICIES

3. Active labor market policies cannot solve the problem of unemployment produced by insufficient aggregate demand for goods and services. The only solution to that problem is sound macroeconomic management of the economy. In the near term, unemployment will come from insufficient aggregate demand when public expenditures are cut to conform to revenues and to stabilize the economy. As private investment begins to emerge and replace the public sector, active labor market policies will play a critical role in encouraging human capital formation and the mobility of labor to new employment produced by this spending. Improving labor mobility with policies that increase the productivity of labor and improve the operation of labor markets will reduce the social cost of economic adjustment in foregone production, income, inflation, and social turmoil.

INTRODUCE FLEXIBILITY IN RETRAINING PROGRAMS

4. The Ministry of Labor should use the market procurement model and the financial leverage of the Employment Fund to increase the flexibility of retraining programs. As a national training authority, MOL can introduce procurement policies that require the delivery of modular, flexible, competency-based training for displaced workers. This recommendation places

the Ministry in a policy role rather than a delivery role for training. Instead of producing its own captive capacity for retraining, the MOL would rely on the supply response of existing and new training capacity that would emerge in response to the market it creates through the resources of the Employment Fund.

5. This approach has numerous advantages. Ukraine can draw on the experience of more than 50 industrialized and developing countries that have created training funds to encourage skills training. By opening competition to include training offered by private employers and training centers, MOL can induce State

training centers to compete for the delivery of skills training and encourage greater efficiency in the delivery of these services. With competition, training costs can be reduced and quality improved. This approach would ensure that training is linked to actual jobs, that it is demand driven. Changes in market needs for skills training identified by the Employment Service can be quickly addressed through the procurement process.

HANDLING MASS LAYOFFS

6. Ukraine has no specific law governing massive layoffs by state (or private) enterprises,

Box 4.1: The Theory of Incomes Policies

The traditional case for an incomes policy is as an instrument to break inflationary expectations and a persistent wage-price spiral, thus reducing the dependence on deflationary fiscal and monetary policies. Various forms of incomes policies have been used for this purpose, but with mixed or no success. However, there may be a stronger case for incomes policies in reforming socialist economies. The potential pressures for wage inflation are especially strong in such economies, given:

- A lack of an effective advocate for the interests of owners of capital as long as there is pervasive state ownership of enterprises.
- The fact that, at least initially, unemployment is low and cannot act as an intrinsic moderating force on wages.

Yet the links between wage inflation and problems with macroeconomic adjustment are particularly strong in reforming socialist countries for several reasons:

- As enterprise taxes account for a large share of revenues and public sector wages for a large share of expenditures, higher wages have a strong distorting impact on the budgetary balance.
- With domestic market structures frequently still monopolized, domestic price competition is a fairly ineffective brake on price increases.
- Import competition is typically low and only gradually growing, providing little counterweight to conventional mark-up pricing that accommodates wage increases.
- In the run-up to privatization, managers and workers could easily be tempted to decapitalize enterprises by paying themselves high wages and deferring necessary investments and adjustment measures.

All of these problems suggest that an incomes policy *may* be an important element of macroeconomic measures taken during the transition. Implementing an incomes policy may be difficult, however (see Box 4.2).

although the Employment Law does anticipate this eventuality in several ways. The Employment Service has the authority to contact an enterprise that has announced a layoff to offer partial wage subsidies from the Employment Fund for up to six months where this intervention would provide the time or resources for the enterprise to achieve stability. Another state fund provides similar subsidies and incentives in the case of new enterprises.

7. Other industrial countries have established comprehensive programs to deal with mass layoffs; Ukraine could consider some of the tools in dislocated-worker statutes in the West:

- **Advance Notification.** The current requirement of two months notice of a pending dismissal or layoff is definitely on the short end of the practice of OECD countries. Too long a period (e.g. 24 months in Yugoslavia) is counterproductive, but more than two months is justifiable when more than 50 percent of an enterprise's workforce, or 20 percent of the labor force of a labor market area, is affected by the layoff or closure. This extra planning time would allow for other interventions to ease the transition of workers into new jobs.
- **Rapid Response and Local Area Involvement.** One successful model of this approach is Canada's Industrial Adjustment Service (IAS). The IAS involves the workers, employers and local officials in the design and delivery of services. The IAS and some state dislocated-worker programs in the United States are organized to move rapidly into a community and arrange for donated resources from the affected enterprise, employee trade unions or other employee organizations and the local community. Affected workers are counseled to minimize misinformation and panic, informed about their benefits

under the employment law, labor-market conditions, and opportunities for retraining. Some dislocated-worker programs open offices or worker-assistance centers on or adjacent to the grounds of the enterprise (on property or with funds donated by the enterprise) to provide ongoing support and assistance to affected workers. These centers operate best when staffed jointly by agency staff and staff trained from among local workers, since trust is an important element when dealing with a crisis.

8. The Employment Service needs a mass lay-off unit to plan programs of on-site, locally-delivered services in instances of mass layoffs, which will ease the burden of the existing local office. Special legislation could provide for additional notice in mass-layoff situations and a package of interventions from among the options above.

DESIGN OF THE UNEMPLOYMENT BENEFIT

9. The Government should consider temporary use of a flat-rate benefit scheme to cope with the financial burden of rapidly escalating unemployment likely during the shift to a market economy and until it is able to fully automate local employment offices. The benefit structure as it now stands is certainly well within the range of practice in industrialized countries, but the complexity of benefits and the financial cost in a time of rapid growth in unemployment would argue for a more simplified system.

10. Labor Ministry officials have expressed concern about the effect of a flat rate system on their strong desire to differentiate benefits between category one (dislocated workers) and other unemployed persons. It would be possible to meet this commitment to maintain higher benefits for employees who lose their jobs through no fault of their own (bankruptcies, mass layoffs) through either a two-tier benefit system, or by eliminating lower-priority

categories, such as high school and university leavers and other new entrants. The eligibility of such persons for unemployment benefits is inconsistent with practice elsewhere that new entrants not receive benefits.

11. Flat-rate benefits would ease administration, since calculation of earnings-based benefits can be very cumbersome in offices that are not computerized. Experience in Estonia and Poland, where such schemes were

recently implemented, shows that there are overall benefit savings as well as administrative savings. In Poland, in particular, an earlier earnings-based system proved to be too expensive and complex for the period of adjustment from a command to a market economy. After a period of stabilization, it would be possible for Ukraine to return to the earnings-based system.

12. Many industrialized nations disqualify

Box 4.2: The Practice of Incomes Policies

Various forms of incomes policies were used by Western industrialized countries during the 1960s and 1970s, and they have also been used by several developing countries as a part of so-called "heterodox" stabilization programs. The experience of both groups of countries has been at best mixed. The two main lessons generally drawn from these country experiences are (a) that incomes policies can be effective *only* as a complement to, not as a substitute for, deflationary fiscal and monetary policies; and (b) the policies tend to fail, given the numerous incentives for non-compliance and the enforcement difficulties that accompany them.

Most Eastern European economies in transition have adopted incomes policies as part of their stabilization programs. Bulgaria imposed ceilings on individual wages, while the Czech and Slovak Republic and Hungary imposed ceilings on the total wage bill. Poland first introduced a ceiling on the wage bill and after one year changed to ceilings on the average wage. Apart from Bulgaria, which used administrative controls, countries have implemented their incomes policies through the imposition of an excess wage tax (wage increases above the ceiling are subject to a certain penalty tax). Poland has set the ceiling on wage growth as a percentage of the current rate of inflation, while the other countries have linked wage ceilings to target rates for inflation. In most cases the private sector has been exempted.

An important argument for ceilings on the average rather than the total wage bill is that ceilings on the average bill avoid taxation of employment. Firms that have growth potential can expand. However, because of the overstaffing of most state enterprises, there is a case for applying the ceiling initially to the total wage bill and switching later to ceilings on average wages (as Poland has done).

Tax-based incomes policies offer several advantages over a direct regulatory approach. Tax-based policies tend to infringe less on free bargaining between employers and unions. They add some flexibility by providing enterprises with the option of exceeding the general wage growth target as long as they are willing to pay the tax. Tax-based approaches cut administrative costs, as they can be enforced through the existing tax system rather than through separate institutional arrangements. These additional tax revenues can offset the negative impact of excessive wage growth profit tax revenues. However, the effectiveness of taxes, as that of fines or any other financial enforcement mechanism, is greatly reduced if firms can simply incur arrears on these or other taxes or borrow to pay the taxes. The Polish experience has shown that many firms choose to pay the tax.

The experience of Western market economies suggests that, even more than any particular formal enforcement mechanism, the support of governmental incomes policies by employers and unions, preferably in the form of a tripartite social consensus, can increase the probability of broad-based compliance substantially. Austria and Sweden are examples of countries where incomes policies have been implemented successfully through social contracts.

voluntary quits; the Employment Fund could save some money by following such a policy. The elimination of first-time job seekers, labor-force returnees without recent work experience and voluntary quits, would result in a 16 percent reduction in current costs for unemployment benefits. This percentage would decline with mass layoffs where Category-One claimants would predominate.

13. The recent reconciliation of an inconsistency between the Employment Law and the Labor Code in favor of the Labor Code's automatic entitlement to three months of 100 percent pay without registration with the Employment Service is also unfortunate. Experience worldwide shows that earlier intervention significantly reduces the duration of unemployment and will result in savings. Even though the benefit for these first three months is paid by the enterprise, the government would save enforcing the earlier provision that the unemployed register with the ES within 10 days of dismissal in order to receive benefits.

FINANCING LABOR MARKET POLICIES

14. The Government of Ukraine should guarantee funding for active labor market policies (see Box 4.3), and fund any additional unemployment benefits from general revenues. Eventually, the unemployment compensation program should be funded by a payroll tax on enterprises modeled after options to be found in OECD countries.

15. The Employment Fund resources should be committed preferentially to active labor market policies. The support of this Fund should come from enterprises and the State Budget contributions that are already part of the annual Fund revenues. Training resources could be found by shifting portions of the recurrent budgets of existing State training centers to the Fund, which would then commission training linked to jobs identified by the ES. These training centers would then be expected to compete for training contracts, much like the

model of Sweden mentioned earlier.

16. The MOL is considering a social-insurance concept for financing unemployment benefits that would require an employee contribution to the system, as in Germany, where employer and employee contributions are split 50/50, Canada, where employee contributions cover 42 percent of benefits, and Japan, where employee contributions cover 37.5 percent of benefits (see Table 3.1 on page 52). Establishing an employee contribution would increase revenues, but contributions by employees are not necessary to establish an insurance concept, which bases benefit entitlements on previous work experience and amounts on past wages. Payments are financed out of wage-linked contributions; Ukraine's current system is based on the insurance principle. Some countries use assistance-type schemes characterized by such features as general revenue funding and means-testing, rather than wage-based benefits. Most OECD countries have a mix of insurance-based and assistance-schemes where payroll taxes cover a fixed duration of unemployment after which an assistance scheme, funded from general revenues, extends benefits when general macroeconomic conditions are adverse. The use of an employee contribution would be more appropriate in a system where the economy has stabilized and where unemployment is more of a shared risk between employer and employee. The economic transition in Ukraine is not one where it would be expected that the individual share some degree of responsibility for the risk of unemployment. In such a case of widespread structural unemployment, an employee contribution would be premature.

EMPLOYMENT PROGRAM ADMINISTRATION

17. The government's staffing pattern seems adequate to handle 1992 estimates of as many as 400,000 unemployed persons. However, the maximum current authority for Employment Services staff increases is approximately 8300. If, for instance, unemployment rises above 10

Box 4.3: Financing Labor Market Policies

All OECD countries combine, in different measure, active and passive labor market policies. Sweden, which has one of the lowest unemployment rates in Western Europe, favors active labor market policies in the absolute share of GDP spent on these policies, 1.8 percent. Passive policies dominate spending in countries like Denmark, Ireland, and Belgium, partly in response to higher unemployment (see Figure S.6, on page 7). Ukraine, which had not yet experienced mass layoffs and unemployment, spends only one-quarter of a percent of its depressed GDP on passive policies providing incomes support for the unemployed. The demand for this spending will increase as unemployment begins to rise with economic reforms, placing pressure on Ukraine's low level of spending on active labor market policies.

Research in OECD countries shows that effective employment programs combine active and passive measures (U.S. Department of Labor, 1986). Although active programs are more expensive per participant per month than passive, they can effectively shorten the duration of an unemployment spell enough to make them cost effective (Scherer, 1990). Passive policies can actually increase the duration of unemployment without leading to higher wages through extended job search (Hamermesh, 1992:18-19).

Active employment programs are normally publicly financed from general tax revenues (Fretwell, 1992, p. 39). Some countries rely on the private sector to help their redundant workers directly. The US and Japan rely heavily on the private sector and non-financial means of public action. In contrast, unemployment benefits are customarily funded through a payroll tax. Only Italy and the United States (except for three States) do not tax employees. Japan taxes all covered wages, the United Kingdom applies its employer tax to all wages, and Italy taxes all wages above an exempt amount. The others have ceilings on taxable wages. All six nations tax more of their wages than does the United States.

In Ukraine, both active and passive labor market policies are financed from the same source, the Employment Fund. Because unemployment benefits are not financed independently from active labor market policies, Ukraine faces the danger that as unemployment grows, active labor market policies would be crowded out by unemployment benefits.

percent in the following year, each worker would be responsible for handling the cases of 300 unemployed persons, which compares with 100 in Portugal or Greece and about 50 in other OECD countries (see Table 4.1). This potential staff shortage is made more acute by the lack of adequate automation equipment. The ES has developed and installed some impressive computer programs for the handling of benefit administration. The system contains case records, calculates benefits according to priority category, average wage and date of application, tracks disbursement of benefits, and matches job specialties to computerized lists of vacancies. Yet the agency has only 400 computers for 700 offices. Given the need for computers for statistical reporting and management information at the Republic and Oblast levels, most smaller offices do not yet have computers. MOL estimates a minimum need for 1500 computers

and wants to install 5,000 computers. There is also a need to standardize the computer programs in use, as some oblasts are working with different programs than others, where local staff developed their own. MOL has made an impressive start with scarce resources, but this is an area where they need help and an area where international agencies may offer significant assistance, beginning with an assessment of needs in the computerization field. Assistance would include consultant services on the design of a rational, standardized system; evaluation hardware needs to determine the proper array of equipment for service delivery; use of local area networks, promising savings when compared to current plans to buy individual units; assistance with the purchase of equipment, set-up training, and support; and advise on maintenance and ongoing support of the equipment.

Table 4.1: Ratio of Labor Staff to Unemployed Workers in Selected Countries, 1988

| Country | Staff/Unemployed |
|----------------|--------------------|
| Sweden | 1:9 |
| Austria | 1:33 |
| Germany | 1:37 |
| Italy | 1:88 |
| United Kingdom | 1:98 |
| Portugal | 1:120 |
| Poland | 1:225 ^a |
| Turkey | 1:375 ^b |
| Mexico | 1:400 ^b |

Notes: a. 1990
 b. Staff/applicant ratio, no unemployment benefit system, limited core services and active programs.

Source: Fretwell (1992, p. 42)

18. Since labor exchange and job counseling are done at the same offices as payment of benefits, a period of high unemployment will undoubtedly overwhelm the offices. The concept of a unified benefit/labor exchange office is a good one and the government has moved to specialty workers for each function. Officials must be prepared to increase staff as unemployment rises or the "employment office" will quickly be turned into the "unemployment office" and the proactive measures may fall to the pressing demand of purely reactive benefit

administration.

MONITORING LABOR MARKET ADJUSTMENT

19. MOL should improve the collection and reporting of unemployment statistics from administrative sources, and in the medium term, begin development of establishment, household, and labor-force surveys. This effort will require technical assistance in mapping labor force concepts and definitions to international standards and improvement of collection and reporting procedures for registered unemployment. It will also require technical assistance and computers for data management and analysis, capacity for conducting a new household labor force survey; and appropriate staff training in each of these areas.

20. A market's efficiency is heavily dependent on the information available to market participants and policy makers; labor markets are no exception. Neither industrialized nor developing economies depend solely on administrative data sources such as the registered unemployed. Countries like the United Kingdom or Germany make effective use of these data but also rely on establishment and household surveys. Canada and the United States have particularly effective systems of labor force statistics and information that should be studied for applicability to Ukraine, along with those of Eurostat as part of the European Economic Community.

Table 4.2: Current and Suggested Program for Employment-Related Activities

| Spending Category | Percent of GDP under Alternative Approaches | | |
|-----------------------------------|---|----------------------------|---------------------------------|
| | Current Policy | Suggested Program for 1993 | Sustainable Program Beyond 1993 |
| Benefits | 0.2 | 0.7 | 2.0 |
| Active Labor Market Policies | 0.5 | 1.5 | 1.5 |
| Administration Overhead and Other | 0.1 | 0.2 | 0.2 |
| Total | 0.8 | 2.4 | 3.7 |

TOTAL SPENDING ON LABOR MARKET POLICIES

expectations and actions connected with them.

21. Under a scenario based on Eastern European stabilization-program experience, unemployment may reach 3 million (about 11.5 percent) in 1995, preceded by a linear trend with 1 million (about 4 percent) in December 1993 and 2 million (about 8 percent) in December 1994. Assuming the introduction of changes described earlier in this chapter, one may expect the following developments:

Managing labor-market policies, and keeping spending under control, depend on effective macroeconomic, regional, and industrial policies. This issue is not covered in this volume; however, the current "priority development areas" determined by the Government according to industrial branches or high participation rate of women, will probably have to be replaced by more precise targeting of regions with very high unemployment.

- **Unemployment Benefits.** In 1993, 0.6 to 0.8 million unemployed (from the expected proportion between unemployment benefits recipients and all unemployed) would receive benefits costing the Employment Fund more than 3 percent of GDP under present rules. With a flat-rate benefit of six-months duration at the level close to the minimum wage, unemployment benefits might cost but 0.7 percent of GDP. After 1993, when the number of recipients may rise to over 2 million, it would be still possible to keep benefit payments below 2 percent of GDP with the flat rate.
- **Increased Spending.** Keeping the proportion of unemployed receiving benefits at 50 percent would be possible if active labor market policies work well, so that workers move quickly into new jobs. Even with efficient training, grants, and wage subsidies, strengthened with external technical assistance, an increase in spending to 1.5 percent of GDP, triple the 1992 level, would be required. Together with administrative overheads at the level of 0.2 percent of GDP, this would mean overall labor-market spending in 1993 at the level of 2.4 percent of GDP, and 3.7 percent of GDP after 1993, which is well within proportions of Western countries. Table 4.2 summarizes the above

CASH TRANSFERS, USSR TO UKRAINE

1. Ukraine derives its principal social welfare policies from its Soviet experience; cash transfer policy builds on but extends the coverage of the Soviet system, which was not based on means-testing, as in some western welfare states, but was class-oriented and universal within categories.²⁰ Lack of means tests had two perverse effects: Costs and coverage of those who are not really needy was substantial, yet many indigent or needy persons went unattended. This chapter shows how policies have evolved in such manner as to exacerbate rather than solve the problems inherent in welfare policy under the Former Soviet Union.

2. The Soviet social welfare system addressed the needs of three classes: Peasants, workers, and the intelligentsia. (A state-farm employee was a worker, not a peasant.) There was a marked disparity between wages and benefits available to workers and peasants, with peasants receiving very short shrift, especially in terms of cash welfare payments. Up through the Khrushchev years, peasants were ineligible for cash transfer payments from the state. However, this inequity was partially ameliorated by the adoption of an all-union law in 1965 that guaranteed some payments to collective farmers. These cash transfers represented a significant improvement over the pre-1965 situation of no pensions at all. Collective farms were still liable, however, to meet the needs of collective farm retirees and disabled which exceeded all-union norms.

3. The Soviets divided cash transfer payments (*pensiya* in Russian) into two kinds: labor pensions, which are either directly or loosely related to labor or labor service; and social pensions, which are paid to disabled

individuals with no labor service. Since the term "labor pension" covers almost every kind of transfer payment (including disability benefits when the beneficiary has some labor service), it is probably more useful to divide cash transfers into three distinct groups: work-related pensions, social insurance transfers, and other grants (McAuley 1979).

4. The basic legislation regulating cash transfers consisted of two all-union "laws on pensions"; the 1956 all-union law on pensions for workers and employees and the 1965 all-union law on pensions for collective farmers. With various additions and amendments, these two laws were in force until the adoption of a new all-union pension law in 1990. The 1990 law did not make a distinction between workers and peasants, but included peasants under the regular pension provisions, provided that their collective farm made social insurance payments into the all-union pension fund ("USSR Law on Pensions Published," 1990). The 1990 law was made retroactive, unlike previous legislation, provided that the beneficiary re-file for the increased benefits within a year of the law's passage. The lack of retroactive provisions in previous legislation, especially as pertaining to collective farmers, can be viewed as the state's attempt to minimize the cost of "providing for the backlog of incapacitated peasants, the consequence of almost forty years of discrimination and neglect" (McAuley 1979, 273). The 1990 law provided that cash transfer payments are not taxable and are paid regardless of other income.

5. Ukraine began restructuring the social safety net, as an independent state in 1992, making it more generous and, therefore, a heavier burden for the state budget. The

expenditures proposed by the Government for the social sectors in 1992 far exceed most estimates of government capacity to finance public social services out of the proceeds of general economic capacity, as measured by GDP. In the late 1980s, the USSR offered a more limited menu of social transfers than did its East European neighbors (see Table 5.1), amounting to about 15 percent of gross income, less than two thirds of the share of gross income allocated to social transfers in several Eastern European countries.

6. The share of gross income spent on pensions and family allowances by the USSR government was less half that of its neighbors to the East. Pressure to expand benefits was coupled with the declining capacity of the central government in Moscow to resist the demands for higher consumption. Inflation was beginning to undermine the real value of social transfers at the end of the 1980s. The new duties of an independent government in Ukraine, and the manifest wish of its newly-empowered Parliament, combined to create pressures to respond positively to demand for expanded social protection. The results of these changes, in terms of increasing demands for public social spending, show up in an enormous jump in nominal, projected outlays for social programs in 1992 (see Tables S.1 in the executive summary and Tables 6.4 and 7.3 in succeeding chapters).

HOW THE SYSTEM EVOLVED

7. Social insurance transfers for workers and employees were paid out of the Soviet social insurance fund administered by the council of trade unions. A parallel fund was set up for collective farmers, which received subsidies from the general all-union budget as well as receipts from collective farms. The 1965 law included all collective farmers into the old-age benefits system, albeit at levels only 50 percent of the benefits received by workers and employees. Under the old Soviet system, those employed at state farms were considered to be

"workers" and received benefits accordingly. The 1990 all-union law raised collective farmers' benefits to the base rate of 55 percent of wages.

8. The basic structure of cash transfer payments for old age under the Soviet system is presented in Box 5.1. In 1990, there were 9.7 million old-age pensioners in Ukraine, receiving an average monthly pension of 109.69 rubles. The minimum pension was 70 rubles, and 3.6 million elderly pensioners, 37 percent of all old-age pensioners, received only the minimum benefit (*Nargos Uk. 1990, 77-78*). Retirement benefits were paid automatically, without any reduction for other income, at the basic retirement ages of 60 for men and 55 for women, and 55 and 50, respectively, for miners or others involved in hazardous occupations.²¹ The base-rate provision of 55 percent of wages was complemented by special rates for hazardous occupations, dwarfs and midgets, mothers with five or more children, women employed in certain occupations, as well as for length of service and other considerations. For each full year of work beyond 25 years for men and 20 years for women, the pension was increased by one percent of earnings, thus raising the maximum replacement rate from 55 percent to 75 percent of highest-ever earnings.²²

9. Old-age pensions were paid in full regardless of other income and were not taxable under the provisions of the 1990 law, or of previous laws. According to a Soviet (Goskomstat) survey, 26 percent of worker and employee old-age pensioners continued to work (*Vestnik statistiki* 9 1988, 69). Libanova (1992) notes the "high rate" of employment of pensioners, particularly women, and points out that the 1990 labor force exceeded the working-age population by 1.7 million. Assuming this number is a minimum estimate of the number of working old-age pensioners, the estimated double-dipping rate is 17 percent, which is well below the Soviet all-union rate for workers and employees. The many nonworking spouses and mothers could readily provide the numbers that

would lead to a conclusion that in Ukraine, at least a quarter of elderly pension beneficiaries are also current wage earners.

10. In 1991, many pensioners were not receiving their promised compensation payments. In Russia, 12 percent of pensioners did not receive their April compensation; in Kazakhstan, 14 percent; in Lithuania, 16 percent; in Moldova, 15 percent; and in Kirgizia, 21 percent. "This was associated with a shortage of funds and weak information for pensioners regarding their rights" (Yakovlev, 1991). There were also long delays in the administrative process of qualifying for and actually receiving pension benefits.

12. Disability benefits accrued not only as a result of a work-related injury or occupational disease but also from any general illness or congenital condition. A medical-labor commission certified the condition giving entitlement to benefits which were in turn tied to past earnings and seniority. Disability issues were generally ignored in the Soviet Union, and those with visual or mobility impairments were confronted by urban and rural areas virtually without any sort of handicap-access infrastructure. In January 1991, the Gorbachev government passed the law "On the Foundation of Social Protection of Invalids in the USSR," which provided for handicap-access designs and facilities in public buildings to be implemented

Table 5.1. Social transfers, selected countries, late 1980s, percent of gross income

| Country Benefit | Poland | CSFR | Hungary | USSR |
|--------------------|--------|------|---------|------|
| Pensions | 15.2 | 16.5 | 13.4 | 8.0 |
| Family Allowance | 5.5 | 5.6 | 6.0 | 2.6 |
| Sickness Benefits | | 3.0 | 2.0 | |
| Scholarships | | | 0.2 | 0.3 |
| Others | 1.4 | 0.2 | 0.8 | 3.8 |
| Total Transfers | 22.1 | 25.4 | 22.4 | 14.6 |

Source: B. Milanovic (1992), 11.

Disability Benefits

11. The 1956 pension law recognized three classes of disability. Class I Disabled need permanent care or supervision or can only work in specially-equipped workshops. Class II Disabled do not need permanent care, but they cannot work because working would lead to a deterioration in their condition. Additionally, those with severe visual or mobility impairments are classified as type II, even if they can work. Class III Disabled have suffered a significant loss in capacity such that they must transfer to work of a lower skill level and or they are not able to acquire new work skills (see Box 5.2).

beginning 1992 and 1995. This law did not change the level of cash benefits, and its implementation was cut short by the August 1991 coup.

13. The 1990 all-union law on pensions set the minimum Class I and II Disability pensions as 100 percent of the minimum wage and the minimum Class III benefit as 50 percent of the minimum wage. In Ukraine in 1990, there were 1.3 million disabled receiving benefits, ranging from 47 to 127 rubles per month (*Nargos Uk.* 1990, 77-78). For Ukrainian military disabled, benefits were significantly higher, averaging 145 rubles per month. Full-time attendance in an educational institution is counted as work-tenure

for the purposes of assigning disability benefits.

Survivor Benefits

14. Survivor benefits under the Soviet

system were paid to a large range of survivors, including minors, any non-working (dependent) family members, including spouse, parents (if disabled or under pension age), siblings [disabled or full-time child caretakers only],

Box 5.1: Old-Age Cash Transfer Payments under the Former Soviet Union, 1956-1990

| Type of Cash Transfer | 1956-1989 | 1990 |
|---|--|--|
| Old Age Pensions for Workers | Established in 1956 Law on Pensions. Basic retirement age was 60 for men and 55 for women. Those employed in mining or other specified hazardous occupations could retire 5 years earlier. Sliding scale of payment depending on work tenure & type, from 30 rubles per month to a maximum of 120 rubles per month. Paid to all workers and employees, except for certain white-collar employees. Various supplements depending on work type, number of dependents, etc. | Kept essentially the same retirement age provisions, with similar exceptions for mining and other hazardous occupations, but increased the money amount of the basic benefit to 55 percent of earnings, with a mandatory minimum pension set equal to the minimum wage (in 1990, 70 rubles per month) and a maximum of 75 percent of earnings (this maximum could be obtained by various adjustments to the basic amount, relating to work tenure or number of dependents). Separate legislation and provisions applied to military service personnel. |
| Old Age Pensions for Certain White-Collar Employees | Established prior to 1956 law on pensions, and recodified in 1959. Old age pensions for teachers, certain medical personnel, certain airline personnel, various agricultural specialists, and for scientific research workers. Although the minimum and maximum pension payments were the same as for workers (30, 120), these long-service pensions were originally to be paid regardless of whether the individual actually retired or continued working. The double-dipping provision was eliminated in 1965, but double-dipping in a different profession was still allowed. | The 1990 law appears to apply to all workers and employees, regardless of profession. |
| Old Age Pensions for Collective Farmers | No old age pensions were paid to collective farmers until 1965, and then the minimum pension benefit was set at 12 rubles per month and the maximum at 102. In 1971, the minimum pension was raised to 20 rubles per month and a sliding scale based on the same increments as workers' pensions but with the maximum still at 120 rubles per month was adopted. | The 1990 law applies to collective farm members, provided that their farm makes payments to the USSR Pension fund or other social insurance payments. This little-noticed provision eliminated the historic difference between the money amounts of cash benefits to workers and peasants. |

Note: Old age pension benefits are not subject to taxation, nor are they to be reduced if the beneficiary earns additional income, under the provisions of the 1990 law.

grandchildren, and grandparents (lacking other support). Step-parents and step-children had the same rights as original parents or natural children. The 1990 law set the survivor benefit at 30 percent of the wages of the deceased breadwinner, if work-tenure requirements were met. Benefits from a loss caused by occupational injury had no length of service requirements, while benefits from a loss caused

by general injury were paid in prorated amounts based on length-of-service (following the disability schedule). Families of students, graduate students, and interns who did not work before entering the educational institution were assigned survivor benefits under the same rules as for disability payments.

Box 5.2: USSR Disability Cash Transfer Payments, 1956-1990

| Type of Cash Transfer | 1956-1989 | 1990 |
|---|--|--|
| Disability Class I: Disabled individuals who cannot work and need permanent care or supervision. The extent of incapacity is determined by a special commission. Until 1965, collective farmers could not receive any disability payments, and after 1965, they were subject to lower minimum payments. | The regulations are complex; McAuley (1979) summarized them as a minimum payment of 30 rubles and a maximum of 120 per month for this class for workers. Peasants were subject to a minimum of only 15 rubles per month, but this was changed in 1971 to the same system as used for workers. In 1973, the complicated rules were replaced by the formulae used in calculating old age pensions. | Disability pensions are now paid to all workers, employees, collective farmers, and to students/children, by a formula designed to take into account labor service and number of dependents. The minimum disability pension for Classes I&II is the minimum wage, and the basic benefit is calculated as 55 percent of earnings. The disability pension is paid in full regardless of wages or other income. For persons with incomplete work tenure, the pension is prorated. If the beneficiary has labor tenure equal to that for the old age pension, then the amount of the disability pension is raised to the level of the old age pension. |
| Disability Class II: Disabled individuals who cannot work but who do not need permanent (institutional) care. Also covers those with significant motor defects or seriously impaired sight. | McAuley (1979) summarized the regulations as a minimum payment of 23 rubles and a maximum payment of 90 for workers. For collective farmers, the minimum pension was set at only 12 rubles per month. As above, this system was changed in 1971 and 1973. | Same as above |
| Disability Class III: Disabled individuals who can work, but only at lower skill or reduced skill occupations. | The minimum was 16 and the maximum 45 rubles per month (McAuley, 1979) and until 1967, peasants could not receive Class III pensions. After 1967, Class III pensions were paid to collective farmers <u>only</u> if the disability resulted from an industrial injury. In 1971, the system used for workers was adopted, and in 1973, the old age formulae replaced the previous disability formulae for calculating benefits. | The minimum payment for class III is 50 percent of the minimum wage, and the basic payment is 30 percent of earnings. |

Note: Disability payments are made regardless of whether the disability resulted from a work-related injury, domestic trauma, or congenital problem. Disability pensions resulting from industrial injury are paid in full regardless of work tenure, while other payments are subject to a sliding scale based on years of labor service. Disability payments are made in full regardless of wages or other income.

Family Allowances

15. The basic Soviet legislation on maternity leave, maternity grants, and additional benefits for single mothers dates back to 1947, but the law was significantly expanded in 1981. Paid maternity leave (at the original salary) was limited to 56 days before birth and 56 days after the birth, but leave with full job retention (but reduced benefits; a flat 35 rubles/month) could be extended until the child's first birthday. In 1987, paid maternity leave at the original salary was increased to 70 days before birth, and leave with full job retention and 35 rubles/month benefit was extended to 18 months.

16. The original law also instituted a system of one-time maternity grants and continuous maternity grants for four or more children; the 1981 revision increased grant amounts and provided for continuous benefits for three or more children. The one-time maternity grant schedule in the 1981 law was 50 rubles for the first birth (reduced to 30 rubles if the mother was not a full-time student or employed), and 100 rubles for the second and subsequent births. The continuous grants provided for small monthly ruble payments until the child reached the age of 16 (18 for full-time students).²³ Single mothers were entitled to an extra 20 rubles per month per child until the child reached the age of 16 (or 18 for full-time students). Military families received additional small family allowances. The state provided day-care facilities (cost approximately 10 rubles per child per month) and low-income families were to be provided with free day-care.

17. Other than the small continuous maternity grants for three or more children (and of course the one-time birth grants), there was no system of family allowances under Soviet law or general practice until the price compensation measures of April 1991. A national law adopted in 1985 enabled a parent to apply for temporary assistance when the other parent refused to pay for child support. The only Soviet family allowance (aside from these maternity grants)

was a subsidy paid to low-income families (detailed below). Ukraine enacted a new universal system of family allowances in March 1991, which was not means-tested, as part of its efforts to compensate the population for increased prices. Further changes occurred early in 1993.

Other Transfers

18. There were three major kinds of Soviet cash transfers not classified above: student stipends, low-income family allowances, and burial grants. Payment for sick and holiday leave was made out of the social consumption fund (financed by enterprise payments and from the general budget), not out of the individual enterprise wage funds. In 1992, student stipends were included in the Ministry of Education budget, and the other transfers are paid from the resources of the social insurance fund.

Student Stipends

19. Student stipends were paid to most students studying in higher education institutions, and were scaled according to student performance (grades, prizes, etc.) and level (undergraduate/graduate). There were two basic kinds of higher education institutions—the VUZ (basically, universities) and the SSUZ (corresponding to technical colleges). Student stipends were paid to 76 percent of full-time day students in Soviet VUZy and to 74 percent of full-time day students in Soviet SSUZy (*Narkhoz 1989*, 82) during the 1989/90 academic year. In Ukraine, 88 percent of full-time day students in VUZy and 90 percent in SSUZy received stipends during the 1990/91 school year (*Nargoz Uk. 1990*, 76). In 1990, the total of all stipends paid amounted to 510 million rubles in Ukraine. Student stipends were revised three times in recent Soviet history and the last revision was in 1987. In 1987-1990, Soviet graduate students received monthly stipends of 130-150 rubles; VUZ students received 100-120 rubles; and SSUZ students received 80-100 rubles. Full-time study is considered to be equivalent to full-

time work for the purposes of counting work-tenure (length of service) and other benefits. Students on ending their studies are thus considered eligible for unemployment benefits if they do not find a job; most OECD countries do not offer such benefits to graduates.

Low-Income Family Allowance

20. In 1974, the USSR enacted its sole means-tested cash transfer, a pension for low-income families. Originally, a subsidy of 12 rubles per month per child under 8 years old was paid to families with family income of 50 rubles per family member or less. Additionally, families with income under 60 rubles per month were entitled to free day-care. In 1987, limited additional benefits to low-income families with three or more children (or to families headed by a single parent) were adopted. These benefits were free school uniforms, free school lunches, and free vacations for both parents (health resorts) and children (summer camps).

Burial Grants

21. In 1955, a system of burial grants ranging from 5-20 rubles was set up for workers, employees, and pensioners; this benefit was extended to collective farmers at rural rates in 1970 (McAuley 1979, 280). The 1990 law increased the burial allotment to two-months pension for all pensioners. Anecdotal evidence suggests that these grants are inadequate to finance burial costs, which have come to include significant side-payments to officials and cemetery workers.

PRICE COMPENSATION

22. The USSR government tried to reduce across-the-board food subsidies on several occasions in the late 1980s but failed to carry through in the face of public resistance. On 18 February 1991 retail price increases were announced and confirmed a month later in the cabinet resolution of 21 March 1991, which was comprised mostly of measures to ensure social

protection. Most of the projected state revenue from the increase in prices (some 85 percent) was to be given back to the population in one form of compensation or another: Increasing base wages by 60 rubles per month; substantially increasing payments to families with children (see Box 5.3); increasing stipends to higher education students by a maximum of 50 rubles per month depending on performance and type of study; increasing the minimum (base rate) pension by 65 rubles per month; increasing military salaries by 60 rubles per month for enlisted personnel and 80 rubles per month for officers; adding a minimum 50 rubles per month to unemployment benefits, which were tied to the uncompensated minimum monthly wage of 70 rubles; increasing norms for expenditures in hospitals, schools, orphanages, nursing homes, etc.; and, increasing salary paid to working prisoners by 60 rubles per month (*Pravda*, 21 March 1991).

TRANSITION TO UKRAINIAN INDEPENDENCE

23. Ukraine had already been following an independent economic course before it declared independence and had seized the initiative to expand the provision of social welfare programs, especially cash transfers, even before the August 1991 coup. This process has continued and accelerated in 1992 to the point where two out of very five Ukrainians receive some cash benefit from the government.

24. What happened to increase the share of social welfare spending from an estimated 25 percent of GDP (40 percent of government revenues) in 1990 to 44 percent of GDP (75 percent of government revenue) in 1992? A greatly-expanded mandate for social programs was enacted in 1991-1992 in response primarily to Ukrainian fears and misunderstandings about the impact of inflation.

25. Seven steps taken in 1991 expanded subsidies and benefits (see Box 5.4). The March compensation package anticipated the April 1991 price increases. The December

social protection package, "Resolution...on Implementing Urgent Measures to Guarantee Social Protection for the Population in Conditions of Price Liberalization," greatly increased the scope of cash transfer payments to protect the general population from the consequences of a transition to freer prices. That the government is responsible for insulating everyone from inflation is an odd notion to a market-system economist but was and is pervasive in Soviet and Ukrainian thinking about macroeconomic policy. The universal entitlement to cash compensation from the government for increased prices underscores the Soviet/Ukrainian social welfare philosophy that benefits should be provided regardless of need.

26. The March decree, "Social Protection for the People of the Republic in Connection with the Reform of Retail Prices," increased wage rates and transfer payments and created a new cash benefit: payments to families with children under 16 (or students under 19 lacking stipends) who did not already receive cash transfers. (In 1990, there were 11.8 million children under 16.) Three new or expanded cash transfers, for general family allowances, expanded maternity leave, and unemployment benefits, provided for monthly payments of 45 rubles to children under 16 who were not covered under the existing maternity grant system and for additional annual supplements of 200 rubles for children under six, 240 rubles for children from six to thirteen, and 280 rubles for children aged thirteen to eighteen.

27. The safety net was expanded for maternity leave and grants, providing for

Box 5.3: New Transfer Payments for Families with Children

One-time allowance at childbirth--250 R

Monthly payments--100 R per child

- for care of infants under 18 months of age to working mothers or full-time students
- for children of military personnel
- for wards of the state or former wards of the state
- for children infected with HIV or ill with AIDS

Monthly payments--90 R per child

- to single mothers of children aged 6 to 18
- for children aged 6 to 18 lacking a source of child support

Monthly payments--80 R per child

- for care of infants under 18 months of age to non-working mothers
- for care of children between 18 months and 6 years if the total income per family member is less than four times the minimum wage
- to single mothers of children under 6
- for children less than 6 lacking a source of child support

Monthly loss-of-breadwinner pensions--65 R increase

Monthly disability pensions--65 R increase

Monthly payments--40 R per child

- for any children under 16 who do not receive other pensions or social security allowances (continues to age 18 for students not receiving a stipend)

Annual payments for poor families (where total income per family member is less than four times the minimum wage)

- for children under 6 years--"no less" than 200 R
- for children 6-13--"no less" than 240 R
- for children 13-18--"no less" than 280 R

Source: *Izvestiya*, 21 March 1991, p. 2.

monthly payments of 85 rubles until the child reached the age of 6. Additional monthly grants of 115 rubles were to be paid to children of military personnel, under the care of guardian,

in single-parent families, and those with AIDS or HIV-positive. A new one-time grant of 95 rubles (presumably per child) was to be paid to single mothers or to those with a spouse evading child support payments.

28. The law guaranteed unemployment benefits of 55 rubles per month to those in search of work and enrolled in retraining programs. Cash transfers to single mothers, low-income families, students, survivors, old-age pensioners, and the disabled were increased then superseded by subsequent legislation increasing them further. A December resolution extended maternity leave benefits until the child reached age three and provided for additional child-care payments until the child reached age six for families falling under an income ceiling. Most cash transfers were doubled in December 1991 from the July levels. However, old-age pensions were increased as much as 4.5 times, based on length of service and year of retirement (*Demokratichna Ukraina*, 28 December 1991,

2). The minimum old-age pension rose from 221 to 442 rubles by decree of President Kravchuk for payments in 1992.

29. In January, 1992, Ukraine raised cash transfers for military pensions. The Ukrainian Federation of Independent Trade Unions estimated that the poverty level was 2400 rubles per month as compared to the official October 1991 poverty level of 256 rubles (POSTFACTUM, January 1992). Since the minimum wage was raised to 400 rubles on January 3, the trade unions concluded that it could only account for 1/6th of the minimum consumption bundle. In February, artistic unions and enterprises (theaters, etc.) were exempted from paying income tax and dues to special funds. In March, 1992 government expenditures were projected at one trillion rubles in the popular press.

30. Also in March 1992, Ukraine adopted increased cash transfers for low-income disabled

Box 5.4: Ukrainian Social Welfare Legislation, 1991

| | |
|----------|--|
| March | Decree of the Uk. SSR Council of Ministers "On Social Protection for the People of the Republic in Connection with the Reform of Retail Prices," No. 72, issued 28 March 1991. |
| April | Compensation for miners for cost of special food reported to be increased from 65 rubles to 105 rubles. Moscow Radio Broadcast, 3 April 1991. |
| July | Decree of the Uk. SSR Council of Ministers "On Additional Measures for Strengthening the Social Protection of the Population in Connection with the Reform of Retail Prices," No. 86, issued 11 July 1991. USSR-Republics joint action program on social protection. Moscow Central Television broadcast 16 July 1991. Ukraine was a participant; few details were released. Text otherwise unavailable. Decree of the Uk. SSR Council of Ministers "On Additional Compensation to Be Paid to Families With Children for Expenses Arising From the Need to Purchase School Uniforms or Other Clothing for the Children," No. 101, issued 20 July 1991. |
| August | Law of the Ukrainian SSR "On a Minimum Consumer Budget." A general document basically approving the existing consumption basket methodology. No poverty level figures were specified. |
| December | Decree of the President of Ukraine "On the Social Protection of the Population in Conditions of Price Liberalization," issued 27 December 1991. Followed by 1 January 1992 decree of Uk. SSR Council of Ministers "On Implementing Urgent Measures to Guarantee Social Protection for the Population in Conditions of Price Liberalization." |

persons and families (*Pravda Ukrainy*, 21 March 1992, p. 1), adopted general indexation of incomes for the first quarter of 1992 (*Uryadovyy kuryer*, March 1992, p. 2) and President Kravchuk decreed that all savings deposits in the Ukraine savings bank would be increased by 100

percent (*Uryadovyy kuryer*, March 1992, p. 5). The March cash transfers were intended to help the disabled pay for the increased cost of living. These supplemental payments to disabled persons were set at about 800 rubles annually, and each child under 12 was to receive 400

Box 5.5: Ukrainian Social Welfare Policy Options

| Group or Transfer | Soviet Baseline (1956 to 1990) | Ukrainian Additions (1991 to mid-1992) | Options (1992 and following) |
|---|--|---|--|
| Elderly | No means-test for pensions. Majority received more than minimum. Early retirement ages (60 for men, 55 for women). Double-dipping allowed with no reduction in benefits. Benefits not taxed. | All baseline provisions retained. Above-minimum pensions were greatly increased. Only 37 percent of old-age pensioners receive minimum pension. | Flat-rate old-age pension. Eliminate or reduce early retirement. Prorate or eliminate benefits for double-dippers. Increase retirement age to 65 for both men and women. |
| Disability | State was guarantor for all disability, work-related or general. | Benefits increased but still apparently too low. | As private firms appear, thought must be taken on shifting work-related disability to insurers. |
| Survivor | Universal and for extended family structure. | Benefits increased. | Although social security survivor payments are not means-tested in the US, they are low and private insurance is available. This is one option to pursue. |
| Low-income | Means-tested benefits. | Benefits increased and special one-time payments adopted. | Retain and review. Supplements may be too low. |
| General family allowances | Enacted at the very end of Soviet rule. | Enacted separately by Ukraine before Soviet law. Universal subsidies to all children under 16 regardless of need. | Review and retain for low-income families. |
| Students (undergraduate universal and graduate) | Approximately 75 percent of full-time students received stipends in addition to free tuition. | Approximately 90 percent of full-time students received stipends in addition to free tuition. | Stipends for poor and vulnerable groups only. State should review policy of free tuition. |
| Maternity leave | Job held open for 1 year with modest monthly maternity benefit. | Maternity leave extended to three years and benefit raised. Possible supplemental payments for child care until age six. | Maternity leave should be reduced and supplemental payments could be eliminated. |
| One-time birth pro-natal payment | Established in 1947. | Amounts raised. | State may wish to retain this pro-natal policy on symbolic grounds. |
| Burial benefit | Well below cost of funeral but universal. | Increased but probably still below the cost of funeral. | Eliminate in favor of low-income (means-tested) cemeteries. |
| Price compensation | Announced in April 1991 but implemented by individual Republics. Reflects idea everyone (regardless of need) for price increases | Wages, transfers, and savings deposits increased and system of indexation implemented. | Indexation should be limited to cash transfers. Somehow the message that price increases should not be the responsibility of the state should be conveyed to the general public. |

rubles per year. An additional one-time payment of 200 rubles was to be made to non-working pensioners, and to children of low-income families (per child under 12), while a one-time payment of 100 rubles was designated for nonworking mothers of children under 3, to the children of military personnel, and to the unemployed (provided an income ceiling was not exceeded).

31. Ukraine seized the initiative in 1991 to rectify perceived shortcomings in the social safety net inherited from Soviet practice. Unfortunately, Ukraine approached this task from a "universal" perspective, instead of a means-tested one. The resulting explosion in transfer payments in 1992 can be at least partially attributed to the new system of universal family allowances and price compensation measures adopted in 1991.

CONCLUSION

32. In a sharp break with pre-1991 Soviet precedent, by the end of 1991 Ukraine had adopted a system of general family allowances in addition to the means-tested Soviet pension for low-income families. The level of all cash transfers was raised repeatedly during the year, leading to a large expansion in cost. Cash transfers increased from 30 billion rubles in 1991 (for old-age pensions and maternity grants) to somewhere around 440 billion rubles in the proposed June 1992 budget. A large share was due to the new general system of family allowances and price compensation, but the real culprit seems to be an explosion in payments for old-age pensions. In 1990, old-age pensions amounted to 12.6 billion rubles; in 1992, civilian old-age pensions were projected at 253 billion rubles. This increase is partly due to increases in the minimum old-age pension, but the more significant factor seems to be the December 1991, July 1992, and October 1992 increases in length-of-service pensions (pensions exceeding the minimum).

33. Past and prospective policy options are

summarized in Box 5.5. By early 1993, the government had already taken some positive steps described in succeeding chapters.

RETIREMENT, DISABILITY, AND SURVIVORS' BENEFITS

1. The growing evidence of the failure of the Soviet economy helped generate demands for social assistance during the 1980s that resulted in legislation in 1990 expanding the number of benefits and beneficiaries. The newly-independent Ukrainian Parliament tried throughout 1992 to assure that social assistance was superior to that offered under the Soviet system, and that pensions and allowances were no less than Russia. The result throughout much of 1992 was a "benefits race" with acutely-damaging fiscal implications.

2. The introduction of coupons in 1992 freed Ukraine from extremely-imposed limits on monetary emission, easing the administrative problem of paying cash benefits. The resulting inflation, however, undermined the real value of nominal pensions and allowances. By March 1993, government authorities knew, and Parliament leaders were beginning to recognize, that macroeconomic stability would only be feasible if government obligations for social assistance could be reduced to a sustainable level not much greater than what prevailed, as a share of GDP, in the 1980s.

3. Since public social spending had risen from under 20 percent of GDP at the start of the Gorbachev years, to 25 percent of GDP at the end of the 1980s, and a programmed 44 percent of GDP in 1992, the new government in office as 1993 began, faced a major adjustment challenge. This chapter and the next, which covers allowances and related benefits, breaks down the aggregate spending package for 1992 into some of its component parts with the intention of finding areas for spending cuts that will be least painful. Further, these chapters

seek to identify those parts of a social safety net that are most certainly essential to protect vulnerable groups against the social costs of poverty and adjustment.

4. As this report was being prepared, government authorities were already beginning to take the steps necessary to adjust spending to the severe limits of reduced revenues occasioned by the collapse of output. Some suggestions and recommendations discussed below are already under review by government. Implementation of reforms, particularly the sequencing of changes in social policy, must be fully integrated with overall economic policy. For example, pension and family-allowance policies must be developed in conjunction with employment, monetary, and fiscal policy. When the government hardens the budget constraints on state enterprises, there will be substantial implications that could include reduced payments to the Pension Fund and related deficits; layoffs among the elderly who have continued to work; job loss in two-earner families that will probably fall most heavily on women; and high rates of unemployment and further collapse in demand in specific single-industry towns that face mass layoffs. Social policy must be prepared to confront such possibilities; financial soundness of the several social funds will be a critical aspect of the capacity of social policy to respond to this challenge.

PENSIONERS AND BENEFITS

5. In January, 1992, 13 million people received benefits from the Pension Fund, and the Ministry of Defense provided pensions for an additional 362,000 people in the security sector. Thus, almost a quarter of Ukrainians

receive a pension allowance (see Table 6.1). Retirees who have not yet reached pensionable age account for about 7.6 percent of total retirees.²⁴ Tables in the Statistical Annex of this report describes benefit to which each group was entitled as of July 1, 1992.

Table 6.1: Pensioners and Their Benefits, January 1, 1992

| Pensioners | Number (000) | Percent of Total | Avg. Amount as a Percent of Minimum Pension ¹ |
|---|---------------|------------------|--|
| Pension Fund Supported | 12,997 | 97 | 122 |
| Retirees | 10,318 | 77 | 125 |
| Disabled | 1,224 | 9 | 123 |
| Dependents | 693 | 5 | 96 |
| Other ² | 500 | 4 | 75 |
| Military | 262 | 2 | 144 |
| Military Paid from Ministry of Defence | 362 | 3 | 522 |
| Total | 13,359 | 100 | 133 |

Notes: 1. Figures do not reflect July and October 1992 increases.
2. People who never worked including those disabled from childhood and hobos.

Source: Ministry of Social Welfare

6. Most benefits exceed the minimum pension. Average pensions funded by the Pension Fund were about 22 percent above the minimum in June 1992. Average military pensions issued by the Pension Fund exceeded the minimum by 144 percent, while pensions issued by the Ministry of Defense averaged 522 percent of the minimum. Pension benefits were greatly increased for farm workers²⁵ in 1992.

7. The relationship of most people's benefits to the minimum pension underwent an upward revision in July 1992 and again in October 1992. The legislature approved a new law that raised pensions for those who began

receiving benefits before January 1992.²⁶ The Pension Fund projected in July that by November virtually all pensioners would receive the maximum benefit of three times the minimum pension. The Ministry of Finance projected that the average pension for Pension Fund beneficiaries would be 2.4 times the minimum. With inflation at over 20 percent per month and no timetable for currency stabilization, it is virtually impossible to calculate the changing real value of nominal pensions or to predict the timing and amount of pension adjustments.

8. Pensioners who continue to work after age 60 (55 for women) and disability pensioners who work and earn do so without reducing their benefits. As of January 1992, a quarter of recipients in both groups were earning a salary and receiving a pension benefit payment. The proportion of double-dippers will decline over the next year as these groups are among those most likely to be laid off.

9. Most disabled people who reach retirement age can choose between continuing to receive a disability pension or receiving a retirement pension. Military retirees and Chernobyl victims can receive both disability and retirement pensions.

SOURCES OF FUNDS

10. In 1992, funding for pensions account for 23 percent of total government revenues.²⁷ The Pension Fund accounts for about 90 percent of total pension resources, state and local general revenues earmarked for security personnel, 7 percent; and the Chernobyl Fund earmarked for pension supplements for Chernobyl victims, 3 percent.²⁸

11. The employer social insurance payroll tax is the Pension Fund's primary source of funding, and accounts for 97 percent of Pension Fund resources.²⁹ Additional revenue sources include a 1 percent tax on wages received by employees; a 10 percent payroll contribution

from self-employed persons who do not have employer payroll contributions but nevertheless wish to be eligible for a disability or retirement pension; returns from Pension Fund investments; and grants from enterprises, charities and other sources (see Table 6.2).

USES OF FUNDS

12. Pensions in 1992 accounted for the largest share of social sector spending; 32 percent of total spending and 14 percent of GDP. Benefits to retirees and the military account for 75 of total pension spending; work disabled, 8 percent; those disabled from childhood, dependents and other benefits, 8 percent; additional benefits for Chernobyl workers and victims, 3 percent; delivery and administrative expenses, 3 percent; expenses accrued by the Pension Fund in 1991 but not paid in that year, 3 percent (Table 6.3). Pension Fund estimates made in July 1992 indicated that pension spending would reach R403.9 billion in 1992 while estimates by the

Ministry of Finance placed total spending at R354.9 billion. The discrepancy between the two is primarily accounted for by the uncertainty over the effects of the July increase in pensions. Both projections were overtaken by the unexpected acceleration of inflation in the second half of 1992.

PENSION FUND SURPLUSES AND DEFICITS

13. Pension Fund estimates indicate that pension spending would exceed revenues by 5.5 percent of total government and state fund revenues and 3 percent of GDP. According to Ministry of Finance calculations, pension spending would accrue a small surplus. The discrepancy between the two estimates was attributable to different assumptions regarding future employment and the effects of the July and October pension increases. Data closing the books on the Pension Fund in 1992 were not available for this report.

Box 6.1: The Pension System

The pension system is based on benefits indexed to the cost of a minimum consumer budget for pensioners. To be eligible for full retirement benefits recipients must have worked for 25 years (20 for women). Pensions are calculated as a percentage of previous salaries. After 25 years of service (20 for women), workers receive a pension of 55 percent of their salary. For each additional year beyond the minimum that they work the replacement rate of their ultimate pension is increased by one percentage point. The maximum pension cannot exceed 300 percent of the minimum benefit.

Early retirement takes place before age 60 (55 for women), but after at least 25 (20 for women) years of service. Years of service include time spent in higher education; serving in the armed services; unemployed but seeking a job; and taking care of children under age 3 and disabled persons. Benefits are proportional to years worked but are below those received by retirees who have reached age 60 (55). Benefits cannot be below one-half the minimum pension.

Disability pensions are determined based on previous salary and severity of disability. The replacement rate varies from 40 to 70 percent depending on severity of disability. The local administrative office of the Ministry of Social Welfare can also make adjustments for individual cases. The minimum disability pension is 50 percent of the minimum wage, the maximum is 400 percent.

Minor children of workers who die receive a pension based on the income of their deceased parent and the length of time the parent worked. This pension cannot be below 50 percent of the minimum pension.

People who did not work but reached retirement age can receive a "social pension" set below the retirement pension. People disabled from childhood are also eligible for these pensions regardless of their age. This pension ranges from 30 to 50 percent of the minimum pension for people who did not work; and from 50 to 200 percent for people disabled from birth or childhood, depending on the severity of the disability.

Administration

14. Payroll tax revenues for the Pension Fund are collected by district-level administration offices, consolidated and forwarded to the head office of the Pension Fund. Central Departments of the Ministry of Social Welfare (MSW)³⁰ on the district level collect pension-related documents from applicants and calculate individuals' benefits. This information is passed to district payment centers of the MSW that instruct the head office of the Pension Fund regarding its total obligation each month and send the Ministry of Communication a list of beneficiaries, their addresses and the payment owed to each. The Pension Fund sends its total obligation to the Ministry of Communication which distributes the pensions to district post offices. Beneficiaries claim their pensions at the post office. If a beneficiary is disabled the post office may deliver the funds. The Ministry of Communication charges the Pension Fund 4.2 percent of pension volume for its services.

15. The MSW's central departments are overburdened, and there is frequently a delay of one to nine months between the time a person retires and the first payments of pension benefits. This problem is expected to worsen as the departments must calculate new pension benefits for virtually all of the system's 13 million clients.

RECOMMENDATIONS

16. The estimates in Tables S.1 and 5.1 suggest that pension payments rose from around 5 percent of GDP in the Brezhnev years, to 7 percent of GDP in 1992. This level of spending is unsustainable, but reductions will not be easy. Both the number of pensioners and average

Table 6.2: Projected Sources of Funds for Pensions

| Source | 1992 FY (million rubles) | Percent of Total | Percent of Government Revenue ¹ |
|-------------------------------------|--------------------------------|---------------------|--|
| Total Pension Fund | 322,137 | 90.3 | 20.7 |
| Employer Payroll Tax | 321,794 | 90.2 | |
| Employee Payroll Tax | 9,788 | 2.7 | |
| Other ² | 175 | 0.0 | |
| Non-Pension Commitments | (9,620) | | |
| State General Revenues ³ | 23,647 | 6.6 | 1.5 |
| State Chernobyl Fund ⁴ | 10,918 | 3.1 | 0.7 |
| Total | 356,702 | 100 | 22.9 |

Notes: Figures are averages of Pension Fund and Ministry of Finance forecasts.

1. Includes state and local general revenues and revenues from the Pension, Social Insurance, Employment and Chernobyl Funds.
2. Other includes self employed income tax of 10 percent, investments and grants.
3. Earmarked for military pensions
4. Earmarked for additional benefits to Chernobyl workers

Sources:

Pension Fund Draft Budget for 1992 (Ministry of Finance and Pension Fund June 1992 versions), 1992 Draft Consolidate State Budget for Ukraine (June 1992 version), Draft of 1992 Chernobyl Fund Budget (June, 1992 version).

payments have risen dramatically. the number of recipients rose by one third and average increased pensions by a factor of 20 (before adjusting for inflation). Some eligible beneficiaries returned to Ukraine from other parts of the Soviet Union after its dissolution. Retirement benefits were extended to some additional collective-farm workers.

17. Changes in the real value of pensions are difficult to calculate; Table 6.4 offers one way to make an estimate. The combined effects of a 25% decline in GDP, a 100 percent increase in the pension share in GDP, and a 35 percent increase in the number of pensioners was a 10 percent increase in average pensions between 1990 and 1992. These crude estimates, if confined by more detailed studies, show that pensioners were more than protected; other sectors of the economy must have borne the

brunt of the massive collapse of output. In 1993, and until the economy recovers its previous level of output, it may be essential that pension beneficiaries reduce their share of GDP, perhaps by a mix of three types of change: (1) reducing the number of beneficiaries, (2) reducing average pensions, but (3) increasing the pension floor to assure protection against poverty and reducing the pension ceiling to promote social justice. Paragraphs that follow offer some suggestions for implementing such changes.

18. One suggestion is to introduce a unitary pension rate for the duration of the crisis and to adjust it periodically to assure that all recipients are protected fully against inflation. This system would significantly ease the pension administrative burden. It would also be possible to assure that the benefit is fully reflective of the social-protection objective. Many pensioners now receiving several multiples of the minimum would lose support as a result of such a unitary-benefit system. An option would be a dual level of benefits, thus simplifying administration but leaving some difference between poverty-related and higher benefits. In either case, high monthly inflation will require frequent adjustment of pension payments.

NORMAL RETIREMENT AGE

19. Normal retirement age for both men and women could be increased gradually over 10 years to age 62 or age 65 for actuarial and demographic reasons. Life expectancy is growing, the birth rate is already low, and the burden of the pensioner population on the working-age group, an inevitable feature of a

Table 6.3: Uses of Pension Funds

| Use | 1992 FY (million rubles) | Share of 1992 FY Vol. | Percent of GDP |
|--|--------------------------------|--------------------------|-------------------|
| Total Pension Fund | 344,828 | 90.9 | 12.6 |
| Cash Benefits¹ | 319,576 | 84.2 | |
| Retired | 252,600 | 66.6 | |
| Disabled | 29,884 | 7.9 | |
| Dependent | 16,394 | 4.3 | |
| Never Worked | 11,551 | 3.0 | |
| Military | 6,547 | 1.7 | |
| Additional Benefits | 2,600 | 0.7 | |
| Delivery Costs | 7,425 | 2.0 | |
| Repayment of 1991 Loan | 4,246 | 1.1 | |
| Add Benefits Owed ³ | 11,582 | 3.1 | |
| Partial Administration Costs ⁴ | 2,000 | 0.5 | |
| Chernobyl Victims Add. Benefits | 10,918 | 2.9 | 0.4 |
| Min of Defense | 23,647 | 6.2 | 0.9 |
| Total Pensions | 379,393 | 100.0 | 13.9 |
| Surplus (Deficit) | (22,691) | -6.0 | -0.8 |

Notes: Figures are averages of pension fund and ministry of finance forecasts

1. Estimates for the breakdown of cash benefits between types of beneficiary were made based on the number of beneficiaries in each group and the average pension received.
2. People who never worked including those disabled in childhood and hobos.
3. Benefits accrued but not paid in 1991
4. Includes only Pension Fund administration costs.

Sources: Pension Fund Draft Budget for 1992 (Ministry of Finance and Pension Fund June 1992 versions), 1992 Draft Consolidate State Budget for Ukraine (June 1992 version) and mission estimates.

pay-as-you go system of retirement benefits, will soon be too great for the economy to bear. The proposed increase amounts to an additional two (5) years of work for men and 7 (10) working years for women. Men have a life expectancy of 72.4 at age 60, women life expectancy is 79.5 at the same age. By the end of the ten-year adjustment period, total pension spending would be 20 percent lower than it would have been if the age limit had not been increased—a savings

equivalent to about 3.5 percent of GDP.³¹ Note, however, that these spending reductions lie mostly in the future and can have virtually no effect on current budget difficulties of the Government. These considerations suggest that it may be unwise for Government to spend its scarce political capital to achieve this change during the period of crisis, no matter how essential such a change may be in the longer run.

Personal Security Accounts

20. A more attractive option being considered in the Ministry of Social Welfare is to institute a system of personal-security accounts that would permit a more flexible approach to designation of the retirement age. With such a system it would be both feasible and desirable to eliminate the provision of a mandatory retirement age. Able-bodied workers could then continue to be employed as long as they wish, with related provisions for many means to transfer pension rights to third parties or to use them for such purposes as financing private annuities or other expenses that do not interfere with the income-security provisions of pension law.

Pension Benefits for Working People

21. About 25 percent of old age and disabled pensioners continue to work (Mikhavlichenko, 1992). Given that the purpose of pensions is to support people who are too old or disabled to work, people who continue to earn income from their labor should receive a reduced benefit. Savings from this policy modification could reach 10 percent of total pension spending (about 2.2 percent of GDP) assuming that employment rates among retirees and the disabled do not decline over the period.³² Virtually all savings from this policy modification would be derived from reducing benefits for working retirees as the total number of working disabled is very small.

Early Retirement

22. The option of early retirement for people who have worked more than 25 years (20 for women) but have not yet reached the normal retirement age of 60 years (55 for women) should be discontinued. Less than 5.6 percent of pension spending goes to early retirees so savings will be small.

Administration and Management

23. The Pension Fund should separate its funding and administration of allowances and of pension. An old-age, survivors' and disability insurance fund should not pay for or administer benefits that are not insurable risks. Social assistance, a responsibility of the state, should be funded from general revenues.

24. The central offices of the Pension Fund and Ministry of Communication, and four separate district-level administration networks undertake pension-related activities. The process of collecting payroll tax revenues and calculating and distributing benefits should be simplified and rationalized.

25. The Fund did not pay indexing benefits on April payments in 1992 because management knew that the minimum pension was to be increased in May. Indexing is also paid one to two months after the month in which the obligation is accrued without adjusting for the payment's loss in value. In first quarter 1992, the Pension Fund accrued a large surplus because the Social Insurance tax during that period was 61 percent. With some of this surplus, the Fund made unplanned payments of R2.6 billion. These ad hoc expenditures were equivalent to about 10 percent of the Fund's total planned payments for the period. The Pension Fund should systematize its payment of indexing and other benefits, and retain surpluses for not spend them unnecessarily.

26. The Pension Fund could benefit from technical assistance in investment management.

**Table 6.4 Changes in Pension Spending
1990-1992**

| Factor | 1990 | 1992 |
|--------------------------|-------------|-------------|
| 1. GDP, 1990=100 | 100 | 75 |
| 2. Pensions, %of GDP | 7 | 14 |
| 3. (line 1 x line 2)/100 | 7 | 10.5 |
| 4. Pensioners, millions | 10 | 13.5 |
| 5. line 3/line4 | 0.70 | 0.77 |

Source: Estimated on the basis of official data

Investments are an insignificant share of total Pension Fund revenues currently but could become increasingly important over time. Macroeconomic instability poses enormous risks; training in risk management could yield substantial benefits.

Aggregate Pension Spending

27. This discussion suggests a number of options open to Government for essential reduction in pension spending. Even in 1993 it would be possible to introduce a unitary benefit and set it at a level consistent with the financial capacity of the Pension Fund. For the next 12 to 36 months, if it may be necessary to adopt a single, or two-tier, pension scheme to keep expenditures down while protecting the most vulnerable. It might also be possible to cut the benefits of those who continue to earn a salary (see Table 6.5). Given the predominance of regular retiree benefits, and payments to military retirees through the Ministry of Defence, these categories cannot escape reductions in any effort to bring pension spending back to the sustainable levels observed in the 1980s. Beyond 1993, changes in retirement age and introduction of personal security accounts could lead to somewhat lower pension spending.

Table 6.5: Current, Suggested, and Sustainable Policy for Pensions

| Spending Category | Percent of Gross Domestic Product | | | Policy Actions Required |
|--|-----------------------------------|--------------------------------------|---------------------------------|---|
| | Current Policy | Suggested Program for 1993 Suggested | Sustainable Program Beyond 1993 | |
| Non-Working Retirees | 6.6 | 5.1 | 2.5 | In 1993, begin raising retirement age and eliminate early retirement option. Raise age by 1 year per year until age is 62 for men and women. ² Alternatively, introduce individual security accounts. |
| Retirees Who Continue to work | 2.7 | 1.7 | 0.7 | In 1993 reduce benefits by 50 percent for people who continue to work. ³ |
| Disabled | 1.1 | 0.9 | 0.9 | In 1993 reduce benefits by 50 percent for people who continue to work |
| All Other Beneficiaries (Including Military) | 2.6 | 2.6 | 2.6 | |
| Administration and Other Costs | 1.0 | 1.0 | 1.0 | |
| Total ¹ | 14.0 | 11.3 | 7.7 | |
| Notes: 1. Does not sum exactly due to rounding. 2. Eventual savings from raising the retirement age could reach about 3.4 percent of GDP by 2003. 3. Upper bound estimates of savings since many pensioners might decide to stop working. | | | | |

ALLOWANCES AND BENEFITS

1. Family allowances and special cash allowances grew over the past decade in parallel with, and for reasons similar to, the growth in pension spending. Events at Chernobyl, and the response to them, had a special role in expanding the demand for government assistance, especially when independence left the Government of Ukraine with a large responsibility that had previously been shared across a population five times as large as that of independent Ukraine. Chapters 1 and 5 described some features of these allowances; this chapter emphasizes the fact that costs have risen dramatically to 8.7 percent of GDP in 1992, posing a serious fiscal problem. Early in 1993, government authorities began taking steps to reduce spending in this area yet concentrate resources of those groups most at risk of bearing the social costs of adjustment. The options suggested here must balance great need against limited government resources.

2. In 1992, Ukraine offered a large number of cash allowances and assistance programs to its citizens. Some transfers were directed to low-income and vulnerable groups; others went to the general population and non-vulnerable groups; and still others to Chernobyl victims. In 1993, the authorities were moving to reduce the number of allowance recipients by as much as 90 percent; from 20 million to 2 million, concentrating more limited spending on poverty groups.

SOURCES OF FUNDS

3. Allowances accounted for 20 percent of social sector spending in 1992 and about 8.8 percent of projected GDP. About 47 percent of total allowance funding derived from general government revenues, 38 percent from the

Chernobyl payroll tax, 11 percent from the social insurance fund and 4 percent from the pension fund (Table 7.1).

USES OF FUNDS

4. In 1992 benefits targeted to Chernobyl victims account for 39 percent of social assistance spending; aid to vulnerable groups, 37 percent³³; allowances available to the population as a whole and specific, non-vulnerable groups, 23 percent; and partial administration costs, 1 percent (Table 7.2).³⁴

5. The food subsidy program is part of a more general program of consumer subsidies. In 1992, consumer subsidies reach 5.1 percent of GDP. Subsidies for utilities and residential services accounted for about one-half of this spending. Food subsidies to reached 1.9 percent of GDP. In July 1992, the government eliminated all food subsidies except support for bread prices. Thus, the food subsidy budget for 1992 primarily reflects spending before that time. In July, the subsidy was replaced by a monthly cash allowance equal to 30 percent to 40 percent of the minimum wage for each child under 18, or pension-age adult if family income is below two minimum wages per person. These subsidies were again subject to review early in 1993.

Chernobyl-Related Benefits

6. Benefits to Chernobyl victims include wage bonuses and other benefits to workers in areas of radiation contamination. These benefits increase with radiation levels in the work site, and monetary bonuses range up to 100 percent of the worker's base wage. Housing and relocation benefits account for about 9 percent of Chernobyl-related allowance spending; disability

and death compensation, 9 percent; supplemental family allowances, 4 percent; food provision, 4 percent; and other allowances, 6 percent. These outlays are financed from the Chernobyl Fund which also funds medical care.

Benefits to Low-Income and Vulnerable Groups

7. Assistance to low-income and vulnerable groups accounted for 37 percent of 1992 welfare spending, half of it through an allowance to low-income families for the purchase of food products. This benefit was introduced as a means of protecting the poor from the consequences of deregulation of food prices. The allowance is paid monthly for each child under 18 and pension-age adult, and ranges from 30 percent to 40 percent of the minimum wage. Annual allowances to compensate low-income families for increases in children's clothing and products prices account for 24 percent of vulnerable groups' allowances, and were also introduced to protect families from price decontrol; non-cash benefits to the infirm elderly account for 10 percent of funding; stipends to low-income families with children from age 3 to age 6, 6 percent;³⁵ additional allowances to low-income families and single mothers, 8 percent; and maintenance of orphanages, 4 percent. Assistance to low-income and vulnerable groups is funded from state and local general revenues.

Benefits for the General Population and Non-Vulnerable Groups

8. Assistance to the general population and specific non-vulnerable groups accounts for 24 percent of social welfare spending. Stipends to all families with children under age 3 (under age 2 if the mother did not work prior to childbirth) account for 41 percent of non-vulnerable group welfare

spending; sick leave and short-term disability pay, 27 percent; benefits for the disabled, 11 percent; recreation benefits, 8 percent, maternity benefits 6 percent; and other benefits, 7 percent. The Social Insurance Fund pays for 42.5 percent of non-targeted benefits; state and local general revenues, 40 percent; and the Pension Fund, 17.5 percent.

Proliferation of Benefits

9. The system that prevailed in the middle of 1992 offered over 60 allowances and benefits, many of which do not differ substantively from one another. For example, there were 12 cash allowances that low-income or vulnerable families can qualify for. These include separate stipends for children's food, children's clothing, children's products, and general child maintenance. Under the category of general child maintenance, families may qualify for different allowances, and different stipend levels within an allowance, depending on the number of children and age of children, whether the mother worked before childbirth, the age of the mother, whether the children are eligible for

Table 7.1: Projected Sources of Funds for Allowances and Benefits, 1992

| | Total (million rubles) | Percent of Total | Percent of GDP |
|------------------------------------|------------------------------|---------------------|-------------------|
| General State Revenues | 112,446 | 46.9 | 4.1 |
| Payroll Taxes | 127,099 | 53.1 | 4.7 |
| Chernobyl Payroll Tax ¹ | 92,023 | 38.4 | 3.4 |
| Social Insurance Payroll Tax | 25,295 | 10.6 | 0.9 |
| Pension Payroll Tax | 9,781 | 4.1 | 0.4 |
| TOTAL² | 239,546 | 100.0 | 8.8 |

Note: 1. In practice incorporated into the state budget, but listed separately in this report. Chernobyl Fund documents were ambiguous. Actual figure is from 31 to 92 billion rubles.
2. Does not sum exactly due to rounding.

Source: Ukraine Consolidated State and Local June 1992 Draft Budget for 1992, June 1992 Drafts of 1992 Budgets for the Pension Fund Social Insurance Fund, and Chernobyl Fund.

Table 7.2: Projected Uses of Funds for Allowances and Benefits, 1992

| Expenditure Item | Total (million rubles) | Percent of Total | Percent of GDP |
|--|---------------------------|---------------------|----------------|
| Chernobyl Related | 93,073 | 38.9 | 3.4 |
| Employment | 63,470 | 26.5 | |
| Housing and Relocation | 8,292 | 3.5 | |
| Disability | 7,901 | 3.3 | |
| Family Allowance | 4,110 | 1.7 | |
| Food | 4,038 | 1.7 | |
| Other | 5,262 | 2.2 | |
| Low-Income and Vulnerable¹ | 87,659 | 36.6 | 3.2 |
| Food Allowance | 42,288 | 17.7 | |
| Children's Clothes/Products Allowances | 21,003 | 8.8 | |
| Benefits for Elderly Informed ² | 8,598 | 3.6 | |
| Low-Income/Single-Parent Allowances ³ | 6,904 | 2.9 | |
| Allowances for Children Ages 3-6 ⁴ | 5,219 | 2.2 | |
| Orphanages ⁵ | 3,677 | 1.5 | |
| Not Income Targeted | 55,872 | 23.3 | 2.1 |
| Children Under Age 3 ⁴ | 22,633 | 9.4 | |
| Sick Leave/Short-Term Disability | 15,274 | 6.4 | |
| Benefits for Disabled | 6,297 | 2.6 | |
| Recreation | 4,556 | 1.9 | |
| Maternity Leave | 3,174 | 1.3 | |
| Allowance for Families of Servicemen | 2,700 | 1.1 | |
| Compensation to Exonerated Citizens | 800 | 0.3 | |
| Support for Coal Miners' Union | 299 | 0.1 | |
| Other ⁶ | 140 | 0.1 | |
| Partial Administration Cost⁷ | 2,941 | 1.2 | 0.1 |
| TOTAL | 239,546 | 100.0 | 8.8 |

- Notes:
1. Targeted to families earning less than two minimum wages per person and/or vulnerable groups. According to the 1990 census, approximately 42.5 percent of the population has an income of 2 minimum wages or less.
 2. Includes day care and assistance with household chores. Listed under the line item "other local" in the national budget.
 3. Includes a variety of allowances for low income families and single mothers. In Ukraine, most families headed by single women are low-income.
 4. Allowances for all children below age 6 are grouped together in the national budget. Spending on allowances for children under age 3 (which are not means-tested) and for children ages 3 to 6 (which are means tested) were separated based on the number of children in each category and the size of the benefit each is entitled to.
 5. Assumed to be 33 percent of combined nursing home and orphanage expenses. Nursing home expenses are captured in the health sector.
 6. Includes telephone installation for veterans and funeral allowances. Funeral allowance spending includes only funeral allowances for the employed, which are funded by the Social Insurance Fund. Funeral allowances for retired people are funded by the Pension Fund and for unemployed people by state general revenues. Neither the Pension Fund nor the state government explicitly budgets for this expenditure.
 7. Includes only administration of the Social Insurance Fund and some state purchases of equipment and supplies for social welfare offices.

Sources: Ukraine Consolidated State and Local June 1992 Draft Budget for 1992, June 1992 Drafts of 1992 Budgets for the Pension Fund Social Insurance Fund, and Chernobyl Fund.

other allowances, whether the family is headed

by a single parent, whether the absent parent

pays alimony, and whether the single parent was raised in an orphanage. The annex tables include list of allowances and benefits, the requirements for qualifying for each, and the size of the award or the nature of the benefit as of July 1992. The list was being modified significantly in 1993.

Administration and Funding

10. Administrative and funding responsibilities for benefits are set out in law, but vary by allowance (and often by status of beneficiary for the same allowance) and have little underlying logic. Many allowances are funded, administered and distributed by several agencies; others are funded by one agency, administered by a second and distributed by a third. For example, all families are entitled to an allowance for each child under the age of 3 (2 if the mother did not work or attend a higher education school and is over 18 prior to childbirth). The Pension Fund pays for these allowances out of its own resources for children under age 1.5. Stipends for children ages 1.5 to 3 (2) are funded by state general revenues given to the Pension Fund but earmarked for this purpose. If the mother worked or attended a higher education school prior to childbirth and was still employed or a student at the time the baby was delivered, the allowance is administered by the mother's enterprise or school. If the mother did not work or study prior to childbirth or was laid-off before the birth, the allowance is administered by a district-level social welfare office.

RECOMMENDATIONS

11. Discussion in this chapter, and Chapter 5 which precedes it, indicates that the *share* of public resources allocated to family assistance rose from less than 3 percent of GDP in the late 1980s to over 8 percent as programmed for 1992 (see Tables S.1 and 5.1). This much higher level is probably unsustainable. Some principles must be adduced to govern the means by which the obligations of the state are trimmed back to

a level that can be financed. The alternative is simply to allow inflation and the chance adjustments of benefit levels to provide social protection: Experience in OECD countries indicates that the result will be greater suffering for the poor than would be necessary if a fully-articulated policy would be adopted.

PROTECTING A POVERTY LINE

12. A principle that has guided analysis in other countries of Eastern Europe and the former Soviet Union is that those who are poor, or are likely to be made poor by the events associated with the collapse of output, must be *protected fully* against erosion of their levels of living. The means of protection is provision of adequate subsidies and social services. A first step in turning principle to practice is establishment of a realistic poverty line, that is, a level of living below which no one should be permitted to fall. The first of these specific and calculated poverty lines was applied in the United States during the War on Poverty in the 1960s. It defined as poor those families that must devote more than one-third of their income to the purchase of food. Many countries have applied a similar standard but with a larger share of income allocable to food. In the poor countries of South Asia and Sub-Saharan Africa, for example, only households that allocate two-thirds or more of their expenditure to food are included among poverty groups. Such a measure is difficult to apply in Ukraine because the prices of commodities that would constitute a large share of food consumption are kept well below international prices. Most households allocate a small share of income to food; by this measure, only a tiny percentage of the population lives in poverty.

13. There is an urgent need for development of the methodological and statistical basis for identifying those groups whose income government must protect. The basket of goods currently used to measure movements in the aggregate level of prices is weighted too much toward commodities consumed among urban

middle-income earners. A different basket of goods reflecting consumption by rural and urban lower-income earners is required. Development agencies are currently providing technical assistance to other republics of the former Soviet Union that aims to improve capacity to measure the impact on real incomes of variable price movements for farm and nonfarm products. This assistance could usefully be extended to Ukraine. Early in 1993, the French statistical agency was beginning a program for technical assistance in household and enterprise survey design and analysis for the benefit of Ukraine's Ministry of Statistics.

14. Pending development of an income-measurement tool, near-to-medium-term safety net policies could be built on available knowledge about demographic characteristics, such as family size, structure, and composition, and including features of residence, disability, and dependency on friends or relatives outside the household, as well as economic means that include the ability to work and to earn from past savings. Analysis of 1989 census data would reveal details about the numbers eligible for the food allowance provided to low-income families by oblast and sub-region. Experience in the USA and UK shows that one-third or more of all families and individuals eligible for various benefits do not in fact collect them because of ignorance of their eligibility or the stigma that may attach to welfare dependence. The costs of social protection in Ukraine could be significantly affected by public attitudes toward assistance programs.

15. The identification of those poor and vulnerable enough to require public assistance will change, perhaps dramatically, over time if unemployment strikes specific regions or single-industry towns, so government must have the capacity to monitor continuously and reshape its policies to address new needs. The groups and their needs once identified, government must then establish benefit levels necessary to keep those at risk out of poverty. As prices continue to rise, benefits would of course have to be

adjusted periodically to assure respect for the principle that those at risk be protected fully.

PREFERENTIAL TREATMENT FOR THE POOR

16. A second principle is that all benefits above the poverty line should be continued only to the extent that resources permit. The collapse in output, should it continue into 1993 and beyond, will severely limit the capacity of the state to make transfer payments to retirees, the disabled, and other pensioners, as well as to Chernobyl victims, workers on sick leave, families with minor children, and, most notably, the unemployed, displaced workers. Available resources may be driven down, for a time at least, to a level that would permit no payments, even those representing clear and certain obligations of government, beyond social protection for the poor and vulnerable. At that point, government must make hard choices that distinguish falling into poverty from maintenance of a reasonable standard of comfort. Inaction, or lack of a clear policy choice in favor of protecting those at greatest risk, would probably result in acute misery for a significant share of the poorest, particularly the rural elderly living alone and children in single-parent households.

BEYOND THE CRISIS

17. In the longer run, the principles of risk sharing, social insurance, and earnings-related benefits should gradually be restored as the economy strengthens and public obligations no longer constitute a threat to macroeconomic stability. The treatment of these insurable risks varies widely from country to country, with some countries, such as the USA giving preference to private markets, and others, especially among EC members depending on the state to finance and provide insurance (Barr 1992). Whatever mechanism is chosen, these markets confront the dual problems of *moral hazard*, which is the risk that individuals will change their behavior because of the contractual relationship provided by insurance, and *adverse*

selection, which is the tendency of asymmetric knowledge to lead to unsustainable outcomes. The best-known example and result of moral hazard is the savings-and-loan crisis in the USA, in which government insured depositors against loss but allowed savings banks to make risky loans ending in their bankruptcy. An example of adverse selection is the unwillingness of private insurers to write contracts with individuals that are in demographic groups, by age, sex, and marital status, that have a high probability of contracting AIDS. Both phenomena lead to unacceptable outcomes for both public and private approaches to insurance against social risk. Ukraine will want to consider its options carefully before committing to one approach to social insurance.

18. Unemployment insurance and workers' compensation are prepaid benefits with fee schedules that vary by industrial group according to risk in many OECD countries. They are financed from variable risk premiums by employers and thus have, over time, become integrated into labor costs in the several branches of trade and industry. Successful social insurance schemes protect members of many societies from income loss associated with illness and aging and against the risks of high costs for health care where private medicine prevails. Government can create a regulatory framework that encourages saving so that individuals and families self-insure for their old age and other financial needs and risks that differ widely from person to person. All these steps require a broad legal framework that defines private-sector development and its responses to the demand for financial services that help reduce social risk. Experience among Eastern European countries in recent years indicates that false steps in these areas, particularly in the design of unemployment and health-insurance schemes, may prove to be costly and thus must be carefully conceived prior to implementation.

Vulnerable Groups

19. Allowances (except sick pay, maternity leave, short term disability and benefits for Chernobyl victims) should be offered only to families in specific vulnerable groups. The government's current policy of providing some benefits to all families and others targeted to low-income groups is flawed in two respects. The provision of general subsidies is inappropriate because allowances should be made available only to families who cannot obtain a basic level of subsistence without government aid. The assignment of benefits to recipients because of low income creates a disincentive for the poor to work. If they work more they are likely to raise their income and disqualify themselves for benefits. Also, eligibility based on demographic characteristics is easier to monitor than eligibility based on income. Therefore, benefits should be assigned on the basis of demographic characteristics.

20. Savings from this program modification would be at least 25 percent of total allowance spending and 40 percent of non-Chernobyl-related allowance spending in the first year it was implemented.³⁶

Unnecessary Benefits

21. Special benefits for servicemen's families, cars (or the cash equivalent) for some disabled persons, telephone service for veterans, and free access to vacation camps could be eliminated. Given the critical state of the economy, the state should provide only those allowances required for families to meet basic subsistence needs.

22. Savings from the elimination of the above-specified benefits would be about 5.5 percent of the total allowance budget and 9 percent of non-Chernobyl expenditures in the first year.

Enterprise Administration of Allowances

23. Enterprises should be insulated from the administration and distribution of allowances. These activities take resources away from enterprises' real mission--the production and sale of goods and services. Furthermore, requiring firms to undertake allowance administration places an unfair burden on small firms that do not have a system in place for performing this function.

24. Eliminating enterprises' responsibilities in this area will transfer a burden onto the district social welfare offices. The state should devise a strategy to prepare these offices to accommodate their increased work load. The end of employer responsibility for allowance administration should be deferred until state offices are adequately prepared.

Chernobyl Allowances

25. More than two-thirds of the volume of Chernobyl allowances and over one-quarter of the volume of total allowances are accounted for by salary bonuses to people working in the region affected by the Chernobyl accident, or working with contaminated materials. Rather than providing state-funded allowances to workers mandatorily and voluntarily transferred to the region, the enterprises in this area should attract workers via higher salaries and additional benefits if necessary. The state government's only role should be to ensure that candidates for this work have full information concerning the nature and degree of risk they are undertaking.

26. Most work in the area involves state-funded clean-up operations and social services. Thus, to the extent that workers' current salaries and state subsidies represent a market-clearing wage, this policy modification will not result in a net savings to the government. It will, however, provide a more flexible and efficient means of determining appropriate compensation for this work.

Aggregate Spending

27. Spending on allowances could be cut from 8.8 percent of GDP in 1992 and to a much smaller share of GDP in 1993 and the years thereafter (see Table 7.3, the number in which are indicative, not prescriptive, of the options facing the authorities). The main strategy is to target benefits on vulnerable groups. Costs for Chernobyl-related allowances are assumed eventually to decline as problems are solved. Administrative costs included in programs should also decline with consolidation.

Table 7.3: Current, Suggested, and Sustainable Policy for Allowances

| Spending Category | Percent of Gross Domestic Product | | | Policy Actions Required |
|--------------------------------|-----------------------------------|----------------------------|---------------------------------|---|
| | Current Policy, 1992 | Suggested Program for 1993 | Sustainable Program Beyond 1993 | |
| Income Targeted | 3.2 | 1.9 | 1.9 | Target benefits to vulnerable groups |
| Not Income Targeted | 2.0 | 0.9 | 0.9 | Target benefits to vulnerable groups; eliminate unnecessary benefits |
| Chernobyl-Related ¹ | 3.4 | 3.4 | 0.6 | Replace allowance for Chernobyl workers with higher salaries; eliminate housing and food subsidies as they become unnecessary |
| Administration | 0.1 | 0.1 | 0.1 | |
| Total | 8.7 | 6.3 | 3.5 | |

Notes: 1. Forecasts of 1992 Chernobyl spending on the social sector that were made in July varied between 1.1 percent and 3.4 percent of GDP. final data were not available for this report.

EDUCATION AND TRAINING

1. This chapter offers a brief description of Ukraine's education and training system; identifies some of its distortions and weaknesses in the light of the new challenges facing the nation; suggests some changes and recommends external technical and financial assistance the Ukrainian authorities should consider to complement their own efforts. The analysis and description is far less thorough in this chapter than the subject merits. The reason is that education is in better condition than some other areas of public social spending so that reforms can be deferred. Moreover, basic change in education must occur with full regard for protection of the effective parts of the system. Vocational and technical training receive the fullest discussion because reform there must complement the shift of labor to a market economy.

2. The education system's coverage is extensive from preschool through secondary, and enrollment rates at post-secondary level compare favorably with the rest of Europe. The dropout rate is negligible and the repetition rate is very low. Teacher qualifications are high, with most teachers in urban areas having several years of post-secondary education. The performance of the Soviet Union's secondary students in mathematics and the sciences has ranked high in international surveys and contests. More recently, Ukraine has scored very well in competitions among the Soviet republics.

3. As part of the Soviet Union, Ukraine was well-served by an education system that produced well-trained, specialized graduates to meet the needs of a command economy. The success of Ukraine's education system contributed significantly to the Soviet Union's

emergence as a world leader in aerospace technology. But now that Ukraine has achieved nationhood, its aspirations and objectives are different from those of the Soviet Union. Ukraine aims to move towards a democratic political system with a market economy that will be integrated into the world economy. The government recognizes that its education system will have to play a crucial role in promoting these objectives, and that it will have to undergo major changes and adjustments in its organization, structure, content and pedagogy. Moreover, these reforms will have to be made under austere and restrictive public expenditure policies as the government strives to promote macroeconomic stability as a condition for economic recovery and the transition towards a market economy.

4. The urgency of education reform was highlighted by the recent report, "Ukraine of the 21st Century: National Program of Educational Renaissance," presented in December 1992, to All-Ukrainian Congress of Educationists.

THE EDUCATION SYSTEM: DIMENSIONS AND STRUCTURE

5. With a population of 52 million, Ukraine has 10.9 million full-time students enrolled in 47,500 establishments. Of these, 2.4 million children are preschoolers in 24,500 schools. The Ministry of Education oversees 32,000 establishments with 9.3 million students and preschoolers. These institutions employ 1,830,000 people of whom 1,130,000 are teachers, making for an overall student/staff ratio of a little over 5:1. There are also hundreds of thousands of part-time students at vocational and post-secondary institutions. In

addition, the larger enterprises also do a considerable amount of education and training. The overall student-teacher ratio in Ukraine is 8.2 compared with 15.3 in developed countries and 24.3 in developing countries (see Table 8.1). Ukrainian education authorities, who argue that more teachers are needed, dispute the comparability of the figures and ratios shown in Table 8.1. Further study of the staffing issue is essential.

6. In the 1980s, the number of teachers' college graduates nearly doubled, while

Table 8.1: Student/Teacher Ratios in Ukraine and Other Countries, 1989

| | Ukraine | Developed Countries | Developing |
|-------------------------------|---------|---------------------|------------|
| Total Enrollment (millions) | 9.3 | 231.2 | 720.3 |
| Number of Teachers (millions) | 1.13 | 15.1 | 29.7 |
| Student / Teacher Ratio | 8.2 | 15.3 | 24.3 |

Source: Ministry of Education and UNESCO Statistical Yearbook 1991. Data for developed and developing countries are for 1989. Ukraine data excludes part-time students.

education graduates at high-level institutions increased by 60 percent. The delivery of services was growing inefficient as the education sector absorbed the aspirations of many to join the intelligentsia. This demand for upward mobility in turn contributed to serious current issues: (1) The large amount of funds dedicated to education, particularly the share (over 75 percent in 1992) that must be allocated to salaries; (2) the ongoing complaints from teaching staff that salaries are too low and the ill-conceived plan to raise them to the level of industrial wages without any performance incentives; (3) the pressure, under conditions of

inflation experienced recently in Ukraine, for nominal salaries to rise; (4) the inadequacy of supplies and space, revealed by the fact that over one million children are in double-shift classes; and, (5) the desire of political authorities to respond positively to the wage demands of the largest element of the public sector work force, which is the teachers, who, with the relaxation of centralized authority under the former Soviet Union, seek to better their condition by threatening strikes and other labor actions that democratically-elected officials cannot easily ignore. This combination of factors presents the Government of Ukraine with a serious challenge as it tries to combine fiscal responsibility with attention to the legitimate demands of some of its most important and numerous public servants. Moreover, teachers have become, as they are in most countries, a political force of considerable strength.

SECTOR ORGANIZATION

7. The current Ministry of Education's responsibilities result from the merging of three separate ministries on April 1, 1992. Other ministries, notably Health, Agriculture, and Culture administer much of the education and training in health, agriculture and the arts. Because of this recent merger, the Ministry of Education is still in the process of organizing itself. For example, it compiles data only on post-secondary education (inherited from the former Ministry of Higher Education) while the Ministry of Statistics is responsible for data on the rest of the education sector. The ministry of Education manages about 60 percent of the country's post-secondary institutions, including most of its research institutes, all of its universities, all technical secondary schools, and about 20 percent of secondary vocation schools. The Ministry also oversees the curricula of Oblast (district) and regional as well as private schools. Other ministries are responsible for most of the secondary vocational schools and about 40 percent of specialized post-secondary institutions. For example, the ministry of Health funds and oversees the medical schools.

Preschool Education and Day Care

8. Ukraine has one of the most extensive networks of preschool education and day care centers in the world. The 2.4 million children that attend these institutions comprise 47 percent of the country's preschool-age (under 6) population (53 percent in urban areas and 34 percent in rural areas). A third are funded and administered by the Ministry of Education, and oblast and local governments, two-thirds by enterprises, and a few others are private (Figure 8.1). Demand for these preschool and day care programs is on the decline. Recent legislation gives mothers leave at full-pay during pregnancy and through the first 6 months of the child's life and half-pay for the subsequent 2-1/2 years. This incentive to increase maternal time with infants and toddlers reduces the demand for day care. Another reason for the decline is that primary schools are starting to accept children at the age of 6 rather than 7, which was common in the past. There is growing resistance of many state enterprises to the financing and

management of preschool programs for children of their employees and others in their communities. The gradual transfer of these responsibilities to local governments will be one of the principal education issues of 1993.

Primary and Lower Secondary Education

9. Primary and secondary schools in Ukraine are treated in combination and described as general education schools. Enrollment in primary through lower secondary (9th grade) is compulsory and almost universal, except for isolated rural areas. There are nearly 7 million students (of whom 180,000 attend evening or correspondence schools) enrolled in 20,900 general education schools. These include 700 boarding schools for children without parents, the mentally retarded and physically handicapped, and 12 special schools for children and teenagers who are "socially dangerous." The student/teacher ratio was in 12.8 1991-92 academic year (see Table 8.2). Between the academic years 1990-91 and 1991-92,

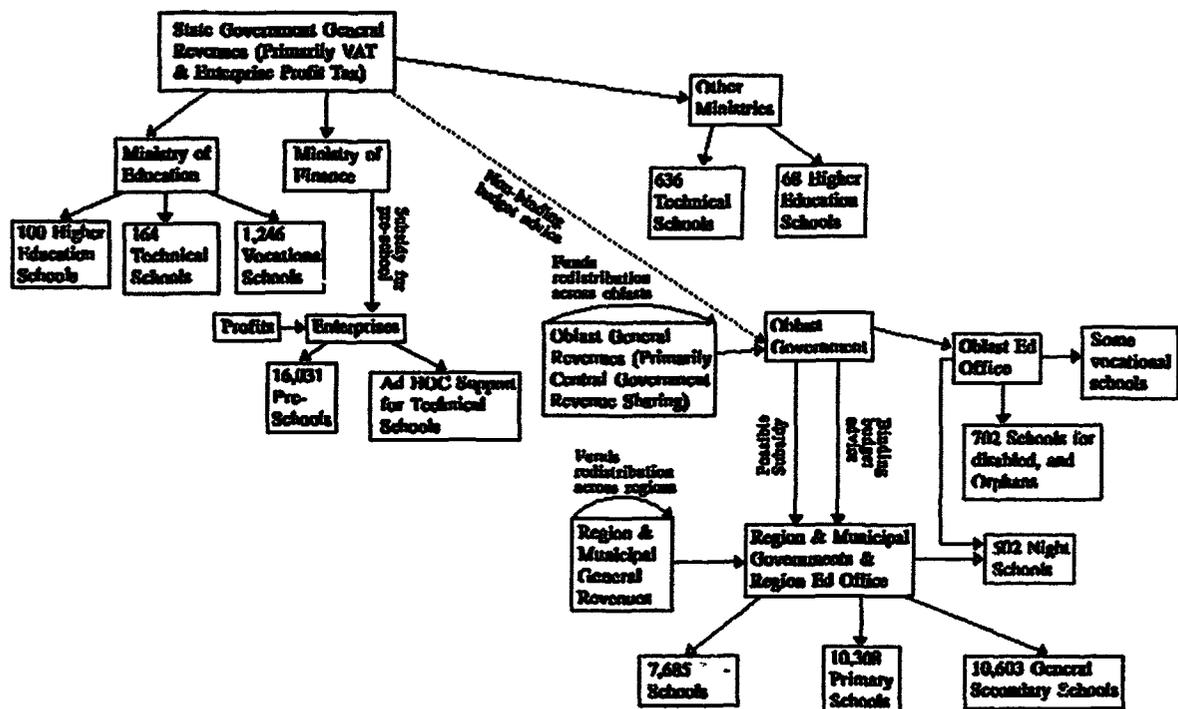


Figure 8.1: Diagram of Education Financing Flows and Organization of the School System

enrollment dropped by 16,000 while the number of teachers rose by 6,000.

Table 8.2: Enrollment and Teachers in Primary and Secondary Schools, 1991-92

| Indicator | Value |
|------------------------------|-------|
| Total Enrollment (thousands) | 6,918 |
| No. of Teachers (thousands) | 538 |
| Student/Teacher Ratio | 12.8 |

Source: Ministry of Statistics, Ukraine.

10. Municipal and regional governments operate and fund the overwhelming majority of the country's primary, general secondary and night schools. Oblast governments operate and fund some secondary vocational and night schools and the country's specialized schools for orphans and handicapped children. Oblasts also subsidize education spending by poorer regions.

11. The content and style of general education has reflected the political and economic system and doctrines of the Soviet regime. It has been centrally controlled, with a uniform and rigid curriculum, a heavy emphasis on rote learning, and a pervasive ideological orientation in the teaching of the humanities and the social sciences. Nevertheless, the performance of secondary school students in mathematics and the sciences has measured up to the standards of middle and high income countries, despite the rote learning which is anathema to many educators in western countries.

12. A growing number of Ukrainian educators have become aware of the weaknesses in the above practices and have started to experiment with offering electives to secondary school students, adding new courses to the conventional curriculum and opening new schools for academically gifted children, but much more remains to be done.

13. General education appears to be of high quality, but there are not enough classrooms,

many of the rural infrastructure services, and satisfactory textbooks for multi-grade classes and other special needs. More than a third of the students in urban areas attend double-shift schools. About one-third of the rural schools have no water supply or central heating, and more than half have no indoor plumbing. Many of the rural schools, especially at the primary level, serve small catchment areas that have produced high costs per student and offer inferior education. Bussing of students that would enlarge the catchment areas and the size of the schools is not widely practiced, allegedly because of the lack of or poor quality of roads and the shortage of buses, and currently of gasoline. These small rural schools undoubtedly contribute to the low student-teacher ratio in Ukraine's education system, when compared to other countries.

Streaming

14. Upon completion of 9th grade, students go on to one of three streams, depending mostly on their academic performance and to a much lesser extent on their choices. Some 60-70 percent continue their general education for two more years and complete their secondary education, another 20-25 percent enter vocational schools, and around 10 percent go to technical schools. According to Ukrainian officials, the "most talented" students go on to complete their general secondary education. Students in vocational and technical schools receive monthly government stipends, while general education students do not.

Vocational and Technical Schools

15. There are 1,246 vocational and technical schools with an enrollment of 650,000 students, excluding on-the-job training in enterprises, for which there are no centrally-collected data. These schools produced an estimated 380,000 graduates who entered the labor market last year. Students generally attend vocational schools for 3-1/2 years after completing 9th grade. They receive a certificate for the

specialty they have studied and enter the labor market. Quite often, they are engaged by enterprises before graduating and work part-time for these enterprises while they are still in school.

16. The amount of schooling that students have when entering vocational schools varies widely. About 20 percent enter after completing 9th grade, about half after 11th grade, and the rest with less than 9 years of general education. All entering students take exams to determine which specialty they should study. There is little doubt that vocational education is the most diverse, diffused, and least structured part of the education system; it is in transition to a program that could better serve the nascent private sector.

17. The large number of narrow specialties is a legacy of the Soviet Union's command economy that required the education system to produce workers to fill specific jobs that were called for by the national economic plan. There are now 808 specialized crafts and occupations offered by vocational schools; this compares with 1,200 that were available in the Soviet epoch. There is a general awareness that there are too many specialties and that they are too narrow. The Ministry of Education is considering a proposal to reduce the number of specialties to around 300.

18. The mission visited a representative vocational school in Kiev with 700-800 students, 74 teachers, of whom 45 teach practical subjects and are called "supervisors," and 71 administrative and maintenance personnel. The school offered three crafts: construction, auto mechanics, and painting and decorating. These crafts had formerly been offered in the form of 9 more specialized ones. The construction and painting specialties were products of the school's history. The school was founded immediately after World War II and concentrated on training 12,000 construction workers to repair the war damage in Kiev. The Director of the school told the mission that Kiev had 8 vocational schools specializing in construction, too many in relation

to current and future demand in the years ahead. The Director had recently visited a number of vocational schools in Germany and observed that vocational training in Ukraine was much more theoretical than in Germany and that the workshops in the German schools were much better equipped with state of the art technology than those in Ukraine. Costs per student appear to be high, as evidenced by a brief review of the school's budget for the first quarter of 1992, which showed that the projected annual cost per student amounted to the starting annual salary of a school teacher.

19. The vocational school system does have some capacity to retrain workers, but the size and content of this capacity has not been estimated. While the mission was in Ukraine, the government announced a program for retraining military personnel who have been stationed in East Germany. The retraining will be carried out by vocational schools, technicums, and Polytechnics. Strengthening vocational and technical training is a major objective that would require significant external assistance. The Ministry of Education funds and manages all vocational schools.

Technicums

20. The Technicums are comparable to the *fachschule* of Germany. Most students enroll in them after completing their general secondary education (11 years), though about 20 percent enter after 9th grade. Each Technicum sets its own entrance exam and each applicant can apply to only one institution and propose three alternative programs of study or specialties. Admission is based on exam scores and academic performance in secondary school. If an applicant is denied admission, he or she can reapply to the same institution or apply to some other Technicum after waiting a year or sometimes less.

21. A proposal is being considered by the Ministry of Education to modify the admissions process to allow students to apply to three

Technicums and indicate an order of preference. The entrance exam would be the same for every Technicum. This system would improve the chances for admission of the better applicants and improve the overall quality of the students in Technicums, according to its proponents. It would also reduce the scope for using connections and bribes to gain admission for otherwise unqualified applicants. The proposed system is similar to the one used in some Western European countries for selecting applicants to colleges and universities. The admissions process for Technicums has aroused a certain amount of controversy because competition for admission to certain programs has become very keen. For example, in Kiev there have been 3 to 4 applicants for each place in the program of radio-electronics and 8 for each place in economics and management.

22. Most students, i.e. those who enter after 11th grade, spend two years in a Technicum before receiving diplomas as Junior Specialists; others who enter at an earlier stage, put in 4 years. Technicum graduates can enter the labor market or go on to university for another two or three years before receiving the equivalent of a Bachelor's or first degree.

23. The mission visited a Technicum in Kiev that specialized in radio-electronics. It has 1,136 full-time students and 300 in evening courses. It has 54 teachers, 36 administrative and 52 maintenance personnel. The school's applicant/acceptance ratio was 10:1 in 1989, 5:1 in 1990 and 1991, and 2.3:1 in 1992. The Director of the Technicum explained the sharp drop in the number of applicants by saying that the word had gotten around about how difficult it was to gain admission to his Technicum. As in the lower levels of the education system, the curriculum for each specialty is fixed and there are no electives. The school has started to introduce "commercial" subjects such as market economics, finance, marketing and management. They are not using regular teachers, but relying on part-time teachers who are employed in enterprises. Since suitable textbooks are not

available, they are using notes prepared by the teachers of the various subjects. The current costs per student amount to five months of the starting salary for school teachers.

24. The Ministry of Education funds and manages about 20 percent of technicum schools, virtually all of the rest are funded and managed by other ministries. A few are funded and managed by oblasts.

Higher Education

25. Ukraine has many institutions of higher learning. Table 8.3 shows a count of institutions by curricular categories. It is drawn from a recent statement by the Ministry of Education describing Ukraine's education system.

Table 8.3: Types of Institutions of Higher Learning in Ukraine

| Type of Institution | Number |
|--|--------|
| Life Sciences, Humanities, and Economics/Law | 104 |
| Engineering/Technical | 309 |
| Transportation and Communication | 55 |
| Agriculture | 123 |
| Health Care | 126 |
| Physical Education and Sports | 6 |
| Pedagogical Studies | 78 |
| Art and Allied Fields | 89 |

Table 8.3 includes almost entirely Technicums and other post-secondary specialized institutions. The overall student-faculty ratio, counting only full-time students, is less than 5:1, which is below the ratio in most developed countries (see Table 8.4). Ukraine has 11 universities with a wide variety of Faculties and Departments (see Table 8.5).

26. The system of post-secondary education is extremely diffuse and complex; teacher training can be cited as an example: "Pedagogical education is conducted by 29 pedagogical institutes with one affiliate, 51

pedagogical schools, 6 industrial-pedagogical colleges and technicums. Specialists for various types of educational establishments are trained in 19 major specialization areas in the pedagogical institutes, in 5 major professions in pedagogical schools, and 12 professions in industrial-pedagogical colleges and technicums."

27. The distinction between undergraduate and postgraduate education is blurred. The "Candidate of Science" degree is roughly equivalent to a Master's degree and the "Doctor of Sciences" degree to a doctorate. Ukrainian officials are aware of the need to clarify, consolidate, and streamline the post-secondary institutional setup. Given the plethora of institutions, it is not surprising that they are of uneven quality; the Ministry expects to introduce an accreditation system. There is also an effort underway to internationalize post-graduate education by having clearly defined bachelor's, master's and doctoral degrees similar to what exists in North America and several Western European countries.

28. Kiev State University was founded in 1836. Much of it was destroyed during World War II, but it has been fully restored. Its 17 faculties offer 42 specialized programs of study to a student body of 20,000, including 2,000 foreign students, mostly from Africa, Vietnam, and Afghanistan. As the most prestigious university in Ukraine, it draws 70 percent of its students from outside Kiev.

29. Its staff of 8,000 includes 2,000 faculty, 2,000 scientific researchers, 1,000 scientific administrators, 1,700 auxiliary personnel, and 1,300 administrative and maintenance personnel. The number of students shown above is substantially greater than what is shown in Table 8.5 because the former includes part-time

Table 8.4: Enrollments and Faculty in Ukrainian Universities and in Equivalent Institutions in Selected Countries, 1991-92.

| Country | Student Enrollment (000) | Number of Faculty (000) | Student/Faculty Ratio |
|-----------------------------|--------------------------|-------------------------|-----------------------|
| France | 1,124 | 46 | 24.4 |
| Federal Republic of Germany | 1,465 | 151 | 13.3 |
| Italy | 1,349 | 54 | 25.0 |
| Korea | 1,143 | 34 | 33.6 |
| Spain | 978 | 51 | 19.2 |
| United States | 7,716 | 494 | 15.6 |
| Ukraine | 67 | 14 | 4.8 |

Note: Data for Ukraine are not strictly comparable with those for other countries because they cover only the eleven universities in Ukraine and not "equivalent institutions." But this does not alter the fact that the student/faculty ratio is much lower than in the other countries. Data for the latter are for 1989 and 1992 for Ukraine

Source: For Ukraine: Ministry of Education; for other countries: UNESCO Statistical Yearbook 1991.

students. The number of faculty shown in Table 8.5 includes a large number of researchers. The student/staff ratio of 2.5:1 appears extraordinarily low, even if the research personnel are subtracted. It is also surprising to find almost half of the staff devoted to research, since most research is done in specialized institutes.

30. The Kiev Institute of National Economy, founded in 1908, offers a "national education certificate" in economics, banking, finance, and statistics to 12,000 students. The minimum educational requirement for admission is the successful completion of 11th grade; some students enter after graduating from a technicum. The former take 5 years to receive a certificate and the latter 3 years.³⁷ The Institute staff of 1,760 includes 600 faculty and 160 auxiliary personnel. The curriculum of the Institute is changing as Ukraine begins to move towards a market economy. The Rector attaches high priority to training his faculty in market economics and subjects appropriate to a market

economy. He has started to make some foreign contacts to get technical assistance. The Institute recently established a Business School that offers courses ranging from one month to a year. It has begun operating on a very limited scale and expects to expand rapidly. The Business School has the same problem as that facing the rest of the Institute: how to train its faculty to teach courses appropriate for a business school in a market economy. They have had a few visiting professors from abroad who have come for a few days or weeks, but much more needs to be done, especially in the production of suitable teaching materials.

EDUCATION FINANCING AND THE USE OF RESOURCES

31. Ukraine is spending 7.8 percent of GDP on education, one of the largest proportions in the world and the highest among countries at comparable levels of development (Table 8.6). This high percentage of GDP is partly due to the sharp decline in Ukraine's GDP since 1989.

32. In the euphoria that accompanied Ukraine's political independence, the Law on

Education was enacted that called for a minimum expenditure on education amounting to 10 percent of GDP. This target would be extremely difficult to attain and sustain. It is also highly questionable whether the education sector should absorb such a large share of the nation's resources in view of the pressing needs in the rest of the economy.

33. About 28 percent of total education spending is funded from general state revenues and managed by the Ministry of Education and other ministries. About 57 percent is managed by oblast regional and village governments and funded from their general revenues. Enterprises account for the remaining 15 percent of education expenditures.

34. What accounts for the large amount of spending on education? The explanation has to be found in the large share of the budget that the Ministry of Education and local governments spends on wages and salaries, utilities and maintenance (Table 8.7). Wages are low, but there are so many personnel that the aggregate wage bill is high. Another factor that has contributed to the recent growth of the education

Table 8.5: Ukraine Universities, Students, Faculty, and Graduates, 1992

| University | No. of Departments | No. of Full-Time Students | No. of Faculty | No. Holding Equivalent of Masters | No. Holding Equivalent of Doctorate |
|---------------------------------|--------------------|---------------------------|----------------|-----------------------------------|-------------------------------------|
| Dnepropetrovsk State University | 12 | 8,835 | 1,277 | 559 | 83 |
| Donetsk State University | 11 | 5,593 | 1,062 | 524 | 64 |
| Kiev State University | 19 | 12,200 | 3,612 | 1,079 | 293 |
| Lviv State University | 13 | 7,230 | 1,911 | 529 | 96 |
| Odessa State University | 9 | 5,306 | 807 | 473 | 83 |
| Simferopol State University | 8 | 3,962 | 538 | 267 | 38 |
| Ujgorof State University | 10 | 4,340 | 916 | 329 | 75 |
| Karkiv State University | 12 | 6,845 | 1,857 | 875 | 129 |
| Zapojie State University | 10 | 3,893 | 553 | 193 | 25 |
| Tchernovits State University | 12 | 5,487 | 885 | 375 | 47 |
| Karkiv Law Institute | 4 | 3,188 | 371 | 184 | 40 |
| Total | | 66,879 | 13,789 | 5,187 | 973 |

Source: Ministry of Education, Ukraine.

Table 8.6: International Comparison of Spending on Public Education, 1990, and Ukraine, 1992

| Country or Region | Percent of GNP Spent on Public Education |
|-------------------------------|--|
| Ukraine, 1992 | 7.8 |
| Europe, including former USSR | 5.5 |
| Developed Countries | 5.8 |
| Developing Countries | 3.8 |
| The World | 5.5 |

Source: UNESCO Statistical Yearbook, 1991, and Ukraine Ministry of Finance

budget is the large increase in the cost of utilities.

Budgeting Process

25. The budgetary process is evolving. From the mid-1970s to 1991, budgeting was done on a top-down basis. The Ukraine Ministry of Finance produced a budget for the Republic that had to be approved by the Ministry of Finance of the Soviet Union. Ukraine's Ministry of Finance then distributed funds to the districts which in turn channelled them to the schools. In 1992, the budgeting process was reversed from top-down to bottom-up, with individual schools preparing their own budgets in accordance with staffing and input norms based on enrollments. School budgets are consolidated for each region and have to be approved by regional governments.

36. Budgeting in 1992 was fraught with uncertainty and instability. In presenting its first national budget to the legislature, the government had to submit four successive budgets before getting the

approval of the Supreme Soviet of Ukraine. School principals have very little flexibility in spending their funds, nearly all of which are earmarked for salaries and wages, student stipends, utilities and food. Schools do not have bank accounts, but do receive a small amount of discretionary funds for materials and equipment that have to be bought in specially designated stores. They can also handle small emergencies such as repairing broken windows during winter. It could be useful to begin program budgeting in the Ministry of Education since it is in the process of reviewing education goals. Management by objective could help the ministry reallocate resources to priority spending areas; external assistance and expertise could be helpful in that process.

37. Oblast finance and/or education offices help schools in the budgeting process by providing information about current education input costs and norms concerning staffing and equipment needs per student population at each

Table 8.7: Forecast 1992 Education Spending

| Expenditure | 1992 Budget (million rubles) | Percent Govt. Ed Budget | Percent Total Ed expenditures | Percent of GDP |
|---|---------------------------------|-------------------------------|--|-------------------|
| TOTAL STATE/LOCAL BUDGET | 181,766 | 100.0 | 85.5 | 6.7 |
| Total Personnel Costs | 98,288 | 54.6 | 46.7 | |
| Wages and Bonuses | 72,648 | 40.0 | 34.2 | |
| Payroll Tax (37 percent) | 25,638 | 14.7 | 12.5 | |
| Stipends | 10,323 | 5.7 | 4.9 | |
| Capital Repair | 5,443 | 3.0 | 2.6 | |
| Equipment Purchase | 5,037 | 2.8 | 2.4 | |
| Capital Investment | 1,739 | 1.0 | 0.8 | |
| Textbooks | 880 | 0.5 | 0.5 | |
| Computers | 537 | 0.3 | 0.3 | |
| Other (inc. utilities and maintenance) | 58,411 | 32.1 | 27.5 | |
| Enterprises (16,031 Preschools) ¹ | 30,812 | NA | 14.5 | 1.1 |
| TOTAL | 212,567 | | 100.0 | 7.8 |

Notes: Mission estimate based on spending per preschool by the state government.

1. Mission estimate based on day care spending by the state government.

Sources: June 1992 draft of the Ministry of Education's 1992 budget, the Ministry of Finance's June 1992 draft consolidated local education budget, mission estimates.

grade level. These norms are uniform for urban and rural schools, and are suggestions rather than mandatory targets.

38. In theory, regional and Oblast finance offices carefully review and critique individual schools' budgets. In practice, these offices are not adequately staffed to undertake this function. The 1992 education budgets have been substantially modified almost every month since November 1991 due to the unstable economic situation, and finance offices have time for little more than consolidation. The frequent revisions to the 1992 school budgets were time-consuming for all parties involved. While many schools have computers, they are used for teaching rather than administrative purposes. The Chief of the Finance Office for Kiev Oblast was not aware of any schools using computers for budgeting purposes.

39. The Ministry of Finance (MOF) provides enrollment-based norms to Oblasts as recommendations, consolidates Oblasts' education budgets and advises them on their size and content. However, the MOF cannot require an Oblast to modify its education spending. The State does not subsidize poorer Oblasts education spending directly, but Parliament, through the Council of Ministers and the Ministry of Finance, redistributes general revenues from richer to poorer Oblasts.

40. The Ministry of Education derives its funds from central government general revenues, and the MOE's budget is subject to approval by the Ministry of Finance. According to Ukraine's Law on Education, the government is required by law to devote 10 percent of GDP to education. According to government forecasts, the state and local governments will devote approximately 6.7 percent of GDP to education in 1992.

Disbursements

41. Schools undertake their own budget planning, but do not have their own bank

accounts, and cannot purchase items on the open market. Each is awarded funds earmarked for teachers' and administrators' salaries, student stipends, utilities, and food based on the budget the school develops. In addition, the school receives an allowance of discretionary funds to spend on materials, equipment, etc. Schools are required to purchase these items in specialized education-materials stores. The size of these discretionary budgets is determined by school requests, resources available to the funding government body, and personal relationships between school and government administrators. Large discretionary items such as renovations must receive special approval and funding is determined based on norms regarding size of area to be remodeled.

42. Salaries for teachers and other education personnel were among the lowest in the economy. But, according to the recently enacted Law on Education, they were to be raised to the average wage level in manufacturing. They were more than doubled on May 1, 1992, though much of this increase only made up for the rapid inflation since the previous salary increase. An anomalous situation of relative wages late in 1992 was that a school principal's salary exceeded that of a cabinet minister by 50 percent.

Non-Education Expenditures in Education

43. In addition to tuition-free education at all levels, and free books and materials, the government provides free lunches to all students from preschool to university, and monthly stipends to all students in vocational schools and post-secondary institutions. The stipends amount to about 40 percent of the basic salary for teachers. The Ministry of Education also provides meals and clothing for students in vocational schools and housing and utilities for teachers in rural areas. These non-education outlays account for a significant share of the Ministry of Education budget.

External Assistance

44. Ukraine's education sector is receiving remarkably little external assistance; examples encountered by the mission are few enough to be listed: 7 foreign professors are due to teach economics at two universities in Kiev during the academic year 1992-93; Kiev State University has agreements with several foreign universities to exchange students and professors but there is no financing to implement them; the British Council is sponsoring a program to train 60 Ukrainian professors in accounting and auditing. The most substantial example of foreign technical assistance was a Business School which is in the process of being established as a joint venture with the International Management Institute of Lausanne, Switzerland.

45. This technical assistance is piecemeal, sporadic, unorganized and falls woefully short of what is needed perhaps because Ukraine developed few foreign contacts under the USSR government, especially outside the former Soviet bloc. There is strong and widespread interest in obtaining financial assistance for computer hardware and software; teaching aids such as audio and video cassettes for foreign language teaching; modern equipment for the workshops in vocational schools and technicums; communications equipment; and paper for printing textbooks and other materials in new subjects such as market economics, finance, banking, marketing. Technical assistance is needed to retrain professors and teachers, reform vocational education use of computers and other teaching aids; and reorganize post-secondary education.

46. Education is absorbing too large a share of what is likely to be a shrinking national budget in the years ahead. The education budget is also too big in relation to the other high priority demands on the economy and compared with the relative size of education budgets of developed and middle income countries. The following recommendations have financial implications that are intended to curtail and

reduce public expenditures and to promote individual and family self-reliance. These recommendations provide for reductions in aggregate spending, but it should be possible to maintain quality through efficiency gains (See Table 8.8).

47. The government should rescind the provision earmarking 10 percent of GDP for education as embodied in the Law on Education, and the 8 percent of GDP earmarked for culture; no country in the world approaches this level of spending. Earmarking portions of the national budget puts public authorities in a straitjacket that would impose a paralyzing rigidity on legislative and government action. It is a practice that is universally rejected by fiscal experts throughout the world.

48. The 1992 education budget used about 7.8 percent of a declining GDP. The government should aim to reduce the share to 7 percent in 1993 and 6 percent thereafter. Table 8.8 specifies several opportunities for reducing the size and scope of education spending that would cause little damage to education objectives. Student/teacher ratios could be significantly increased; if Ukraine adopted the developed countries' average, government personnel costs would have been 44 percent lower in 1992 and total education spending would have been 24 percent lower. Education spending would then have used 5.9 percent of GDP, which would be in line with countries throughout the world. Of course, a change of this magnitude could not be introduced in a single year.

49. Oblast and local governments now finance about one-quarter of the cost of preschool education programs, with the rest paid for by enterprises and parents. There is growing financial pressure on enterprises to reduce their share of this spending and the Ministry of Finance plans to subsidize these facilities. The government should resist filling this gap, leaving it instead to families to finance day care services. In fact, the Parliament recently took a

backward step by enacting legislation that calls on the Ministry to provide free lunches for all preschool children at an estimated cost of R4 billion a year, or more than 4 percent of the Ministry's 1992 budget. This legislation was reversed in 1993.

50. Ancillary costs unrelated to instruction have in recent years absorbed a growing share of the Ministry's budget. These costs include

51. The Ministry spends about 5 percent of its budget, to finance the education and living costs of about 20,000 foreign students attending Ukrainian institutions. These students are mostly from Afghanistan, Angola, Mozambique, Ethiopia, and Vietnam, where the government of the Soviet Union had foreign policy interests. In view of the scarcity of resources, these expenditures should be cut. Early in 1993, the authorities decided to reduce to 2,000 the

Table 8.8: Current, Suggested, and Sustainable Spending on Education, 1993 and Beyond

| Spending Category | Percent of GDP under Alternative Approaches | | | Policy Actions Required |
|--|---|----------------------------|---------------------------------|--|
| | Current Policy | Suggested Program for 1993 | Sustainable Program Beyond 1993 | |
| Personnel | 3.6 | 3.4 | 2.8 | Reduce staff by attrition |
| Stipends | 0.4 | 0.3 | 0.2 | Restrict to low-income families; reduce payments to foreign students |
| Buildings | 0.3 | 0.3 | 0.2 | |
| Equipment ¹ | 0.2 | 0.4 | 0.6 | Increase purchases of essential software for training displaced workers. |
| Other ² | 2.2 | 2.0 | 1.8 | Improve energy efficiency |
| Enterprises ³ | 1.1 | 0.6 | 0.4 | Shift costs to beneficiaries |
| Total | 7.8 | 7.0 | 6.0 | |
| Notes: 1. Includes computers, textbooks, and related teaching materials. | | | | |
| 2. Includes utilities and maintenance. | | | | |
| 3. Includes spending on day-care programs. | | | | |

textbooks, student stipends, food, clothing for vocational school students, and housing and utilities for teachers in rural areas. Many of these outlays are legacies of the past. These benefits could be reduced and targeted to students from needy families, as was done with student stipends before 1980. Targeting of benefits would promote equity, fiscal efficiency, and self-reliance.

number of supported foreign students.

52. The government's goal of shifting from Russian to Ukrainian language instruction at the appropriate levels of education should be pursued with the full recognition of the heavy costs of translating textbooks and retraining teachers. Until the current economic and financial crisis recedes, language conversion should proceed at a prudent pace, influenced by

the normal turnover of textbooks due to wear and tear.

53. The country's 1,242 vocational schools, which far exceed the current and prospective needs, should consolidate, rationalize, streamline, and modernize their vocational education programs against a dated set of objectives. A restructured program would assign a substantial role to enterprises and the private sector for conducting vocational education and training. Implementation should begin during the academic year 1993-94. The Ministry should initiate an accelerated program for retraining teachers and producing materials to introduce new subjects such as market economics, finance, banking, marketing, etc. in post-secondary institutions. At least some of these subjects should be taught as early as the 1993-94 academic year.

54. The budgeting process is norm-based. The number of students forecast for each grade level largely determines staffing, facilities and equipment levels. To enhance the system's ability to address specific educational objectives, and to enable administrators to better measure the costs of achieving these goals, increased attention should be given to program budgeting.

55. Given the uncertain macroeconomic situation, schools have been forced to make monthly revisions to their budgets. This process is very time-consuming. Many schools have computers that could be used for budgeting purposes if the appropriate software were installed and training undertaken.

56. To overcome Ukraine's isolation from the outside world, the Ministry of Education, together with the larger post-secondary institutions, should establish contact with aid donors to obtain the benefits of the successful education and training experience of market economies. These donors can provide the financial assistance for administrative and instructional staff at all levels of education in Ukraine to participate in external training,

instructional conferences, and short visits by international experts to Ukraine. The Ministry of Education should create a unit to provide a focal point for all technical assistance in the education sector. This unit should become not only a repository of information on technical assistance, but also develop the necessary expertise on the policies, practices, and procedures of donor agencies and organizations to assist Ukraine's education institutions in obtaining technical assistance.

57. As unemployment rises as a consequence of the reduction and elimination of government subsidies to enterprises, the Ministry of Labor and the enterprises themselves are expected to play a major role in retraining the unemployed for other jobs. But the formal education system also has an important role to play in this effort, particularly vocational schools and post-secondary institutions. The government should undertake a survey of the retraining capacity of the formal education system and define its national role in retraining. Foreign technical assistance would be very helpful in carrying out this survey.

HEALTH SERVICES

1. This chapter reviews the organization and management of health services; health finance; and current issues that need to be addressed to enhance sector efficiency and effectiveness. Between July 1992 and March 1993, the Government of Ukraine started to implement a number of the reforms suggested here.

HEALTH SYSTEM DEVELOPMENT

2. Health system goals need to focus on reducing illness derived from preventable communicable diseases, chronic diseases, respiratory infections in children, tuberculosis in adults, alcoholism, smoking, and pollution. The challenge will be to redirect the present system so that it takes advantage of progress made internationally in the conceptualization of health and information on its determinants to meet new chronic-care needs of an aging population, and to contribute to the health and well-being of the whole population.

3. Priority for protecting the health of adults and the elderly, as well as for the ongoing needs of children and vulnerable persons, will have to be maintained in the special context of added requirements to respond to the Chernobyl disaster, other ecological insults that undermine health status, and the international interest such events have generated. It will be particularly important to separate real from imagined health effects of Chernobyl by relying on sound scientific principles and findings and limiting unnecessary institutionalization of separate programs to deal with them. Otherwise, the drain of Chernobyl-associated programs on the economy, and the attention and resources they divert from areas of other real health needs, will

leave parts of the population less well cared for than is necessary.

HEALTH SECTOR ORGANIZATION AND MANAGEMENT

Ministry of Health Structure

4. The Minister of Health is part of the executive level of government and functions as the chief executive officer of the Ministry. The Ministry is organized around five functional lines of which four are headed by Deputy Ministers. The First Deputy Minister acts in the capacity of the Minister when he is away. The fifth line is headed by the Chief Financial Officer. Three key top level committees are the Executive Committee, the Academic Medical Council and the Pharmaceutical Committee. This senior level structure has direct responsibility for certain health care facilities, scientific-research and teaching institutes, and general administrative and professional practice control over other health care institutions. The Ministry also has general administrative control over state distributing and manufacturing enterprises for pharmaceuticals, general and medical supplies and medical technology. Sanitary-epidemiological services delivered through 780 centers and core public health services through 700 centers are provided directly by the Ministry. Health programs, facilities and education are managed by the Ministry of Health, health offices reporting to oblast and regional governments, the Ministry of Education, other ministries and enterprises (see Figure 9.1).

5. The Ministry of Health manages some specialized and teaching hospitals and clinics, research centers, and medical schools. In

addition, the office has informal links with, and informal supervision of, Oblast-level health offices. The Ministry of Education sponsors secondary-level health services training schools and schools for disabled children that combine education and health facilities. Some other ministries run their own clinics. The Ministry of Social Welfare operates specialized programs and facilities for the elderly and disabled. Some enterprises operate sanatoriums and clinics, and these are subsidized by the Social Insurance Fund. The Chernobyl fund subsidizes Chernobyl victims' health care services provided by most of the above health care providers. Each Oblast has its own health office reporting to the Oblast presidential delegate. These offices run specialized hospitals and supervise and support regional-level health offices. Regional health offices report to regional governments and run the overwhelming majority of the nation's hospitals, polyclinics, sanatoriums and public health projects.

Sources of Funds

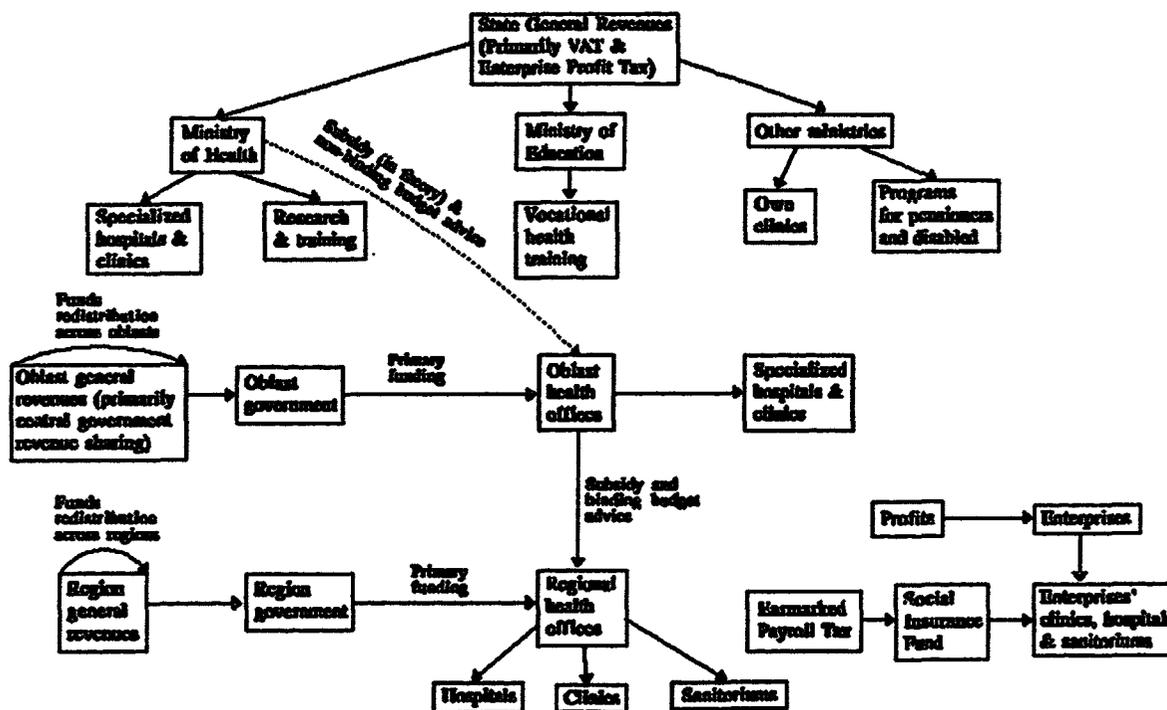


Figure 9.1: Organization and Financing of the Health System

6. Health services are funded almost entirely by general government revenues and accounted for 7.4 percent of GDP in 1992 (see Table 9.1).³⁸ Resources raised through the Social Insurance payroll tax, 3.4 percent of health funding, subsidize workers' visits to sanatoriums. The Chernobyl payroll tax accounted for about 2.3 percent of sector resources, and supported a variety of health care Chernobyl victims. Private individuals' expenditures finance only 3.3 percent of health services and are incurred primarily when public sector practitioners see patients in state-run facilities after official office hours. In addition, enterprises often provide clinics and sanatoriums for workers and their families. Enterprise support for worker health care is shrinking rapidly as firms' profits decline.

Use of Funds

7. Health care spending accounted for 17.5 percent of 1992 social sector spending, and 7.7

percent of GDP. Approximately 87 percent of health care spending is devoted to treatment facilities, and hospitals alone account for two-thirds of disbursements. Research and education account for about 3.3 percent of expenditures; public health, 2.7 percent;³⁹ pharmaceutical subsidies, 2.3 percent; and other expenditures, 4.7 percent. Each of the above-mentioned categories' share of total spending has been relatively constant over time (see Table 9.2). June 1992 forecasts called for wages to account for 27 percent of expenditures by the Ministry of Health and local health offices in 1992; equipment, 11 percent; drugs, 8 percent; and all other inputs (primarily maintenance of, and supplies for, facilities), 54 percent (Table 18).

8. High and uneven inflation across health care inputs and increasingly restrictive budget constraints have precipitated large changes in the composition of spending over the last three years. Since January 1992 average health sector wages are required by law to equal average industrial wages.

Despite this legislation and the resultant real wage growth in the health sector, wages will account for about 27 percent of total spending in 1992, down from 53 percent in 1989. Maintenance of, and supplies for, facilities absorbed 25 percent of resources in 1991, up from only 13 percent the year before. The Chief of Finance for the Ministry of Health predicts that these inputs' share of total spending will continue to increase over time as their costs are rising much faster than general inflation. Equipment spending has increased from 3.9 percent of the health budget in 1989 to 11 percent in 1992, reflecting the fact that the cost of these inputs has increased faster than that of other items. Pharmaceuticals accounted for 10.6

Table 9.2: Uses of Health Care Funds, 1992

| | Total (million rubles) | Percent of Total | Percent GDP |
|---------------------------------|------------------------------|---------------------|-------------|
| Facilities | 183,611 | 87.0 | 6.7 |
| Hospitals | 140,613 | 66.6 | |
| Sanitoriums | 21,980 | 10.4 | |
| Ambulatory Clinics | 11,820 | 5.6 | |
| Other Health Centers | 5,171 | 2.5 | |
| Ambulance Services | 2,368 | 1.1 | |
| Blood Transfusion Services | 1,459 | 0.7 | |
| Capital Construction | 200 | 0.1 | |
| Public Health ¹ | 5,778 | 2.7 | 0.2 |
| Education | 5,342 | 2.5 | 0.2 |
| Subsidies for Pharmaceutical | 4,835 | 2.3 | 0.2 |
| Research | 1,608 | 0.8 | 0.1 |
| Other ² | 9,860 | 4.7 | 0.4 |
| Total³ | 211,032 | 100.0 | 7.7 |

- Notes: 1. Additional public health expenditures are included in the budgets for specific facilities.
2. Additional treatment for Chernobyl victims and private payments for health services not included elsewhere.
3. Does not sum exactly due to rounding

Sources: June 1992 Drafts of the 1992 Budgets for the Ministry of Health, Social Insurance Fund, Chernobyl Fund, Pension Fund and Employment Fund.

percent of health care expenditures in 1989. While pharmaceutical prices have risen faster than those of almost any other input, it has become extremely difficult to obtain drugs so that quantities available have fallen dramatically. Construction outlays declined from 5.2 percent of total spending in 1989 to 0.1 percent in 1992, reflecting the fact that the state is focusing on immediate needs during the current budget crisis.

Budgeting Process

9. In the past, budgeting was done on a top-down basis. The Ministry of Health developed a budget for the entire Republic that

had to be approved by the Ministry of Health for the USSR. This budget was funded from USSR general revenues. Ukraine's Ministry of Health then distributed funds to each of the nation's Oblasts and these funded regions which funded individual hospitals, clinics, and programs. Budgeting was based on numbers of hospital beds in service. The state established how many hospital beds and clinic positions should be available per 10,000 people in a geographic area and, in turn, these requirements determined staffing and equipment levels and budgets. No consideration was given to policy priorities, demographic characteristics of individual areas, or usage levels of individual facilities.

10. In 1992, the budgeting process was reversed from top-down to bottom-up (Figure 9.1) so that individual hospitals and clinics prepare budgets that are consolidated at the regional level into a health budget to be approved and funded by the regional government. While funding for regional health facilities is derived from regional budgets, Oblast governments can require regions to modify their health care spending, and sometimes provide subsidies to poorer regions. Also, Oblasts redistribute revenues from richer to poorer regions, thereby reducing the disparity in social sector spending across regions. Since health care is funded primarily at the regional and Oblast level, if a person receives treatment outside his home Oblast, his city must compensate the facility for costs incurred.

11. The MOH consolidates Oblast budgets with budgets from national-level facilities. The Ministry remains in a position to exercise control over methods and procedures in the delivery of treatment and care at the sub-national level, but it no longer has formal control over financial activities. In theory, the MOH can provide subsidies to poorer Oblasts, but in practice the economic crisis has prevented it

from doing so. The choice of budgeting procedures varies even within regions and is left largely to individual facilities. Budgeting is based either on the numbers of beds or people, or on usage of specific services during the previous year. The Ministry of Health would like all budgeting to be done based on past usage. It cannot require this change in planning procedures, but has convinced many hospitals to

Table 9.1: Sources of Funds for Health Care, 1992

| Source | Total (million rubles) | Percent of Total | Percent of Govt Revenues ¹ |
|----------------------------------|------------------------------|---------------------|---|
| State and Local General Revenues | 191,987 | 91.0 | 12.3 |
| Payroll Taxes | 12,079 | 5.8 | 0.8 |
| Social Insurance Fund | 7,211 | 3.4 | |
| Chernobyl Fund | 4,868 | 2.3 | |
| Individuals | 6,967 | 3.3 | NA |
| Total | 211,032 | 100.0 | 13.5 |

Note: 1. Includes state and local general revenues and resources of the Pension, Social Insurance, Employment and Chernobyl Funds.

Source: June 1992 Drafts of the 1992 Budgets for the Ministry of Health, Social Insurance Fund, Chernobyl Fund, Pension Fund and Employment Fund.

make the switch voluntarily. Nevertheless, the Head of Finance of the Ministry of Health estimates that over one-half of Ukrainian hospitals were using the norm-based budgeting system in July 1992.

12. In previous years, budgeting was performed once per year. Due to the uncertainty about prices, wages, and government revenues, budget makers have revised their 1992 spending estimates every other month since November 1991. Revision is time-consuming because the budgets are not computerized. In Kiev Oblast not even the Oblast-level hospital uses a computer for this purpose. According to the Chief of Finance for the Health Office of Kiev Oblast, most regional hospitals have computers, but they lack the software and training to use them for budgeting.

HEALTH SYSTEM RESOURCES

13. The Ministry of Health oversaw 24,464 health facilities in 1991 which together employed 1,351,482 people, an increase in personnel of 2 percent from the previous year. The facilities include 48 scientific-research institutes (0.7 percent of total staff), 18 institutes of higher health education (1.7 percent of staff), 3,766 hospital facilities, 6,423 ambulatory centers as well as various other institutions such as ambulance centers, and blood transfusion stations. The 3,766 hospital facilities had 671,096 beds (129.6 per ten thousand population). They are organized into a hierarchy of facilities at the district, central regional, city and oblast levels, as well as various specialty centers. There were 201,923 physicians employed (39.0 per ten thousand) and 539,940 mid-level health personnel (104.2 per ten thousand). The administrative complement was 61,219, 5.7 percent of health care facility staff, which includes the 203 persons working for the Ministry and 15-30 staff for health administration at the oblast level. The Ministry staff is far too small to ensure both strategic management of the health system and responsiveness to questions and requests for information from the press, the public, and the legislature.

14. There were 144 non-MOH other hospital facilities in Ukraine and 501 ambulatory facilities with a total of 28,376 beds and 23,257 physicians in 1990, all run by other ministries and enterprises. The bed-and physician-supply ratios for Ukraine, with these facilities added, were 135.5 beds and 42.9 physicians per ten thousand in 1990, levels that are very high compared to the lowest OECD levels. For example, the low OECD bed supply rate is 21.0/10,000 and the low physician supply rate is 7.3/10,000, about one-sixth of the levels in Ukraine. The hospital admission rate in Ukraine

Table 9.3: Percentage Distribution of Ministry of Health Spending on Local Health Inputs, 1989, 1991, and 1992

| Inputs | Percent of Total | | |
|--------------------------|------------------|----------------|------------------|
| | 1989 Actual | 1991 Actual | 1992 Forecast |
| Wages | 53.3 | 47.4 | 27.0 |
| Maintenance and Supplies | 13.4 | 25.4 | NA |
| Pharmaceutical | 10.6 | 6.3 | 8.0 |
| Food | 8.2 | 6.9 | NA |
| Construct | 5.2 | 2.1 | 0.1 |
| Capital Repair | 4.0 | 3.6 | NA |
| Equipment | 3.9 | 5.9 | 11.0 |
| Other | 1.4 | 2.4 | NA |
| Total | 100.0 | 100.0 | 100.0 |

Source: Ministry of Health

in Ministry of Health facilities is 24.3/100 population compared to the low OECD rate of 5.5/100; patient days per capita are 4.0 compared to the OECD low of 0.7; and length of stay is 16.5 days compared to the OECD low of 6.1 days.

15. Even discounting for the poor status of facilities, equipment and their quality, there is a clear case for reducing the number of hospitals and staff. Closing some wards and whole facilities will permit re-deployment of resources to ensure their more effective use in health promotion, illness prevention, treatment, and rehabilitation. Removing expired and technologically inappropriate resources from the system would limit expectations that they will be replaced or modernized. Closing facilities will also make possible significant budget cuts to reduce the strain on the government budget.

CURRENT ISSUES

Shortages in Drugs, Supplies and Equipment

16. In the past Ukraine produced one third of the 2200 medical products produced in the former Soviet Union, but with many key inputs of raw materials coming from Russia, other former Soviet union republics and the West. Only 8-10 percent of raw material inputs for production in Ukraine could be procured from within the country. The highly integrated nature of the former Soviet economy also prevented Ukraine from becoming self sufficient in the production of drugs for its own use. Ministry officials report that in 1991 the equivalent of US\$ 800 million of drugs and raw materials were imported to Ukraine principally from Soviet republics. In 1992 the value of imports dropped to zero because of the breakdown of exchange in the former Soviet Union and a hard currency shortage in Ukraine. The pharmaceutical and medical products industry is near collapse for lack of inputs. Barter among health care facilities was being used to obtain required drugs. Extensive substitution was common, often for drugs not considered an optimal choice for treatment. The most urgent needs identified by a visiting WHO team include the following the following items. **Drugs:** insulin and oral anti diabetics, hormones, including creams and ointments, anesthetics, bronchodilators, broad spectrum antibiotics and analgesics; **Supplies:** glass and disposable syringes, needles, cold chain equipment, and renewable, basic, medical and surgical supplies; and **Equipment:** insulin purification equipment/technology, clean room for aseptic production/technology, diagnostic, anaesthetic sterilization, and replacements for old, non functioning and expired surgical equipment. A way to clear the bottleneck needs to be found so that at least self sufficiency in basic drugs and supplies can be established.

17. Production capacity exists, although it may be inefficient and below current standards in methods and technology. Ukraine needs

assistance to finance imports of essential drugs and supplies for pharmaceutical production and technical assistance for short-term planning for procurement and distribution. MOH needs a strategy for the pharmaceutical industry to secure inputs for production of basic drugs, supplies and equipment. The government should also encourage a major private sector role in the industry within an effective regulatory framework.

Blood Products

18. There is no production of blood substitutes in Ukraine and the quality and quantity of blood products available needs improvement. The Institute of Hematology and Transfusion, MOH, monitors the quality and safety of services provided by a network of some 630 blood transfusion centers. Three plasma fractionation facilities operate in Ukraine. The present system and facilities need to improve the safety of products and services, to increase the volume of production, and on a basis that supports priority needs of the health system, to increase the number of blood products available. Plasma production will need to be increased and a new plasma fractionation plant may be required. To achieve these ends will require a new central testing laboratory using Western reagents, the introduction of modern equipment and technology into the 27 blood centers to increase their production of plasma, and a computer-based management information system for monitoring and coordinating services. The starting point for such a program is a strategic plan for blood services to meet needs in a staged way, avoiding an expensive high-technology initiative that diverts attention from such seemingly prosaic, but critically important, health needs as programs for the elderly.

Training in Health

19. Institutes for Higher Health Care Education train physicians in general practice, pediatrics, preventive medicine, dentistry, and

pharmacy, with specialization in the final year. The system is being changed this year to conform to North American practice in order to improve quality. MOH needs technical assistance in the form of training materials, curricula examinations, quality assurance, and total quality improvement methods and programs. From 1993 there will be a reduction in the intake of first-year students by 500 per year for a period of 3 years to achieve a norm of 34 physicians per ten thousand population. Some medical schools have been considered for closure, particularly in the western oblasts where there is an oversupply of physicians. Reducing intakes to medical training institutes is a sound beginning to medical human resources planning. More needs to be done in this area, including further review of the norm for physician supply, which is still higher than most OECD countries.

20. Nurses are trained in 109 mid-level health education institutions reporting through oblast health administrations. These mid-level institutions train seven categories of health worker; about 30,000 nurses are trained per year. The roles of nurses and physicians are quite different presently than in North America, with physicians providing much of the care nurses provide in North America and nurses functioning much like North American nursing auxiliaries. There are plans to decrease first year intakes and close some nursing schools. More consideration could be given to the future role of nursing in Ukraine in relation to international practice.

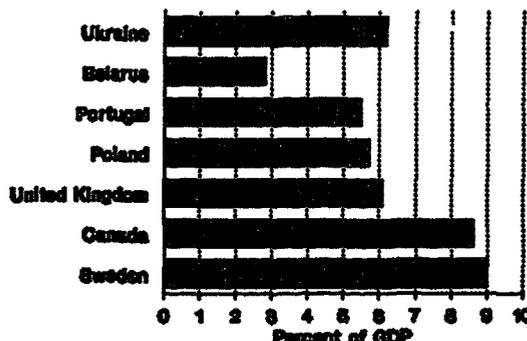
Legislative Reform

21. A program of consolidation and reform of health legislation has been initiated as a result of moving legal responsibilities from Moscow to Kiev. This reform has produced several levels of draft legislation for eventual consideration by parliament. Compared to Western health legislation the present draft versions tend to include widely different types of functions in the same bill, ranging from general principles to budgetary matters like the requirement to spend

no less than 10 percent of national income on health, to benefits relevant to an employment agreement. Advice from a team of health professionals with experience in developing health legislation that reflect contemporary health principles and system development directions would be valuable to Ukraine. The team would likely include a legal professional with significant experience in writing health legislation.

22. There is a need for all parties involved in developing legislation to become familiar with international directions before setting the basis for delivery of health services. These include the 1948 WHO Charter definition of health, the 1978 Alma Ata declaration on Health for All and definition of primary care, the 1986 Ottawa Charter on Health Promotion, the 1988 Adelaide consensus on Healthy Public Policy and the 1991 and 1992 Swedish and Brazilian agreements on a sustainable basis for health by reducing waste, avoiding over consumption and limiting environmental risks. Without such knowledge and adequate examination of fundamental principles, Ukraine risks developing a system that looks backward to the past rather than to the future.

Perspectives on Value for Money Spent on the System



Source: Health Annex Table 22

Figure 9.2: Health Expenditures of Selected Countries as a Percent of GDP

23. From the perspective of the recent past, Ukraine likely is getting reasonable value for the

money spent on health care. Its health status indicators compare well with those of the former Soviet Union and a number of its former republics (with the exception of indicators like alcoholism, drug abuse, abortions, and congenital defects). From the perspective of the present and near future, however, two problems are clear: (1) the health status of the population needs considerable improvement if it is to approach OECD levels, and (2) health sector expenditures will have to shrink as total output continues to decrease if health is to limit the pressures it places on the government budget. Several countries are able to do more with less (see Figure 9.2). To resolve these problems the health system will have to do more with less.

Budget Cuts

24. Introducing greater efficiency into the health system is one important way of doing more with less. A valuable strategy for achieving greater efficiency and lessening the pressure health places on the government budget is for the Ministry to voluntarily review the present budget and seek ways to reduce it yet maintain services. Budget reduction must be done in a way that continues services provision to vulnerable groups. In particular, care must be taken to maintain the *de facto* social service function carried out by clinics and feldsher stations in villages where there is a large elderly population, mainly female, that relies on local health facilities for support in daily living. The budget-cutting strategy should focus on measures that result in ongoing as well as one time savings. Table 9.4 shows 1992 allocations for health, recommendations for 1993, and an estimated sustainable level of health spending beyond 1993. Ukraine historically used about 3 percent of GDP for health care, and government will have to cut back from 1992's 7.8 percent soon. But reductions can offer a chance to improve efficiency and quality. By 1994, Ukraine could have a stronger and better system than it has today if the recommended changes are made.

Recommended Short Term Action

25. The following steps are already under consideration in MOH or in selected cases have, by early 1993, already been taken in whole or in part:

- **Outpatient Care.** Shift 30 percent of inpatient procedures and treatments to ambulatory care that can be done safely on an outpatient, ambulatory basis.
- **Personnel Norms.** Revise norms for bed and physician supply to make them closer to North American levels, and link staffing to the care needs of the patient not to the number of beds available.
- **Excess Capacity.** Withdraw unnecessary hospital beds from service, preferably by closing whole wards in order to gain full impact of staffing reductions; rationalize hospital service delivery by retaining only programs relevant to service area needs, especially in rural and oblast facilities, and closing nonviable, unnecessary hospitals.
- **Medical Education.** Decrease the intake of medical students (and possibly middle level health personnel; rationalize the number of medical school facilities and close those that are unnecessary.

These changes could reduce spending on hospitals considerably, with no loss in quality of service. The expenditure scenario in Table 9.4 provides for a 30 percent reduction from 1992 to 1993 in hospital spending. This cut may seem large, but the 1992 level is inflated far above previous years' spending levels. The 1993 recommendations call for other categories of spending, except for Chernobyl-related health spending, which could be covered from other accounts, to remain the same.

26. In 1993, the Ministry of Health was already taking a number of these recommended steps, including the closure of beds in the past year, and reviewing the feasibility of other closures. The decision to cut medical school enrollment is sound, since unemployment among physicians is already appearing. MOH may

Restructuring for Long-Term Efficiency

27. By acting now, the Ministry can lay the basis for long term health system efficiency and effectiveness with four components in its strategic vision:

Table 9.4: Current, Suggested, and Sustainable Policy for Health Spending

| Spending Category | Percent of GDP under Alternative Approaches | | | Policy Actions Required |
|-------------------------------|--|----------------------------|---------------------------------|---|
| | Current Policy | Suggested Program for 1993 | Sustainable Program Beyond 1993 | |
| Hospitals | 5.1 | 3.8 | 3.1 | Shift a third of all treatments to out-patient care |
| Other Facilities | 1.6 | 1.6 | 1.3 | Strengthen basic care and community-based care but with fewer physicians |
| Public Health(1) | 0.2 | 1.0 | 1.2 | Invest in health promotion, anti-smoking campaign and a program to reduce injury, other prevention programs |
| Public Health Education | 0.2 | 0.2 | 0.1 | |
| Subsidies for Pharmaceuticals | 0.2 | 0.1 | 0.1 | Prepare plan for imports from West; selected local production capacity expansion |
| Research | 0.1 | 0.1 | 0.1 | |
| Other(2) | 0.4 | 0.2 | 0.1 | |
| Total, Health(3) | 7.7 | 7.0 | 6.0 | |
| Notes: | (1) Additional public health expenditures are included in the budgets for specific facilities. (2) Additional treatment for Chernobyl victims and private payments for health services not included elsewhere. (3) Does not sum exactly due to rounding. | | | |
| Sources: | June 1992 Drafts of the 1992 Budgets for the Ministry of Health, Social Insurance Fund, Chernobyl Fund, Pension Fund and Employment Fund. | | | |

close some schools for training middle level health personnel and has shifted some treatments and procedures to an ambulatory setting. However difficult it may be, medical-school closures must be addressed.

- Financing imports of essential drugs and supplies for pharmaceutical production, to include (i) short term planning for acquiring the required drugs and supplies and determining how, when and where they will be distributed to ensure priority needs are met and (ii)

developing a strategy for the pharmaceutical industry in Ukraine to secure supplies for the population, encouraging a major private sector role within an effective regulatory framework.

- Introducing reforms in health-system management to improve effectiveness, to include (i) strategic health policy that focuses on primary care, health promotion, healthy public policy, and healthy social and physical environments; (ii) rationalizing the structure and functions of the health system from Ministry level down, reinforcing local participation, accountability, and responsibility; (iii) developing contemporary methods for financial planning and control based on program budgeting; (iv) rationalizing relationships between MOH and the ministries of Finance, Environment, Education, and Social Welfare to strengthen MOH control and accountability for its stewardship of the health system; (v) introducing modern health information system methods that bring together health status, clinical, financial and utilization data streams in an integrated way for managing the system at each of its levels; and (vi) developing coordinated enabling and regulatory legislation; and (vii) improving quality of services and their delivery by introducing quality assurance, total quality management and accreditation methods.
- Strengthening and modernizing primary care (basic) health services, including those targeted to women and children, family planning services, and the elderly, to include (i) introducing health promotion, and strengthening prevention programs; (ii) introducing family planning programs to enable women to have more control over their reproductive role; (iii) increasing access to and use of contraceptives to lower the present high rate of abortions, including the possibility of developing productive capacity for self sufficiency in contraceptives; (iv) strengthening women and child health programs to lower present levels of morbidity and mortality; (v) assisting other vulnerable groups, particularly persons with long term psychiatric illness; and (vi) developing a range of health and support programs, both institutional and home based, to meet the needs of the elderly.
- Developing health personnel, including assistance with restructuring the present approach to training medical and other health professionals, and initiating health management training, to include (i) restructuring the process of training health professionals toward the North American model, introducing new curricula, teaching, and examination methods; (ii) introducing the concept of 'approved acts' as a basis for defining the role and scope of practice of a health profession to permit labor-substitution effects, strengthening the role and profession of nursing.
- Planning the financing of health service delivery through a national health insurance scheme, including (i) the principles for its delivery and their economic implications, (ii) relationship of the scheme to other social safety net programs; (iii) alternative arrangements for organizational responsibility and accountability for its implementation and operations; (iv) associated reforms necessary for viability and success of the scheme in the health sector financial administration and other areas, and their relative timing; (v) enabling legislation; and (vi) strategy for implementation and

a plan and timetable for organizing and proceeding with the scheme.

These steps, if introduced in 1993, can help lessen the demands on hospital care because they help prevent illness, as with abortion-related hospital costs that would be avoided with family-planning services. Management improvements can both reduce costs and improve quality.

Health Insurance

28. The introduction of health insurance has been characterized by some as a way to solve many of the financial problems of the health system. However, a health insurance scheme does not create new money in the economy for health care. Financing will have to come from existing resources. Health insurance introduces a new set of complex dynamics into the health system that can adversely affect service delivery. Premature introduction of health insurance can lead to financial problems, distortions in priority for service delivery and distraction away from the need to deal with more fundamental problems in the health system. Several East European countries, especially the Czech and Slovak Federal Republic and Hungary, are experiencing serious difficulties because of the ill-timed introduction of a health insurance scheme. Once such distortions set in they are very difficult to overcome, a particularly dangerous situation since the distortions would add to the problems of the present ineffective system.

29. Proceeding at this time with the introduction of health insurance is premature for a number of reasons: (i) The instabilities in the economy; (ii) absence management and financial administration tools; (iii) lack of consensus among key stakeholders on values and principles of a new scheme; and (iv) the need to study financial implications and implementation requirements. Nonetheless, planning assisted by experienced health-finance specialists from OECD countries should continue as part of strategic management for the health sector.

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CHAPTER NOTES

1. **Active policies, including job-matching services, training, and skills assessment, help the unemployed worker get a new job. Passive policies, such as cash benefits or severance pay, compensate for lost income without contributing to finding work.**
2. **World Bank staff in Washington DC are currently preparing a major worldwide review of pension experience and will offer recommendations for substantial changes in pension systems. The results of this study can be provided to the Government of Ukraine when available.**
3. **These groups would include aged rural people living alone, orphans, the seriously disabled, families with three or more children, single parents and pensioners receiving less than 1.5 times the minimum pension. These groups constitute from 10 to 20 percent of the population.**
4. **In preparing this report, Bank staff did not attempt a review of the many and complex arrangements for consumer subsidies, because an IMF mission analyzed them in some detail (Chu and others, 1992). They are discussed briefly only as part of the aggregate program of public social spending.**
5. **In this section various health indicators of Ukraine are compared with those of six countries: Belarus, Poland, Portugal, the United Kingdom, Sweden, and Canada. Belarus and Poland are not only neighbors but were also part of the former communist bloc. Portugal has a population distribution very close to that of Ukraine, and by some estimates a comparable GNP. It also has the feature of being on the regression line of per capita expenditure on health regressed against GDP per capita, arguably spending about the right amount on health for its economy. The United Kingdom has a population that is comparable in size to Ukraine and spends a share of GNP on health that is also comparable, although much more in per capita terms because of its high income. Sweden and Canada are included to offer comparisons with two countries that have well respected and relatively mature health care systems.**
6. ***Lancet* editorial, 1992. Environmental pollution: it kills trees, but does it kill people? *Lancet* 340, 3 October 1992, 821-2.**
7. **Most disabled, on reaching retirement age, can choose between a disability or retirement pension. Military retirees and Chernobyl victims can receive both disability and retirement pensions.**
8. **Most of these allowances are available to families with incomes below two minimum wages per person. According to income distribution data from 1990, this is approximately 42.5 percent of the population.**

9. **In theory the Chernobyl payroll tax is earmarked for social assistance, health care and environmental interventions relating to the Chernobyl disaster. In practice, the tax is incorporated into the general government budget and Chernobyl-related expenses are disbursed from the budget.**
10. **All children below age 3 (age 2 if mother did not work prior to childbirth) receive an allowance from the state. The allowance for children between the ages of 3 (2) and 6 is reserved for low income families.**
11. **These benefits exclude monthly stipends discussed in Chapter 6 of this report. The disabled could be considered a vulnerable group, but are not classified as such here. In Ukraine, even people with minor handicaps can be considered disabled. Furthermore, many of the benefits included here, such as provision of a car or the equivalent monetary compensation, do not appear to address basic needs.**
12. **For example, there are 12 cash allowances that low-income or vulnerable families can qualify for. These include separate stipends for children's food, children's clothing, children's products, and general child maintenance. Under the category of general child maintenance, families may qualify for different allowances, or different stipends levels within an allowance, depending on the number of children they have, the age of their children, their income, whether the mother worked before childbirth, the age of the mother, whether the children are eligible for other allowances, whether the family is headed by a single parent, whether the absent parent pays alimony, and whether the single parent was raised in an orphanage.**
13. **For example, all families are entitled to an allowance for each child under the age of 3 (2 if the mother did not work or attend a higher education school and is over 18 prior to childbirth). The Pension Fund pays for these allowances out of its own resources for children under age 1.5. Stipends for children ages 1.5 to 3 (2) are funded by state general revenues given to the Pension Fund but earmarked for this purpose. If the mother worked or attended a higher education school prior to childbirth and was still employed or a student at the time the baby was delivered, the allowance is administered by the mother's enterprise or school. If the mother did not work or study prior to childbirth or was laid-off before the birth, the allowance is administered by a district-level social welfare office.**
14. **For an analysis of the reasons for labor hoarding in socialist economies see Rutkowski (1990). For estimates of its magnitude for the Soviet Union see Porket (1984).**
15. **Explaining the reasons for different labor market reactions to demand and supply shocks is beyond the scope of the study. The important intermediate point in the explanation is that enterprises tend to regard the supply shock as temporary and continue to hoard labor, whereas they tend to regard the demand shock as more permanent and thus to start firing.**
16. **Fretwell et.al.(1991, pp. 16-18) argue strongly in favor of active policies on the grounds of overall cost reduction.**

17. This option is similar to a solution recently adopted in Sweden, where the budget of the national training agency, AMU, was shifted to the Employment Service and used to procure training services on the open market. The AMU was forced to compete for funding. The AMU financed 80 percent of expenditures on training with the private sector providing the remainder.
18. A subsequent visit with the Ministry of Education revealed as many as 800 specializations available in vocational schools, although there is discussion of reducing this number to 300. See the chapter below on education services, especially the sections on vocational and technical education and training.
19. This box is based on Ulrich Zachau's compilation from R. Layard, S. Nickell, and R. Jackman (1991); J. Ahmad, F. Corricelli, and A. Revenga (1992); F. Coricelli and A. Revenga (1992); T. Lane (1992); and M.A. Kiguel and N. Liviatan (1992).
20. There is an extensive English language literature on the Soviet welfare state, including the definitive (but somewhat dated) study of McAuley (1979). A more recent but uneven collection of studies was edited by Lapidus and Swanson (1988). Additional sources and Russian language materials have been noted in the bibliography. See Braithwaite and Heleniak (1990).
21. Before 1990, disaggregated employment statistics were released, but the current Nargos Uk. 1990 does not have a separate line item for miners. Military personnel were eligible for enhanced old-age pensions, disability benefits, and survivor benefits under the Soviet system. Ukraine passed its own version of a law regulating military pensions in 1991, and a supplementary law on non-cash benefits in January 1992.
22. The 1990 all-union pension law reaffirmed the right of certain individuals to higher, personal, pensions for special service to the state paid to artists, athletes, politicians, and others deemed to have served in some special fashion. The money amounts of these pensions are usually several orders of magnitude beyond the standard allowances, according to passing references in the press, but the number of personal pensioners is small.
23. The exact ruble amounts are readily available in Svod zakonov SSSR (Code of Law of the USSR), (vol. 2, pp. 678-686; 712-718).
24. People engaged in hard labor can retire with full benefits earlier than the general population. In addition, people in other jobs can retire after 25 years of service (20 for women) regardless of their age, although benefits for this group are lower than for those who work until full retirement age.
25. In the past it was assumed that the collective farms where these individuals had worked would take care of them upon retirement. For this reason these retirees received only a small pension from the state. Currently this group receives on average only slightly less than urban retirees.

26. Pensions are calculated as a function of salary at the time of retirement. The adjusted pensions will be calculated by increasing the person's retirement-date income to 1992 levels. For example, a person who retired in 1974 would have his or her base income increased by 14.8 times whereas the income of a person who retired in 1988 would be increased by 10.5 times. The replacement rate on this new income will continue to depend on length of service.
27. Government revenues include state and local revenues and income from the Pension, Chernobyl, Employment and Social Insurance Funds.
28. Ranges are given throughout this chapter to capture the fact that the Ministry of Finance and the Pension Fund differed in their July 1992 forecasts for total 1992 Pension Fund revenues and expenditures. Final data for the year were not available for this report.
29. The social insurance payroll tax rate in first quarter 1992 was 61 percent but was 37 percent thereafter. Eighty-four percent of this tax is earmarked for the Pension Fund.
30. These are offices of the MSW located in each district of Ukraine that undertake a variety of tasks associated with pension and allowance administration.
31. To arrive at this savings, the following simplifying assumptions were made: 1) the retiree population is spread evenly across ages and does not increase over time such that the same number of people enter retirement as died in each of the next seven years. 2) Life expectancy for people age 60 does not change over the next seven years. Women currently retire at age 55 and, if they reach their 60th birthday, die on average at age 79.5. Thus, they experience 24.5 years of retirement on average. At the end of 7 years, they will be retiring at age 62 so their average years spent in retirement will decline to 17.5. Men currently retire at age 60 and, if they reach their 60th birthday, die on average at age 72.4. Thus men experience 12.4 years of retirement on average. At the end of two years they will be retiring at age 62 so their average years spent in retirement will decline to 10.4. Thus the total of men and women's client years in the system at a given point in time will decline from 36.9 to 27.9—a reduction of 24 percent. Thus total spending on cash benefits would be reduced by an equal amount. It is assumed that cash benefits' share of total pension spending is equal to the share forecast for the second semester of 1992. Estimated savings as a share of total spending is not significantly influenced by the choice of the Pension Fund's or Ministry of Finance's estimated 1992 budget.
32. Forecast pension spending over the July 1992 to June 1993 period is compared to forecast spending with benefits reduced by 50 percent for retired and disabled people who continue to work. Spending in the January to June 1993 period is assumed to equal spending for the last six months of 1992 in current Rubles.
33. Most of these allowances are available to families with incomes below two minimum wages per person. According to income distribution data from 1990, this is approximately 42.5 percent of the population.
34. Includes only administrative expenses for the Social Insurance Fund and some expenditures by social welfare offices. Additional administrative cost information was not available.

35. All children below age 3 (age 2 if mother did not work prior to childbirth) receive an allowance from the state. The allowance for children between the ages of 3 (2) and 6 is reserved for low income families.
36. To arrive at these figures, savings were estimated for each type of benefit based on the likely reduction in spending that would result from the above-specified demographic requirements. For example, estimated future benefits for the informed elderly were not reduced from their current level on the assumption that most beneficiaries in this category would be classified among the disabled. The new estimate for the allowance for children under age 3 was 20 percent of its current level, on the assumption that not more than 20 percent of the general population would be included in the new target group. In each case, savings were conservatively estimated to arrive at the minimum amount the government could save by adopting this policy.
37. The applicant/acceptance ratio was 5:1 in 1991 and dropped to 2.5:1 in 1992. The Rector speculated that the sharp decline in the number of applicants was mostly due to the shrinking salary gap between people with and without higher education. This appears to be at variance with the reports to the mission that there is a strong demand for graduates in economics, finance, and related fields.
38. Total state revenues include state and local general revenues and resources of the Pension, Social Insurance, Employment and Chernobyl Funds. The range in the health sector's share of total government income reflects the fact that the Pension Fund and the Ministry of Finance differ significantly in their forecasts for Pension Fund revenues.
39. In addition, some public health expenditures are included in the budgets for specific facilities.

UKRAINE

Employment, Social Protection, and Social Spending in the Transition to a Market Economy

STATISTICAL ANNEXES

Table 1. UKRAINE: Population by Age Groups and Oblasts
(1989 Data; In Thousand People)

| | up to 14 | 14 | 15 | 16 | 17 | 18 | 19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-69 | 70+ | Total a |
|-----------------|---------------|------------|------------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Total: | 10,374 | 720 | 727 | 755 | 733 | 694 | 640 | 3,352 | 3,958 | 3,900 | 3,741 | 2,706 | 3,220 | 3,705 | 2,953 | 3,232 | 2,020 | 4,002 | 51,439 |
| Male | 5,279 | 362 | 372 | 386 | 378 | 350 | 321 | 1,684 | 1,969 | 1,924 | 1,826 | 1,295 | 1,504 | 1,727 | 1,314 | 1,275 | 663 | 1,100 | 23,863 |
| Female | 5,094 | 357 | 354 | 369 | 355 | 344 | 319 | 1,667 | 1,989 | 1,976 | 1,915 | 1,411 | 1,716 | 1,978 | 1,639 | 1,958 | 1,357 | 2,901 | 27,576 |
| Crimea R. | 513.5 | 35.5 | 34.0 | 35.2 | 32.4 | 30.6 | 30.4 | 154.0 | 191.7 | 200.1 | 199.1 | 137.7 | 159.6 | 174.3 | 134.8 | 143.4 | 77.8 | 142.4 | 2,430 |
| Vynnytsia | 356.9 | 27.3 | 27.6 | 28.7 | 26.5 | 24.2 | 22.5 | 113.6 | 127.6 | 122.1 | 124.9 | 96.7 | 129.0 | 141.1 | 121.5 | 139.5 | 99.3 | 191.9 | 1,921 |
| Volyn | 241.9 | 17.0 | 17.1 | 16.9 | 15.8 | 14.1 | 13.0 | 67.9 | 82.0 | 79.4 | 67.4 | 51.6 | 55.0 | 65.9 | 74.0 | 64.8 | 41.6 | 73.1 | 1,058 |
| Dnipropetrovsk | 769.8 | 52.0 | 52.6 | 56.1 | 56.0 | 54.2 | 49.5 | 260.4 | 308.2 | 294.3 | 286.8 | 197.3 | 257.4 | 305.5 | 209.4 | 247.9 | 129.0 | 283.3 | 3,870 |
| Donetsk | 1033.0 | 69.7 | 68.5 | 73.0 | 71.1 | 68.1 | 60.7 | 322.8 | 414.0 | 423.4 | 411.4 | 269.3 | 338.8 | 421.4 | 344.3 | 359.3 | 176.2 | 386.6 | 5,312 |
| Zhytomyr | 312.3 | 23.4 | 23.1 | 23.2 | 20.8 | 20.0 | 19.0 | 94.4 | 106.8 | 107.1 | 99.9 | 77.4 | 96.4 | 110.0 | 95.3 | 104.3 | 72.4 | 131.8 | 1,538 |
| Zakarpattia | 307.2 | 21.6 | 21.7 | 21.7 | 21.0 | 18.6 | 18.6 | 92.2 | 103.2 | 98.4 | 88.8 | 71.5 | 65.4 | 70.2 | 67.9 | 59.5 | 43.9 | 54.1 | 1,246 |
| Zaporizhzhia | 417.0 | 28.4 | 28.4 | 30.0 | 29.0 | 27.1 | 25.2 | 136.2 | 162.7 | 162.2 | 162.5 | 105.0 | 139.2 | 154.1 | 110.7 | 135.0 | 68.8 | 152.3 | 2,074 |
| Ivano-Frankivsk | 320.1 | 21.8 | 21.3 | 21.5 | 20.5 | 19.3 | 18.8 | 100.0 | 115.4 | 107.8 | 92.5 | 74.3 | 75.9 | 88.7 | 92.2 | 75.2 | 56.9 | 91.1 | 1,413 |
| Kiev Region | 389.0 | 27.3 | 27.6 | 28.2 | 26.5 | 24.6 | 22.8 | 125.3 | 148.9 | 141.7 | 133.7 | 97.0 | 125.9 | 142.4 | 95.7 | 122.4 | 86.1 | 169.5 | 1,934 |
| Kirovohrad | 237.1 | 17.1 | 17.1 | 17.4 | 15.9 | 14.9 | 13.6 | 73.5 | 84.7 | 82.8 | 84.8 | 65.4 | 83.6 | 91.0 | 62.5 | 89.1 | 56.3 | 121.1 | 1,228 |
| Luhansk | 564.9 | 37.1 | 37.3 | 39.3 | 38.6 | 36.8 | 32.6 | 173.9 | 228.3 | 227.4 | 212.8 | 138.5 | 180.9 | 233.5 | 178.5 | 187.8 | 91.7 | 217.2 | 2,857 |
| Lviv | 574.8 | 39.2 | 41.9 | 43.9 | 45.7 | 45.2 | 41.5 | 206.4 | 229.3 | 210.6 | 173.3 | 151.9 | 149.3 | 169.7 | 169.3 | 142.1 | 107.2 | 186.1 | 2,727 |
| Mykolaiv | 284.3 | 19.4 | 19.8 | 20.5 | 18.0 | 16.2 | 15.0 | 85.2 | 105.8 | 103.5 | 101.1 | 72.0 | 88.2 | 89.7 | 68.6 | 79.2 | 46.0 | 96.0 | 1,328 |
| Odessa | 526.5 | 37.5 | 37.4 | 39.1 | 37.9 | 36.9 | 34.3 | 184.0 | 203.6 | 201.4 | 202.8 | 145.6 | 174.5 | 184.9 | 139.7 | 151.7 | 100.1 | 186.0 | 2,624 |
| Poltava | 320.2 | 23.4 | 23.6 | 24.7 | 23.5 | 21.2 | 19.7 | 106.6 | 121.4 | 116.5 | 120.2 | 88.0 | 116.4 | 133.4 | 93.2 | 123.5 | 82.3 | 184.4 | 1,749 |
| Rivne | 275.1 | 18.8 | 18.6 | 18.6 | 17.4 | 16.4 | 15.8 | 79.7 | 92.9 | 89.6 | 74.1 | 58.3 | 63.5 | 72.1 | 72.9 | 60.5 | 43.6 | 76.4 | 1,164 |
| Sumy | 267.5 | 19.2 | 19.4 | 20.0 | 19.4 | 17.3 | 15.4 | 82.6 | 100.4 | 102.1 | 101.3 | 68.4 | 87.6 | 104.3 | 79.6 | 105.0 | 70.2 | 145.8 | 1,427 |
| Ternopil | 241.4 | 16.9 | 16.7 | 16.5 | 15.6 | 14.7 | 14.4 | 73.3 | 86.4 | 82.4 | 72.7 | 59.5 | 66.2 | 76.8 | 83.3 | 70.9 | 56.4 | 99.9 | 1,164 |
| Kharkiv | 597.1 | 41.2 | 40.9 | 44.2 | 47.7 | 47.3 | 42.5 | 223.1 | 250.1 | 243.5 | 244.1 | 170.5 | 188.5 | 232.6 | 160.7 | 204.4 | 122.3 | 275.7 | 3,175 |
| Kherson | 271.0 | 18.9 | 18.9 | 19.4 | 17.5 | 16.2 | 15.3 | 81.6 | 96.8 | 98.1 | 94.5 | 64.1 | 82.7 | 88.6 | 64.6 | 71.1 | 39.2 | 78.3 | 1,237 |
| Khmelnytsky | 294.4 | 22.0 | 21.9 | 22.4 | 20.4 | 19.0 | 18.2 | 91.8 | 108.6 | 107.6 | 100.0 | 79.1 | 95.8 | 100.0 | 101.1 | 103.5 | 76.7 | 143.2 | 1,522 |
| Cherkassy | 286.3 | 21.6 | 22.1 | 22.5 | 20.8 | 18.1 | 15.7 | 85.4 | 103.8 | 101.4 | 105.4 | 79.0 | 101.9 | 119.6 | 78.3 | 112.7 | 75.7 | 155.6 | 1,527 |
| Chernivtsi | 205.6 | 14.2 | 15.1 | 16.0 | 16.1 | 14.5 | 13.0 | 65.3 | 72.0 | 68.7 | 64.6 | 46.5 | 54.3 | 57.5 | 57.6 | 52.7 | 42.5 | 64.7 | 941 |
| Chernihiv | 252.3 | 18.5 | 17.8 | 18.5 | 16.5 | 15.3 | 14.3 | 75.5 | 90.7 | 96.6 | 94.1 | 67.7 | 86.4 | 104.5 | 95.4 | 114.9 | 78.8 | 155.1 | 1,413 |
| Kiev (City) | 514.3 | 30.8 | 36.1 | 37.8 | 42.3 | 43.1 | 38.2 | 196.9 | 222.6 | 231.0 | 228.3 | 174.0 | 157.6 | 173.5 | 101.8 | 112.2 | 72.8 | 140.2 | 2,559 |

Source: Council for Exploration of Productive Resources of Ukraine.

a/ Including non-Ukrainians

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Table 2. UKRAINE: SOUTHEAST: Population by Age Groups, Sex and Oblast
(1989 Data; in Thousand People)

| | up to 14 | 14 | 15 | 16 | 17 | 18 | 19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-69 | 70+ | Total a |
|------------------|----------|----|----|----|----|----|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|---------|
| SOUTHEAST | | | | | | | | | | | | | | | | | | | |
| Crimea R. | 514 | 35 | 34 | 35 | 32 | 31 | 30 | 154 | 192 | 200 | 199 | 138 | 160 | 174 | 135 | 143 | 78 | 142 | 2,430 |
| Male | 262 | 18 | 18 | 18 | 17 | 16 | 16 | 78 | 94 | 97 | 95 | 64 | 75 | 81 | 59 | 57 | 26 | 39 | 1,131 |
| Female | 251 | 17 | 16 | 17 | 15 | 15 | 14 | 76 | 98 | 103 | 104 | 73 | 85 | 94 | 75 | 86 | 52 | 104 | 1,299 |
| Dnipropetrovsk | 770 | 52 | 53 | 56 | 54 | 54 | 49 | 260 | 308 | 294 | 287 | 197 | 257 | 305 | 209 | 248 | 129 | 283 | 3,870 |
| Male | 392 | 26 | 27 | 28 | 28 | 26 | 24 | 129 | 153 | 144 | 139 | 92 | 119 | 145 | 96 | 102 | 42 | 78 | 1,788 |
| Female | 378 | 26 | 26 | 28 | 28 | 28 | 26 | 132 | 156 | 150 | 148 | 105 | 138 | 160 | 114 | 146 | 87 | 208 | 2,082 |
| Donetsk | 1,033 | 70 | 69 | 73 | 71 | 68 | 61 | 323 | 414 | 423 | 411 | 269 | 339 | 421 | 344 | 359 | 176 | 387 | 5,312 |
| Male | 526 | 36 | 35 | 37 | 36 | 34 | 31 | 160 | 207 | 212 | 202 | 128 | 154 | 194 | 159 | 146 | 57 | 104 | 2,458 |
| Female | 507 | 34 | 34 | 36 | 35 | 34 | 30 | 163 | 207 | 211 | 209 | 141 | 184 | 227 | 186 | 214 | 119 | 282 | 2,853 |
| Kharkiv | 597 | 41 | 41 | 44 | 48 | 47 | 43 | 223 | 250 | 243 | 244 | 171 | 189 | 233 | 161 | 204 | 122 | 274 | 3,175 |
| Male | 305 | 21 | 21 | 22 | 25 | 23 | 20 | 113 | 123 | 118 | 118 | 82 | 88 | 108 | 71 | 81 | 38 | 72 | 1,449 |
| Female | 292 | 20 | 20 | 22 | 23 | 24 | 22 | 110 | 127 | 126 | 126 | 89 | 100 | 124 | 90 | 123 | 84 | 201 | 1,726 |
| Kherson | 271 | 19 | 19 | 19 | 18 | 16 | 15 | 82 | 97 | 98 | 94 | 64 | 83 | 89 | 65 | 71 | 39 | 78 | 1,237 |
| Male | 138 | 10 | 10 | 10 | 9 | 8 | 7 | 40 | 48 | 49 | 47 | 31 | 39 | 42 | 29 | 28 | 13 | 20 | 577 |
| Female | 133 | 9 | 9 | 10 | 9 | 8 | 8 | 41 | 49 | 50 | 48 | 33 | 43 | 46 | 36 | 43 | 27 | 58 | 660 |
| Luhansk | 565 | 37 | 37 | 39 | 39 | 37 | 33 | 174 | 228 | 227 | 213 | 139 | 181 | 234 | 178 | 188 | 92 | 217 | 2,857 |
| Male | 288 | 19 | 19 | 20 | 20 | 18 | 16 | 86 | 115 | 114 | 105 | 66 | 82 | 108 | 84 | 76 | 29 | 56 | 1,321 |
| Female | 277 | 18 | 18 | 19 | 19 | 18 | 16 | 87 | 113 | 113 | 108 | 72 | 99 | 125 | 95 | 112 | 63 | 161 | 1,536 |
| Mykolaiv | 284 | 19 | 20 | 20 | 18 | 16 | 15 | 85 | 106 | 104 | 101 | 72 | 88 | 90 | 69 | 79 | 46 | 96 | 1,328 |
| Male | 144 | 10 | 10 | 10 | 9 | 8 | 7 | 41 | 52 | 51 | 49 | 35 | 42 | 43 | 31 | 31 | 15 | 26 | 616 |
| Female | 140 | 10 | 10 | 10 | 9 | 8 | 8 | 44 | 53 | 53 | 52 | 37 | 46 | 47 | 38 | 48 | 31 | 70 | 712 |
| Odessa | 527 | 38 | 37 | 39 | 38 | 37 | 34 | 184 | 204 | 201 | 203 | 144 | 175 | 185 | 140 | 152 | 100 | 186 | 2,624 |
| Male | 267 | 19 | 19 | 20 | 20 | 19 | 17 | 93 | 102 | 98 | 98 | 69 | 82 | 87 | 62 | 59 | 35 | 56 | 1,221 |
| Female | 259 | 19 | 18 | 19 | 18 | 18 | 17 | 91 | 102 | 103 | 105 | 77 | 92 | 98 | 78 | 93 | 65 | 131 | 1,403 |
| Zaporizhzhia | 417 | 28 | 28 | 30 | 29 | 27 | 25 | 136 | 163 | 162 | 162 | 105 | 139 | 154 | 111 | 135 | 69 | 152 | 2,074 |
| Male | 212 | 14 | 14 | 15 | 15 | 13 | 12 | 66 | 80 | 79 | 79 | 49 | 65 | 73 | 50 | 55 | 22 | 41 | 955 |
| Female | 205 | 14 | 14 | 15 | 14 | 14 | 13 | 70 | 83 | 83 | 84 | 56 | 74 | 81 | 61 | 80 | 47 | 111 | 1,119 |

Source: Council for Exploration of Productive Resources of Ukraine.

Note: Totals may not add up due to rounding.

a/ Non-Ukrainians

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Table 3. UKRAINE: CENTER: Population by Age Groups, Sex and Oblast
(1989 Data; In Thousand People)

| | up to 14 | 14 | 15 | 16 | 17 | 18 | 19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-69 | 70+ | Total a |
|--------------------|----------|----|----|----|----|----|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|---------|
| CENTER | | | | | | | | | | | | | | | | | | | |
| Cherkasy | 286 | 22 | 22 | 23 | 21 | 18 | 16 | 85 | 104 | 101 | 105 | 79 | 102 | 120 | 78 | 113 | 76 | 156 | 1,527 |
| Male | 146 | 11 | 11 | 11 | 10 | 9 | 8 | 42 | 51 | 50 | 51 | 38 | 48 | 56 | 34 | 44 | 24 | 38 | 682 |
| Female | 141 | 11 | 11 | 11 | 10 | 9 | 8 | 44 | 52 | 52 | 54 | 41 | 54 | 63 | 45 | 69 | 52 | 118 | 845 |
| Chernihiv | 252 | 18 | 18 | 18 | 17 | 15 | 14 | 75 | 91 | 97 | 94 | 68 | 86 | 104 | 95 | 115 | 79 | 153 | 1,413 |
| Male | 128 | 9 | 9 | 9 | 9 | 8 | 8 | 38 | 45 | 48 | 47 | 33 | 40 | 48 | 42 | 44 | 24 | 37 | 626 |
| Female | 124 | 9 | 9 | 9 | 8 | 7 | 7 | 38 | 45 | 48 | 47 | 35 | 46 | 56 | 54 | 71 | 55 | 118 | 786 |
| Khmelnytsky | 294 | 22 | 22 | 22 | 20 | 19 | 18 | 92 | 109 | 108 | 100 | 79 | 96 | 100 | 101 | 103 | 77 | 143 | 1,522 |
| Male | 150 | 11 | 11 | 12 | 11 | 10 | 10 | 47 | 53 | 53 | 49 | 38 | 43 | 46 | 42 | 39 | 25 | 37 | 691 |
| Female | 145 | 11 | 11 | 11 | 9 | 9 | 8 | 44 | 55 | 55 | 51 | 41 | 51 | 54 | 59 | 64 | 51 | 106 | 830 |
| Kiev Region | 389 | 27 | 28 | 28 | 27 | 25 | 23 | 125 | 149 | 142 | 134 | 97 | 126 | 142 | 96 | 122 | 86 | 169 | 1,934 |
| Male | 198 | 14 | 14 | 14 | 14 | 12 | 11 | 62 | 74 | 71 | 67 | 48 | 59 | 67 | 41 | 47 | 27 | 43 | 883 |
| Female | 191 | 13 | 14 | 14 | 13 | 12 | 11 | 64 | 75 | 71 | 67 | 49 | 67 | 75 | 54 | 75 | 59 | 127 | 1,051 |
| Kiev (City) | 514 | 31 | 36 | 38 | 42 | 43 | 38 | 197 | 223 | 231 | 228 | 174 | 158 | 174 | 102 | 112 | 73 | 140 | 2,559 |
| Male | 263 | 13 | 19 | 19 | 22 | 21 | 18 | 100 | 107 | 108 | 106 | 82 | 76 | 83 | 47 | 46 | 24 | 43 | 1,203 |
| Female | 251 | 18 | 17 | 18 | 21 | 22 | 20 | 97 | 116 | 123 | 122 | 92 | 82 | 91 | 54 | 66 | 49 | 97 | 1,356 |
| Kirovohrad | 237 | 17 | 17 | 17 | 16 | 15 | 14 | 73 | 85 | 83 | 85 | 65 | 84 | 91 | 63 | 89 | 56 | 121 | 1,228 |
| Male | 121 | 9 | 9 | 9 | 8 | 8 | 7 | 37 | 42 | 41 | 41 | 31 | 40 | 43 | 28 | 34 | 18 | 32 | 558 |
| Female | 116 | 8 | 8 | 8 | 8 | 7 | 7 | 37 | 43 | 42 | 43 | 34 | 43 | 48 | 35 | 55 | 38 | 89 | 670 |
| Poltava | 320 | 23 | 24 | 25 | 23 | 21 | 20 | 107 | 121 | 117 | 120 | 88 | 116 | 133 | 93 | 123 | 88 | 184 | 1,749 |
| Male | 163 | 12 | 12 | 13 | 12 | 10 | 9 | 53 | 61 | 57 | 59 | 42 | 56 | 64 | 41 | 48 | 28 | 45 | 785 |
| Female | 158 | 12 | 12 | 12 | 11 | 11 | 10 | 53 | 61 | 59 | 62 | 46 | 61 | 69 | 52 | 76 | 61 | 139 | 963 |
| Sumy | 267 | 19 | 19 | 20 | 19 | 17 | 15 | 83 | 100 | 102 | 101 | 68 | 88 | 104 | 80 | 105 | 70 | 146 | 1,427 |
| Male | 136 | 10 | 10 | 10 | 10 | 8 | 8 | 41 | 50 | 51 | 51 | 34 | 41 | 49 | 33 | 40 | 22 | 37 | 643 |
| Female | 132 | 9 | 10 | 10 | 10 | 9 | 8 | 42 | 50 | 51 | 51 | 35 | 46 | 55 | 46 | 65 | 48 | 109 | 784 |
| Vinnytsia | 357 | 27 | 28 | 29 | 26 | 24 | 22 | 114 | 128 | 122 | 125 | 97 | 129 | 141 | 122 | 139 | 99 | 192 | 1,921 |
| Male | 181 | 14 | 14 | 15 | 14 | 13 | 12 | 57 | 63 | 61 | 61 | 46 | 59 | 65 | 51 | 52 | 31 | 49 | 857 |
| Female | 176 | 13 | 13 | 14 | 13 | 11 | 11 | 56 | 64 | 62 | 64 | 50 | 70 | 76 | 71 | 88 | 69 | 143 | 1,064 |
| Zhytomyr | 312 | 23 | 23 | 23 | 21 | 20 | 19 | 94 | 107 | 107 | 100 | 77 | 96 | 110 | 95 | 104 | 72 | 132 | 1,538 |
| Male | 158 | 12 | 12 | 12 | 11 | 11 | 10 | 49 | 54 | 54 | 50 | 38 | 45 | 51 | 41 | 40 | 24 | 36 | 831 |
| Female | 154 | 12 | 11 | 11 | 10 | 9 | 9 | 46 | 53 | 53 | 50 | 40 | 51 | 59 | 54 | 64 | 49 | 96 | 706 |

Source: Council for Exploration of Productive Resources of Ukraine.

Note: Totals may not add up due to rounding.

a/ Non-Ukrainians

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Table 4. UKRAINE: WEST: Population by Age Groups, Sex and Oblast
(1989 Data; In Thousand of People)

| | up to 14 | 14 | 15 | 16 | 17 | 18 | 19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | 65-69 | 70+ | Total a |
|-----------------|----------|----|----|----|----|----|----|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|---------|
| WEST | | | | | | | | | | | | | | | | | | | |
| Chernivtsi | 206 | 14 | 15 | 16 | 16 | 15 | 13 | 65 | 72 | 69 | 65 | 47 | 54 | 58 | 58 | 53 | 43 | 65 | 941 |
| Male | 104 | 7 | 8 | 8 | 8 | 7 | 7 | 32 | 35 | 33 | 31 | 22 | 25 | 26 | 25 | 21 | 16 | 22 | 437 |
| Female | 101 | 7 | 7 | 8 | 8 | 8 | 7 | 33 | 37 | 35 | 33 | 25 | 30 | 31 | 32 | 32 | 27 | 43 | 503 |
| Ivano-Frankivsk | 320 | 22 | 21 | 22 | 21 | 19 | 19 | 100 | 115 | 108 | 92 | 74 | 76 | 89 | 92 | 75 | 57 | 91 | 1,413 |
| Male | 163 | 11 | 11 | 12 | 11 | 10 | 10 | 51 | 58 | 54 | 46 | 36 | 35 | 40 | 41 | 30 | 19 | 29 | 665 |
| Female | 157 | 11 | 10 | 10 | 10 | 10 | 9 | 49 | 57 | 54 | 47 | 39 | 41 | 49 | 51 | 46 | 37 | 62 | 748 |
| Lviv | 575 | 39 | 42 | 44 | 46 | 45 | 42 | 206 | 229 | 211 | 173 | 152 | 149 | 170 | 169 | 142 | 107 | 186 | 2,727 |
| Male | 292 | 20 | 22 | 23 | 24 | 24 | 22 | 108 | 117 | 106 | 85 | 74 | 71 | 78 | 76 | 55 | 37 | 61 | 1,294 |
| Female | 282 | 19 | 20 | 21 | 22 | 21 | 20 | 98 | 112 | 105 | 88 | 78 | 79 | 91 | 94 | 87 | 70 | 125 | 1,434 |
| Rivne | 275 | 19 | 19 | 19 | 17 | 16 | 16 | 80 | 95 | 90 | 74 | 58 | 63 | 72 | 75 | 60 | 44 | 76 | 1,164 |
| Male | 139 | 9 | 10 | 10 | 9 | 9 | 8 | 41 | 47 | 46 | 37 | 28 | 30 | 33 | 33 | 23 | 15 | 24 | 552 |
| Female | 136 | 9 | 9 | 9 | 8 | 8 | 7 | 39 | 46 | 44 | 37 | 30 | 34 | 39 | 40 | 37 | 29 | 52 | 613 |
| Ternopil | 241 | 17 | 17 | 16 | 16 | 15 | 14 | 75 | 86 | 82 | 75 | 60 | 66 | 77 | 83 | 71 | 56 | 100 | 1,164 |
| Male | 123 | 9 | 9 | 8 | 8 | 8 | 7 | 38 | 44 | 41 | 35 | 29 | 31 | 35 | 37 | 27 | 19 | 30 | 536 |
| Female | 119 | 8 | 8 | 8 | 8 | 7 | 7 | 35 | 43 | 41 | 37 | 31 | 36 | 42 | 47 | 44 | 37 | 70 | 628 |
| Volyn | 242 | 17 | 17 | 17 | 16 | 14 | 13 | 68 | 82 | 79 | 67 | 52 | 55 | 66 | 74 | 65 | 42 | 73 | 1,058 |
| Male | 123 | 9 | 9 | 9 | 8 | 7 | 7 | 35 | 42 | 40 | 34 | 26 | 26 | 29 | 32 | 25 | 15 | 24 | 499 |
| Female | 119 | 8 | 8 | 8 | 7 | 7 | 6 | 33 | 40 | 39 | 34 | 26 | 29 | 36 | 42 | 40 | 27 | 49 | 559 |
| Zakarpattia | 307 | 22 | 22 | 22 | 21 | 19 | 19 | 92 | 103 | 98 | 89 | 72 | 65 | 70 | 68 | 60 | 44 | 54 | 1,246 |
| Male | 156 | 11 | 11 | 11 | 11 | 9 | 10 | 46 | 51 | 49 | 44 | 35 | 31 | 32 | 30 | 25 | 18 | 20 | 602 |
| Female | 151 | 11 | 11 | 10 | 10 | 9 | 9 | 46 | 52 | 50 | 45 | 36 | 35 | 38 | 38 | 35 | 26 | 34 | 644 |

Source: Council for Exploration of Productive Resources of Ukraine.

Note: Totals may not add up due to rounding.

a/ Non-Ukrainians

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**Table 5. UKRAINE: Population by Working Age, Urban Residence, and Oblasts
(In Percent Shares of Ukraine's Total)**

| | Percent of Population Total | Below Working Age | Of Which Living In Towns | Working Age | Of Which Living In Towns | Over Working Age | Of Which Living In Towns |
|-----------------|-----------------------------------|-------------------------|--------------------------------|----------------|--------------------------------|------------------------|--------------------------------|
| Ukraine Total | 100.0 | 22.9 | 68.0 | 55.8 | 70.8 | 21.2 | 56.0 |
| Crimea R. | 4.8 | 23.8 | 65.9 | 57.9 | 70.2 | 18.2 | 70.1 |
| Vinnytsia | 3.7 | 21.4 | 50.6 | 52.6 | 50.1 | 26.0 | 28.2 |
| Volyn | 2.1 | 26.0 | 51.4 | 52.8 | 54.7 | 21.2 | 34.4 |
| Dnipropetrovsk | 7.5 | 22.5 | 84.0 | 57.3 | 85.6 | 20.2 | 76.7 |
| Donetsk | 10.3 | 22.0 | 90.2 | 56.9 | 91.3 | 21.2 | 87.5 |
| Zhytomyr | 3.0 | 23.3 | 58.1 | 53.1 | 58.8 | 23.6 | 37.7 |
| Zakarpattia | 2.4 | 27.9 | 40.0 | 56.1 | 43.1 | 16.0 | 35.7 |
| Zaporizhzhia | 4.0 | 22.8 | 76.3 | 57.1 | 78.8 | 20.1 | 67.5 |
| Ivano-Frankivsk | 2.8 | 25.7 | 42.6 | 54.7 | 46.1 | 19.7 | 30.6 |
| Kiev Region | 3.8 | 22.9 | 59.4 | 54.9 | 58.7 | 22.2 | 36.9 |
| Kirovohrad | 2.4 | 22.1 | 64.1 | 53.6 | 64.3 | 24.3 | 46.6 |
| Luhansk | 5.5 | 22.3 | 86.8 | 56.7 | 87.9 | 20.9 | 81.9 |
| Lviv | 5.3 | 24.0 | 59.0 | 56.3 | 64.1 | 19.7 | 47.1 |
| Mykolaiv | 2.6 | 24.3 | 65.8 | 56.2 | 68.5 | 19.5 | 58.6 |
| Odesa | 5.1 | 22.8 | 63.4 | 57.5 | 69.4 | 19.7 | 58.4 |
| Poltava | 3.4 | 21.0 | 60.4 | 53.6 | 61.7 | 25.4 | 41.4 |
| Rivne | 2.3 | 26.8 | 46.9 | 53.9 | 51.1 | 19.2 | 30.5 |
| Sumy | 2.8 | 21.4 | 68.5 | 53.1 | 67.8 | 25.5 | 45.4 |
| Ternopil | 2.3 | 23.7 | 45.2 | 52.6 | 47.0 | 23.7 | 24.8 |
| Kharkiv | 6.2 | 21.3 | 79.7 | 56.9 | 81.4 | 21.8 | 70.2 |
| Kherson | 2.4 | 24.8 | 59.2 | 57.0 | 63.4 | 18.2 | 57.6 |
| Khmelnytsky | 2.9 | 22.2 | 56.4 | 52.7 | 54.0 | 25.0 | 27.9 |
| Cherkasy | 3.0 | 21.6 | 59.3 | 53.2 | 58.2 | 25.2 | 37.0 |
| Chernivtsi | 1.8 | 24.8 | 41.2 | 54.6 | 49.4 | 20.6 | 33.1 |
| Chernihiv | 2.7 | 20.4 | 62.6 | 51.1 | 60.5 | 28.4 | 35.1 |
| Kiev (City) | 5.0 | 22.8 | 100.0 | 62.3 | 100.0 | 14.9 | 100.0 |

Source: Statistical Yearbook, 1990, pp. 29 and 30, and staff calculations.

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**Table 6. UKRAINE: Population by Working Age, Urban Residence, and Oblasts
(In Percent)**

| | Population Total | Below Working Age | Of Which Living In Towns | Of Which Working Age | Of Which Living In Towns | Over Working Age | Of Which Living In Towns |
|----------------------|---------------------|-------------------------|--------------------------------|----------------------------|--------------------------------|------------------------|--------------------------------|
| Ukraine Total | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
| Crimea R. | 4.8 | 5.0 | 4.8 | 5.0 | 4.9 | 4.1 | 5.2 |
| Vinnytsia | 3.7 | 3.5 | 2.6 | 3.5 | 2.5 | 4.5 | 2.3 |
| Volyn | 2.1 | 2.3 | 1.8 | 1.9 | 1.5 | 2.1 | 1.3 |
| Dnipropetrovsk | 7.5 | 7.4 | 9.1 | 7.7 | 9.3 | 7.2 | 9.8 |
| Donetsk | 10.3 | 9.9 | 13.1 | 10.5 | 13.5 | 10.3 | 16.1 |
| Zhytomyr | 3.0 | 3.0 | 2.6 | 2.8 | 2.3 | 3.3 | 2.2 |
| Zakarpattia | 2.4 | 3.0 | 1.7 | 2.4 | 1.5 | 1.8 | 1.2 |
| Zaporizhzhia | 4.0 | 4.0 | 4.5 | 4.1 | 4.6 | 3.8 | 4.6 |
| Ivano-Frankivsk | 2.8 | 3.1 | 1.9 | 2.7 | 1.8 | 2.6 | 1.4 |
| Kiev Region | 3.8 | 3.8 | 3.3 | 3.7 | 3.1 | 3.9 | 2.6 |
| Kirovohrad | 2.4 | 2.3 | 2.2 | 2.3 | 2.1 | 2.7 | 2.3 |
| Luhansk | 5.5 | 5.4 | 6.9 | 5.6 | 7.0 | 5.5 | 8.0 |
| Lviv | 5.3 | 5.6 | 4.8 | 5.3 | 4.8 | 4.9 | 4.1 |
| Mykolaiv | 2.6 | 2.7 | 2.6 | 2.6 | 2.5 | 2.4 | 2.5 |
| Odessa | 5.1 | 5.1 | 4.7 | 5.2 | 5.1 | 4.7 | 4.9 |
| Poltava | 3.4 | 3.1 | 2.8 | 3.3 | 2.8 | 4.1 | 3.0 |
| Rivne | 2.3 | 2.7 | 1.8 | 2.2 | 1.6 | 2.1 | 1.1 |
| Sumy | 2.8 | 2.6 | 2.6 | 2.6 | 2.5 | 3.3 | 2.7 |
| Ternopil | 2.3 | 2.3 | 1.6 | 2.1 | 1.4 | 2.5 | 1.1 |
| Kharkiv | 6.2 | 5.7 | 6.7 | 6.3 | 7.2 | 6.3 | 7.9 |
| Kherson | 2.4 | 2.6 | 2.3 | 2.5 | 2.2 | 2.1 | 2.1 |
| Khmelnysky | 2.9 | 2.9 | 2.4 | 2.8 | 2.1 | 3.5 | 1.7 |
| Cherkasy | 3.0 | 2.8 | 2.4 | 2.8 | 2.3 | 3.5 | 2.3 |
| Chernivtsi | 1.8 | 2.0 | 1.2 | 1.8 | 1.2 | 1.8 | 1.0 |
| Chernihiv | 2.7 | 2.4 | 2.2 | 2.5 | 2.1 | 3.7 | 2.3 |
| Kiev (City) | 5.0 | 5.0 | 7.4 | 5.6 | 7.9 | 3.5 | 6.3 |

Source: Statistical Yearbook, 1990, pp. 29 and 30, and staff estimates.

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Table 7. UKRAINE: Population by Age Groups, Sex and Employment
(1989 Data; In Thousand People)

| | Total | | | Employed | | | State Enterprises | | | Kolhoz | | |
|----------|--------|--------|--------|----------|--------|--------|-------------------|--------|--------|--------|-------|--------|
| | Total | Male | Female | Total | Male | Female | Total | Male | Female | Total | Male | Female |
| up to 14 | 10,374 | 5,279 | 5,094 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 14 | 720 | 362 | 357 | 1 | 1 | 0 | 1 | 1 | 0 | 0 | 0 | 0 |
| 15 | 727 | 372 | 354 | 12 | 7 | 5 | 9 | 5 | 4 | 3 | 2 | 1 |
| 16 | 755 | 386 | 369 | 40 | 24 | 16 | 30 | 17 | 13 | 9 | 6 | 3 |
| 17 | 733 | 378 | 355 | 151 | 74 | 76 | 124 | 56 | 69 | 25 | 18 | 7 |
| 18 | 694 | 350 | 344 | 334 | 182 | 152 | 282 | 142 | 140 | 50 | 39 | 12 |
| 19 | 640 | 321 | 319 | 413 | 212 | 201 | 355 | 170 | 185 | 56 | 42 | 15 |
| 20-24 | 3,352 | 1,684 | 1,667 | 2,648 | 1,344 | 1,304 | 2,333 | 1,139 | 1,194 | 296 | 192 | 104 |
| 25-29 | 3,958 | 1,969 | 1,989 | 3,668 | 1,893 | 1,775 | 3,261 | 1,637 | 1,623 | 378 | 236 | 143 |
| 30-34 | 3,900 | 1,924 | 1,976 | 3,712 | 1,880 | 1,832 | 3,305 | 1,631 | 1,674 | 379 | 229 | 149 |
| 35-39 | 3,741 | 1,826 | 1,915 | 3,594 | 1,785 | 1,810 | 3,190 | 1,549 | 1,642 | 380 | 219 | 161 |
| 40-44 | 2,706 | 1,295 | 1,411 | 2,592 | 1,259 | 1,333 | 2,252 | 1,080 | 1,173 | 323 | 168 | 155 |
| 45-49 | 3,220 | 1,504 | 1,716 | 3,017 | 1,435 | 1,581 | 2,449 | 1,162 | 1,287 | 553 | 265 | 288 |
| 50-54 | 3,705 | 1,727 | 1,978 | 3,214 | 1,548 | 1,666 | 2,548 | 1,220 | 1,327 | 653 | 320 | 333 |
| 55-59 | 2,953 | 1,314 | 1,639 | 1,489 | 1,023 | 466 | 1,153 | 750 | 404 | 327 | 269 | 58 |
| 60-64 | 3,232 | 1,275 | 1,958 | 686 | 404 | 281 | 590 | 333 | 257 | 88 | 68 | 21 |
| 65-69 | 2,020 | 663 | 1,357 | 229 | 124 | 105 | 199 | 103 | 96 | 27 | 19 | 7 |
| 70+ | 4,002 | 1,100 | 2,901 | 113 | 63 | 50 | 96 | 53 | 43 | 13 | 8 | 5 |
| Total a/ | 51,439 | 23,863 | 27,576 | 25,916 | 13,260 | 12,656 | 22,181 | 11,049 | 11,132 | 3,562 | 2,100 | 1,462 |

Source: Council for Exploration of Productive Resources of Ukraine.

a/ Including non-Ukrainians

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Table 1

Population Growth
Ukraine 1981-1992^{1,2}
(in 1000's)

| | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 |
|--------|----------|----------|------|------|----------|----------|----------|----------|----------|----------|----------|----------|
| Total | 50,169.8 | 50,357.5 | n/a | n/a | 50,914.1 | 51,076.5 | 51,237.6 | 51,376.9 | 51,514.8 | 51,636.8 | 51,745.8 | 51,801.9 |
| Male | 22,954.3 | 23,070.0 | n/a | n/a | 23,402.9 | 23,501.4 | 23,602.2 | 23,697.4 | 23,795.5 | 23,884.1 | n/a | n/a |
| Female | 27,215.5 | 27,287.5 | n/a | n/a | 27,511.1 | 27,575.1 | 27,635.4 | 27,679.6 | 27,719.3 | 27,752.7 | n/a | n/a |

Source: 1. Years 1980-1990 WHO/EURO-ESR Unit May 19, 1992 Mid Year Estimates
2. Years 1991-1992, MOH. Ukraine 1992 is as of 1st January

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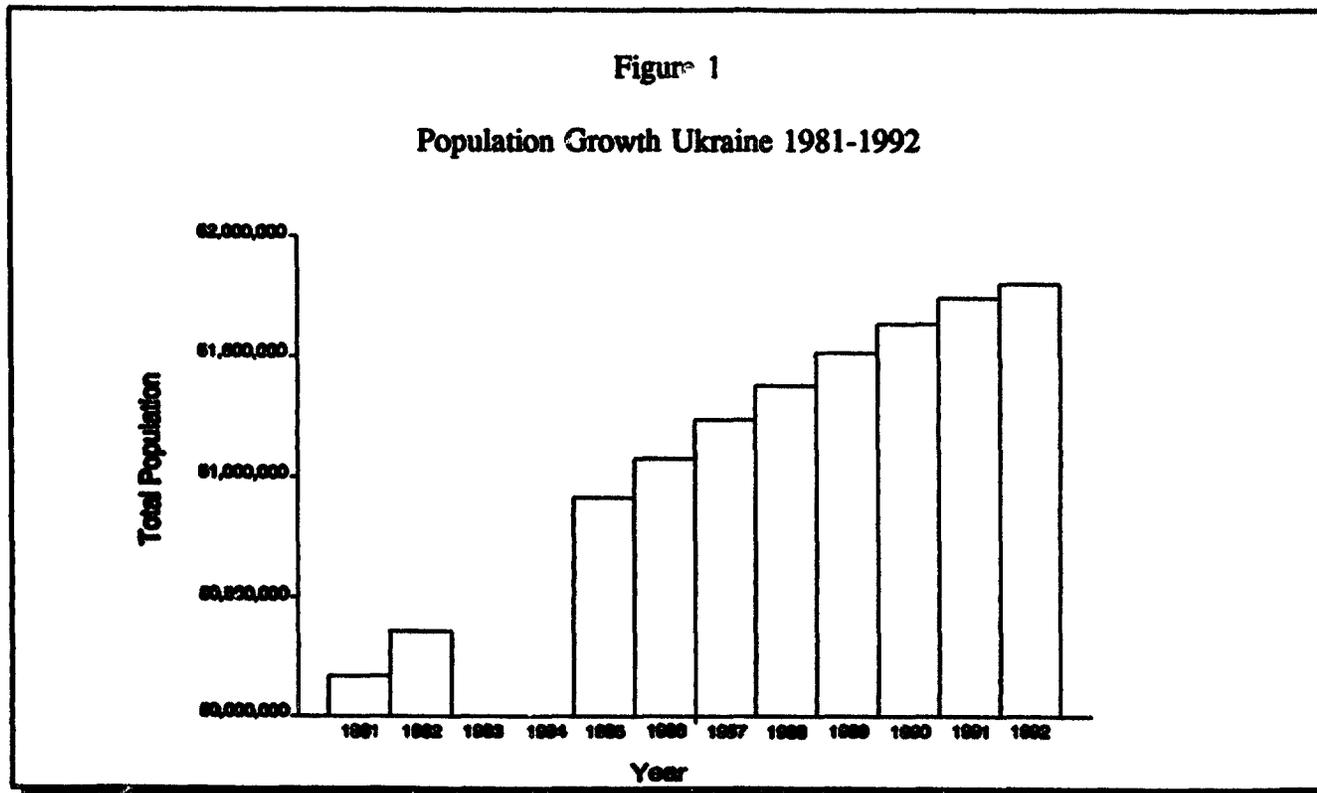


Table 2

Population Structure All Ukraine

| All Ukraine | Age Group | | | | | | Total |
|------------------------------|-----------|---------|--------|--------|--------|--------|---------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 11093.1 | 24425.1 | 6658.1 | 3232.5 | 2020.0 | 4001.9 | 51430.7 |
| Age Category as % of Total | 21.6 | 47.5 | 12.9 | 6.3 | 3.9 | 7.8 | 100.0 |
| Male | 5641.4 | 12009.2 | 3041.3 | 1275 | 663 | 1100 | 23730.5 |
| Female | 5451.7 | 12415.9 | 3616.8 | 1958 | 1357 | 2901 | 27700.2 |
| Males as % of Age Category | 50.9 | 49.2 | 45.7 | 39.4 | 32.8 | 27.5 | 46.1 |
| Cumulative % Males | 23.8 | 74.4 | 87.2 | 92.6 | 95.4 | 100.0 | |
| Females as % of Age Category | 49.1 | 50.8 | 54.3 | 60.6 | 67.2 | 72.5 | 53.9 |
| Cumulative % Females | 19.7 | 64.5 | 77.6 | 84.6 | 89.5 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

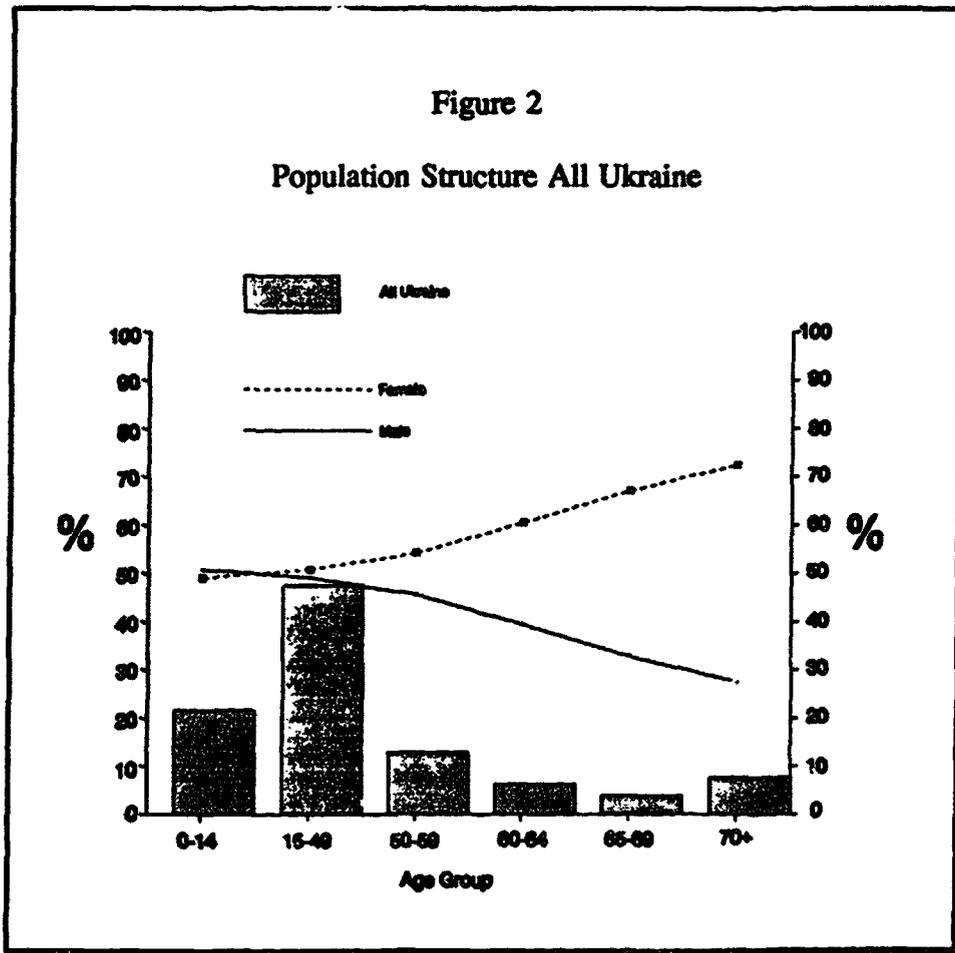


Table 2.0
Population Characteristics Of Oblasts
Ukraine

| Oblast | Population | % of All Ukraine | % Population 60 and Greater | % of Females 60 and Greater | % of Males 60 and Greater |
|-----------------|------------|------------------|-----------------------------|-----------------------------|---------------------------|
| All Ukraine | 51430.7 | 100.0 | 19.0 | 22.4 | 12.8 |
| Vinnytsia | 1920.8 | 3.7 | 22.4 | 28.2 | 15.3 |
| Volyn | 1058.4 | 2.1 | 17.0 | 20.6 | 12.9 |
| Dnipropetrovsk | 3871.9 | 7.5 | 17.1 | 21.2 | 12.4 |
| Donetsk | 5311.8 | 10.3 | 17.4 | 21.6 | 12.5 |
| Zhytomyr | 1537.6 | 3.0 | 20.1 | 25.1 | 14.1 |
| Zakarpattia | 1245.6 | 2.4 | 12.6 | 14.6 | 10.6 |
| Zaporizhzhia | 2073.9 | 4.0 | 17.2 | 21.3 | 12.4 |
| Ivano-Frankivsk | 1413.2 | 2.7 | 15.8 | 19.4 | 11.8 |
| Kiev Region | 1934.3 | 3.8 | 19.5 | 24.8 | 13.2 |
| Kirovohrad | 1228.0 | 2.4 | 21.7 | 27.2 | 15.2 |
| Luhansk | 2857.0 | 5.6 | 17.4 | 21.9 | 12.2 |
| Lviv | 2727.4 | 5.3 | 16.0 | 19.7 | 11.8 |
| Mykolaiv | 1328.3 | 2.6 | 16.6 | 20.8 | 11.8 |
| Odessa | 2624.1 | 5.1 | 16.7 | 20.6 | 12.2 |
| Poltava | 1748.0 | 3.4 | 22.7 | 28.6 | 15.4 |
| Rivne | 1164.2 | 2.3 | 15.5 | 19.3 | 11.3 |
| Sumy | 1425.4 | 2.8 | 22.5 | 28.3 | 15.5 |
| Ternopil | 1164.0 | 2.3 | 19.5 | 24.0 | 14.2 |
| Kharkiv | 3174.7 | 6.2 | 18.9 | 23.7 | 13.2 |
| Kherson | 1236.9 | 2.4 | 15.2 | 19.3 | 10.6 |
| Khmelnysky | 1525.6 | 3.0 | 21.2 | 26.5 | 14.7 |
| Cherkasy | 1525.9 | 3.0 | 22.5 | 28.3 | 15.5 |
| Chernivtsi | 940.8 | 1.8 | 17.0 | 20.2 | 13.3 |
| Chernihiv | 1412.8 | 2.7 | 24.7 | 31.0 | 16.8 |
| Kiev City | 2553.4 | 5.0 | 12.7 | 15.6 | 9.5 |
| Crimea | 2426.6 | 4.7 | 15.0 | 18.7 | 10.7 |

Source: Council for Exploration of Productive Resource of Ukraine, Kiev, 1989 data

Table 3**Percent Distribution of Population by Broad Categories
Ukraine and Selected Countries**

| Category | Ukraine | Belarus | Poland | Portugal | United Kingdom | Sweden | Canada | Europe |
|----------|---------|---------|--------|----------|----------------|--------|--------|--------|
| 0-14 | 21.4 | 23.1 | 25.2 | 21.2 | 19.0 | 17.3 | 20.9 | 22.6 |
| 15-64 | 66.4 | 66.3 | 64.9 | 65.9 | 65.6 | 64.6 | 67.7 | 65.9 |
| 65+ | 12.1 | 10.6 | 10.0 | 12.9 | 15.4 | 18.1 | 11.4 | 11.5 |

Source: 1991 World Health Statistics Annual, WHO Geneva 1992

Table 2.1
Population Structure Vinnytsia Oblast

| Vinnytsia Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 384.2 | 843.4 | 262.6 | 139.5 | 99.3 | 191.9 | 1920.9 |
| Age Category as % of Total | 20.0 | 43.9 | 13.7 | 7.3 | 5.2 | 10.0 | 100.0 |
| Male | 194.5 | 415.2 | 116.1 | 51.6 | 30.6 | 48.7 | 856.8 |
| Female | 189.7 | 428.1 | 146.5 | 87.8 | 68.7 | 143.2 | 1064.0 |
| Males as % of Age Category | 50.6 | 59.2 | 44.2 | 37.0 | 30.8 | 25.4 | 44.6 |
| Cumulative % Males | 22.7 | 71.2 | 84.7 | 90.7 | 94.3 | 100.0 | |
| Females as % of Age Category | 49.4 | 50.8 | 55.8 | 63.0 | 69.2 | 74.6 | 55.4 |
| Cumulative % Females | 17.8 | 58.1 | 71.8 | 80.1 | 86.5 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data.

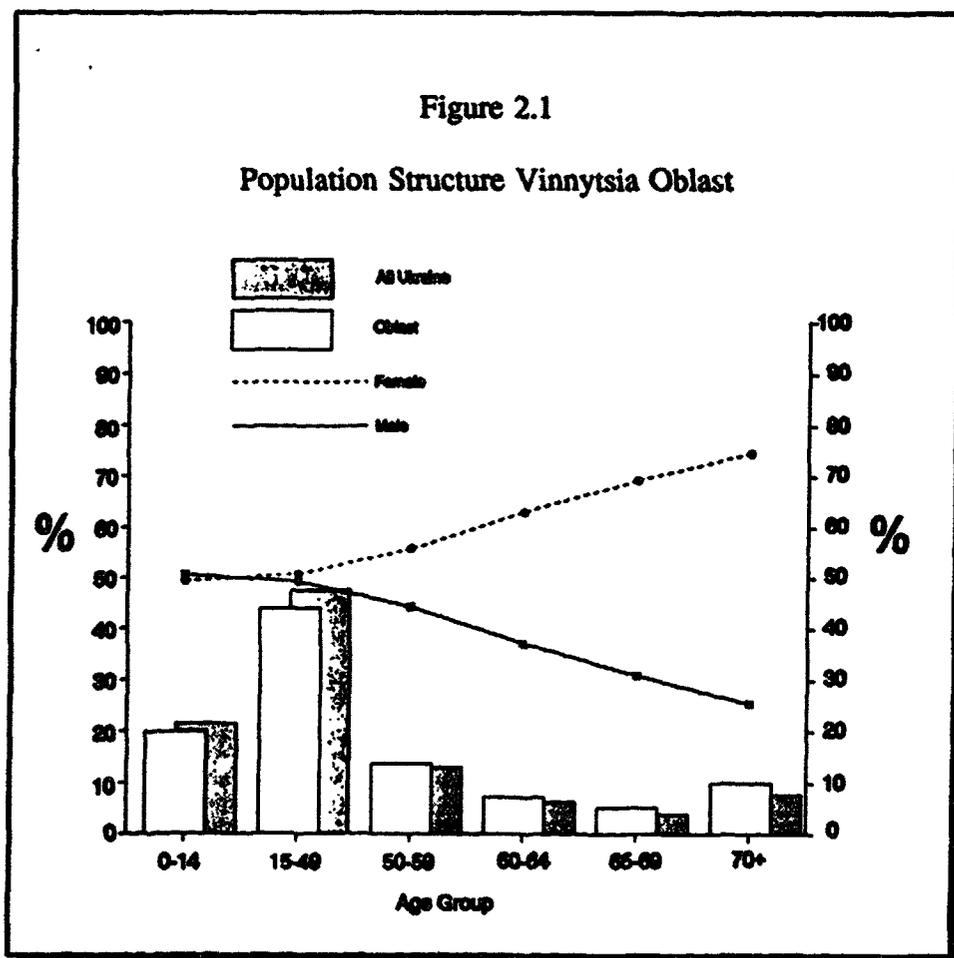


Table 2.2
Population Structure Volyn Oblast

| Volyn Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 258.9 | 480.2 | 139.9 | 64.8 | 41.6 | 73.1 | 1058.4 |
| Age Category as % of Total | 24.5 | 45.4 | 13.2 | 6.1 | 3.9 | 6.9 | 100.0 |
| Male | 131.6 | 241.9 | 61.6 | 25.0 | 15.1 | 24.1 | 499.3 |
| Female | 127.3 | 238.3 | 78.2 | 39.9 | 26.5 | 49.0 | 559.2 |
| Males as % of Age Category | 50.8 | 50.4 | 44.1 | 38.5 | 36.3 | 33.0 | 47.2 |
| Cumulative % Males | 26.4 | 74.8 | 87.1 | 92.1 | 95.2 | 100.0 | |
| Females as % of Age Category | 49.2 | 49.6 | 55.9 | 61.5 | 63.7 | 67.0 | 52.8 |
| Cumulative % Females | 22.8 | 65.4 | 79.4 | 86.5 | 91.2 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data.

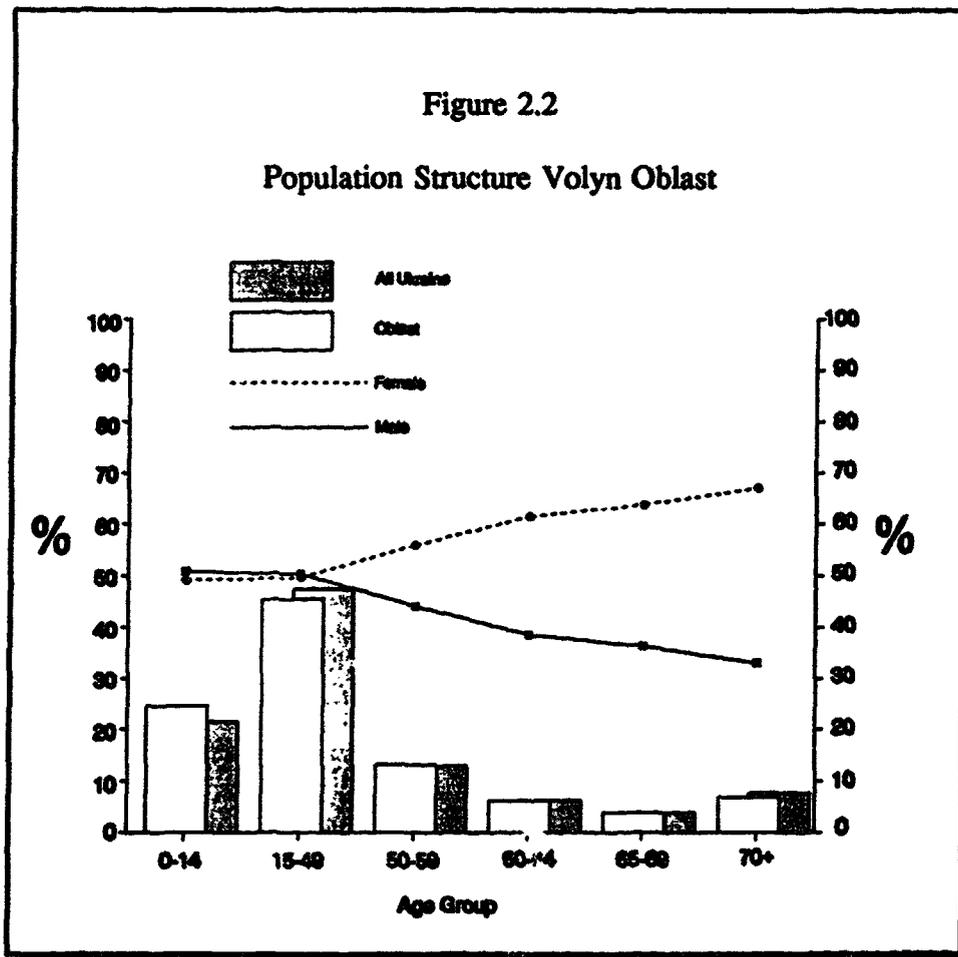


Table 2.3
Population Structure Dnipropetrovsk Oblast

| Dnipropetrovsk Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|--------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 821.8 | 1872.9 | 514.9 | 247.9 | 129.0 | 285.3 | 3871.9 |
| Age Category as % of Total | 21.2 | 48.4 | 13.3 | 6.4 | 3.3 | 7.4 | 100.0 |
| Male | 418.2 | 908.4 | 241.3 | 101.9 | 42.3 | 77.6 | 1789.8 |
| Female | 403.6 | 964.4 | 273.7 | 146.0 | 86.7 | 207.8 | 2082.1 |
| Males as % of Age Category | 50.9 | 48.5 | 46.9 | 41.1 | 32.8 | 27.2 | 46.2 |
| Cumulative % Males | 23.4 | 74.1 | 87.6 | 93.3 | 95.7 | 100.0 | |
| Females as % of Age Category | 49.1 | 51.5 | 53.1 | 58.9 | 67.2 | 72.8 | 53.8 |
| Cumulative % Females | 19.4 | 65.7 | 78.8 | 85.9 | 90.0 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

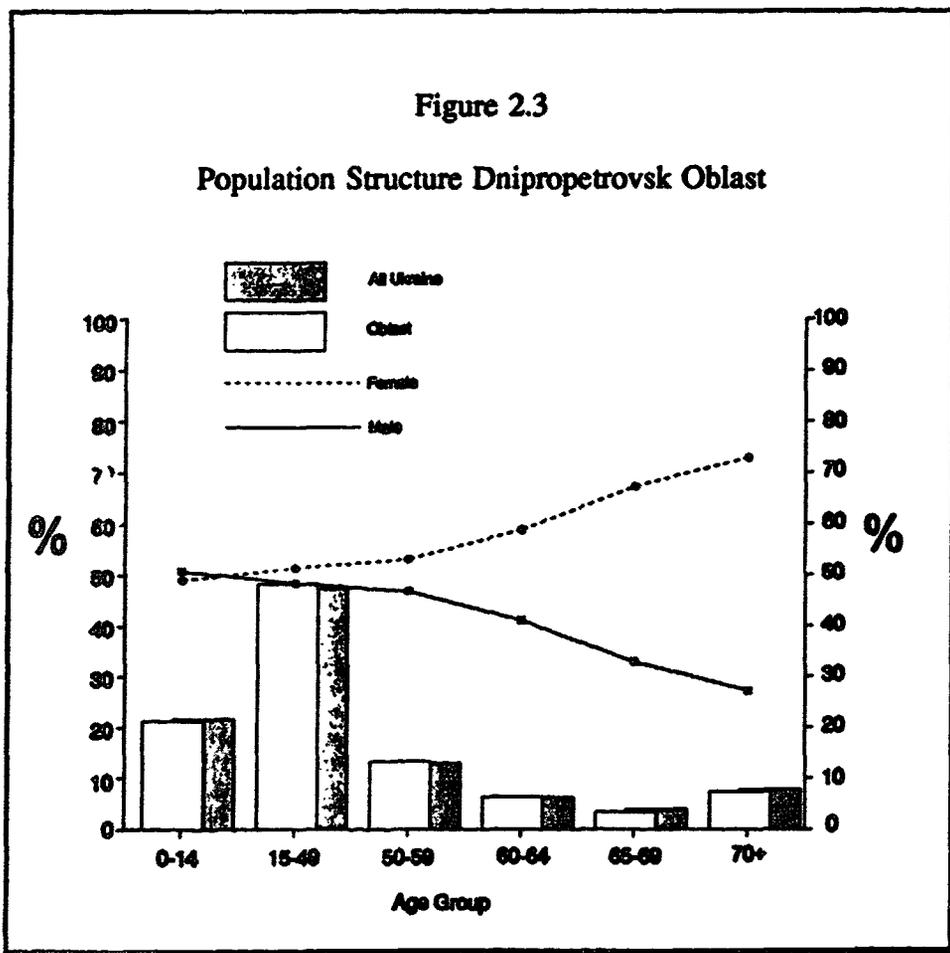


Table 2.4
Population Structure Donetsk Oblast

| Donetsk Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|--------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population | 1102.8 | 2521.2 | 765.7 | 359.3 | 176.2 | 386.6 | 5311.8 |
| Age Category as % of Total | 20.8 | 47.5 | 14.4 | 6.8 | 3.3 | 7.3 | 100.0 |
| Male | 562.0 | 1236.7 | 352.6 | 145.8 | 57.1 | 104.3 | 2458.4 |
| Female | 540.8 | 1284.5 | 413.1 | 213.5 | 119.2 | 282.3 | 2853.4 |
| Males as % of Age Category | 51.0 | 49.1 | 46.1 | 40.6 | 32.4 | 27.0 | 46.3 |
| Cumulative % Males | 22.9 | 73.2 | 87.5 | 93.4 | 95.8 | 100.0 | |
| Females as % of Age Category | 49.0 | 50.9 | 53.9 | 59.4 | 67.6 | 73.0 | 53.7 |
| Cumulative % Females | 19.0 | 64.0 | 78.4 | 85.9 | 90.1 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

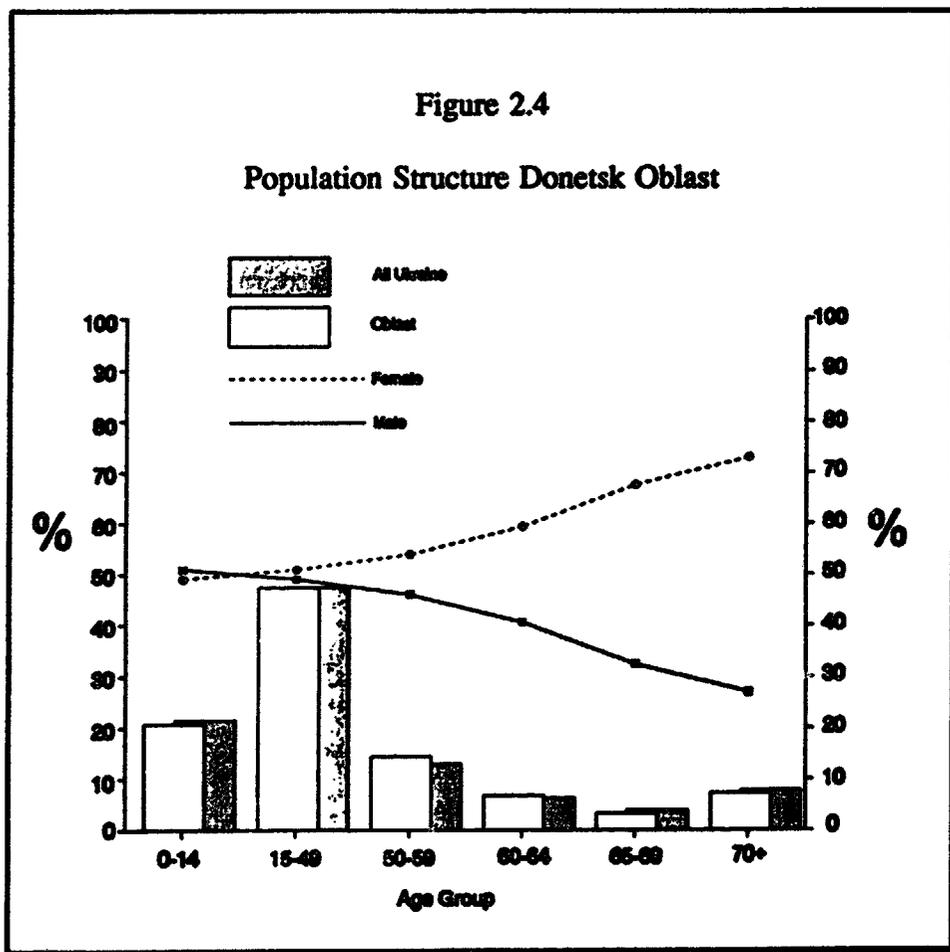


Table 2.5
Population Structure Zhytomyr Oblast

| Zhytomyr Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 335.7 | 688.0 | 205.4 | 104.3 | 72.4 | 131.8 | 1537.6 |
| Age Category as % of Total | 21.8 | 44.7 | 13.4 | 6.8 | 4.7 | 8.6 | 100.0 |
| Male | 169.7 | 345.4 | 91.7 | 40.1 | 23.7 | 35.7 | 706.4 |
| Female | 165.9 | 342.6 | 113.7 | 64.2 | 48.7 | 96.2 | 831.2 |
| Males as % of Age Category | 50.6 | 50.2 | 44.7 | 38.5 | 32.8 | 27.1 | 45.9 |
| Cumulative % Males | 24.0 | 72.9 | 85.9 | 91.6 | 95.0 | 100.0 | |
| Females as % of Age Category | 49.4 | 49.8 | 55.3 | 61.5 | 67.2 | 72.9 | 54.1 |
| Cumulative % Females | 20.0 | 61.2 | 74.9 | 82.6 | 88.4 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

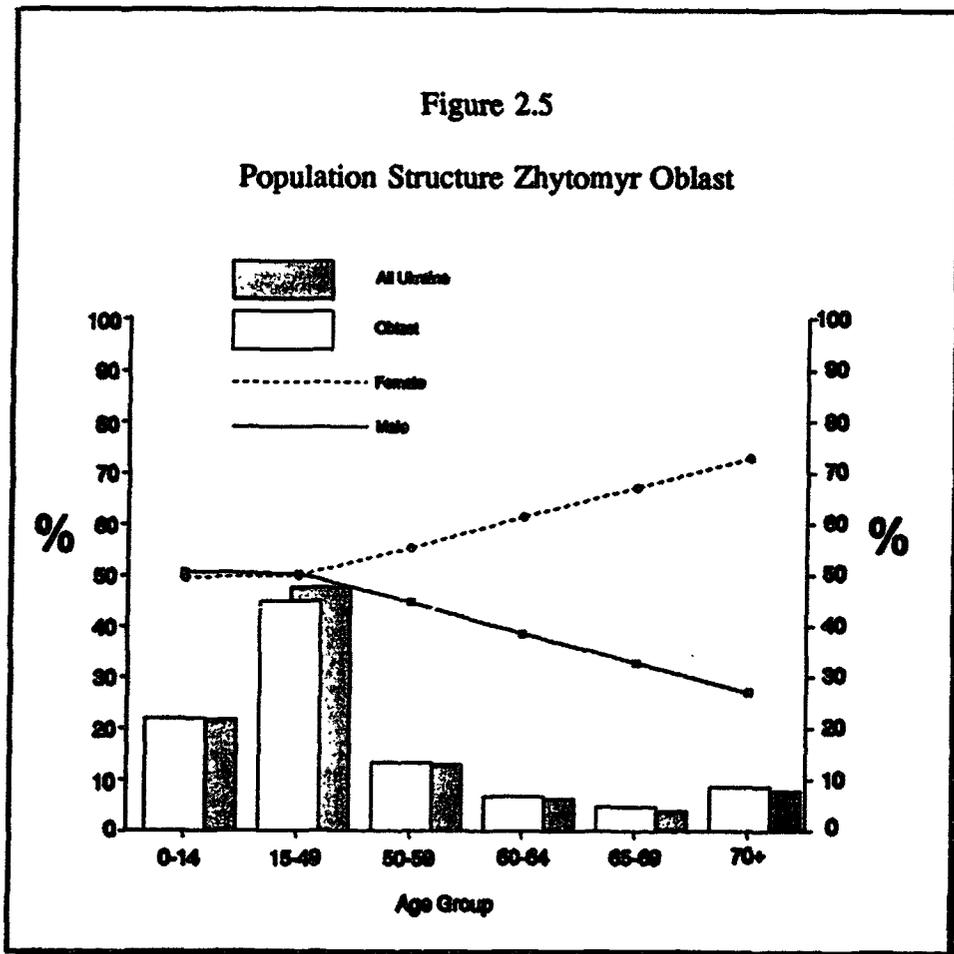


Table 2.6
Population Structure Zakarpattia Oblast

| Zakarpattia Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 328.7 | 621.2 | 138.2 | 59.5 | 43.9 | 54.1 | 1245.6 |
| Age Category as % of Total | 26.4 | 49.9 | 11.1 | 4.8 | 3.5 | 4.3 | 100.0 |
| Male | 167.3 | 309.0 | 61.8 | 25.0 | 18.1 | 20.4 | 601.6 |
| Female | 161.4 | 312.3 | 76.4 | 34.5 | 25.9 | 33.6 | 644.1 |
| Males as % of Age Category | 50.9 | 49.7 | 44.7 | 42.0 | 41.1 | 37.8 | 48.3 |
| Cumulative % Males | 27.8 | 79.2 | 89.4 | 93.6 | 96.6 | 100.0 | |
| Females as % of Age Category | 49.1 | 50.3 | 55.3 | 58.0 | 58.9 | 62.2 | 51.7 |
| Cumulative % Females | 25.1 | 73.5 | 85.4 | 90.8 | 94.8 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

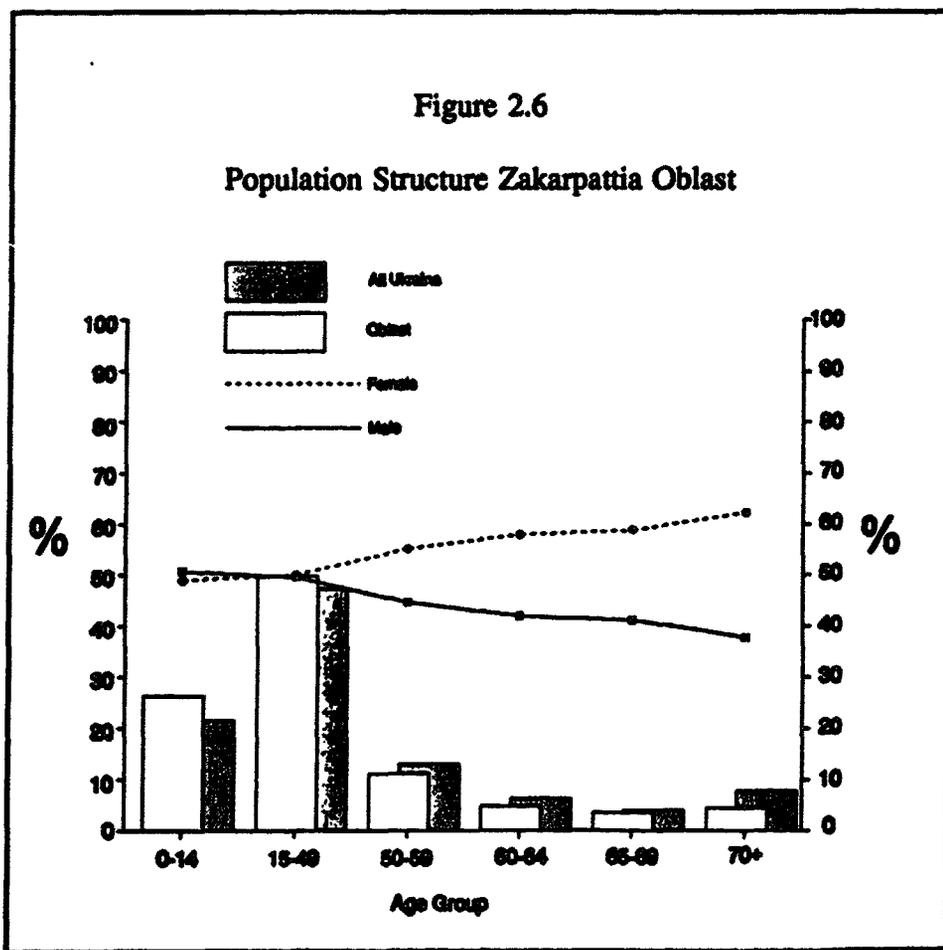


Table 2.7
Population Structure Zaporizhzhia Oblast

| Zaporizhzhia Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|--------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 445.4 | 1007.5 | 264.8 | 135.0 | 68.8 | 152.3 | 2073.9 |
| Age Category as % of Total | 21.5 | 48.6 | 12.8 | 6.5 | 3.3 | 7.3 | 100.0 |
| Male | 226.7 | 487.1 | 123.1 | 54.7 | 22.2 | 41.4 | 955.3 |
| Female | 218.6 | 520.4 | 141.7 | 80.3 | 46.6 | 110.9 | 1118.6 |
| Males as % of Age Category | 50.9 | 48.3 | 46.5 | 40.5 | 32.3 | 27.2 | 46.1 |
| Cumulative % Males | 23.7 | 74.7 | 87.6 | 93.3 | 95.7 | 100.0 | |
| Females as % of Age Category | 49.1 | 51.7 | 53.5 | 59.5 | 67.7 | 72.8 | 53.9 |
| Cumulative % Females | 19.5 | 66.1 | 78.7 | 85.9 | 90.1 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

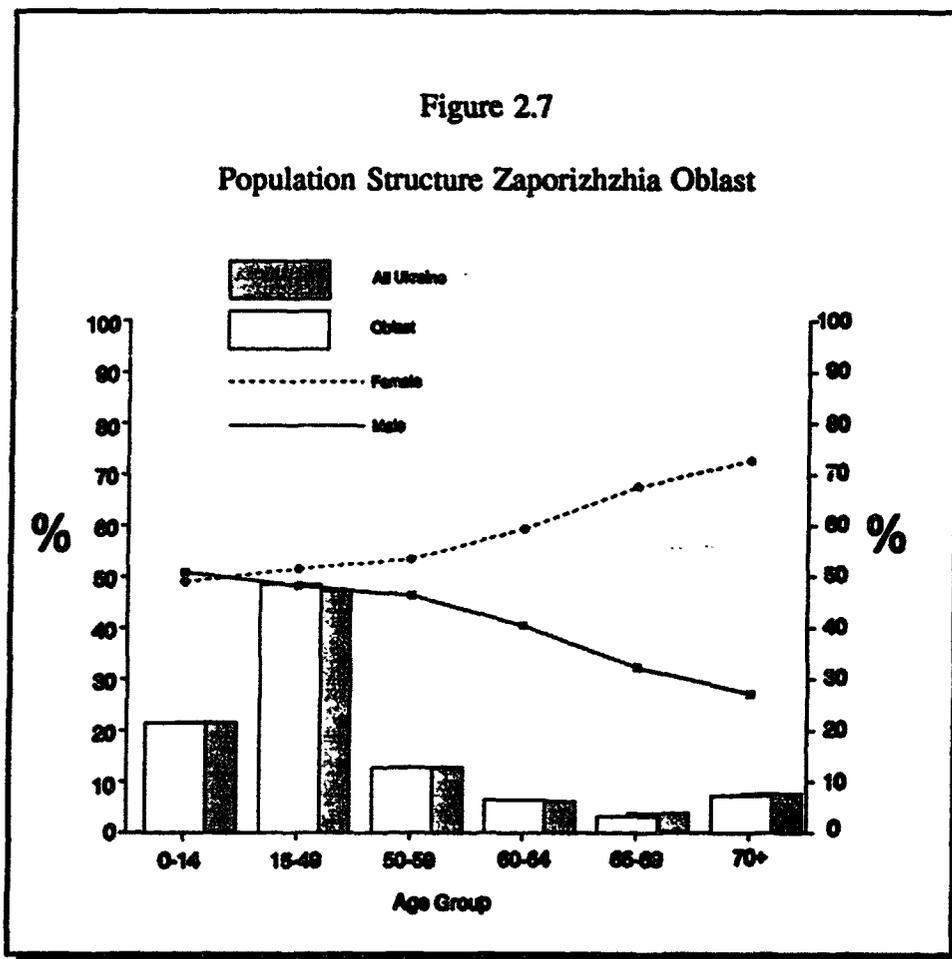


Table 2.8
Population Structure Ivano-Frankivsk Oblast

| Ivano-Frankivsk Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 341.9 | 667.2 | 180.9 | 75.2 | 56.9 | 91.1 | 1413.2 |
| Age Category as % of Total | 24.2 | 47.2 | 12.8 | 5.3 | 4.0 | 6.4 | 100.0 |
| Male | 174.3 | 332.2 | 80.5 | 29.6 | 19.4 | 29.3 | 665.3 |
| Female | 167.6 | 335.1 | 100.4 | 45.6 | 37.5 | 61.8 | 747.9 |
| Males as % of Age Category | 51.0 | 49.8 | 44.5 | 39.3 | 34.2 | 32.2 | 47.1 |
| Cumulative % Males | 26.2 | 76.1 | 88.2 | 92.7 | 95.6 | 100.0 | |
| Females as % of Age Category | 49.0 | 50.2 | 55.5 | 60.7 | 65.8 | 67.8 | 52.9 |
| Cumulative % Females | 22.4 | 67.2 | 80.6 | 86.7 | 91.7 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

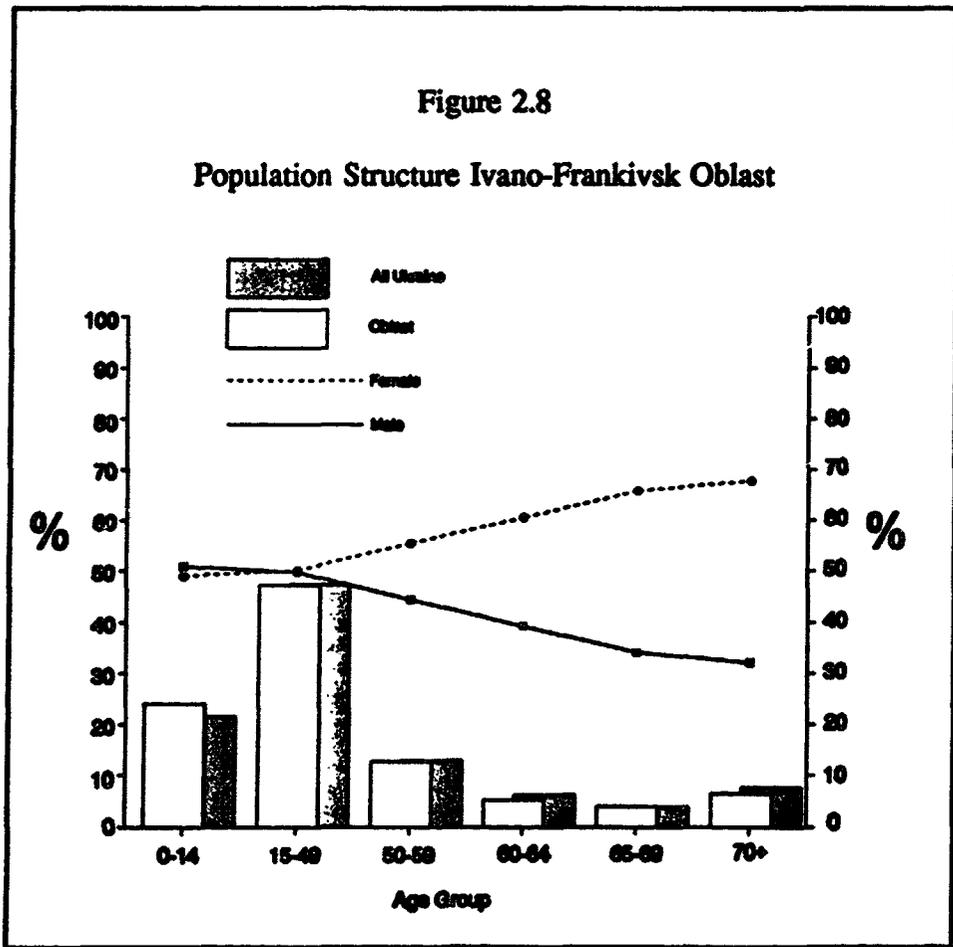


Table 2.9
Population Structure Kiev Region

| Kiev Region | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-59 | 70+ | |
| Total Population (thousands) | 416.2 | 902.1 | 238.1 | 122.4 | 86.1 | 169.5 | 1934.3 |
| Age Category as % of Total | 21.5 | 46.6 | 12.3 | 6.3 | 4.5 | 8.8 | 100.0 |
| Male | 212.0 | 446.2 | 108.4 | 47.0 | 27.3 | 42.5 | 883.5 |
| Female | 204.2 | 455.8 | 129.8 | 75.4 | 58.8 | 126.9 | 1050.9 |
| Males as % of Age Category | 50.9 | 49.5 | 45.5 | 38.4 | 31.7 | 25.1 | 45.7 |
| Cumulative % Males | 24.0 | 74.5 | 86.8 | 92.1 | 95.2 | 100.0 | |
| Females as % of Age Category | 49.1 | 50.5 | 54.5 | 61.6 | 68.3 | 74.9 | 54.3 |
| Cumulative % Females | 19.4 | 62.8 | 75.2 | 82.3 | 87.9 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

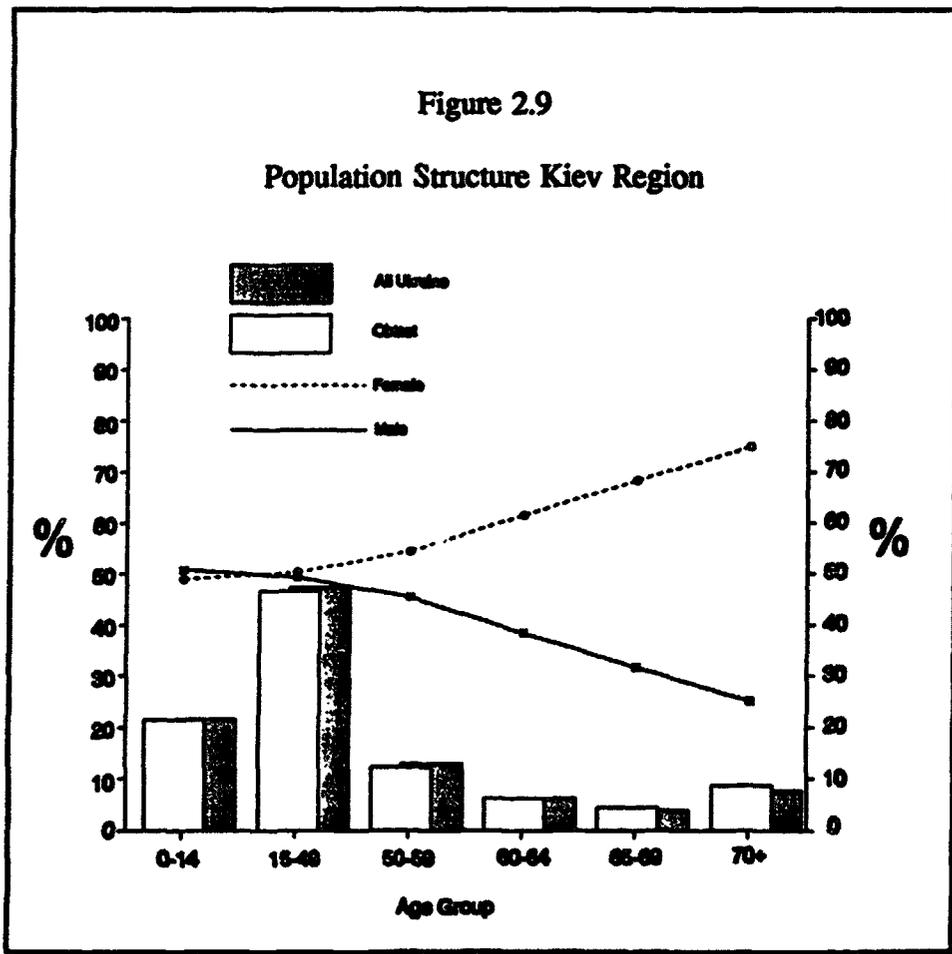


Table 2.10

Population Structure Kirovohrad Oblast

| Kirovohrad Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-59 | 70+ | |
| Total Population (thousands) | 254.2 | 553.8 | 153.5 | 89.1 | 56.3 | 121.1 | 1228.0 |
| Age Category as % of Total | 20.7 | 45.1 | 12.5 | 7.3 | 4.6 | 9.9 | 100.0 |
| Male | 129.4 | 273.2 | 71.0 | 34.0 | 18.4 | 32.2 | 558.2 |
| Female | 124.8 | 280.6 | 82.5 | 55.1 | 37.9 | 89.0 | 669.8 |
| Males as % of Age Category | 50.9 | 49.3 | 46.3 | 38.2 | 32.7 | 26.5 | 45.5 |
| Cumulative % Males | 23.2 | 72.1 | 84.8 | 90.9 | 94.2 | 100.0 | |
| Females as % of Age Category | 49.1 | 50.7 | 53.7 | 61.8 | 67.3 | 73.5 | 54.5 |
| Cumulative % Females | 18.6 | 60.5 | 72.8 | 81.1 | 86.7 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

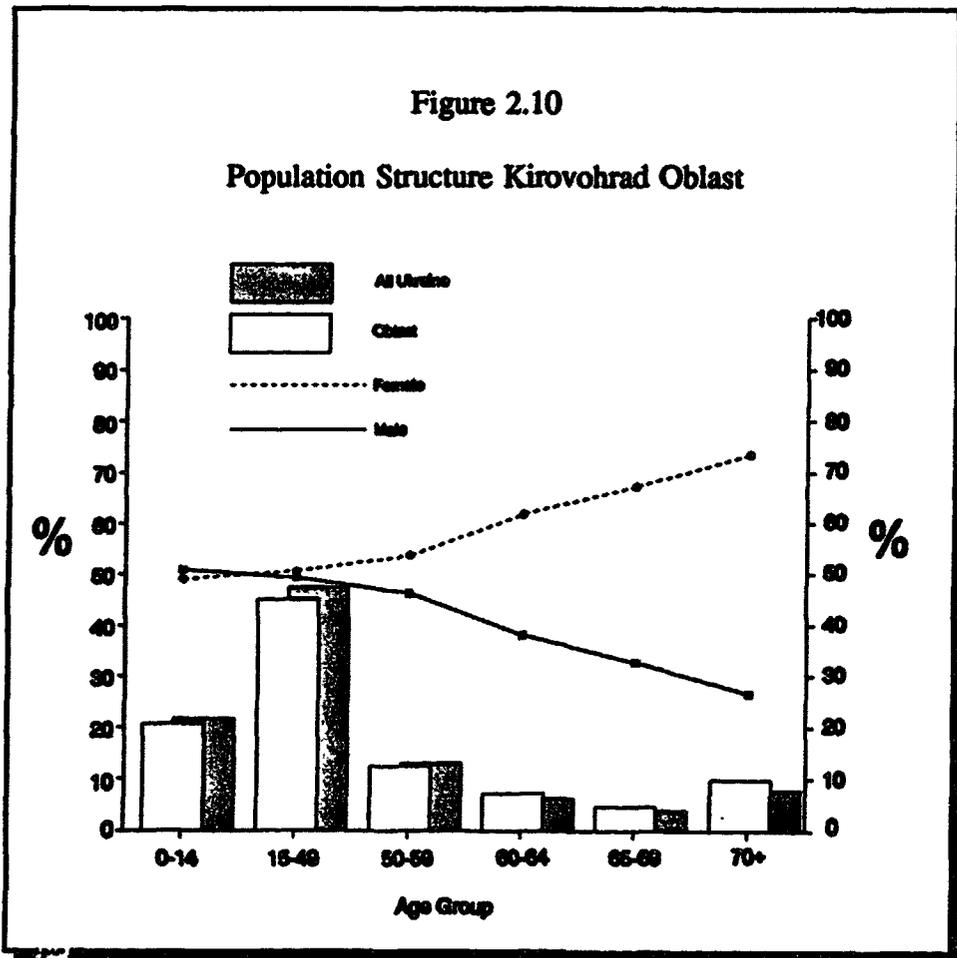


Table 2.11
Population Structure Luhansk Oblast

| Luhansk Oblast | Age Group | | | | | | |
|-------------------------------------|-----------|--------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | Total |
| Total Population | 602.0 | 1346.3 | 412.0 | 187.8 | 91.7 | 217.2 | 2857.0 |
| Age Category as % of Total | 21.1 | 47.1 | 14.4 | 6.6 | 3.2 | 7.6 | 100.0 |
| Male | 306.9 | 661.9 | 191.8 | 76.2 | 28.7 | 55.9 | 1321.4 |
| Female | 295.1 | 684.4 | 220.2 | 111.6 | 63.0 | 161.3 | 1535.7 |
| Males as % of Age Category | 51.0 | 49.2 | 46.6 | 40.6 | 31.3 | 25.7 | 46.2 |
| Cumulative % Males | 23.2 | 73.3 | 87.8 | 93.6 | 95.8 | 100.0 | |
| Females as % of Age Category | 49.0 | 50.8 | 53.4 | 59.4 | 68.7 | 74.3 | 53.8 |
| Cumulative % Females | 19.2 | 63.8 | 78.1 | 85.4 | 89.5 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

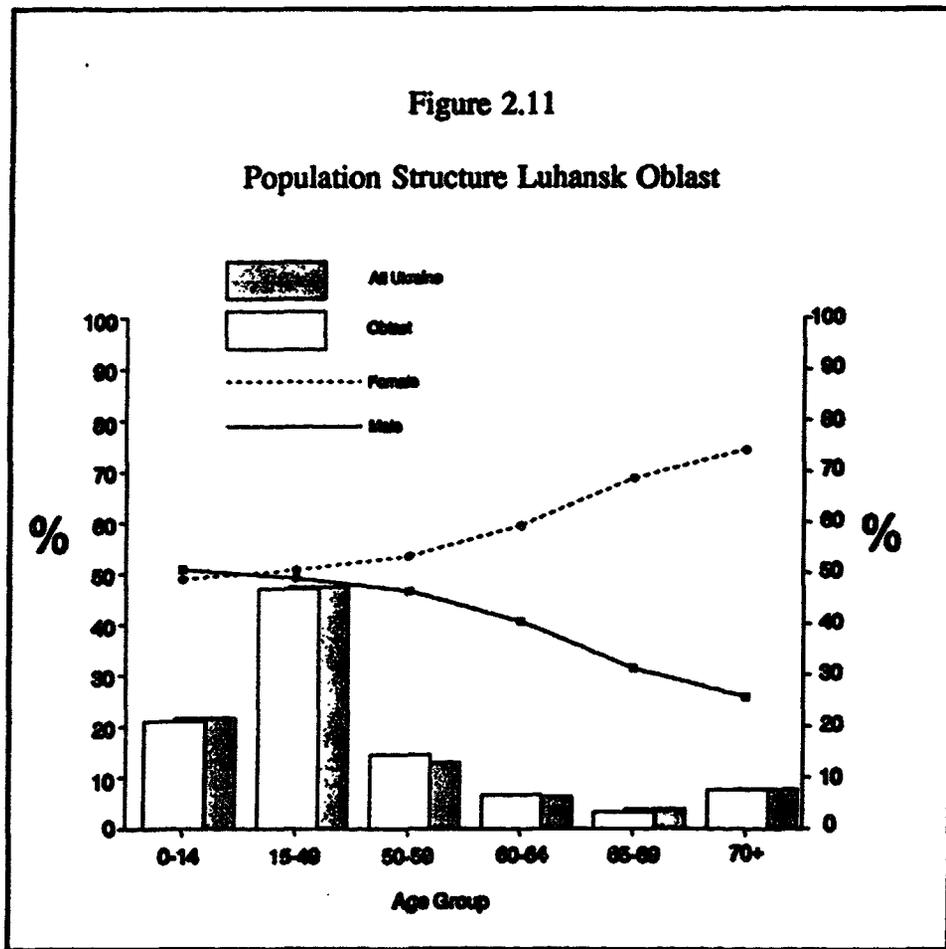


Table 2.12
Population Structure Lviv Oblast

| Lviv Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|--------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 614.0 | 1339.0 | 339.0 | 142.1 | 107.2 | 186.1 | 2727.4 |
| Age Category as % of Total | 22.5 | 49.1 | 12.4 | 5.2 | 3.9 | 6.8 | 100.0 |
| Male | 312.2 | 674.2 | 154.1 | 55.5 | 37.0 | 60.9 | 1293.8 |
| Female | 301.8 | 664.8 | 184.9 | 86.6 | 70.3 | 125.3 | 1433.6 |
| Males as % of Age Category | 50.9 | 50.4 | 45.5 | 39.0 | 34.5 | 32.7 | 47.4 |
| Cumulative % Males | 24.1 | 76.2 | 88.2 | 92.4 | 95.3 | 100.0 | |
| Females as % of Age Category | 49.1 | 49.6 | 54.5 | 61.0 | 65.5 | 67.3 | 52.6 |
| Cumulative % Females | 21.0 | 67.4 | 80.3 | 86.4 | 91.3 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

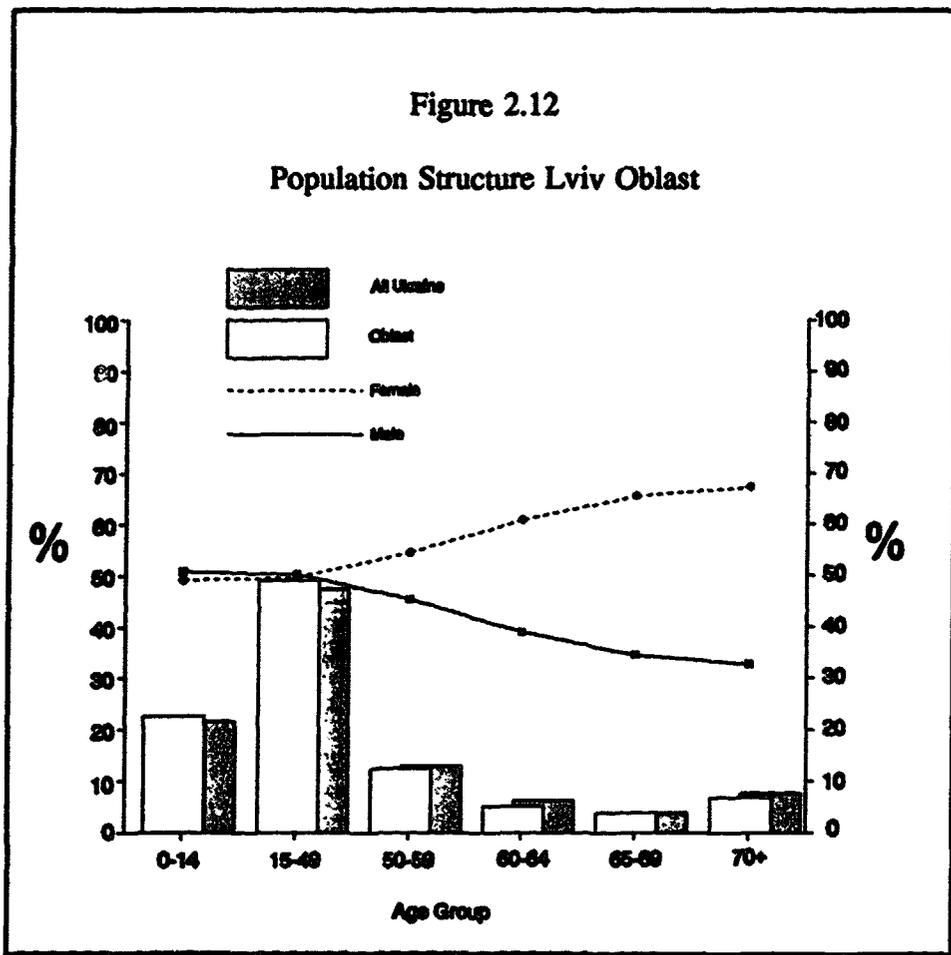


Table 2.13
Population Structure Mykolaiv Oblast

| Mykolaiv Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-59 | 70+ | |
| Total Population (thousands) | 303.7 | 645.1 | 158.3 | 79.2 | 46.0 | 96.0 | 1328.3 |
| Age Category as % of Total | 22.9 | 48.6 | 11.9 | 6.0 | 3.5 | 7.2 | 100.0 |
| Male | 154.3 | 315.2 | 73.6 | 31.3 | 15.2 | 26.5 | 616.1 |
| Female | 149.4 | 330.0 | 84.7 | 47.9 | 30.8 | 69.5 | 712.2 |
| Males as % of Age Category | 50.8 | 48.9 | 46.5 | 39.5 | 33.0 | 27.6 | 46.4 |
| Cumulative % Males | 25.0 | 76.2 | 88.2 | 93.2 | 95.7 | 100.0 | |
| Females as % of Age Category | 49.2 | 51.1 | 53.5 | 60.5 | 67.0 | 72.4 | 53.6 |
| Cumulative % Females | 21.0 | 67.3 | 79.2 | 85.9 | 90.2 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

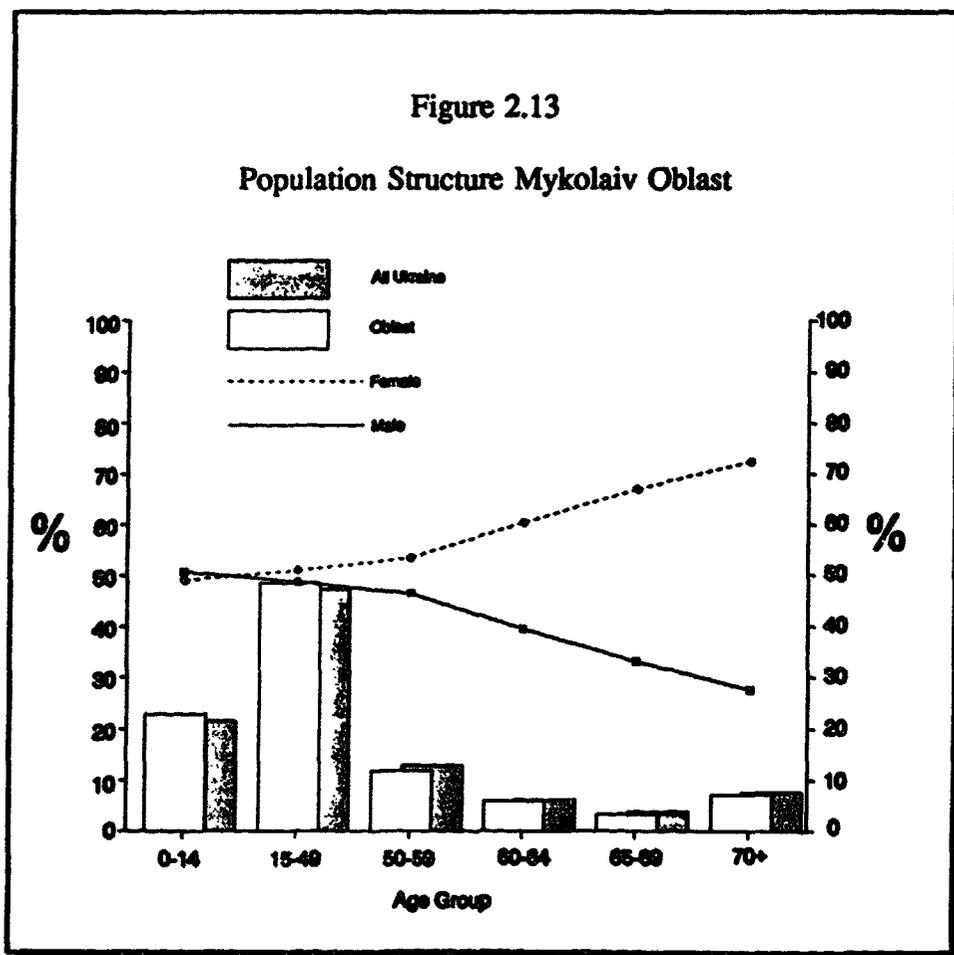


Table 2.14
Population Structure Odessa Oblast

| Odessa Oblast | Age Group | | | | | | |
|------------------------------|-----------|--------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | Total |
| Total Population (thousands) | 564.0 | 1297.6 | 324.6 | 151.7 | 100.1 | 186.0 | 2624.1 |
| Age Category as % of Total | 21.5 | 49.5 | 12.4 | 5.8 | 3.8 | 7.1 | 100.0 |
| Male | 286.4 | 636.8 | 148.8 | 59.0 | 34.8 | 55.5 | 1221.3 |
| Female | 277.6 | 660.8 | 175.8 | 92.7 | 65.3 | 130.5 | 1402.8 |
| Males as % of Age Category | 50.8 | 49.1 | 45.8 | 38.9 | 34.7 | 29.8 | 46.5 |
| Cumulative % Males | 23.5 | 75.6 | 87.8 | 92.6 | 95.5 | 100.0 | |
| Females as % of Age Category | 49.2 | 50.9 | 54.2 | 61.1 | 65.3 | 70.2 | 53.5 |
| Cumulative % Females | 19.8 | 66.9 | 79.4 | 86.0 | 90.7 | 100.0 | |

Sources: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

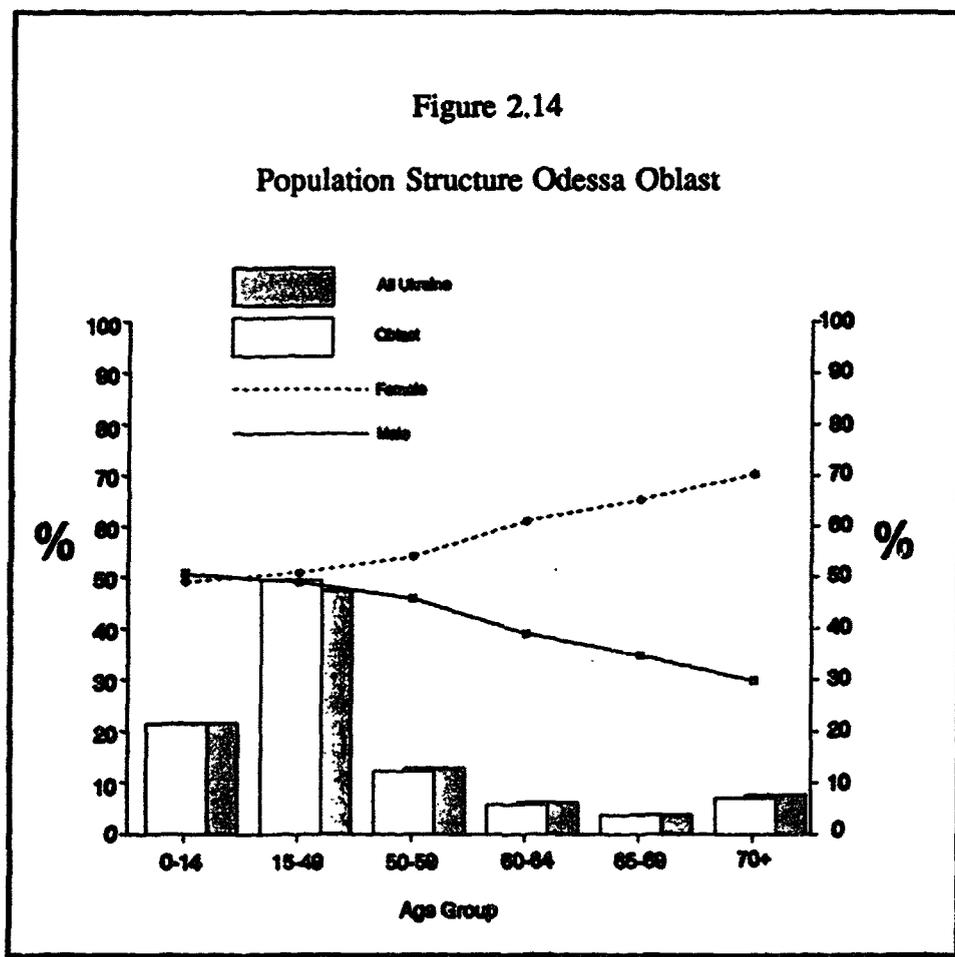


Table 2.15
Population Structure Poltava Oblast

| Poltava Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 343.7 | 781.7 | 226.5 | 123.5 | 88.3 | 184.4 | 1748.0 |
| Age Category as % of Total | 19.7 | 44.7 | 13.0 | 7.1 | 5.1 | 10.5 | 100.0 |
| Male | 174.6 | 384.1 | 105.3 | 47.9 | 27.6 | 45.4 | 785.1 |
| Female | 169.0 | 397.5 | 121.2 | 75.5 | 60.7 | 139.0 | 963.0 |
| Males as % of Age Category | 50.8 | 49.1 | 46.5 | 38.8 | 31.2 | 24.6 | 44.9 |
| Cumulative % Males | 22.2 | 71.2 | 84.6 | 90.7 | 94.2 | 100.0 | |
| Females as % of Age Category | 49.2 | 50.9 | 53.5 | 61.2 | 68.8 | 75.4 | 55.1 |
| Cumulative % Females | 17.6 | 58.8 | 71.4 | 79.3 | 85.6 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

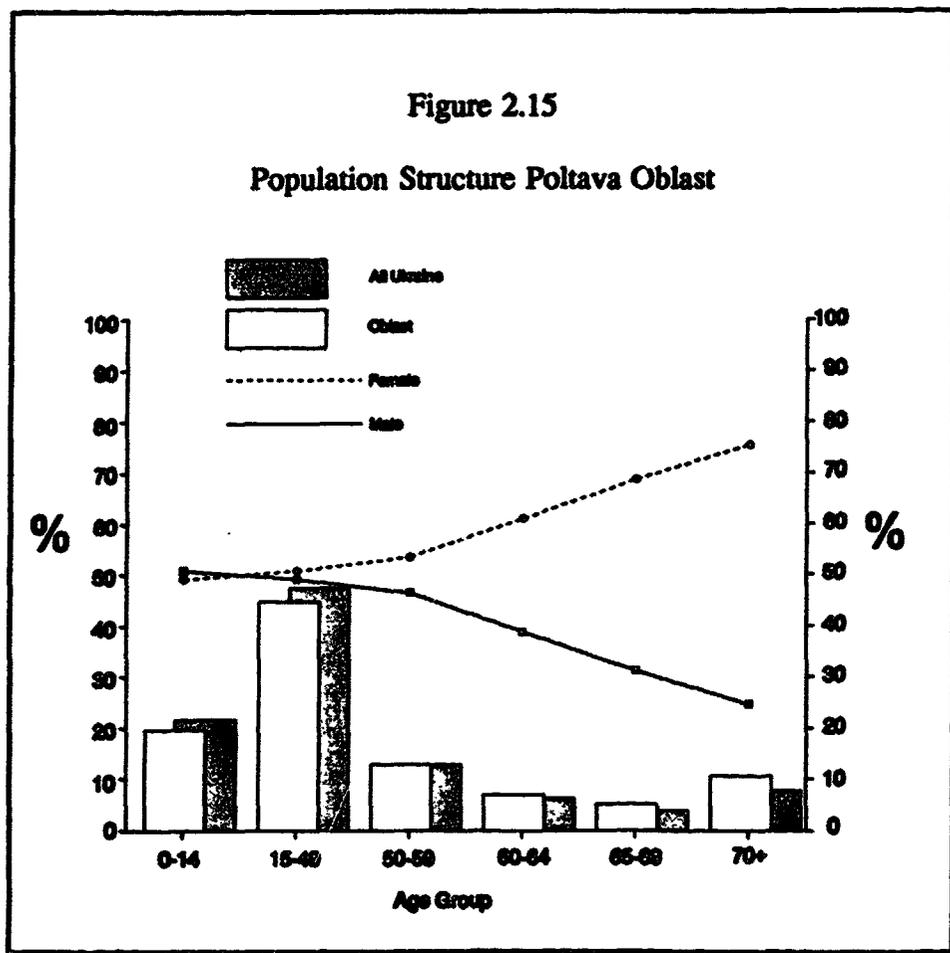


Table 2.16
Population Structure Rivne Oblast

| Rivne Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 293.8 | 544.9 | 145.0 | 60.5 | 43.6 | 76.4 | 1164.2 |
| Age Category as % of Total | 25.2 | 46.8 | 12.5 | 5.2 | 3.7 | 6.6 | 100.0 |
| Male | 148.9 | 274.9 | 65.3 | 23.1 | 14.9 | 24.5 | 551.6 |
| Female | 145.0 | 270.0 | 79.7 | 37.4 | 28.7 | 51.9 | 612.7 |
| Males as % of Age Category | 50.7 | 50.5 | 45.1 | 38.2 | 34.1 | 32.0 | 47.4 |
| Cumulative % Males | 27.0 | 76.8 | 88.7 | 92.9 | 95.6 | 100.0 | |
| Females as % of Age Category | 49.3 | 49.5 | 54.9 | 61.8 | 65.9 | 68.0 | 52.6 |
| Cumulative % Females | 23.7 | 67.7 | 80.7 | 86.8 | 91.5 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

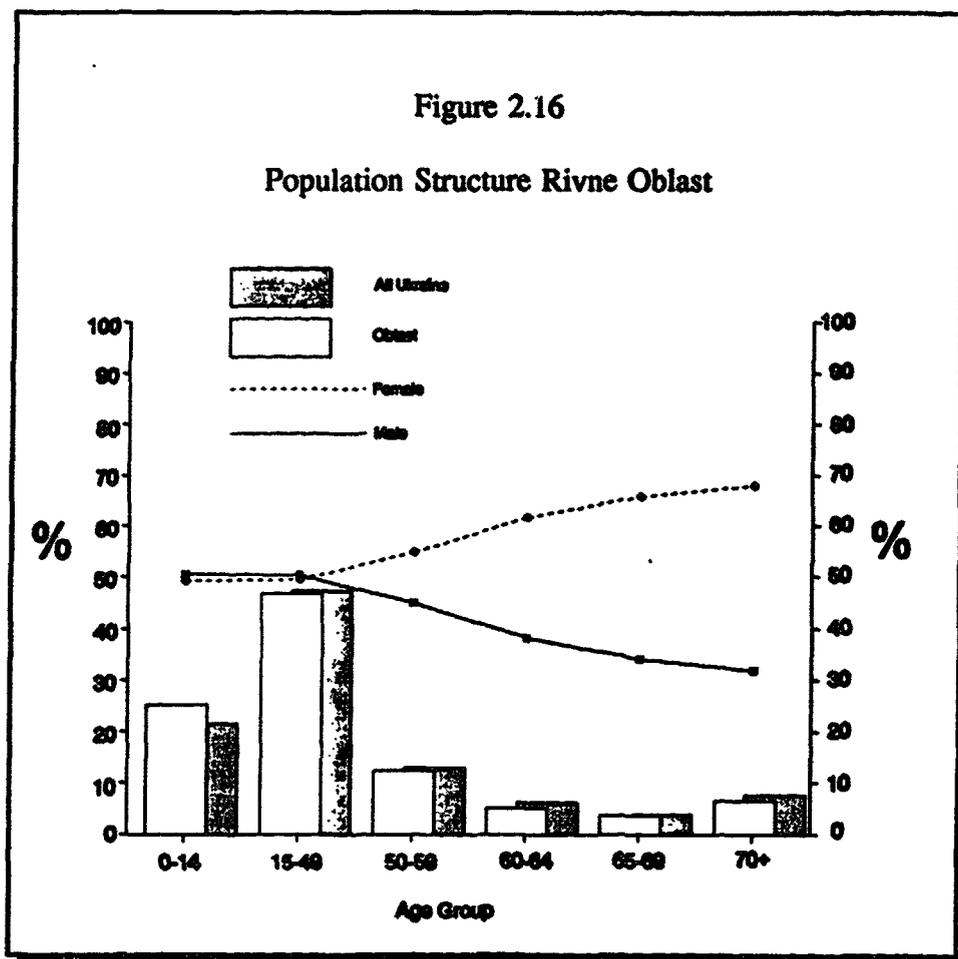


Table 2.17
Population Structure Sumy Oblast

| Sumy Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 286.7 | 633.9 | 183.9 | 105.0 | 70.2 | 145.8 | 1425.4 |
| Age Category as % of Total | 20.1 | 44.5 | 12.9 | 7.4 | 4.9 | 10.2 | 100.0 |
| Male | 145.6 | 313.8 | 82.7 | 40.5 | 21.9 | 37.0 | 641.5 |
| Female | 141.0 | 320.1 | 101.2 | 64.5 | 48.2 | 108.8 | 784.0 |
| Males as % of Age Category | 50.8 | 49.5 | 45.0 | 38.6 | 31.2 | 25.3 | 45.0 |
| Cumulative % Males | 22.7 | 71.6 | 84.5 | 90.8 | 94.2 | 100.0 | |
| Females as % of Age Category | 49.2 | 50.5 | 55.0 | 61.4 | 68.8 | 74.7 | 55.0 |
| Cumulative % Females | 18.0 | 58.8 | 71.7 | 80.0 | 86.1 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

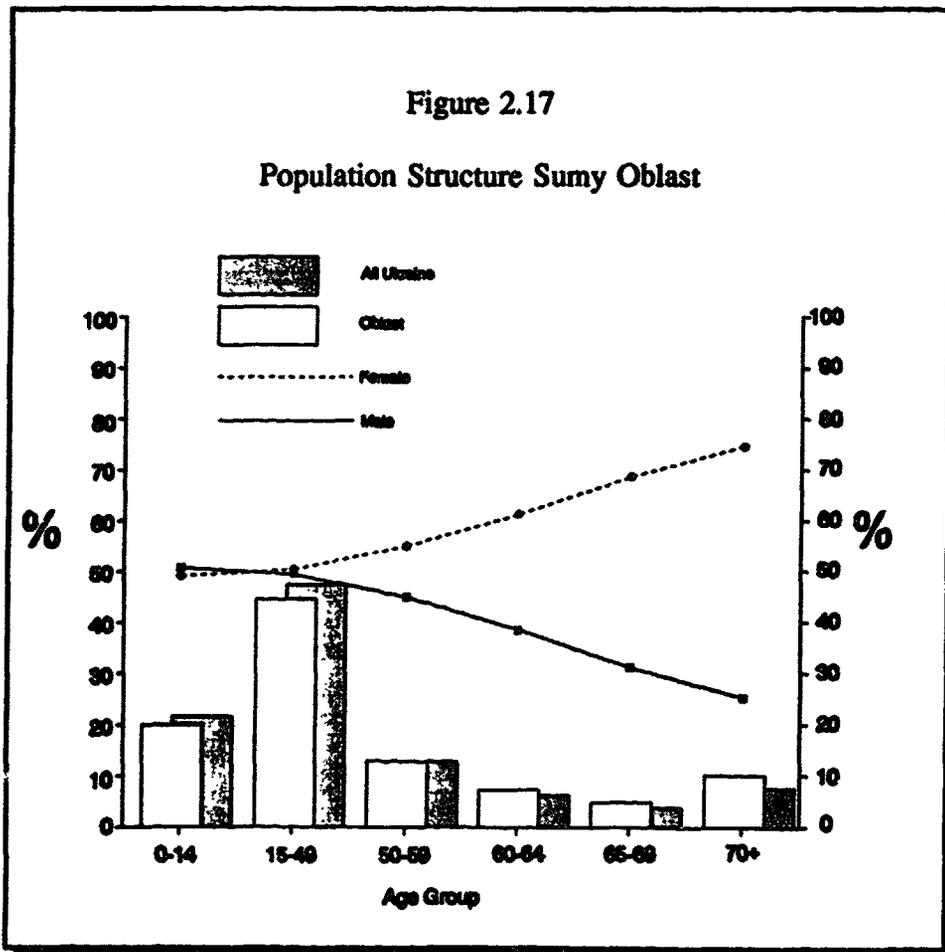


Table 2.18

Population Structure Ternopil Oblast

| Ternopil Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 258.3 | 518.4 | 160.1 | 70.9 | 56.4 | 99.9 | 1164.0 |
| Age Category as % of Total | 22.2 | 44.5 | 13.8 | 6.1 | 4.8 | 8.6 | 100.0 |
| Male | 131.1 | 257.1 | 71.6 | 26.6 | 19.3 | 30.4 | 536.1 |
| Female | 127.2 | 261.2 | 88.5 | 44.3 | 37.0 | 69.5 | 627.8 |
| Males as % of Age Category | 50.8 | 49.6 | 44.7 | 37.5 | 34.3 | 30.4 | 46.1 |
| Cumulative % Males | 24.5 | 72.4 | 85.8 | 90.7 | 94.3 | 100.0 | |
| Females as % of Age Category | 49.2 | 50.4 | 55.3 | 62.5 | 65.7 | 69.6 | 53.9 |
| Cumulative % Females | 20.3 | 61.9 | 76.0 | 83.0 | 88.9 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

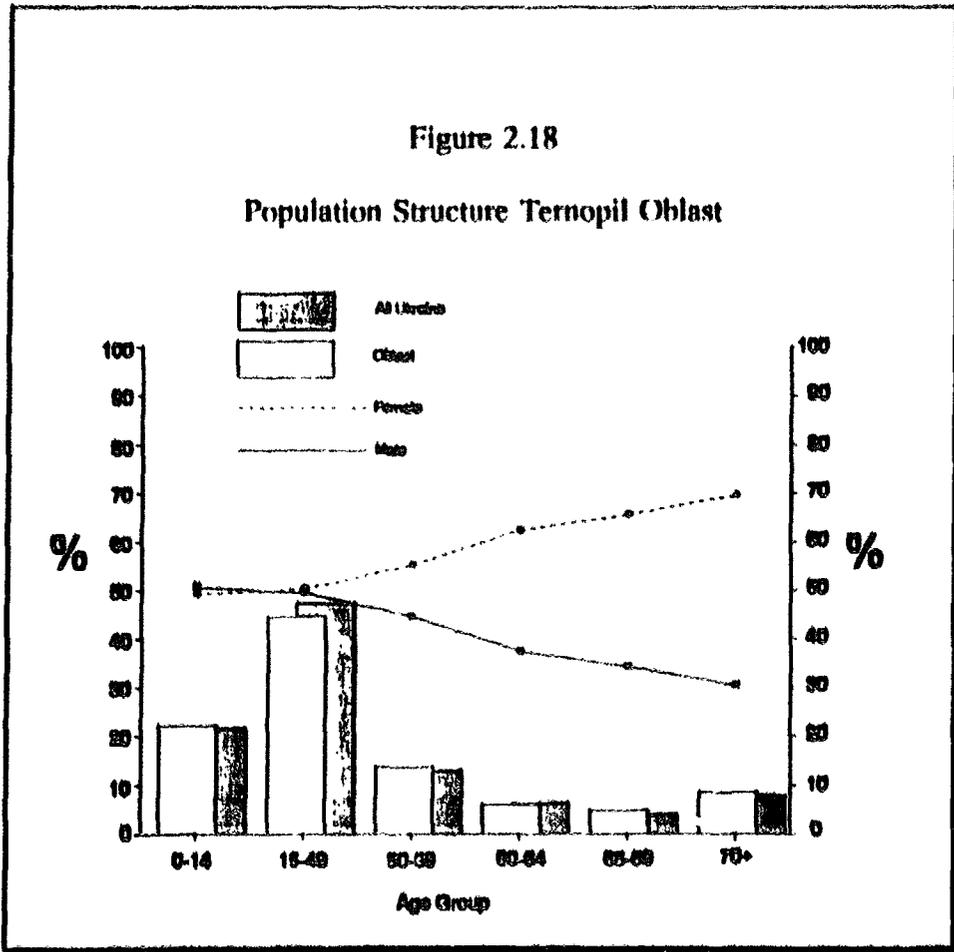


Table 2.19
Population Structure Kharkiv Oblast

| Kharkiv Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|--------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 638.3 | 1542.6 | 393.3 | 204.4 | 122.3 | 273.7 | 3174.7 |
| Age Category as % of Total | 20.1 | 48.6 | 12.4 | 6.4 | 3.9 | 8.6 | 100.0 |
| Male | 325.5 | 752.4 | 179.0 | 81.1 | 38.4 | 72.4 | 1448.8 |
| Female | 312.8 | 790.2 | 214.4 | 123.3 | 83.9 | 201.3 | 1725.9 |
| Males as % of Age Category | 51.0 | 48.8 | 45.5 | 39.7 | 31.4 | 26.5 | 45.6 |
| Cumulative % Males | 22.5 | 74.4 | 86.8 | 92.4 | 95.0 | 100.0 | |
| Females as % of Age Category | 49.0 | 51.2 | 54.5 | 60.3 | 68.6 | 73.5 | 54.4 |
| Cumulative % Females | 18.1 | 63.9 | 76.3 | 83.5 | 88.3 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

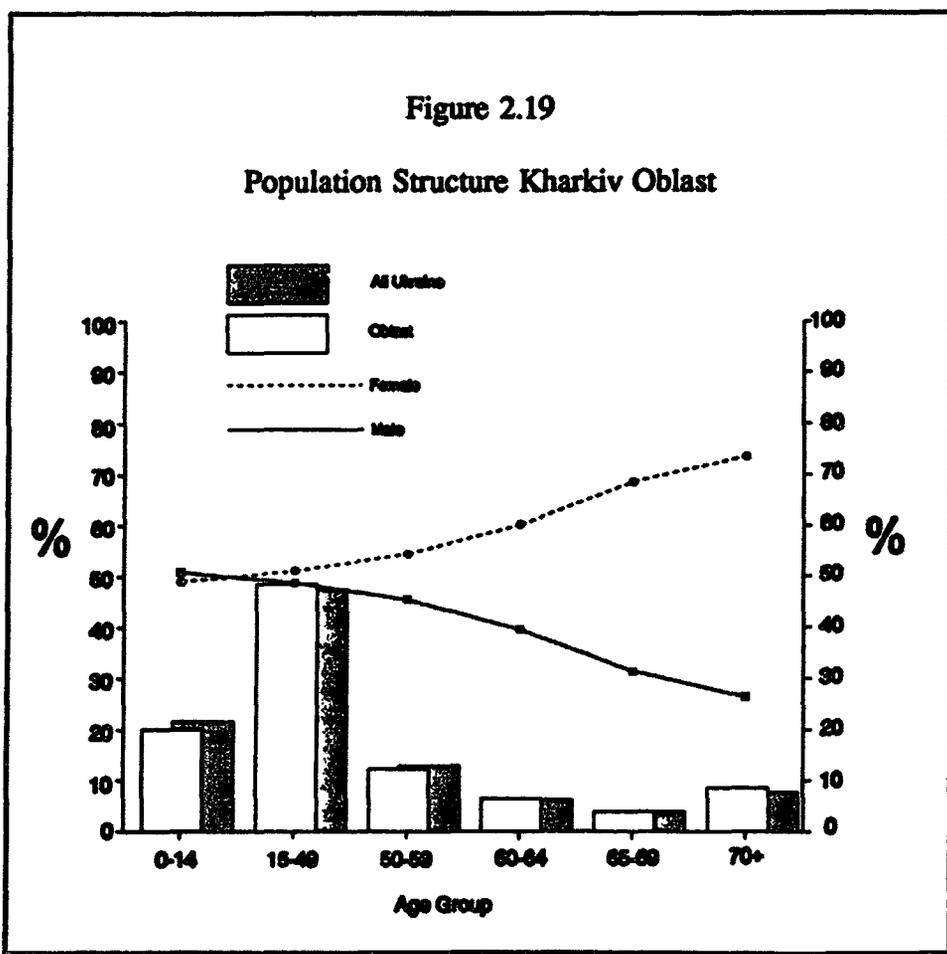


Table 2.20
Population Structure Kherson Oblast

| Kherson Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 289.9 | 605.2 | 153.2 | 71.1 | 39.2 | 78.3 | 1236.9 |
| Age Category as % of Total | 23.4 | 48.9 | 12.4 | 5.7 | 3.2 | 6.3 | 100.0 |
| Male | 147.4 | 297.6 | 71.3 | 28.0 | 12.6 | 20.3 | 577.3 |
| Female | 142.5 | 307.5 | 81.9 | 43.0 | 26.5 | 58.0 | 659.6 |
| Males as % of Age Category | 50.8 | 49.2 | 46.5 | 39.4 | 32.3 | 25.9 | 46.7 |
| Cumulative % Males | 25.5 | 77.1 | 89.4 | 94.3 | 96.5 | 100.0 | |
| Females as % of Age Category | 49.2 | 50.8 | 53.5 | 60.6 | 67.7 | 74.1 | 53.3 |
| Cumulative % Females | 21.6 | 68.2 | 80.7 | 87.2 | 91.2 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

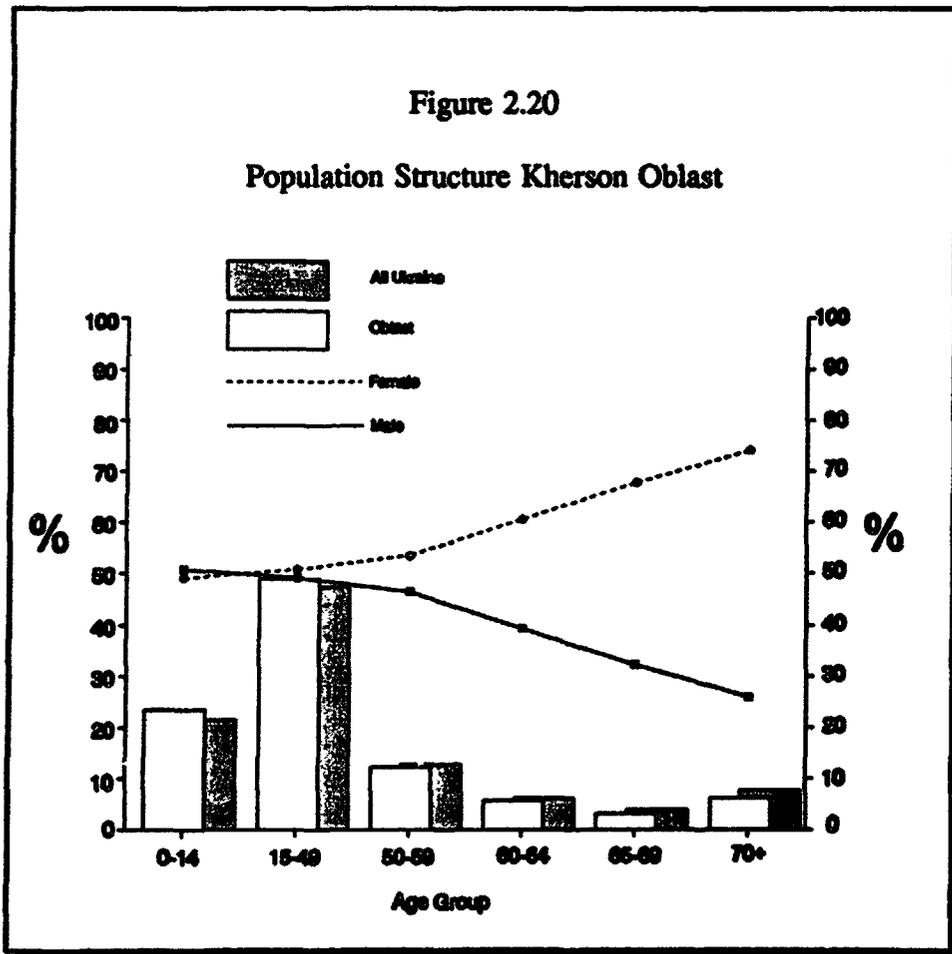


Table 2.21

Population Structure Khmelnytsky Oblast

| Khmelnytsky Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 316.4 | 684.8 | 201.0 | 103.5 | 76.7 | 143.2 | 1525.6 |
| Age Category as % of Total | 20.7 | 44.9 | 13.2 | 6.8 | 5.0 | 9.4 | 100.0 |
| Male | 160.8 | 340.1 | 88.4 | 39.4 | 25.2 | 37.2 | 691.2 |
| Female | 155.6 | 344.7 | 112.6 | 64.0 | 51.4 | 106.0 | 834.4 |
| Males as % of Age Category | 50.8 | 49.7 | 44.0 | 38.1 | 32.9 | 26.0 | 45.3 |
| Cumulative % Males | 23.3 | 72.5 | 85.3 | 91.0 | 94.6 | 100.0 | |
| Females as % of Age Category | 49.2 | 50.3 | 56.0 | 61.9 | 67.1 | 74.0 | 54.7 |
| Cumulative % Females | 18.7 | 60.0 | 73.5 | 81.1 | 87.3 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

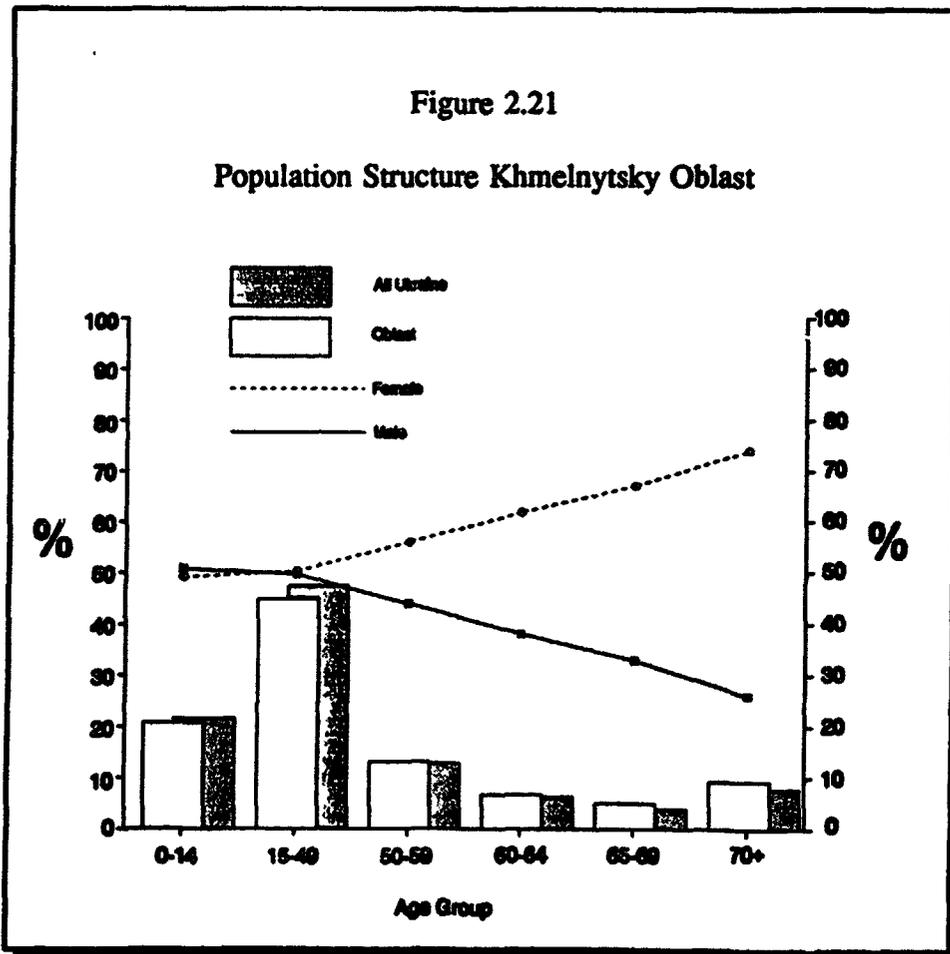


Table 2.22

Population Structure Cherkasy Oblast

| Cherkasy Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 307.9 | 676.1 | 197.9 | 112.7 | 75.7 | 155.6 | 1525.9 |
| Age Category as % of Total | 20.2 | 44.3 | 13.0 | 7.4 | 5.0 | 10.2 | 100.0 |
| Male | 156.6 | 329.4 | 90.2 | 43.5 | 23.9 | 38.0 | 681.6 |
| Female | 151.3 | 346.7 | 107.7 | 69.1 | 51.9 | 117.6 | 844.3 |
| Males as % of Age Category | 50.9 | 48.7 | 45.6 | 38.6 | 31.5 | 24.4 | 44.7 |
| Cumulative % Males | 23.0 | 71.3 | 84.5 | 90.9 | 94.4 | 100.0 | |
| Females as % of Age Category | 49.1 | 51.3 | 54.4 | 61.4 | 68.5 | 75.6 | 55.3 |
| Cumulative % Females | 17.9 | 59.0 | 71.7 | 79.9 | 86.1 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

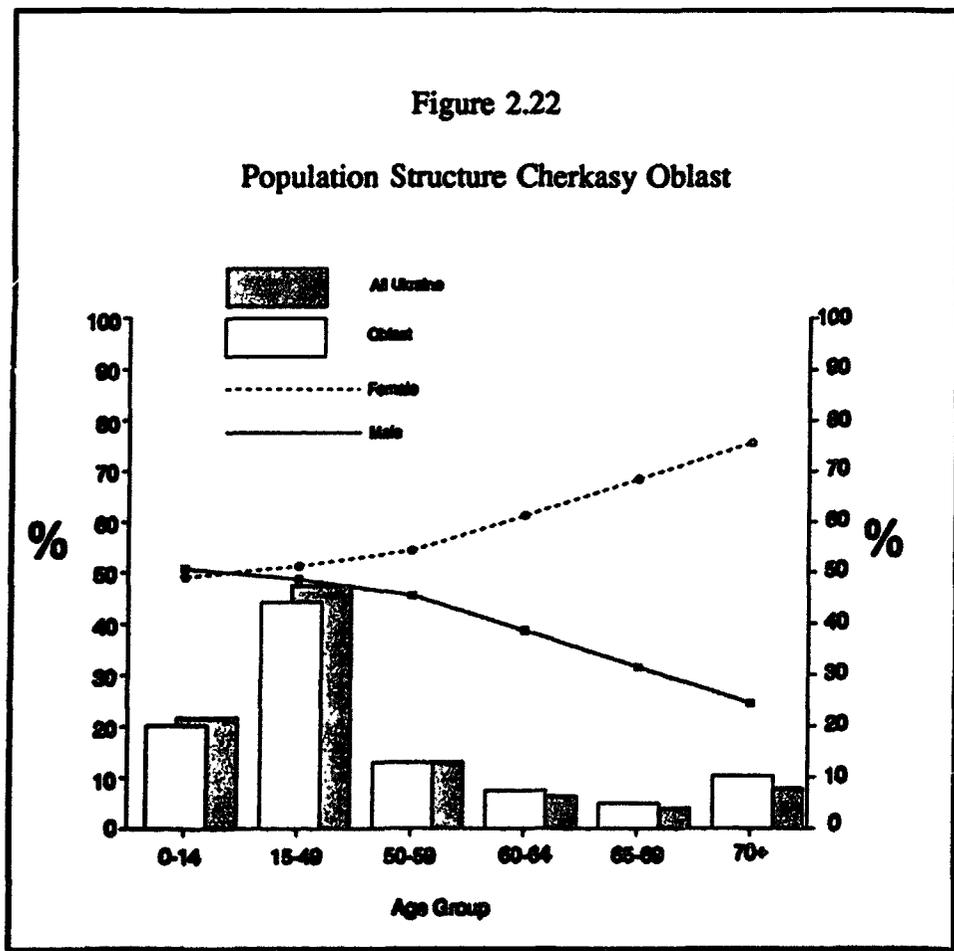


Table 2.23

Population Structure Chernivtsi Oblast

| Chernivtsi Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|-------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 219.8 | 446.0 | 115.1 | 52.7 | 42.5 | 64.7 | 940.8 |
| Age Category as % of Total | 23.4 | 47.4 | 12.2 | 5.6 | 4.5 | 6.9 | 100.0 |
| Male | 111.5 | 216.6 | 51.2 | 20.6 | 15.7 | 21.8 | 437.4 |
| Female | 108.2 | 229.4 | 63.9 | 32.2 | 26.8 | 42.9 | 503.4 |
| Males as % of Age Category | 50.7 | 48.6 | 44.5 | 39.0 | 36.9 | 33.7 | 46.5 |
| Cumulative % Males | 25.5 | 75.0 | 86.7 | 91.4 | 95.0 | 100.0 | |
| Females as % of Age Category | 49.3 | 51.4 | 55.5 | 61.0 | 63.1 | 66.3 | 53.5 |
| Cumulative % Females | 21.5 | 67.1 | 79.8 | 86.1 | 91.5 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

Figure 2.23

Population Structure Chernivtsi Oblast

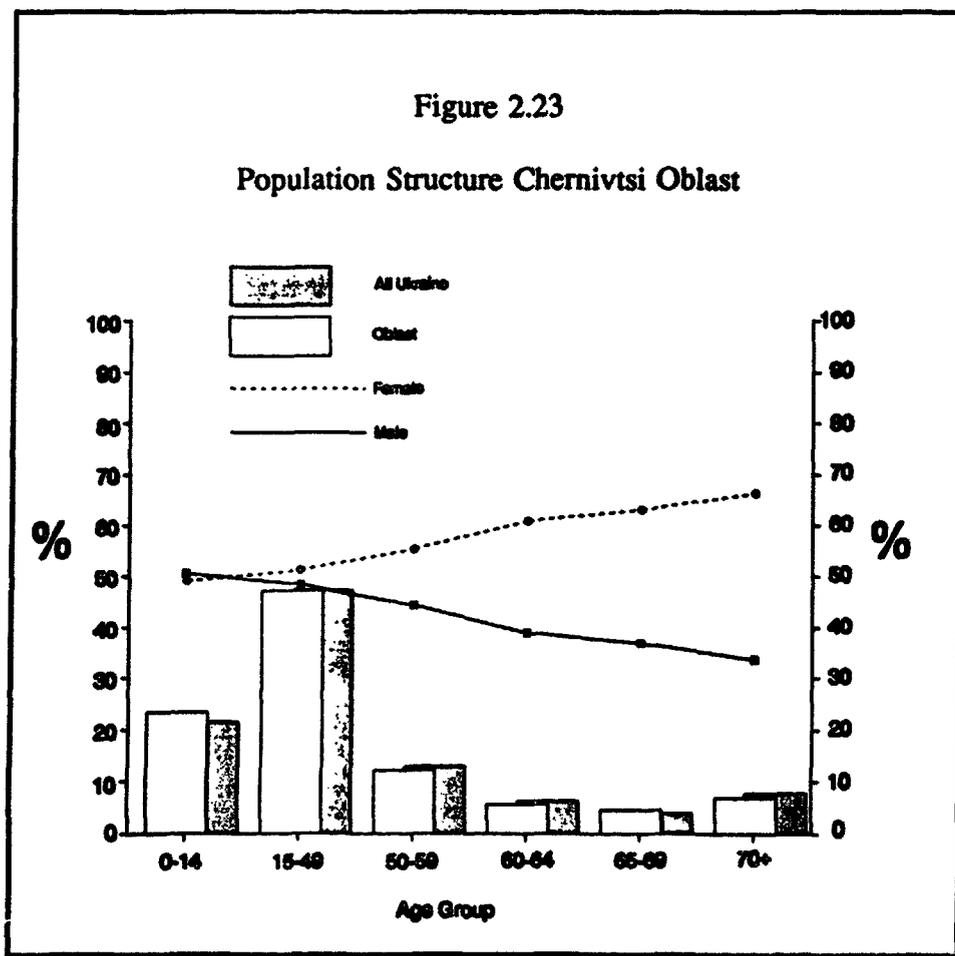


Table 2.24
Population Structure Chernihiv Oblast

| Chernihiv Oblast | Age Group | | | | | | Total |
|------------------------------|-----------|-------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 270.7 | 593.4 | 199.9 | 114.9 | 78.8 | 155.1 | 1412.8 |
| Age Category as % of Total | 19.2 | 42.0 | 14.1 | 8.1 | 5.6 | 11.0 | 100.0 |
| Male | 137.4 | 293.8 | 90.0 | 43.9 | 24.1 | 37.1 | 626.4 |
| Female | 133.3 | 299.6 | 109.9 | 71.0 | 54.6 | 118.0 | 786.4 |
| Males as % of Age Category | 50.8 | 49.5 | 45.0 | 38.2 | 30.6 | 23.9 | 44.3 |
| Cumulative % Males | 21.9 | 68.8 | 83.2 | 90.2 | 94.1 | 100.0 | |
| Females as % of Age Category | 49.2 | 50.5 | 55.0 | 61.8 | 69.4 | 76.1 | 55.7 |
| Cumulative % Females | 17.0 | 55.0 | 69.0 | 78.0 | 85.0 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

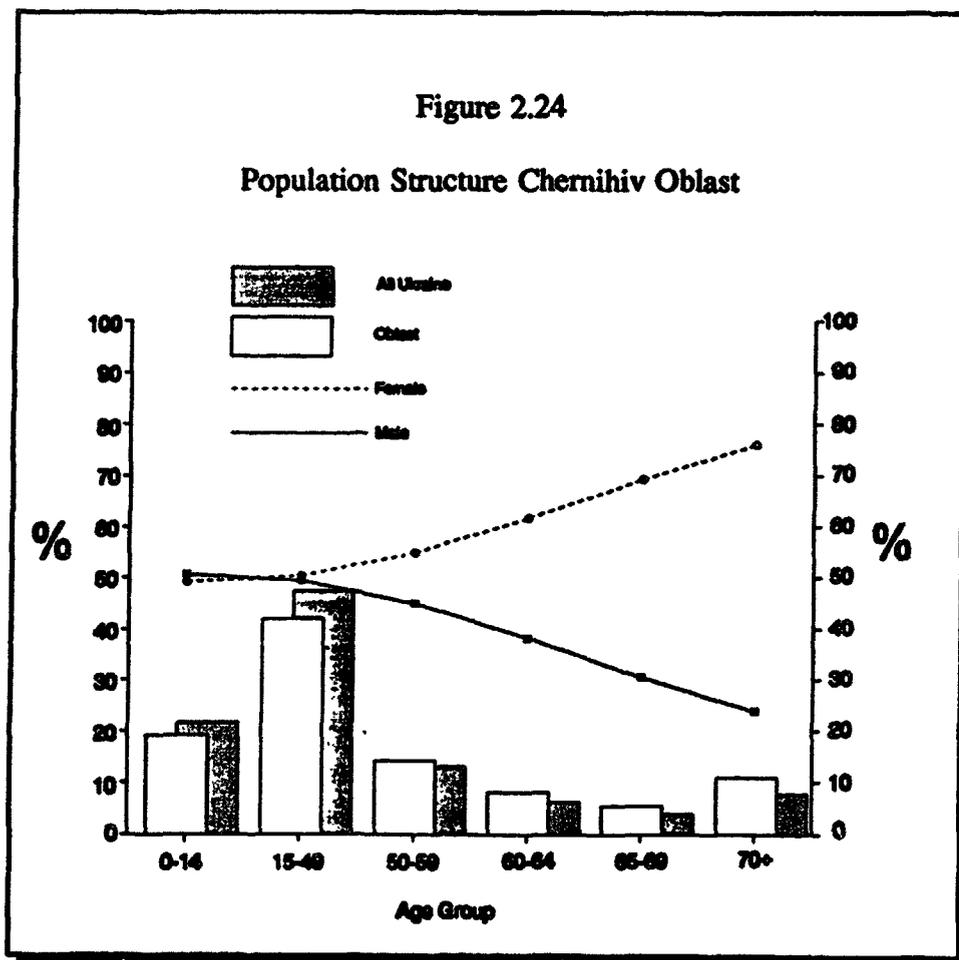


Table 2.25
Population Structure Kiev City

| Kiev City | Age Group | | | | | | Total |
|------------------------------|-----------|--------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 545.1 | 1407.9 | 275.3 | 112.2 | 72.8 | 140.2 | 2553.4 |
| Age Category as % of Total | 21.3 | 55.1 | 10.8 | 4.4 | 2.9 | 5.5 | 100.0 |
| Male | 276.2 | 678.1 | 130.0 | 46.3 | 24.2 | 42.8 | 1197.5 |
| Female | 268.9 | 729.8 | 145.3 | 65.9 | 48.6 | 97.4 | 1355.9 |
| Males as % of Age Category | 50.7 | 48.2 | 47.2 | 41.3 | 33.3 | 30.5 | 46.9 |
| Cumulative % Males | 23.1 | 79.7 | 90.5 | 94.4 | 96.4 | 100.0 | |
| Females as % of Age Category | 49.3 | 51.8 | 52.8 | 58.7 | 66.7 | 69.5 | 53.1 |
| Cumulative % Females | 19.8 | 73.7 | 84.4 | 89.2 | 92.8 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

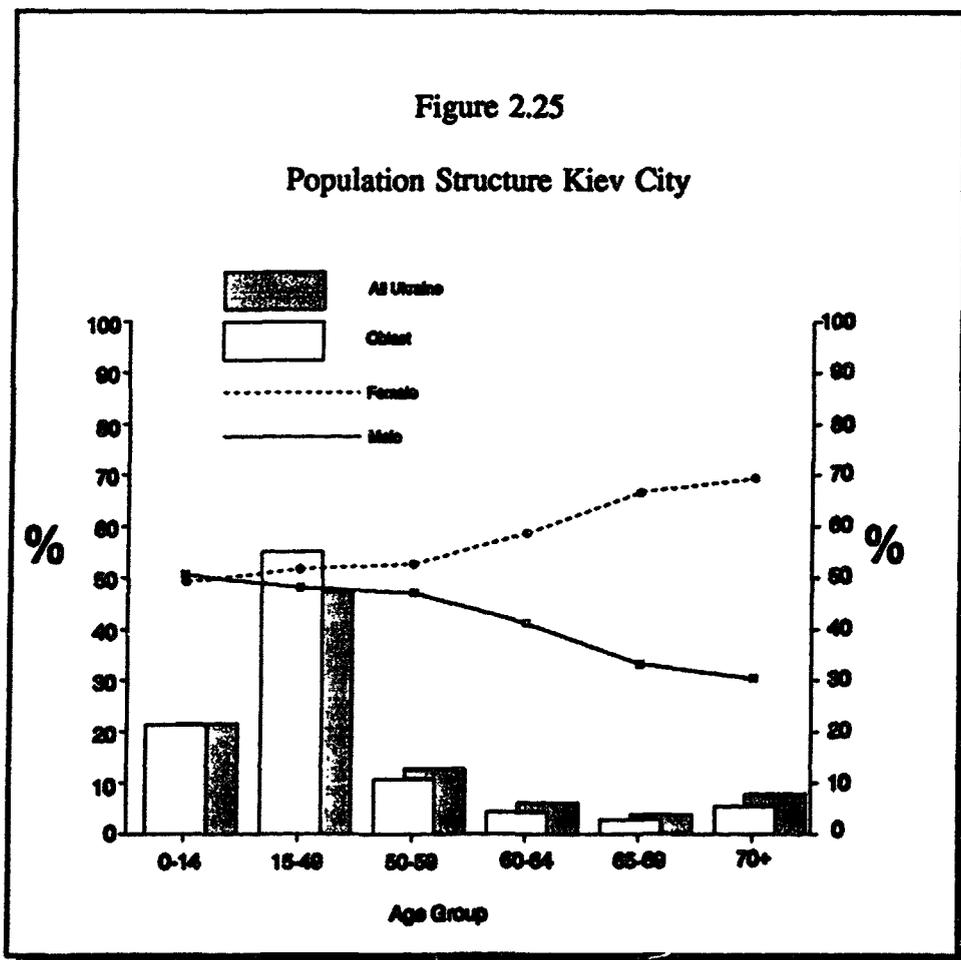


Table 2.26
Population Structure Crimea

| Crimea | Age Group | | | | | | Total |
|-------------------------------------|-----------|--------|-------|-------|-------|-------|--------|
| | 0-14 | 15-49 | 50-59 | 60-64 | 65-69 | 70+ | |
| Total Population (thousands) | 549.0 | 1204.8 | 309.1 | 143.4 | 77.8 | 142.4 | 2426.6 |
| Age Category as % of Total | 22.6 | 49.7 | 12.7 | 5.9 | 3.2 | 5.9 | 100.0 |
| Male | 280.2 | 587.6 | 140.0 | 57.1 | 25.5 | 38.7 | 1129.2 |
| Female | 268.8 | 617.2 | 169.1 | 86.3 | 52.3 | 103.8 | 1297.4 |
| Males as % of Age Category | 51.0 | 48.8 | 45.3 | 39.8 | 32.8 | 27.1 | 46.5 |
| Cumulative % Males | 24.8 | 76.9 | 89.3 | 94.3 | 96.6 | 100.0 | |
| Females as % of Age Category | 49.0 | 51.2 | 54.7 | 60.2 | 67.2 | 72.9 | 53.5 |
| Cumulative % Females | 20.7 | 68.3 | 81.3 | 88.0 | 92.0 | 100.0 | |

Source: Council for Exploration of Productive Resources of Ukraine, Kiev, 1989 data

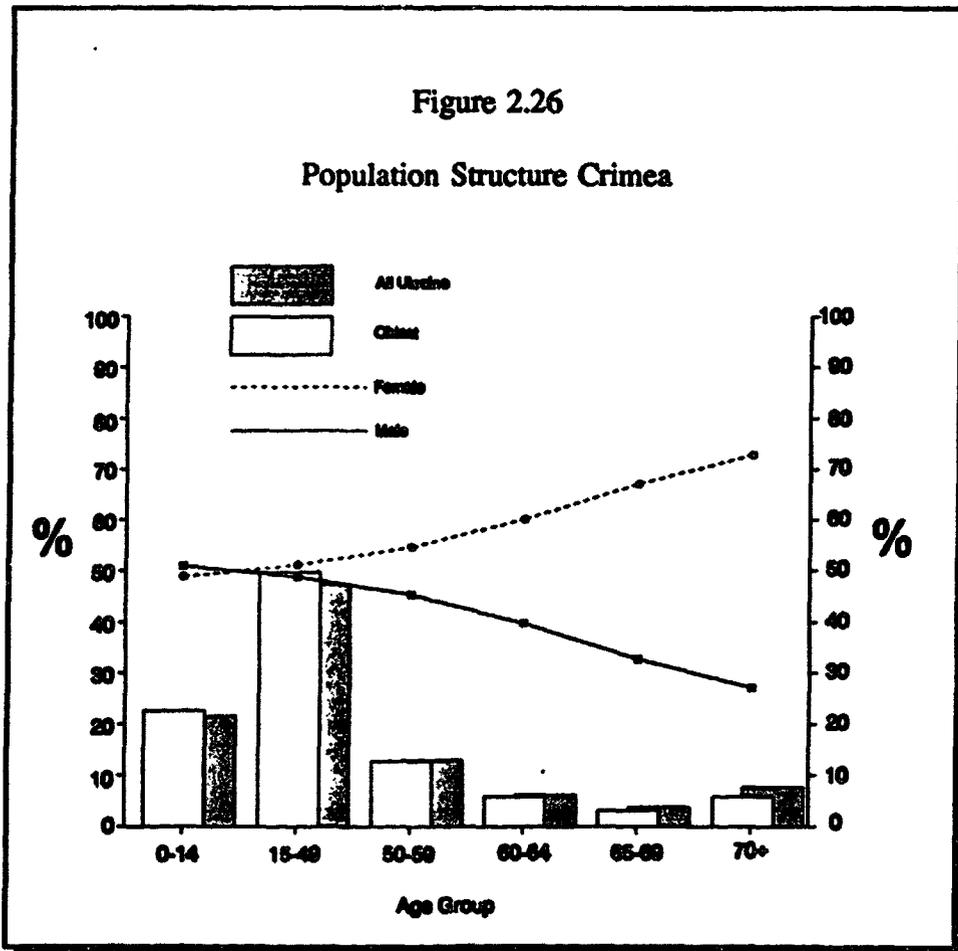


Table 4

**Life Expectancy and Survival by Gender
Ukraine and Selected Countries**

| | Ukraine 1990 | | Belarus 1990 | | Poland 1990 | | Portugal 1990 | | United Kingdom 1990 | | Sweden 1988 | | Canada 1989 | |
|----------------|--------------------------------|----------------------------|--------------------------------|----------------------------|--------------------------------|----------------------------|--------------------------------|----------------------------|--------------------------------|----------------------------|--------------------------------|----------------------------|--------------------------------|----------------------------|
| | Life Expectancy to Age X | % Survivors to Age X |
| Males | | | | | | | | | | | | | | |
| Age | | | | | | | | | | | | | | |
| 0 | 65.6 | 100.0 | 66.2 | 100.0 | 66.5 | 100.0 | 70.1 | 100.0 | 73.0 | 100.0 | 74.2 | 100.0 | 73.7 | 100.0 |
| 1 | 65.6 | 98.5 | 66.1 | 98.6 | 66.7 | 98.2 | 70.0 | 98.8 | 72.6 | 99.1 | 73.7 | 99.3 | 73.3 | 99.2 |
| 15 | 52.2 | 97.6 | 52.6 | 97.8 | 53.1 | 97.6 | 56.5 | 98.0 | 58.9 | 98.7 | 59.9 | 99.0 | 59.6 | 98.8 |
| 45 | 25.8 | 87.9 | 26.2 | 88.4 | 26.1 | 89.7 | 29.3 | 91.5 | 30.4 | 95.3 | 31.5 | 95.2 | 31.5 | 94.5 |
| 65 | 12.5 | 59.7 | 12.9 | 60.7 | 12.5 | 61.8 | 13.8 | 72.4 | 14.2 | 78.2 | 15.0 | 80.3 | 15.3 | 78.4 |
| Females | | | | | | | | | | | | | | |
| Age | | | | | | | | | | | | | | |
| 0 | 74.9 | 100.0 | 75.8 | 100.0 | 75.6 | 100.0 | 77.3 | 100.0 | 78.7 | 100.0 | 80.1 | 100.0 | 80.6 | 100.0 |
| 1 | 74.8 | 98.9 | 75.5 | 99.0 | 75.6 | 98.6 | 77.0 | 99.0 | 78.2 | 99.3 | 79.5 | 99.5 | 80.1 | 99.4 |
| 15 | 61.2 | 98.3 | 62.0 | 98.5 | 61.9 | 98.2 | 63.4 | 98.5 | 64.4 | 99.0 | 65.7 | 99.3 | 66.3 | 99.1 |
| 45 | 32.6 | 95.2 | 33.2 | 95.6 | 33.1 | 95.6 | 34.6 | 96.0 | 35.3 | 97.2 | 36.6 | 97.3 | 37.3 | 97.1 |
| 65 | 15.8 | 81.7 | 16.5 | 82.8 | 16.2 | 82.8 | 17.0 | 86.6 | 18.1 | 86.3 | 18.8 | 88.9 | 19.8 | 87.9 |

Source: 1991 World Health Statistics Annual, WHO Geneva 1992

Table 5

**Vital Events Rates Per 100,000
Ukraine and Selected Countries 1990¹**

| | Ukraine | Belarus | Poland | Portugal | United Kingdom | Sweden | Canada |
|-------------------------|----------------|----------------|---------------|-----------------|-----------------------|---------------|---------------|
| Birth Rate | 12.7 | 13.9 | 16.4 | 13.5 | 13.6 | 12.9 | 14.1 |
| Death Rate | 12.2 | 10.7 | 9.9 | 10.1 | 11.8 | 12.1 | 7.5 |
| Natural Increase | 0.5 | 3.2 | 6.5 | 3.4 | 1.8 | 0.8 | 6.6 |

Source: 1991 World Health Statistics Annual, WHO Geneva 1992
Note: 1. Canada 1985-90

Table 6

**Vital Events Rates Per 100,000
Ukraine**

| Year | Live Births | Deaths | Natural Increase |
|-------------------|--------------------|---------------|-------------------------|
| 1980 | 14.8 | 11.3 | 3.5 |
| 1981 | 14.6 | 11.3 | 3.3 |
| 1982 | 14.8 | 11.3 | 3.5 |
| 1983 | 16.0 | 11.5 | 4.5 |
| 1984 | 15.6 | 12.0 | 3.6 |
| 1985 | 15.0 | 12.1 | 2.9 |
| 1986 | 15.5 | 11.1 | 4.4 |
| 1987 | 14.8 | 11.4 | 3.4 |
| 1988 | 14.4 | 11.6 | 2.8 |
| 1989 | 13.3 | 11.6 | 1.7 |
| 1990 | 12.7 | 12.1 | 0.6 |
| 1991 | 12.4 | 13.5 | -1.1 |
| 1992 ¹ | 11.5 | 14.6 | -3.1 |

Source: MOH as cited in Khodorovsky, George;
Family Planning and Health of Women in Ukraine, July 1992.

Note: 1. First Quarter 1992

Figure 3

Vital Events Rates Per 100,000
Ukraine
1980-1992

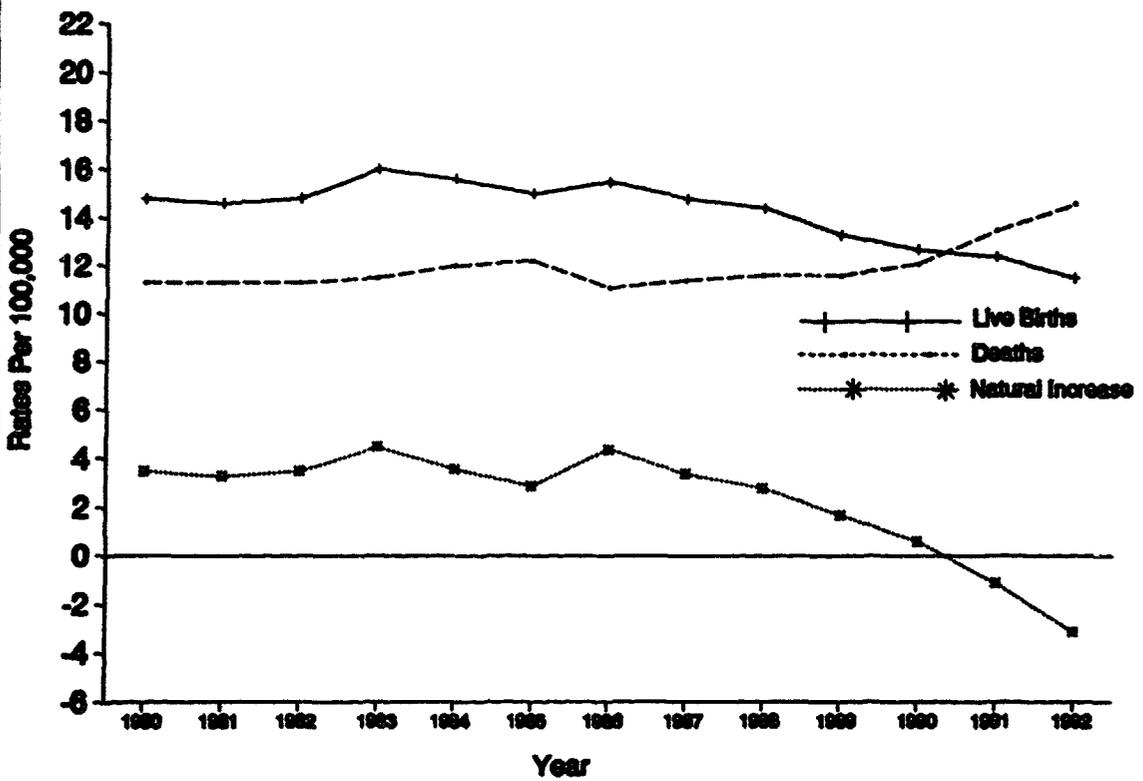


Table 8

**Age Standardized¹ Death Rates Per 100,000 for All Ages and Both Genders
By Selected Causes , Ukraine and Selected Countries**

| Cause of Death (ICD-9 Basic Tabulation List) | Country and Year | | | | | | |
|--|---------------------|-----------------|----------------|------------------|---------------------------|----------------|----------------|
| | Ukraine 1990 | Belarus 1990 | Poland 1990 | Portugal 1990 | United Kingdom 1990 | Sweden 1988 | Canada 1989 |
| Infectious and Parasitic Diseases (01-07) | 11.8 | 7.6 | 8.9 | 7.8 | 4.0 | 5.4 | 4.7 |
| Malignant Neoplasms (08-14) | 184.4 | 176.6 | 212.8 | 170.5 | 220.4 | 169.0 | 202.5 |
| Malignant Neoplasm of Stomach (091) | 27.9 | 35.1 | 21.2 | 27.8 | 12.7 | 10.3 | 8.6 |
| Malignant Neoplasm of Trachea, Bronchus and Lung (101) | 40.8 | 37.4 | 51.4 | 21.3 | 54.3 | 23.9 | 54.3 |
| Malignant Neoplasm of Female Breast (113) | 21.1 | 18.2 | 22.6 | 25.7 | 40.3 | 26.8 | 34.1 |
| Diseases of the Circulatory System (25-30) | 589.0 | 544.7 | 589.2 | 405.9 | 363.6 | 368.1 | 291.4 |
| Ischemic Heart Disease (27) | 317.1 | 336.0 | 121.0 | 85.6 | 215.3 | 209.3 | 172.2 |
| Cerebrovascular Disease (29) | 191.2 | 148.3 | 73.1 | 216.6 | 51.3 | 69.0 | 52.9 |
| Diseases of the Respiratory System (31-32) | 66.5 | 73.4 | 44.9 | 67.8 | 84.3 | 55.8 | 59.5 |
| Bronchitis, Chronic and Unspecified; Emphysema and Asthma (323) | 47.8 | 46.2 | 25.0 | 13.9 | 12.5 | 13.1 | 8.4 |
| Diseases of the Digestive System (33-34) | 29.7 | 22.7 | 34.5 | 44.7 | 26.9 | 24.2 | 27.7 |
| Injury and Poisoning (E47-E56) | 107.4 | 103.4 | 82.5 | 66.3 | 33.3 | 52.9 | 51.5 |
| Motor Vehicle Accidents (E471) | 23.0 | 23.2 | 22.4 | 26.9 | 9.0 | 8.8 | 15.4 |
| Suicide and Self Inflicted Injury (E54) | 20.5 | 21.3 | 13.8 | 8.5 | 7.8 | 17.8 | 13.1 |
| All Causes | 1141.9 | 1080.2 | 1123.7 | 954.2 | 820.4 | 753.1 | 726.7 |

Source: 1991 World Health Statistics Annual, WHO Geneva 1992

Note: 1. Standardized to the European population.

Table 9

Age Specific Death Rates for Tuberculosis
Ukraine and Selected Countries

| Causes of Death (ICD-9 Tabulation List) and Ages | Ukraine 1990 | | Belarus 1990 | | Poland 1990 | | Portugal 1990 | | United Kingdom 1990 | | Sweden 1988 | | Canada 1989 | |
|--|-----------------|-----|-----------------|-----|----------------|------|------------------|-----|---------------------------|-----|----------------|-----|----------------|-----|
| | M | F | M | F | M | F | M | F | M | F | M | F | M | F |
| 020-021 Tuberculosis of Respiratory System | | | | | | | | | | | | | | |
| <1 Year | 0.9 | 1.3 | -- | -- | -- | -- | -- | -- | 0.2 | -- | -- | -- | -- | -- |
| 1-4 | 0.3 | 0.1 | -- | 0.3 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5-14 | -- | 0.1 | 0.1 | -- | -- | -- | -- | -- | 0.0 | -- | -- | -- | -- | -- |
| 15-24 | 0.6 | 0.3 | 0.3 | 0.1 | 0.1 | 0.0 | 0.1 | 0.5 | -- | 0.0 | -- | 0.2 | -- | -- |
| 25-34 | 8.3 | 0.9 | 2.8 | 0.2 | 0.9 | 0.4 | 2.0 | 0.5 | 0.1 | 0.0 | -- | -- | -- | -- |
| 35-44 | 22.1 | 2.2 | 8.5 | 0.6 | 3.2 | 0.7 | 2.3 | 0.5 | 0.1 | 0.0 | 0.2 | -- | -- | 0.0 |
| 45-54 | 34.0 | 2.4 | 17.2 | 2.0 | 9.9 | 1.4 | 5.9 | 1.1 | 0.5 | 0.2 | 0.2 | -- | 0.4 | -- |
| 55-64 | 32.4 | 2.9 | 18.7 | 2.3 | 16.0 | 2.3 | 10.7 | 0.9 | 1.6 | 0.5 | 0.5 | 0.4 | 1.2 | 0.3 |
| 65-74 | 27.7 | 4.9 | 15.6 | 5.5 | 26.1 | 5.8 | 10.7 | 1.6 | 3.5 | 1.0 | 1.5 | 0.9 | 2.4 | 1.5 |
| 75+ | 24.0 | 5.6 | 18.6 | 9.4 | 34.4 | 12.5 | 19.8 | 5.4 | 7.6 | 2.1 | 5.9 | 2.9 | 7.9 | 2.4 |
| 022-025 Tuberculosis, Other Forms | | | | | | | | | | | | | | |
| <1 Year | 0.3 | 0.3 | -- | -- | -- | -- | -- | 1.8 | -- | -- | -- | -- | -- | -- |
| 1-4 | -- | 0.1 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 5-14 | 0.0 | 0.1 | -- | -- | -- | 0.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| 15-24 | 0.1 | 0.1 | -- | -- | -- | 0.0 | 0.1 | -- | -- | 0.0 | -- | -- | -- | -- |
| 25-34 | 0.3 | 0.1 | -- | -- | -- | 0.0 | -- | 0.3 | 0.0 | 0.1 | -- | -- | 0.1 | -- |
| 35-44 | 0.5 | 0.3 | 0.1 | -- | 0.3 | 0.0 | 0.3 | 0.2 | 0.1 | 0.0 | -- | -- | 0.1 | -- |
| 45-54 | 2.7 | 0.7 | 0.9 | 0.3 | 0.2 | 0.1 | 0.8 | -- | 0.2 | 0.1 | -- | -- | 0.1 | 0.1 |
| 55-64 | 4.6 | 1.5 | 1.2 | 0.4 | 0.3 | 0.0 | 1.7 | 0.9 | 0.3 | 0.2 | -- | -- | -- | 0.1 |
| 65-74 | 7.0 | 1.2 | 0.5 | 1.2 | 0.2 | 0.4 | 1.8 | 0.9 | 0.5 | 0.3 | 0.5 | -- | 0.3 | 0.3 |
| 75+ | 5.5 | 1.4 | 1.6 | 1.5 | 0.4 | 0.2 | 2.1 | 1.2 | 1.5 | 0.6 | 0.8 | 2.0 | 1.1 | 0.5 |

Source: 1991 World Health Statistics Annual, WHO Geneva 1992

-- Magnitude zero
0.0 Magnitude not zero, but less than 0.05

Table 10

**Total Fertility¹, Infant Mortality²,
and Maternal Mortality³ Rates
Ukraine and Selected Countries**

| | Ukraine | Belarus ³ | Poland | Portugal | United Kingdom | Sweden | Canada |
|--|-----------------|----------------------|-----------------|----------|----------------|--------|--------|
| Total Fertility Rate Per Woman | 1.9 | -- | 2.2 | 1.8 | 1.8 | 1.8 | 1.7 |
| Infant Mortality Rate Per 1000 Live Births | 14 ⁵ | 12 | 19 ⁵ | 12 | 8 | 6 | 7 |
| Maternal Mortality Rate Per 100,000 Live Births | 32 | 32 | -- | 15 | 7 | 4 | 2 |

- Sources: 1. 1991 World Health Statistics Annual, WHO Geneva, 1992 (1986-87 data).
 2. World Development Report 1992, The World Bank, (1990 data)
 3. MOH Belarus, 1991
 4. Khodorovsky, G., Family Planning and Health of Women in Ukraine, Kiev, July 1992 (1990 MOH data).
 5. Institute of Medical Statistics, Poland, 1991

Table 11
Infant Mortality Rate
Ukraine
1980-1992

| | '80 | '81 | '82 | '83 | '84 | '85 | '86 | '87 | '88 | '89 | '90 | '91 | '92 |
|--|------|------|------|-----|-----|------|------|------|------|------|------|------|------|
| Infant Mortality Per 100,000 Live Births | 16.6 | 16.2 | 16.1 | n/a | n/a | 15.9 | 14.7 | 14.6 | 15.4 | 13.1 | 13.0 | 13.6 | 15.0 |

Source: HFA Statistical Indicator Database, WHO (1981-90) and MOH Ukraine (1991, 1992= 1st Q)

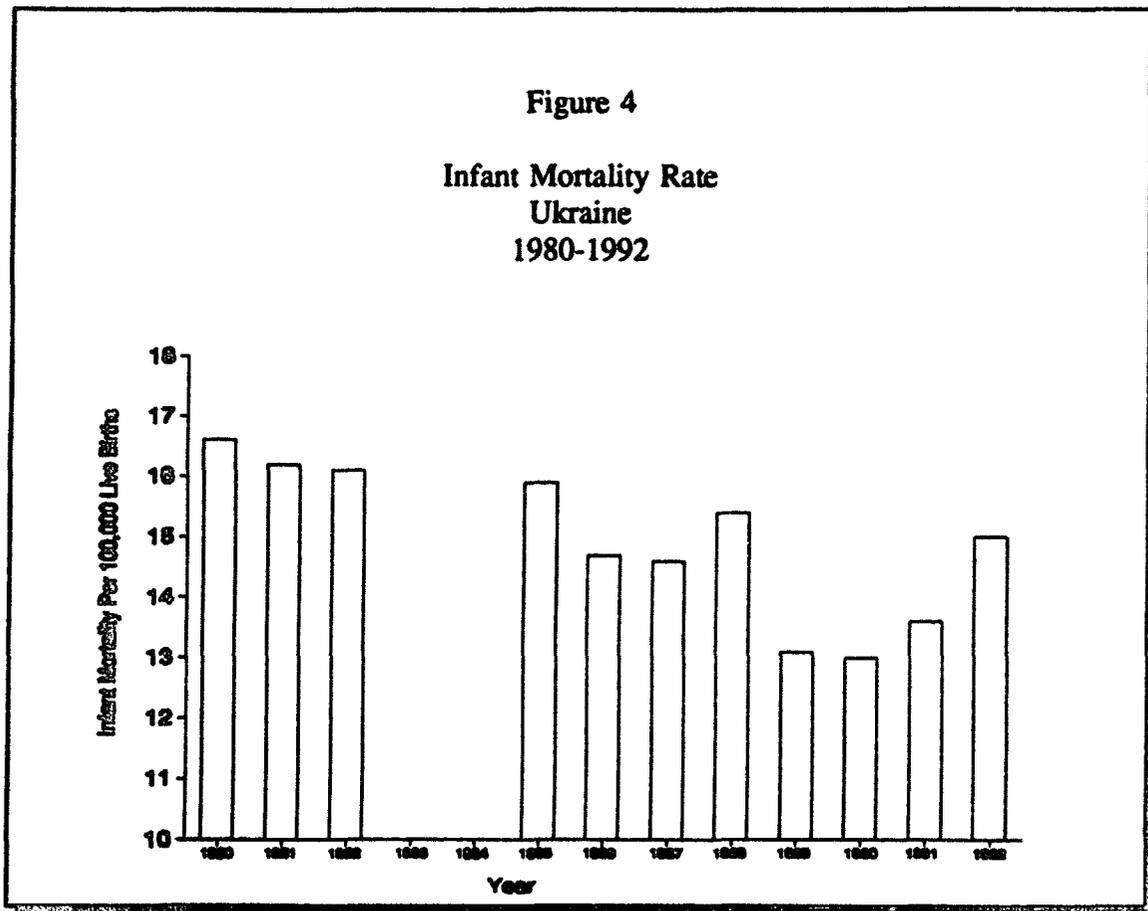


Table 12

**Age Specific Maternal and Infant Death Rates by Selected Causes and Ages
Ukraine and Selected Countries**

| Cause of Death (ICD-9 Basic Tabulation List) and Ages | Ukraine 1990 | | Belarus 1990 | | Poland 1990 | | Portugal 1990 | | United Kingdom 1990 | | Sweden 1988 | | Canada 1989 | |
|---|--------------|-------|--------------|-------|-------------|-------|---------------|-------|---------------------|-------|-------------|-------|-------------|-------|
| | M | F | M | F | M | F | M | F | M | F | M | F | M | F |
| 38 Abortion 15-24 25-34 35-44 | | 0.4 | | -- | | 0.1 | | 0.1 | | 0.1 | | -- | | -- |
| | | 0.4 | | 0.5 | | 0.3 | | 0.1 | | 0.1 | | -- | | 0.0 |
| | | 0.4 | | 0.4 | | 0.2 | | 0.2 | | 0.1 | | -- | | 0.0 |
| 390 Haemorrhage of Pregnancy and Childbirth 15-24 25-34 35-44 | | 0.3 | | 0.1 | | 0.0 | | -- | | 0.0 | | -- | | 0.1 |
| | | 0.3 | | 0.4 | | 0.2 | | 0.4 | | -- | | -- | | 0.1 |
| | | 0.3 | | -- | | 0.2 | | 0.2 | | -- | | -- | | 0.0 |
| 391 Toxaemia of Pregnancy 15-24 25-34 35-44 | | 0.3 | | -- | | 0.0 | | -- | | 0.1 | | -- | | -- |
| | | 0.2 | | 0.1 | | 0.2 | | 0.3 | | 0.2 | | -- | | 0.0 |
| | | 0.1 | | -- | | 0.1 | | -- | | -- | | 0.2 | | -- |
| 392-394, 399, 40, 41 Conditions of the Puerperium and Other Obstetrical Causes 15-24 25-34 35-44 | | 1.2 | | 0.3 | | 0.3 | | -- | | 0.1 | | 0.5 | | 0.2 |
| | | 1.2 | | 1.3 | | 0.5 | | 0.1 | | 0.2 | | 0.9 | | 0.2 |
| | | 0.7 | | 0.7 | | 0.3 | | 0.3 | | 0.1 | | 0.2 | | 0.0 |
| 440 Spina Bifida and Hydrocephalus <1 Year | 37.2 | 34.8 | 38.2 | 47.9 | 80.9 | 97.3 | 16.7 | 21.3 | 9.3 | 6.9 | 10.4 | 3.7 | 14.4 | 15.7 |
| 442 Congenital Anomalies of Heart and Circulatory System <1 Year | 181.2 | 148.6 | 169.2 | 129.2 | 214.6 | 160.2 | 105.1 | 93.9 | 81.7 | 64.9 | 72.6 | 71.9 | 93.0 | 85.6 |
| 441, 443-447, 449 Other Congenital Anomalies <1 Year | 196.0 | 152.1 | 196.5 | 159.7 | 168.6 | 161.7 | 163.5 | 164.8 | 82.9 | 68.0 | 114.1 | 116.1 | 116.8 | 117.5 |
| 453 Birth Trauma Year | 76.9 | 48.0 | 110.5 | 45.0 | 103.7 | 59.6 | 16.7 | 3.5 | 15.4 | 9.7 | 25.9 | 18.4 | 10.4 | 6.3 |
| 450-452 454, 455, 459 Other Conditions Originating in the Perinatal Period <1 Year | 504.9 | 351.8 | 462.5 | 294.7 | 816.2 | 611.9 | 580.5 | 382.8 | 362.2 | 293.0 | 273.3 | 154.8 | 334.1 | 242.3 |

Source: 1991 World Health Statistics Annual, WHO Geneva 1992

-- Magnitude zero
0.0 Magnitude not zero, but less than 0.05

Table 13

**Abortion Indicators
Ukraine
1986-1990**

| Indicator | 1986 | 1987 | 1988 | 1989 | 1990 | % Change Over 5 Years |
|---|------------|------------|----------------------|------------|------------|-----------------------|
| Women in Fertile Age (15-49) | 12,756,074 | 12,637,884 | 12,509,592 | 12,401,599 | 12,339,334 | -3.0 |
| Live Births | 792,574 | 768,851 | 740,000 ¹ | 690,981 | 657,202 | -21.0 |
| Abortions | 1,166,039 | 1,113,229 | 1,080,029 | 1,058,414 | 1,019,038 | -14.0 |
| • In Women Under Age | 3,950 | -- | 4,306 | 5,717 | 6,137 | |
| • Criminal Abortions | 106,790 | n/a | 88,740 | n/a | 72,820 | |
| • Miscarriages | 29,800 | n/a | 28,970 | n/a | 25,130 | |
| Live Births Per 1000 Women in Fertile Age | 62.1 | 60.8 | 59.2 | 55.7 | 53.3 | -17.0 |
| Abortions Per 1000 Women in Fertile Age | 91.4 | 88.1 | 86.3 | 85.3 | 82.6 | -11.0 |
| Abortions Per 100 Live Births | 147.1 | 144.8 | 145.9 | 153.2 | 155.1 | 5.0 |

Sources: IFA Statistical Indicator Database WHO/EURO, Khodorovity

Note: 1. Estimates

Table 14

**Ministry of Health
Estimated Demand for Contraceptives for 1991
Ukraine**

| Denomination | Number | Value in Million Rubles | \$US |
|-----------------------------------|--------------------------|------------------------------------|--------------|
| Condoms | 468 million items | 702 | 14.04 |
| Hormonal Contraceptives | 9.9 million packs | 114 | 18.05 |
| Intrauterus Contraceptives | 2.4 million items | 39.6 | 40.32 |

Source: Ministry of Health

Table 15

Prevalence and Incidence Rates Per 100,000 Total Population by
Disease and Percent of Total Cases
Registered at Health Care Institutions 1991

| Main Categories of Diseases (ICD-9) | Prevalence Rate | % Cases | Incidence Rate | % Cases |
|-------------------------------------|-----------------|---------|----------------|---------|
| All Categories | 120,377.2 | 100.00 | 62,029.4 | 100.00 |
| infectious & Parasitic Diseases | 4,110.2 | 3.4 | 2,697.8 | 4.0 |
| Neoplasms | 2,550.5 | 2.1 | 610.4 | 0.9 |
| Endocrine & Metabolic | 3,401.3 | 2.8 | 652.8 | 1.0 |
| Blood & Blood-Forming Organs | 620.9 | 0.5 | 243.5 | 0.4 |
| Mental disorders | 4,426.8 | 3.8 | 448.4 | 0.7 |
| Nervous system & Sense Organs | 11,180.7 | 9.3 | 5,426.8 | 8.1 |
| Circulatory System | 19,607.5 | 16.3 | 2,512.2 | 3.7 |
| Respiratory System | 40,912.6 | 33.9 | 36,024.6 | 53.5 |
| Digestive System | 9,826.1 | 8.2 | 2,541.7 | 3.8 |
| Genitourinary System | 4,948.0 | 4.1 | 2,559.9 | 3.8 |
| Complications of Pregnancy | 4,000.9 | 0.8 | 3,484.3 | 1.2 |
| Skin & Subcutaneous Tissue | 4,615.5 | 3.8 | 3,724.4 | 5.5 |
| Musculoskeletal System | 6,364.9 | 5.3 | 2,841.2 | 4.2 |
| Congenital Anomalies | 356.1 | 0.3 | 85.7 | 0.2 |
| Injury & Poisoning | 6,020.3 | 5.0 | -.- | -.- |
| Symptoms & Ill-Defined Conditions | 282.5 | 0.2 | 182.2 | 0.3 |

Source: Indicators of Population Health and Activities of Health Care Institutions 1990 and 1991, Vol 1, MOH of Ukraine, Centre for Medical Statistics, Kiev 1992.

Note: Staff of the Centre noted that the reliability of data in Vol 1 may be uneven because of inconsistencies in documentation at the institutional level.

Table 16

Forecast Sources of Funds for Health Care in 1992

| Source | Total (Rb.MM) | % of Total | % of Govt Revenues (1) |
|---|--------------------------|-----------------------|-----------------------------------|
| State and Local General Revenues | 191,987 | 91.0 | 12.0 to 12.6 |
| Payroll Taxes | 12,079 | 5.8 | 0.8 |
| Social Insurance Fund | 7,211 | 3.4 | 0.5 |
| Chernobyl Fund | 4,868 | 2.3 | 0.3 |
| Individuals | 6,967 | 3.3 | NA |
| TOTAL | 211,032 | 100.0 | 12.8 to 13.4 |

(1) Includes state and local general revenues and resources of the Pension, Social Insurance, Employment and Chernobyl Funds. Ranges reflect disagreement between the Pension Fund and the Ministry of Finance about 1992 Pension Fund revenues.

Sources: June 1992 Drafts of the 1992 Budgets for the Ministry of Health, Social Insurance Fund, Chernobyl Fund, Pension Fund and Employment Fund.

Table 17**Forecast 1992 Uses of Health Care Funds**

| | Total (Rb.MM) | % of Total | % GDP |
|-------------------------------------|--------------------------|-----------------------|--------------|
| Facilities | 183,611 | 87.0 | 6.7 |
| Hospitals | 140,613 | 66.6 | |
| Sanitoriums | 21,980 | 10.4 | |
| Ambulatory Clinics | 11,820 | 5.6 | |
| Other Health Centers | 5,171 | 2.5 | |
| Ambulance Services | 2,368 | 1.1 | |
| Blood Transfusion Services | 1,459 | 0.7 | |
| Capital Construction | 200 | 0.1 | |
| Public Health (1) | 5,778 | 2.7 | 0.2 |
| Education | 5,342 | 2.5 | 0.2 |
| Subsidies for Pharmaceutical | 4,835 | 2.3 | 0.2 |
| Research | 1,608 | 0.8 | 0.1 |
| Other (2) | 9,860 | 4.7 | 0.4 |
| TOTAL (3) | 211,032 | 100.0 | 7.7 |

(1) Additional public health expenditures are included in the budgets for specific facilities.

(2) Additional treatment for Chernobyl victims and private payments for health services not included elsewhere.

(3) Does not sum exactly due to rounding

Sources: June 1992 Drafts of the 1992 Budgets for the Ministry of Health, Social Insurance Fund, Chernobyl Fund, Pension Fund and Employment Fund.

Table 18**Ministry of Health and Local Health Inputs**

| Inputs | Percent of Total | | |
|---------------------------------|-------------------------|------------------------|--------------------------|
| | 1989 Actual | 1991 Actual | 1992 Forecast |
| Wages | 53.3 | 47.4 | 27.0 |
| Maintenance and Supplies | 13.4 | 25.4 | NA |
| Pharmaceutical | 10.6 | 6.3 | 8.0 |
| Food | 8.2 | 6.9 | NA |
| Construct | 5.2 | 2.1 | 0.1 |
| Capital Repair | 4.0 | 3.6 | NA |
| Equipment | 3.9 | 5.9 | 11.0 |
| Other | 1.4 | 2.4 | NA |
| TOTAL | 100.0 | 100.0 | 100.0 |

Source: Ministry of Health

Table 19

**Human Health Service Resources of the
Ministry of Health System
1991**

| Category | In MOH Health Care Facilities ¹ | | In MOH Network | |
|--|--|---------------|------------------|-------------|
| | Number | % | Number | % |
| MOH Network of Health Care Facilities | | | | |
| • Physicians | 201,923 | 16.8 | | |
| • Mid-Level Health Service Personnel | 539,940 | 44.9 | | |
| • Non-Technical Support Personnel | 333,791 | 27.8 | | |
| • Engineering-Technical Personnel (1990) | 6,800 | 0.6 | | |
| • Administrative Personnel ² (1990) | 47,660 | 4.0 | | |
| • Other | 61,219 | 5.7 | | |
| Total | 1,201,333 | 100.00 | 1,201,333 | 88.9 |
| Total Scientific-Research Institutes | | | | |
| • Total Staff in 48 Institutes | | | 9,704 | 0.7 |
| • of which 4,433 are scientific personnel | | | | |
| Institutes of Higher Health Education | | | | |
| • Total Staff in 18 Institutions | | | 22,387 | 1.7 |
| • of which 7,770 are teaching personnel | | | | |
| • teaching 51,928 students | | | | |
| Staff of the Scientific-Manufacturing Union Ukraine Pharmaceuticals | | | 82,558 | 6.1 |
| Staff of the Trade and Manufacturing Union Poly Med Technology | | | 11,487 | 0.8 |
| Staff of Other Health Organizations³ | | | 24,013 | 1.8 |
| Total | | | | |
| | 1991 | | 1,351,482 | 100.0 |
| | 1990 | | 1,324,517 | |

Source: MOH, General Administration Finance, July 1992

- Notes:
1. There are 24,464 facilities in the MOH network of which 3,766 are hospital facilities with inpatient beds and 6,423 ambulatory care facilities. Of the total, 150 are under direct control of the Ministry. The vast majority of facilities are at the oblast and regional level. The Scientific-Research and Higher Health Education Institutes are under MOH control but retain considerable autonomous administration.
 2. This includes staff of the MOH (203 persons) and staff at each oblast level health administration (15-30 persons each).
 3. Bureau of Forensic Medicine, Bureau of Medical Statistics, Regional accounting centers, groups for Technical Supervision of Construction

Table 20

**Network of Hospital Facilities and Beds
of the Ministry of Health
1991**

| Type of Facility | Number | Beds | % Bed Total |
|--|--------------|----------------|--------------|
| Oblast | 30 | 28,545 | 4.3 |
| City | 683 | 173,571 | 25.9 |
| Specialist | 125 | 21,165 | 3.2 |
| City Childrens | 124 | 23,170 | 3.2 |
| Central Regional | 481 | 171,732 | 25.6 |
| District | 1,481 | 53,001 | 7.9 |
| Psychiatry and Substance Abuse | 92 | 65,960 | 9.8 |
| Childbirth Centres | 83 | 17,055 | 2.5 |
| Dyspanser (Medical Rehab/Prophylactic) | 411 | 63,211 | 9.4 |
| Total | 3,766 | 671,096 | 100.0 |

Source: Indicators of Population Health and Activities

Notes: 1. There are 24,464 health facilities in the MOH network. These are typically grouped as hospital facilities of this table, ambulatory facilities and poly clinics, ambulance stations, blood transfusion centres, sanatoria, sanitary-epidemiological stations and other facilities (bureau of forensic medical expertise, bureau of medical statistics regionalized accounting centres, and centres for technical supervision of construction.

Table 21

**Network of Health Facilities and Health Care Personnel
of the Ministry of Health
Ukraine and OECD**

| | Total 1990 | Ministry of Health Network 1991 | OECD 1987 | |
|---|------------------|---------------------------------------|-----------|-------|
| | | | Low | High |
| Hospitals | 3,882 | 3,766 | | |
| Ambulatory Care Facilities and Polyclinics | 6,869 | 6,423 | | |
| Beds per 10,000 | 700,331 135.5 | 671,096 129.6 | 21.0 | 161.0 |
| Physicians per 10,000 | 221,408 42.9 | 201,923 39.0 | 7.3 | 33.8 |
| Mid-level Health Service Personnel per 10,000 | 607,235 117.5 | 539,940 104.2 | | |
| Admission per 100 | -- | 24.3 | 5.5 | 22.6 |
| Average Length of Stay | -- | 16.5 | 6.1 | 52.9 |
| Patient Days Per Capita | -- | 4.0 | 0.7 | 4.9 |

- Sources: 1. Indicators of Population Health and Activities of Healthcare Institutions 1990 and 1991
Vol II MOH of Ukraine, Centre for Medical Statistics Kiev 1992.
2. OECD data as cited in World Bank Report 9182-POL.

Table 22

Health Expenditures of Selected Countries as a Percent of GDP

| | Ukraine ¹ 1991 | Belarus ² 1992 | Poland ² 1992 | Portugal ⁴ 1990 | United Kingdom 1990 | Sweden 1990 | Canada 1990 |
|--|------------------------------|------------------------------|-----------------------------|-------------------------------|---------------------------|----------------|----------------|
| Health Expenditures as Percent of GDP | 6.2 | 2.8 | 5.7 | 5.5 | 6.1 | 9.0 | 8.6 |

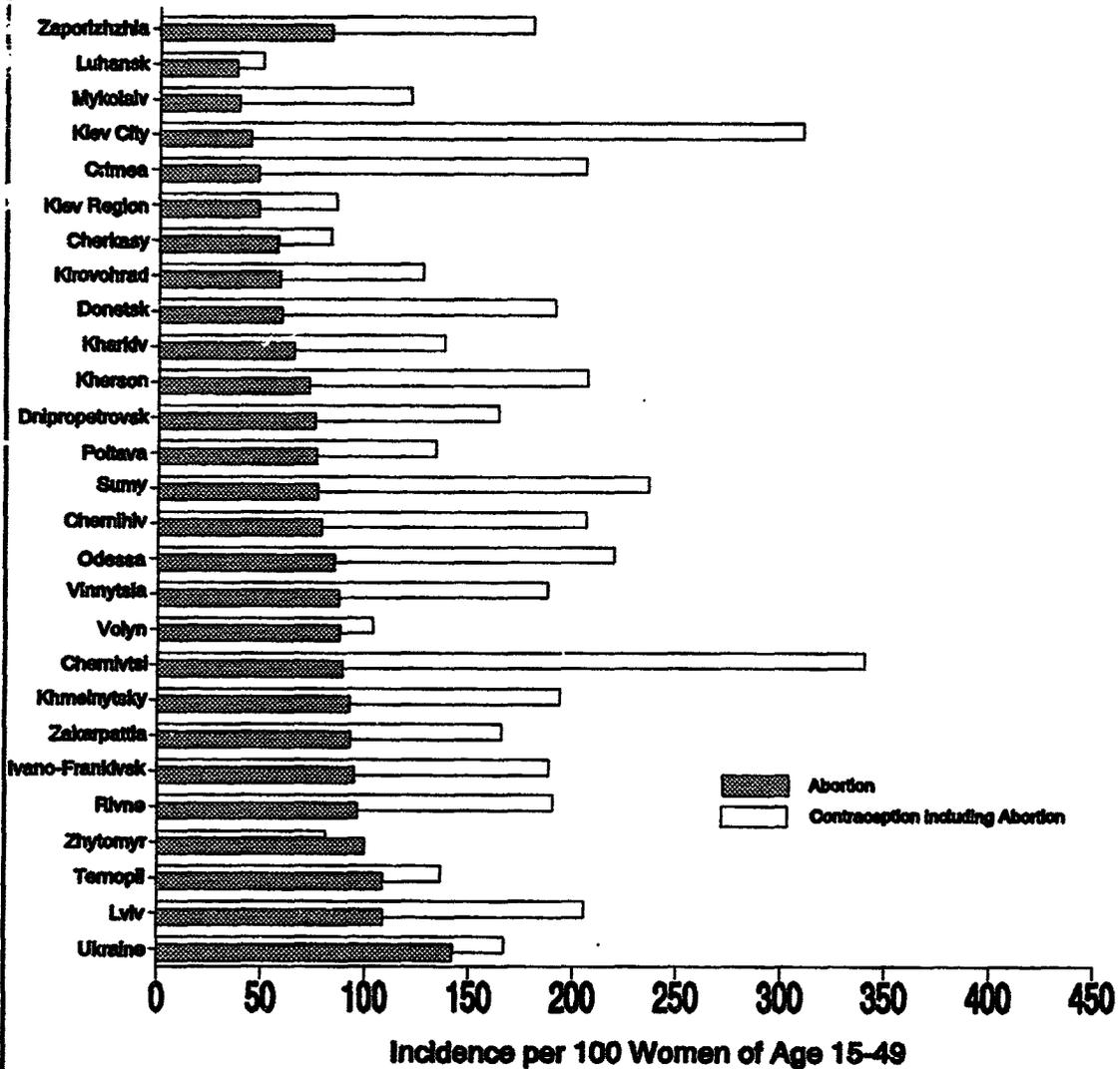
Source:

MOH

1. GOSPLAN and Notes from Fourth Economic Missions, The World Bank, Feb 1992, Appendix, Table 2
2. Poland Health System Reform, Meeting the Challenges, The World Bank, Jan 9, 1992, No. 9182-POL.
3. Portugal, UK, Canada, Sweden from Health Care Systems in Transition, OECD, 1990.
- 4.

Figure 5

Incidence of Abortion and Contraception
as Birth Regulation
Ukraine and Oblasts



Source: Pirozhkov, S. and Lekiza-Seshuk, N. Demo-Social Consequences of Modern Family Planning in Ukraine and Their Influence on Development of the Republic, Kiev, July 1992

Figure 6

Complications of Abortion

Complications After Abortion

| Complication | Prevalence Per 100 Women After Abortion |
|---|--|
| Inflammation of Uterus and Uterine Organs | |
| Secondary Sterility | 30 |
| Complications of Pregnancies | 50-60 |
| Miscarriages | 50 |
| Uterine Bleeding During Deliveries | 22 |
| | 13-15 |

Abortion Associated Chronic Morbidity 1990

| | Women Under Physician Care in Dyspanser Medical Institutions (thousands) | Rate per 1000 Women Fertile Age |
|---|---|--|
| Salpingitis and Oophoritis | 67.4 | 307 |
| Endometriosis | 5.0 | 23 |
| Erosion and Ectropion of Cervix Uteri | 136.2 | 620 |
| Complications of Pregnancy, Delivery and Postnatal | | |
| Period | 70.4 | 570 |
| Sterility | 33.3 | 269 |

Source: Khodorovsky, G., *Family Planning and Health of Women in Ukraine*, Kiev, July 1992

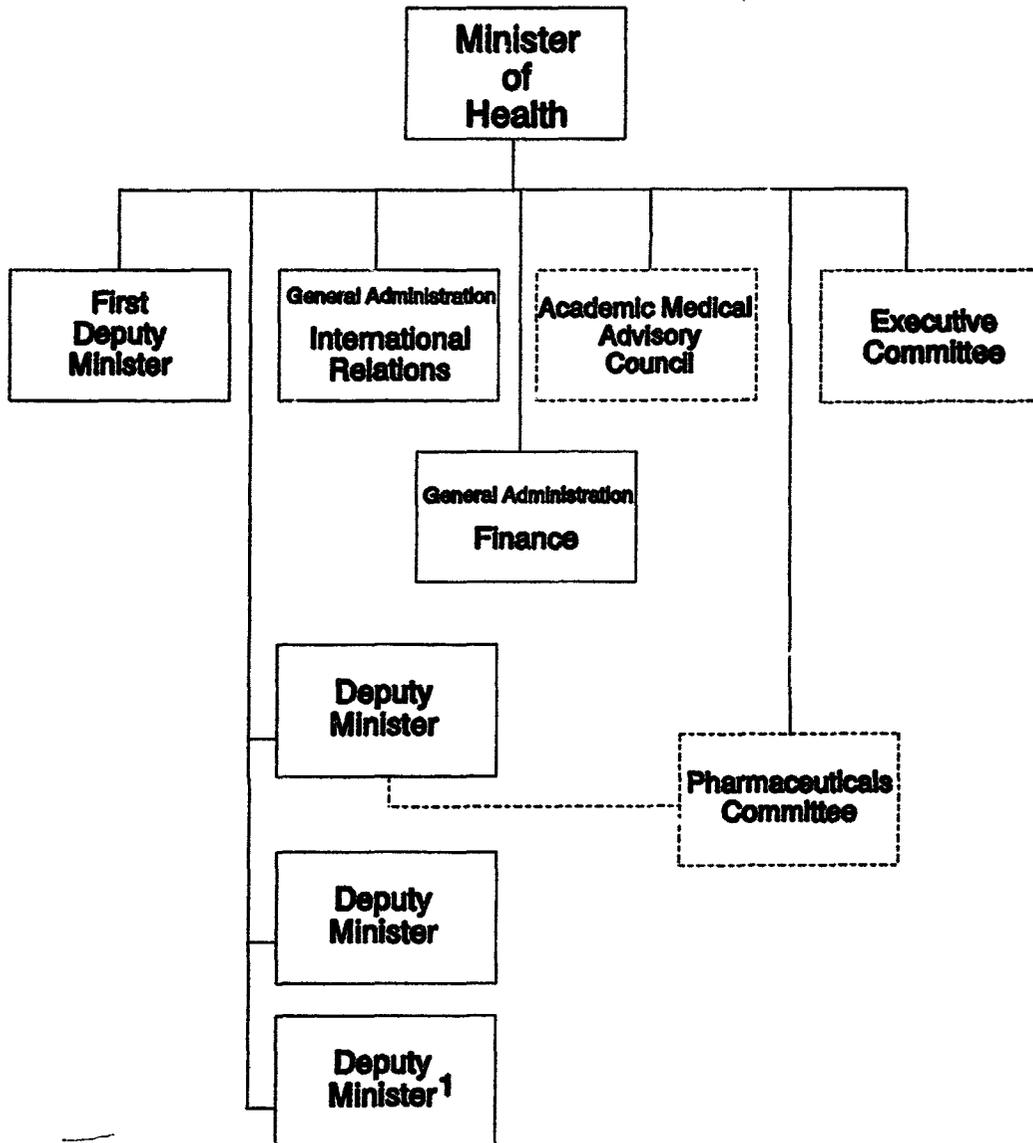
Figure 7

**Indicators of Hospital Resources Allocated to
Abortion Related Care 1991**

| | | |
|-----|--|-----------------|
| 1. | Supply of gynaecological beds (including abortion cases) | 37,055 |
| | ● rate per 10,000 total population | 7.2 |
| | ● estimated rate per 10,000 females | 13.4 |
| 2. | Excess average days occupancy of gynaecological beds over average occupancy of total beds | 6 days |
| 3. | Number of women undergoing abortion | 957,000 |
| 4. | Cost of an abortion in Kiev | 650 rubles |
| 5. | Percent of women undergoing abortion and number subsequently treated for complications of inflammation | 30% |
| 6. | Proportion of treated that that can expect to be cured with one treatment | half |
| 7. | Proportion and number requiring treatment for resulting chronic condition | half 143,550 |
| 8. | Average number of courses of treatment for chronic condition | 5-6 |
| 9. | Average course of treatment | 21 days |
| 10. | Average 1991 cost per treatment | 3,505 rubles |
| 11. | Number of women undergoing treatment for infertility (largely associated with complications of abortion) | 52,161 |

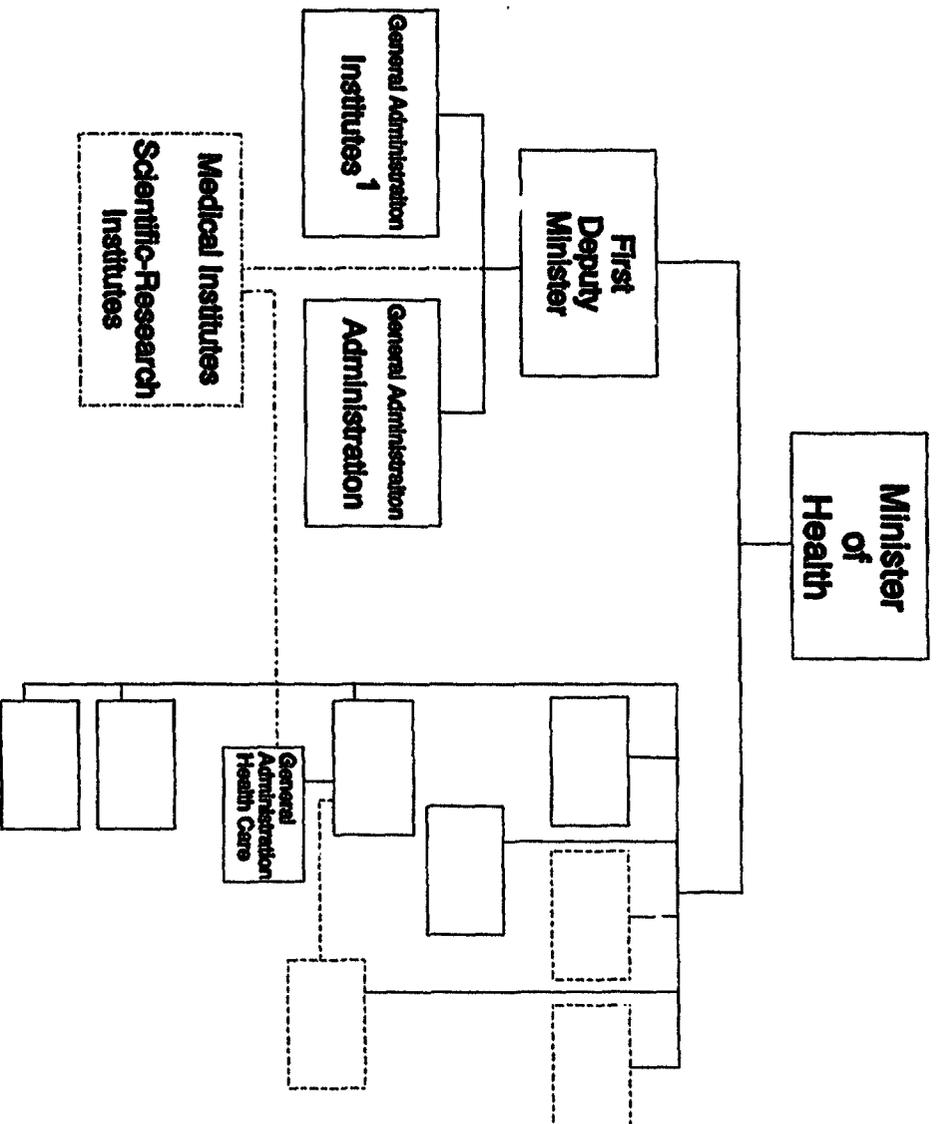
Source: Khodorovsky, G., 1992

**Figure 8
Ministry of Health
Senior Level Organization**



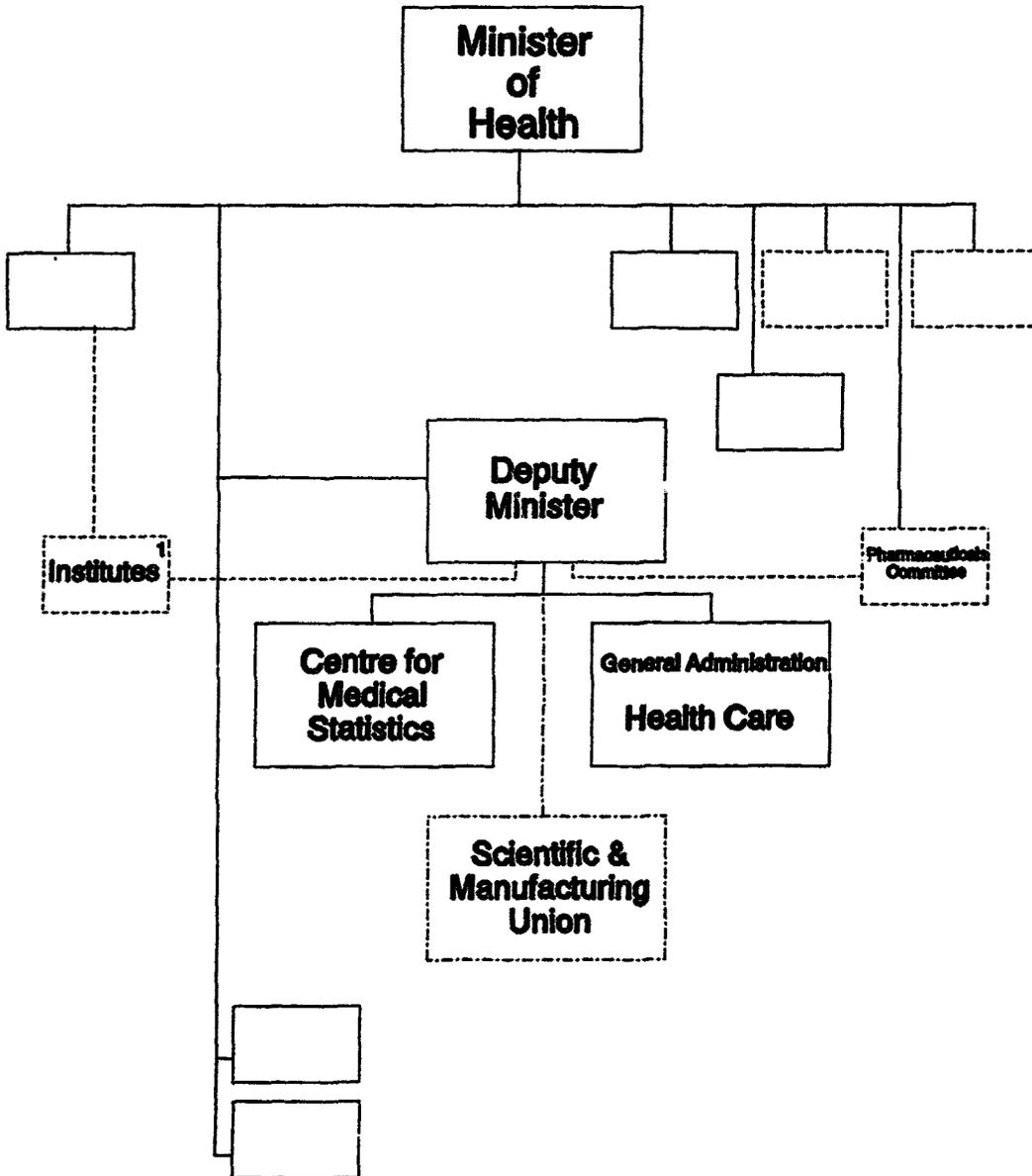
1. Deputy Minister and Chief Sanitary Inspector

Figure 8.1
First Deputy Minister



1. Institutes of Higher Health Education, Health Human Resources, and Scientific-Research Institutes

Figure 8.2
Deputy Minister



1. Medical Institutes, Scientific-Research Institutes

Figure 8.4
Deputy Minister
and Chief Sanitary Inspector

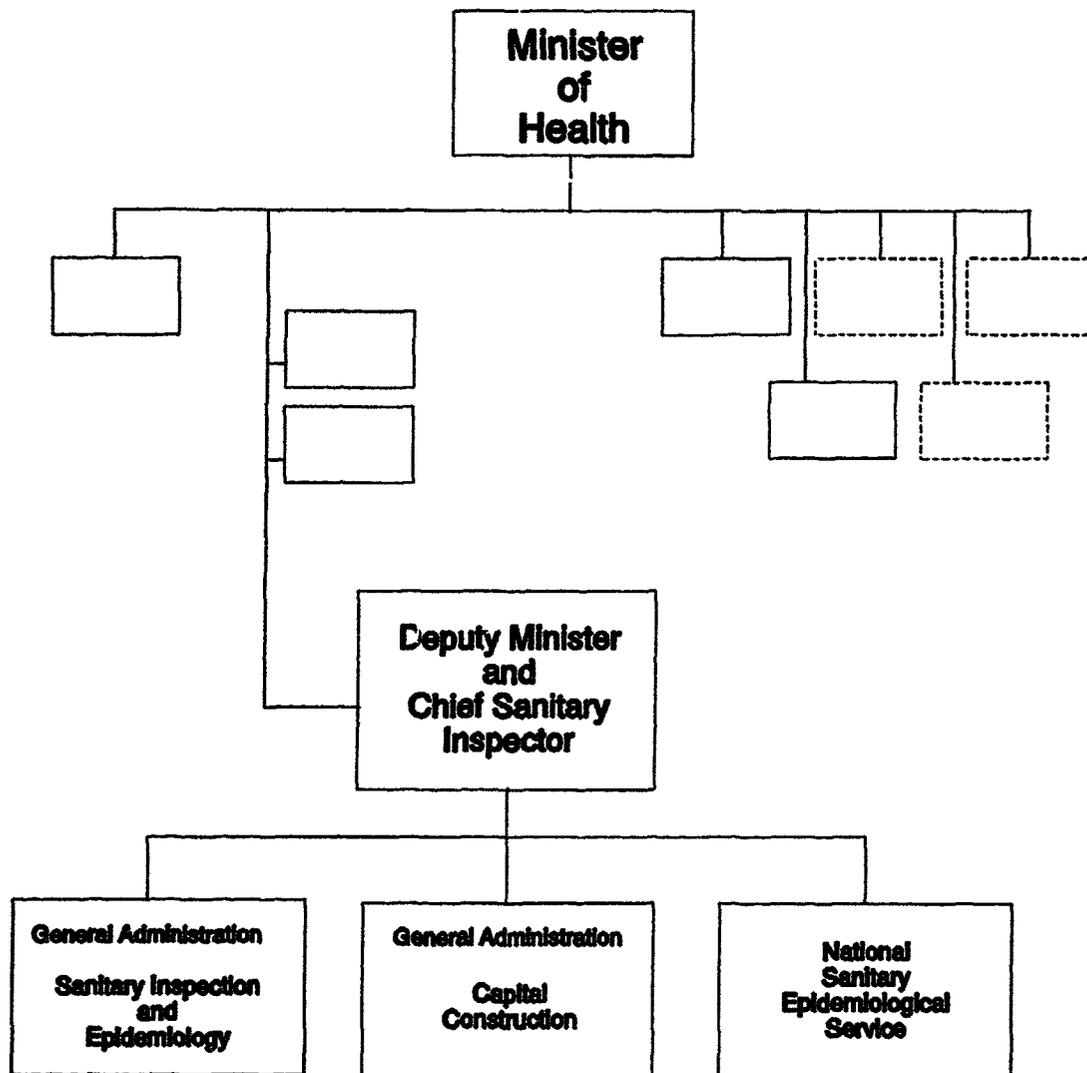


Table 74. UKRAINE: Average Annual Wages
(In Rubles)

| | 1980 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | Q1'92 |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|---------|
| Ukraine | 155.1 | 173.9 | 179.0 | 185.0 | 199.8 | 217.7 | 247.3 | 471.5 | 2,853.0 |
| Crimea R. | 154.2 | 169.1 | 174.6 | 181.1 | 196.0 | 214.7 | 250.0 | 464.4 | 2,318.8 |
| Vinnitsia | 136.7 | 155.3 | 160.2 | 166.4 | 179.1 | 194.7 | 222.0 | 406.5 | 1,966.0 |
| Volyn | 139.1 | 157.8 | 162.8 | 168.9 | 180.7 | 194.7 | 221.0 | 424.4 | 2,547.4 |
| Dnipropetrovsk | 163.1 | 181.1 | 185.7 | 190.2 | 207.4 | 227.4 | 225.0 | 508.2 | 3,666.9 |
| Donetsk | 174.3 | 195.4 | 199.5 | 203.6 | 217.5 | 236.8 | 268.0 | 547.7 | 4,684.4 |
| Zhytomyr | 137.1 | 155.8 | 160.3 | 169.3 | 179.0 | 194.4 | 227.0 | 470.0 | 2,139.9 |
| Zakarpattia | 141.5 | 159.7 | 165.5 | 172.8 | 185.8 | 200.1 | 223.0 | 387.5 | 1,479.1 |
| Zaporizhzhia | 159.5 | 178.1 | 182.6 | 187.1 | 203.8 | 223.0 | 257.0 | 500.3 | 3,221.8 |
| Ivano-Frankivsk | 141.1 | 163.3 | 167.4 | 175.6 | 188.9 | 204.2 | 227.0 | 429.4 | 2,211.2 |
| Kiev Region | 146.8 | 165.4 | 177.2 | 187.9 | 202.2 | 217.0 | 280.0 | 493.5 | 2,876.3 |
| Kirovohrad | 149.8 | 173.0 | 177.4 | 181.3 | 194.5 | 212.0 | 240.0 | 448.0 | 2,084.4 |
| Luhansk | 170.8 | 193.3 | 196.9 | 200.3 | 213.5 | 231.0 | 262.0 | 516.3 | 4,236.9 |
| Lviv | 147.9 | 165.7 | 170.3 | 177.6 | 193.1 | 208.5 | 234.0 | 443.5 | 2,352.4 |
| Mykolaiv | 151.3 | 171.7 | 178.5 | 183.7 | 198.0 | 215.9 | 250.0 | 439.9 | 1,941.2 |
| Odesa | 154.9 | 169.7 | 175.6 | 180.8 | 195.6 | 214.8 | 242.0 | 443.2 | 1,987.5 |
| Poltava | 151.2 | 171.7 | 177.3 | 184.9 | 198.7 | 215.2 | 243.0 | 470.8 | 2,613.7 |
| Rivne | 139.2 | 157.0 | 162.1 | 169.0 | 181.5 | 192.4 | 221.0 | 444.2 | 1,992.5 |
| Sumy | 143.7 | 167.6 | 173.6 | 197.7 | 194.0 | 207.8 | 237.0 | 471.1 | 2,093.2 |
| Ternopil | 135.4 | 152.3 | 157.6 | 165.6 | 178.4 | 191.0 | 218.0 | 417.1 | 2,204.2 |
| Kharkiv | 158.7 | 180.1 | 184.4 | 190.4 | 205.9 | 225.6 | 225.0 | 463.7 | 1,956.7 |
| Kherson | 150.2 | 166.4 | 172.5 | 177.2 | 190.3 | 209.3 | 241.0 | 443.0 | 1,890.5 |
| Khmelnitsky | 138.6 | 157.4 | 163.1 | 168.6 | 182.9 | 197.7 | 227.0 | 435.8 | 2,153.0 |
| Cherkasy | 142.9 | 163.0 | 168.2 | 176.0 | 191.4 | 208.6 | 238.0 | 461.7 | 1,978.4 |
| Chernivtsi | 134.7 | 152.1 | 157.3 | 163.2 | 175.6 | 191.5 | 218.0 | 392.9 | 1,958.2 |
| Chernihiv | 139.5 | 154.2 | 159.2 | 166.3 | 180.7 | 194.2 | 221.0 | 419.8 | 1,958.7 |
| Kiev (City) | 165.4 | 181.8 | 186.8 | 195.8 | 216.9 | 243.8 | 248.0 | 498.8 | 2,235.6 |

Source: Ministry of Labor

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**Table 1.107 UKRAINE: Single-Headed Families a/
(From 1989 Census)**

| | Thousand Families |
|-----------------|----------------------|
| Ukraine | 1898 |
| Crimea R. | 107 |
| Vinnysia | 61 |
| Volyn | 29 |
| Dnipropetrovsk | 158 |
| Donetsk | 222 |
| Zhytomyr | 51 |
| Zakarpattia | 32 |
| Zaporizhzhia | 81 |
| Ivano-Frankivsk | 45 |
| Kiev Region | 65 |
| Kirovohrad | 40 |
| Luhansk | 111 |
| Lviv | 94 |
| Nykolaiv | 47 |
| Odessa | 105 |
| Poltava | 60 |
| Rivne | 31 |
| Sumy | 47 |
| Ternopil | 31 |
| Kharkiv | 134 |
| Kherson | 43 |
| Khmelnytsky | 47 |
| Cherkasy | 49 |
| Chernivtsi | 30 |
| Chernihiv | 48 |
| Kiev (City) | 130 |

Source: Ministry of Statistics.

a/ Incomplete families are those headed by either mother or father, and/or one of their parents, with children.

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**Table 1.105 UKRAINE: Professional Training of the Unemployed
(March 31, 1992) (Participants)**

| | Course a/ Places Offered | Course Places Needed | Number Placed Re-/Train | Profess. In Trained Total | -- Of Total First Trained | Re- Trained | Skill Upgrade |
|--|--------------------------------|----------------------------|-------------------------------|------------------------------------|---------------------------------|----------------|------------------|
| Trained Total | 64,543 | 6,699 | 1,508 | 738 | 227 | 506 | 5 |
| Laid-Off People | -- | -- | 474 | 255 | 19 | 232 | 4 |
| Women | 27,488 | 3,231 | 930 | 517 | 144 | 371 | 2 |
| Young People Up to 30 Yrs | -- | -- | 767 | 383 | 197 | 185 | 1 |
| Unemployed | -- | -- | 486 | 136 | 10 | 126 | -- |
| Of Total: | | | | | | | |
| In Enterprises and Organizations | 13,684 | 1,348 | 293 | 248 | 138 | 109 | 1 |
| In Professional-Techn. Schools | 27,... | 2,841 | 224 | 75 | 27 | 48 | -- |
| o/w in State Techn.College | 27,051 | 2,841 | 224 | 75 | 27 | 48 | -- |
| In Specialized College | 2,369 | 85 | 21 | 15 | -- | 15 | |
| In University | 3,258 | 290 | 196 | 109 | 11 | 97 | 1 |
| o/w in State Univ. Contd. Educ. | 2,807 | 290 | 196 | 109 | 11 | 97 | 1 |
| in Branch Univ. Contd. Educ. | 5,871 | 1,141 | 330 | 119 | 10 | 107 | 2 |
| In Other Educational Institutions | 12,310 | 994 | 444 | 172 | 41 | 130 | 1 |

Source: Ministry of Labor

a/ Based on a contract, employment centers have at their disposal course vacancies offered by educational institutions, enterprises and organizations.

Note: Number of people continuing training: 1,712
 o/w women 1,042
 Laid-off labor: 570 people

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**Table 1.109 UKRAINE: Average Annual Wages in Industry
(In Percent and Ruble)**

| | -----1991----- | | ---Q1--1992--- | |
|-------------------------|----------------|---------|----------------|---------|
| | Rubles | % Total | Rubles | % Total |
| Industry Total | 549 | 100 | 2,853 | 100 |
| o/m | | | | |
| Highly-Paid Branches | | | | |
| Coal Mining | 870 | 159 | 6,565 | 230 |
| Oil Refinery/Processing | 522 | 101 | 2,729 | 96 |
| Chemical | 522 | 95 | 2,729 | 96 |
| Low-Paid Branches | | | | |
| Construction Materials | 528 | 96 | 2,365 | 83 |
| Light Industry | 462 | 84 | 2,374 | 83 |

Source: Ministry of Labor

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Table 1.79 UKRAINE: Workforce Fluctuation; Construction
(In Thousand Employees)

| | 1985 | | | 1990 | | | 1991 | | |
|-----------------|---------------------|---------------|---------------------|---------------------|---------------|---------------------|---------------------|---------------|---------------------|
| | Avg.No. Employed | Total Left | Left on Own Wish | Avg.No. Employed | Total Left | Left on Own Wish | Avg.No. Employed | Total Left | Left on Own Wish |
| Ukraine | 932.8 | 359.5 | 112.4 | 1,159.7 | 372.5 | 151.2 | 1,149.4 | 345.9 | 150.7 |
| Crimea R. | 47.6 | 24.8 | 7.0 | 59.8 | 23.5 | 10.4 | 58.4 | 20.7 | 10.7 |
| Vinnytsia | 19.9 | 11.3 | 2.4 | 30.0 | 10.5 | 3.6 | 32.0 | 10.1 | 3.7 |
| Volyn | 12.3 | 5.9 | 1.6 | 18.8 | 5.9 | 2.1 | 18.9 | 4.9 | 1.9 |
| Dnipropetrovsk | 90.0 | 23.9 | 8.7 | 116.0 | 33.1 | 14.9 | 114.9 | 33.5 | 15.6 |
| Donetsk | 119.4 | 39.4 | 15.8 | 128.6 | 40.6 | 18.0 | 130.3 | 40.4 | 18.3 |
| Zhytomyr | 19.1 | 10.5 | 2.2 | 25.3 | 8.4 | 2.9 | 26.4 | 7.1 | 2.9 |
| Zakarpattia | 12.8 | 8.7 | 2.7 | 15.3 | 5.8 | 2.8 | 14.6 | 5.0 | 2.4 |
| Zaporizhzhia | 43.7 | 17.1 | 5.8 | 52.3 | 18.3 | 7.6 | 52.3 | 16.4 | 7.8 |
| Ivano-Frankivsk | 20.5 | 8.8 | 2.5 | 23.3 | 6.9 | 2.6 | 24.2 | 6.4 | 2.7 |
| Kiev Region | 47.4 | 20.4 | 6.1 | 58.5 | 19.4 | 7.9 | 53.2 | 14.9 | 7.0 |
| Kirovohrad | 73.1 | 16.9 | 5.4 | 82.9 | 21.1 | 8.7 | 78.8 | 20.0 | 7.9 |
| Luhansk | 16.5 | 9.3 | 2.3 | 20.6 | 7.8 | 2.9 | 20.9 | 7.9 | 2.9 |
| Lviv | 66.7 | 21.7 | 8.6 | 76.0 | 23.7 | 9.9 | 76.5 | 22.9 | 10.9 |
| Mykolaiv | 40.5 | 14.9 | 3.7 | 56.5 | 12.8 | 5.1 | 56.0 | 16.0 | 5.7 |
| Odesa | 25.9 | 12.4 | 3.8 | 32.0 | 12.4 | 5.1 | 31.2 | 10.6 | 5.0 |
| Poltava | 42.0 | 22.3 | 6.0 | 5.0 | 22.1 | 8.9 | 45.7 | 16.7 | 7.9 |
| Rivne | 28.3 | 11.0 | 3.4 | 40.4 | 10.7 | 4.6 | 40.9 | 11.0 | 4.8 |
| Sumy | 20.8 | 7.7 | 2.6 | 28.2 | 8.7 | 3.4 | 27.9 | 7.6 | 3.2 |
| Ternopil | 22.1 | 7.6 | 2.2 | 29.6 | 10.0 | 2.9 | 30.9 | 9.7 | 3.1 |
| Kharkiv | 12.2 | 4.4 | 1.3 | 18.5 | 5.8 | 2.2 | 18.0 | 5.0 | 2.2 |
| Kherson | 61.9 | 20.4 | 6.7 | 68.9 | 23.8 | 9.4 | 68.1 | 22.0 | 9.2 |
| Khmelnysky | 24.3 | 10.5 | 3.4 | 34.2 | 12.0 | 4.3 | 32.6 | 10.8 | 4.7 |
| Cherkasy | 18.4 | 9.5 | 2.5 | 27.8 | 8.5 | 3.1 | 28.5 | 7.9 | 2.9 |
| Chernivtsi | 22.1 | 10.9 | 2.0 | 30.9 | 10.7 | 3.7 | 31.1 | 10.0 | 3.6 |
| Chernihiv | 9.3 | 3.9 | 1.5 | 14.0 | 3.7 | 1.9 | 14.0 | 3.5 | 1.7 |
| Kiev (City) | 16.2 | 5.3 | 2.2 | 21.2 | 6.1 | 2.4 | 22.9 | 5.0 | 2.2 |

Source: Ministry of Labor

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Table 1.80 UKRAINE: Mandatory Leaves Without Pay (December 1991 - February 1992)
(People)

| | Number of Enterpris. Researched | Average Mandatory Monthly Employm. | Leaves w/o Pay | Of which, for Duration of: | | |
|-------------------|---------------------------------------|--|-------------------|----------------------------|--------------------------|-----------------|
| | | | | up to 2 Wks 2 wks | up to 1 Month 1 Month | Over 1 Month |
| Crimea R. | 7 | 7,145 | 1,199 | -- | 500 | 699 |
| Virnytsia | 8 | 13,018 | 3,285 | -- | 1,138 | 2,147 |
| Volyn | 10 | 26,492 | 2,678 | 626 | 2,052 | -- |
| Dnipropetrovsk | 7 | 37,151 | 3,054 | 757 | 2,297 | -- |
| Donetsk | 6 | 9,433 | 492 | 200 | 232 | 60 |
| Zhytomyr | 8 | 6,835 | 2,111 | 262 | 1,610 | 239 |
| Zakarpattia | 11 | 14,104 | 6,216 | 99 | 5,279 | 838 |
| Zaporizhzhia | 12 | 18,028 | 13,461 | 6,342 | 7,089 | 30 |
| Ivano-Frankivsk | 10 | 12,003 | 2,005 | 450 | 821 | 734 |
| Kiev Region | 8 | 21,862 | 2,577 | 73 | 109 | 2,395 |
| Kirovohrad | 8 | 18,810 | 12,637 | -- | -- | 12,637 |
| Luhansk | 17 | 12,250 | 3,315 | 1,649 | 948 | 718 |
| Lviv | 59 | 44,952 | 7,243 | -- | -- | 7,243 |
| Mykolaiv | 4 | 7,799 | 3,289 | 37 | -- | 3,252 |
| Odessa | 41 | 28,000 | 5,600 | -- | -- | 5,600 |
| Poltava | 7 | 15,648 | 2,148 | 1,588 | 560 | -- |
| Rivne | 9 | 23,285 | 9,074 | 1,359 | -- | 7,715 |
| Sumy | 9 | 17,646 | 4,561 | 437 | 184 | 3,940 |
| Ternopil | 10 | 8,517 | 1,268 | 1,173 | 72 | 23 |
| Kharkiv | 12 | 43,697 | 5,853 | 5,251 | 469 | 133 |
| Kherson | 11 | 31,736 | 4,563 | 330 | -- | 4,233 |
| Khmelnysky | 11 | 16,877 | 4,648 | 2,162 | 2,486 | -- |
| Cherkasy | 6 | 15,578 | 8,396 | 7,700 | 14 | 682 |
| Chernivtsi | 11 | 15,097 | 3,633 | 3,126 | 400 | 107 |
| Chernihiv | 12 | 24,860 | 14,308 | 8,462 | 5,846 | -- |
| Kiev (City) | 11 | 41,081 | 13,754 | -- | 7,434 | 6,320 |
| Sevastopol (City) | 8 | 12,000 | 1,454 | -- | -- | 1,454 |
| Ukraine Total | 333 | 543,904 | 142,822 | 42,083 | 39,540 | 61,199 |

Source: Ministry of Labor

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Table 1: Forecast Sources of Funds for Health Care in 1992

| Source | Total (Rb.MM) | % of Total | % of Govt Revenues (1) |
|---|--------------------------|-----------------------|-----------------------------------|
| State and Local General Revenues | 191,987 | 91.0 | 12.0 to 12.6 |
| Payroll Taxes | 12,079 | 5.8 | 0.8 |
| Social Insurance Fund | 7,211 | 3.4 | 0.5 |
| Chernobyl Fund | 4,868 | 2.3 | 0.3 |
| Individuals | 6,967 | 3.3 | NA |
| TOTAL | 211,032 | 100.0 | 12.8 to 13.4 |

(1) Includes state and local general revenues and resources of the Pension, Social Insurance, Employment and Chernobyl Funds. Ranges reflect disagreement between the Pension Fund and the Ministry of Finance about 1992 Pension Fund revenues.

Sources: June 1992 Drafts of the 1992 Budgets for the Ministry of Health, Social Insurance Fund, Chernobyl Fund, Pension Fund and Employment Fund.

Table 2: Forecast 1992 Uses of Health Care Funds

| | Total (Rb.MM) | % of Total | % GDP |
|-------------------------------------|------------------|---------------|------------|
| Facilities | 183,611 | 87.0 | 6.7 |
| Hospitals | 140,613 | 66.6 | |
| Sanitoriums | 21,980 | 10.4 | |
| Ambulatory Clinics | 11,820 | 5.6 | |
| Other Health Centers | 5,171 | 2.5 | |
| Ambulance Services | 2,368 | 1.1 | |
| Blood Transfusion Services | 1,459 | 0.7 | |
| Capital Construction | 200 | 0.1 | |
| Public Health (1) | 5,778 | 2.7 | 0.2 |
| Education | 5,342 | 2.5 | 0.2 |
| Subsidies for Pharmaceutical | 4,835 | 2.3 | 0.2 |
| Research | 1,608 | 0.8 | 0.1 |
| Other (2) | 9,860 | 4.7 | 0.4 |
| TOTAL (3) | 211,032 | 100.0 | 7.7 |

(1) Additional public health expenditures are included in the budgets for specific facilities.

(2) Additional treatment for Chernobyl victims and private payments for health services not included elsewhere.

(3) Does not sum exactly due to rounding

Sources: June 1992 Drafts of the 1992 Budgets for the Ministry of Health, Social Insurance Fund, Chernobyl Fund, Pension Fund and Employment Fund.

Table 1: Forecast 1992 Education Spending

| Expenditure | 1992 Budget (Rb. MM) | % Total Govt. Ed Budget | % Total Ed Expen- ditures | % of GDP |
|---|----------------------------|-------------------------------|---------------------------------|-------------|
| TOTAL STATE/LOCAL BUDGET | 181,756 | 100.0 | 85.5 | 6.7 |
| Total Personnel Costs | 99,286 | 54.6 | 46.7 | |
| Wages and Bonuses | 72,648 | 40.0 | 34.2 | |
| Payroll Tax (37%) | 26,638 | 14.7 | 12.5 | |
| Stipends | 10,323 | 5.7 | 4.9 | |
| Capital Repair | 5,443 | 3.0 | 2.6 | |
| Equipment Purchase | 5,037 | 2.8 | 2.4 | |
| Capital Investment | 1,739 | 1.0 | 0.8 | |
| Textbooks | 980 | 0.5 | 0.5 | |
| Computers | 537 | 0.3 | 0.3 | |
| Other (Inc. utilities and maintenance) | 58,411 | 32.1 | 27.5 | |
| Enterprises (16,031 Preschools) (1) | 30,812 | NA | 14.5 | 1.1 |
| TOTAL | 212,567 | | 100.0 | 7.8 |

(1) Mission estimate based on spending per preschool by the state government.

Sources: June 1992 draft of the Ministry of Education's 1992 budget, the Ministry of Finance's June 1992 draft consolidated local education budget, mission estimates.

Table 3: Ministry of Health and Local Health Inputs

| Inputs | Percent of Total | | |
|---------------------------------|-------------------------|------------------------|--------------------------|
| | 1989 Actual | 1991 Actual | 1992 Forecast |
| Wages | 53.3 | 47.4 | 27.0 |
| Maintenance and Supplies | 13.4 | 25.4 | NA |
| Pharmaceutical | 10.6 | 6.3 | 8.0 |
| Food | 8.2 | 6.9 | NA |
| Construct | 5.2 | 2.1 | 0.1 |
| Capital Repair | 4.0 | 3.6 | NA |
| Equipment | 3.9 | 5.9 | 11.0 |
| Other | 1.4 | 2.4 | NA |
| TOTAL | 100.0 | 100.0 | 100.0 |

Source: Ministry of Health

Table 4.1 UKRAINE: Student/Teacher Ratios; Comparative

| | Ukraine | Developed Countries | Developing Countries |
|--------------------------------------|----------------|--------------------------------|---------------------------------|
| Total Enrollment (Millions) | 9.3 | 231.2 | 720.3 |
| Number of Teachers (Millions) | 1.13 | 15.1 | 29.7 |
| Student/Teacher Ratio | 8.2 | 15.3 | 24.3 |

**Source: Ministry of Education and UNESCO Annual Statistical Yearbook 1991.
Data for Developed Countries are for 1989.**

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**Table 4.2 UKRAINE: Enrollment and Teachers in Primary and Secondary Schools
(School Years 1991-92)**

| | |
|--------------------------------------|--------------|
| Total Enrollment (Thousand) | 6,918 |
| Number of Teachers (Thousand) | 538 |
| Student/Teacher Ratio | 12.8 |

Source: Ministry of Statistics

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Table 4.3 UKRAINE: Universities (Academic Year 1991 - 92)

| State University | Departm. | Full Time Students | Faculty | o/w Holding Masters Equivalent. | o/w Holding Doctor. Equivalent. |
|---------------------------------|------------|-----------------------|---------------|--|--|
| Dnepropetrovsk State University | 12 | 8,835 | 1,277 | 559 | 83 |
| Donetsk State University | 11 | 5,593 | 1,062 | 524 | 64 |
| Kiev State University | 19 | 12,200 | 3,612 | 1,079 | 293 |
| Lviv State University | 13 | 7,230 | 1,911 | 529 | 96 |
| Odessa State University | 9 | 5,306 | 807 | 473 | 83 |
| Simferopol State University | 8 | 3,962 | 538 | 267 | 38 |
| Ujgorof State University | 10 | 4,340 | 916 | 329 | 75 |
| Kharkiv State University | 12 | 6,845 | 1,857 | 875 | 129 |
| ZapojieState University | 10 | 3,893 | 553 | 193 | 25 |
| Chernivtsi State University | 12 | 5,487 | 885 | 375 | 47 |
| Kharkiv Law Institute | 4 | 3,188 | 371 | 184 | 40 |
| Total: | 120 | 66,879 | 13,789 | 5,387 | 973 |

Source: Ministry of Education. All data are for 1992.

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Table 4.4 UKRAINE: Enrollments and Faculty in Universities a/

| Country | Student Enrollment (Thousand) | Number of Faculty (Thousand) | Student/ Faculty Ratio |
|----------------------------|--|---|---------------------------------------|
| France | 1,124 | 46 | 24.4 |
| Federal Republic of German | 1,465 | 151 | 13.3 |
| Italy | 1,349 | 54 | 25.0 |
| Korea | 1,143 | 34 | 33.6 |
| Spain | 978 | 51 | 19.2 |
| United States | 7,716 | 494 | 15.6 |
| Ukraine | 67 | 14 | 4.8 |

Source: For Ukraine: Ministry of Education; for other countries: UNESCO Statistical Yearbook 1991.

a/ Includes Equivalent Institutions.

Note: Data for Ukraine are not strictly comparable with those for other countries because they cover only the eleven universities in Ukraine and not "equivalent institutions." But this does not alter the fact that the student/faculty ratio is much lower than in the other countries. Data for the latter are for 1989 and 1992 for Ukraine.

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**Table 4.6 UKRAINE: 1992 Education Spending: Forecast
(In Million Ruble and Percent)**

| Expenditure | 1992 Budget (Rbl. Mln.) | Percent Total Govt. Ed. Budget | Percent Total Ed. Expenditure | Percent of GDP |
|--|----------------------------|-----------------------------------|----------------------------------|-------------------|
| Total State/Local Budget | 181,756 | 100.0 | 85.5 | 6.7 |
| Total Personal Costs | 99,286 | 54.6 | 46.7 | |
| Wages and Bonuses | 72,648 | 40.0 | 34.2 | |
| Payroll Tax (37%) | 26,638 | 14.7 | 12.5 | |
| Stipends | 10,323 | 5.7 | 4.9 | |
| Capital Repair | 5,443 | 3.0 | 2.6 | |
| Equipment Purchase | 5,037 | 2.8 | 2.4 | |
| Capital Investment | 1,739 | 1.0 | 1.0 | |
| Textbooks | 980 | 0.5 | 0.5 | |
| Computers | 434 | 0.2 | 0.2 | |
| Other (Incl. Utilities and Maintenance) | 58,411 | 32.1 | 27.5 | |
| Enterprises | 30,812 | n.a. | 14.5 | 1.1 |
| Total | 212,567 | 100.0 | 7.8 | |

Sources: June 1992 draft of the Ministry of Education's 1992 budget, the Ministry of Finance's June 1992 draft consolidated local education budget, mission estimates.

a/ Mission estimate based on daycare spending by the state government

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Table 4.5 UKRAINE: Percentage of GNP Spent on Public Education

| | |
|--|------------|
| Ukraine | 7.8 |
| Europe, including the former USSR | 5.5 |
| Developed Countries | 5.8 |
| Developing Countries | 3.8 |
| The World | 5.5 |

Source: UNESCO Statistical Yearbook, 1991, and Ukraine Ministry of Finance.

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**Allowances
And
Social Assistance**

Family Allowances Available Without Regard to Financial Need

| Name | Description | Benefit Size | Administration (1) | Funding (1) |
|-----------------------------------|---|-----------------------|---------------------------------------|------------------------------------|
| Birth Allowance | One time allowance given to all families at birth of child | 300% of min wage | | |
| | If either parent employed: | | Employer of either parent | SIF |
| | If parents unemployed: | | SW | State GR |
| Child Allowance Under 3 | Monthly allowance for children under age 3 given to all families with mothers who worked prior to childbirth or who were under age 18 | | | |
| | If mother worked > 1 year | 100% of min wage | Mother's Employer or School or SW (3) | PF and State GR passed thru PF (4) |
| | If mother worked < 1 year | 50% of min wage | Mother's Employer or School or SW (3) | PF and State GR passed thru PF (4) |
| Child Allowance Under 2 | Monthly allowance given to all families with mothers who did not work or attend higher education prior to childbirth for each child under age 2 | 50% of min wage | SW | PF and State GR passed thru PF (4) |
| Child Allowance for Military | Additional monthly allowance for each child of men called up for active military service | 100% of min wage | SW | State GR passed thru PF |
| Funeral Allowance | One-time allowance given to family of deceased person | | | |
| | Working person | 200% of min wage | Employer or School | SIF |
| | Unemployed person | 200% of min wage | SW | State GR |
| | Retired person | 2 months pension | SW | Pension Fund |
| Disabled Child Allowance | Additional monthly allowance to families with non-working mother caring for disabled child under 16 | 22.5% of min wage | SW | PF (service pension budget) |
| Diabetic Child Allowance | Additional monthly allowance for each child with diabetes ages 0 to 14 | 6.7-17.2% of min wage | SW | Local GR |
| Institutionalized Child Allowance | Monthly allowance for each child under 18 in institutions for physical or mental disability or disease | 100% of min wage | Institutions | Local GR passed thru ed budget |

(1) Cher= Chernobyl Fund; GR=General Revenues; PF=Pension Fund; SIF = Social Insurance Fund; SW= District Offices of Ministry of Social Welfare

(2) Included in this category are mothers who in the military or laid off from their job due to restructuring of their employer

(3) The mother's previous place of employment or school. If mother was laid off from work then district offices of the Ministry of Social Welfare.

(4) The Pension Fund finances allowances for children up to age 1.5, the state funds allowances from general revenues for children between 1.5 and 3 for mothers who previously worked and between 1.5 and 2 for mothers who did not work.

Sources: Interviews and reports from the Chernobyl Fund, Ministry of Finance, Ministry of Social Welfare, Pension Fund, and Social Insurance Fund.

Work-Related Benefits Available Without Regard to Financial Need

| Name | Description | Benefit Size | Administration (1) | Funding (1) |
|--------------------------|---|----------------|-----------------------|-------------|
| Sick/Short-term Disabled | Sick leave and short term disability available for up to 4 months | 100% of salary | employer | SIF |
| Maternity | Maternity leave for four months | 100% of salary | employer | SIF |
| Vacation | Free vacations in holiday camps for workers and their families | Cost of camp | employer | SIF |

(1) Char = Chernobyl Fund; GR = General Revenues; F = Pension Fund; SIF = Social Insurance Fund;
 SW = District Offices of Ministry of Social Welfare

Sources: Interviews and reports from the Social Insurance Fund.

Benefits for Specific Groups Available Without Regard to Financial Need

| Name | Description | Benefit Size | Administration (1) | Funding (1) |
|-----------------------------|---|--------------|-----------------------|-------------|
| Telephones For War Veterans | Telephone installation free of charge of veterans of WWII | Current cost | SW | State GR |
| Exonerated Citizens | Allowance to citizens exonerated of political crimes | NA | SW | Local GR |

(1) Char = Chernobyl Fund; GR = General Revenues; PF = Pension Fund; SIF = Social Insurance Fund;
 SW = District Offices of Ministry of Social Welfare

Sources: Interviews and reports from the Chernobyl Fund, Ministry of Finance, Ministry of Social Welfare, Pension Fund, and Social Insurance Fund.

Benefits for Disabled without Regard to Financial Need

| Name | Description | Benefit Size | Administration (1) | Funding (1) |
|----------------------------|---|--------------------------|--------------------|-------------|
| Cars | Certain disabled people are entitled to a free car or the equivalent sum in cash | Current car price | SW | State GR |
| Motorized Wheelchairs | Certain disabled people are entitled to a free motorized wheelchair | Current wheelchair price | SW | State GR |
| Prosthetics | Certain disabled people are entitled to free prosthetic devices | Current price | SW | State GR |
| Working Disabled Allowance | Additional allowance for the Working Disabled in Disabled Groups I and II (i.e. those seriously disabled) | 49% of min wage | SW | State GR |
| Sanitarium Treatment | Additional allowance to some disabled people for sanitarium treatment | As necessary | SW | State GR |
| Telephones | Telephone installation for disabled people in disabled categories I and II | Current price | SW | State GR |

(1) Cher= Chernobyl Fund; GR=General Revenues; PF=Pension Fund; SIF = Social Insurance Fund; SW=District Offices of Ministry of Social Welfare

Sources: Interviews and reports from the Chernobyl Fund, Ministry of Finance, Ministry of Social Welfare, Pension Fund, and Social Insurance Fund.

Benefits for Low-Income and Vulnerable Groups (1)

| Name | Description | Benefit Size | Administration (2) | Funding (2) |
|---|--|---|---|-------------------------|
| Child Allowance 3 to 6 | Monthly child allowance when mothers worked prior to childbirth for each child 3-6 in low-income families | 50% of min wage | Employer or School of mother or SW (3) | State GR passed thru PF |
| Child Allowance 2 to 6 | Monthly child allowance when mothers did not work prior to childbirth for each child 2-6 in low-income families | 50% of min wage | Employer or School of Father or SW | State GR passed thru PF |
| Child Allowance 6-18 for Single Mothers | Monthly child allowance for single mothers for each child 6 to 18 (16 if child receives a student stipend) | 50% of min wage | SW | State GR |
| Child Allowance 0-18 for Orphaned Parents | Monthly child allowance when parent is single parent brought up in an orphanage. For each child until 18 (16 if child receives a student stipend) | 100% of min wage | SW | State GR |
| Child Allowance 6 to 16 | Monthly child allowance for each child < 16 in low income families if child receives no other allowance, pension or stipend | 22.5% of min wage | Employer or School of parent or child or SW | Local GR |
| Child Allowance Under 12 | Additional monthly allowance for each child under 12 in <u>very</u> low income families (4) | 30% of min wage | Employer or School of parent or SW | State GR through PF |
| Alimony Allowance | Additional monthly allowance for each child if estranged parent owes alimony for child under 18 but does not pay it | 50% of min wage | SW | Local GR |
| Large Family Allowance | Additional monthly allowance to families with 3 or more children < 16 if mother does not work | 22.5% of min wage | SW | State GR |
| Child Products Allowance | Annual compensation to low-income families for price increases in children's products (for each child 0-18) | 100-140% of monthly min wage per year (5) | Employer or School of parent or child or SW | Local GR |
| Child Clothes Allowance | Annual compensation to low-income families for price increases in children's clothes (for each child 0 through middle school (or technical school if student must buy uniform) | 100-125% of monthly min wage per year (5) | Employer or School of parent or child or SW | Local GR |
| Child and Pensioner Food Allowance | Additional monthly allowance for each child less than 18 or pension age adult if either are in low income families | 30-40% of min wage | Employer or School of parent or child or SW | Local GR |
| Extremely Low Income Allowance | Additional monthly allowance for <u>extremely</u> low income families (6) | | | |
| | For each adult in the family | 200% of min wage | SW | Local GR |
| | For each child under 18 | 100% of min wage | SW | Local GR |
| Nursing Homes and Daycare (7) | The elderly infirmed who lack family support have free access to nursing homes or daytime care facilities that combine health care and leisure activities | As necessary | SW | Local GR |

Benefits For People Affected By Chernobyl (1)

| Name | Description | Benefit Size | Adminis- tration (2) | Funding (2) |
|--|--|-----------------------------------|----------------------------|----------------|
| Employment | | | | |
| Job Loss or Change | Benefits Relating to Employment Monetary compensation for people who lose their jobs due to sickness, required relocation or plant closing related to the disaster. | Average salary for 3 months | | Cher |
| | Monetary compensation for people in categories I-IV to cover salary differential between their former job and their current, lower-paid position when change had to be made for health or required relocation reasons. | Salary differential for 12 months | | Cher |
| Temporary Inability to Work | Monetary compensation for people in categories I - IV who are temporarily unable to work due to Chernobyl-related illness. | 100% of salary | | Cher |
| Salary Supplement | Wage bonus for people who work in contaminated areas. Size of wage bonus depends on contamination level. | 20% to 100% of salary | | Cher |
| Business Loan | Interest free loan for the purposes of starting one's own business or purchasing one's own farm for people in categories I-IV | As necessary | | Cher |
| Vacation | Additional paid vacation (annual leave) for people in categories I and II. Paid vacation is 14 calendar days minimum up to 42 calendar days depending on whether employee is still working in the area and level of contamination at work site | 100% of salary | | Cher |
| Family Allowances | | | | |
| Pregnancy and Maternity | Additional 90 days of childbirth leave for "women who have suffered" | 100% of salary for 90 days | | Cher |
| | Doubled payment for childcare leave for "women who have suffered" | 66 - 100% of min wage per month | | Cher |
| Sick Child Allowance | Yearly allowance for each child who became sick due to the disaster until children reaches primary school age | NA | | Cher |
| Evacuated Child Allowance | Monthly allowance for each child of school age who was evacuated from the area or who was born after April 1986 to parents in categories I and II | 50% of min wage | | Cher |
| Disabled Child Allowance | Monthly allowance for each child who became disabled or is undergoing medical treatment as a result of the disaster and to each child whose parent has become disabled. (Replaces "Evacuated Child Allowance" above for relevant children) | 100% of min wage | | Cher |
| Previously Disabled Child Allowance | Annual allowance to families raising child disabled prior to the disaster whose health was harmed by the disaster | 300% of monthly min wage per year | | Cher |
| Low-Income Child Allowance | Doubled monthly low-income child allowance for low-income children who became sick due to the disaster | 30-40% of min wage | | Cher |
| Student Stipend | 50% increase in the level of student stipends for people in categories I-IV eligible for stipends | 50% of current stipend per month | | Cher |

| Name | Description | Benefit Size | Administration (2) | Funding (2) |
|-------------------------|---|--------------|-----------------------|-------------|
| Housekeeping Aid (7) | Help cooking, cleaning and shopping for elderly infirm | As necessary | SW | Local GR |

- (1) Available to families with incomes below 2 minimum wages per person (approximately 43 percent of Ukrainians) or to specific groups who are likely to have low incomes.
- (2) Char = Chernobyl Fund; GR = General Revenues; PF = Pension Fund; SIF = Social Insurance Fund; SW = District Offices of Ministry of Social Welfare
- (3) The mother's previous place of employment or school. If mother was laid off from work then district offices of the Ministry of Social Welfare.
- (4) Very low income families are those with incomes below 2/3 the minimum wage per family member. Families can receive this allowance in addition to any of the other allowances they qualify for.
- (5) Payment increases as child ages up to 18 years old.
- (6) Extremely low income families are those with incomes below 1/2 of the minimum wage per family member.
- (7) New programs available only in some districts. Currently serve about 350,000 people.

Sources: Interviews and reports from the Chernobyl Fund, Ministry of Finance, Ministry of Social Welfare, Pension Fund, and Social Insurance Fund.

| Name | Description | Benefit Size | Adminis- tration (2) | Funding (2) |
|--------------------------------|---|---|----------------------------|----------------|
| Disability and Death | Benefits for Disability and Death | | | |
| Disability | One-time compensation for disability resulting from the disaster. Compensation varies depending on level of disability. | 5,000 to 10,000 Rb. | | Cher |
| | Annual allowance for recuperation from disaster-related disability. Compensation varies depending on level of disability. | 100% to 300% of monthly min wage | | Cher |
| Death | One-time compensation for loss of breadwinner or for loss of child | 5,000 to 10,000 Rb. | | Cher |
| Housing and Relocation | Benefits Relating to Housing and Relocation | | | |
| Apartment Rental | Monthly apartment rental subsidy for people in categories I and II | Rb. 58 per family | | Cher |
| Fuel Subsidy | Annual fuel subsidy for people in categories I and II | Rb. 3,500 per family | | Cher |
| | Compensation for 50% of the cost of fuel for people in categories III and IV who are waiting for relocation and who live in buildings without central heating | NA | | Cher |
| Housing Purchase | Interest free loans with government repayment of 25% to 50% of principle for purchase of residence or dacha for people in categories I-IV | NA | | Cher |
| | Construction loans for relocating families | Rb. 10,000 per family member to max of Rb. 60,000 | | Cher |
| Relocation Allowance | One time allowance for each relocated family member | 300% of min wage | | Cher |
| Moving Expenses | Payment of moving expenses for relocating families | As necessary | | Cher |
| Wages while moving | Payment of wages during moving period for relocating families | 100% of average wage for 15 days | | Cher |
| Household Furnishings | Receipt of 15 year interest free loan for furnishing new house for relocating families | 8,500 per family member | | Cher |
| Household Goods | State repayment of loan families received to purchase household goods when family was evacuated for people in categories I and II | NA | | Cher |
| Contaminated Property | Compensation for contaminated structures, household property, furnishings, crops, and livestock that had to be destroyed. | NA | | Cher |
| Contaminated Living Conditions | Allowances for families living in areas of high radiation | 30-50% of min wage (3) | | Cher |
| Food | Benefits Relating to Food | | | |

| Name | Description | Benefit Size | Adminis- tration (2) | Funding (2) |
|-----------------------|--|-----------------|----------------------------|----------------|
| | The right to purchase food at 50 to 75 % of its actual cost for people in categories I and II and sick children | As necessary | | Cher |
| | Free meals served in schools for students in primary, secondary and vocational schools who are in categories III and IV | As necessary | | Cher |
| | Food items or cash equivalent compensation for families of children in categories III and IV who are too ill or too young to attend school | As necessary | | Cher |
| Other | Miscellaneous Benefits | | | |
| Leisure | Medical treatment, camps and vacations outside the region for workers and their families | As necessary | Employer | SIF |
| | Cost-free round-trip travel once per year anywhere in the country by any means of transport for people in categories I-III | As necessary | | Cher |
| Tax Exemptions | Exemptions from payment of all taxes and customs duties for people in categories I-IV and relocated families (relocated families for 3 years) | As necessary | | Cher |
| Public Transportation | Cost free use of public transportation for people in categories I and II, for children made ill by the disaster and adults accompanying them to medical treatment facilities | As necessary | | Cher |
| Automobiles | Cost free provision of cars to people in Categories I and II | As necessary | | Cher |

(1) People affected by Chernobyl are divided into four categories. Category I individuals are those who participated in the Chernobyl cleanup and who have become very ill as a result. Category II individuals participated in the cleanup and are suffering medical problems as a result (but are not as sick as those in Category I). Category III individuals are those who worked on the cleanup from 1988 to 1990 and those who have lived or worked in the territory with heavy radiation (15 curies/sq. km. or more). Category IV individuals live or work (or lived or worked) in areas with moderate radiation (from 5 to 15 curies/sq. km).

(2) Cher= Chernobyl Fund; GR=General Revenues; PF=Pension Fund; SIF = Social Insurance Fund; SW=District Offices of Ministry of Social Welfare

(3) Size of allowance depends on level of radiation

Sources: Interviews and reports from the Chernobyl Fund, Ministry of Finance, Ministry of Social Welfare, Pension Fund, and Social Insurance Fund.

Table 3: Projected Uses of Pension Funds for 1992
(Figures Based on Pension Fund Estimates)

| USE | 1992F Rb. MM | Share of 1992F Vol. | % of GDP |
|---|---------------------------|--------------------------------|---------------------|
| Total Pension Fund | 320,354 to 369,302 | 90 to 91 | 11.7 to 13.5 |
| Cash Benefits (1) | 306,597 to 332,554 | 82 to 86 | |
| Retired | 241,341 to 263,858 | 65 to 68 | |
| Disabled | 28,639 to 31,129 | 8 | |
| Dependent | 16,198 to 16,589 | 4 to 5 | |
| Other (2) | 11,409 to 11,693 | 3 | |
| Military | 6,126 to 6,968 | 2 | |
| Additional Benefits | 2,600 | 1 | |
| Delivery Costs | 5,957 to 8,893 | 2 | |
| Repayment of 1991 Loan | 4,200 to 4,292 | 1 | |
| Addl Benefits Owed (3) | 1,600 to 21,563 | 1 to 5 | |
| Partial Administration Costs (4) | 2,000 | 1 | |
| Chernobyl Victims Addl. Benefits | 10,918 | 3 | 0.4 |
| Min of Defense | 23,647 | 6 to 7 | 0.9 |
| TOTAL PENSIONS | 354,919 to 403,867 | 100 | 13.0 to 14.8 |
| SURPLUS (DEFICIT) | (83,120) to 37,738 | -21 to 11 | |

(1) Estimates for the breakdown of cash benefits between types of beneficiary were made based on the number of beneficiaries in each group and the average pension received.

(2) People who never worked including those disabled in childhood and hobos.

(3) Benefits accrued but not paid in 1991

(4) Includes only Pension Fund administration costs.

Sources: Pension Fund Draft Budget for 1992 (Ministry of Finance and Pension Fund June 1992 versions), 1992 Draft Consolidate State Budget for Ukraine (June 1992 version) and mission estimates.

**Table 4. UKRAINE: Retirement Age Population and Dependency Ratio Projections
(Mid-Year Population, Both Sexes) a/**

| Retirement Age | 1989 | 2000 | 2010 |
|----------------------------------|------------|------------|------------|
| Retirement Age Population | | | |
| Current b/ | 14,144,886 | 13,073,841 | 13,518,377 |
| 62 years | 9,203,606 | 10,727,242 | 10,331,134 |
| 65 years | 10,959,470 | 9,103,750 | 8,458,111 |
| Dependency Ratio | | | |
| Current b/ | 47.6 | 42.5 | 44.5 |
| 62 years | 26.6 | 32.4 | 30.8 |
| 65 years | 33.3 | 26.2 | 23.9 |

Source: IBRD EC3NR population projections.

a/ Projections are based on different definitions of the retirement age.

b/ Envisages 54 years for women and 59 years for men.

c/ Calculated as the ratio of the retirement age population per 100 people of working ages, i.e. 15 years of age till retirement age.

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Table 1: Types of Pensioners and Level of Benefits to Each
As of January 1, 1992

| Pensioners | Number (000) | % of Total | Avg. Amount as % of Minimum Pension (1) |
|---|-------------------------|-----------------------|--|
| Pension Fund Supported | 12,997 | 97 | 122 |
| Retirees | 10,318 | 77 | 125 |
| Disabled | 1,224 | 9 | 123 |
| Dependents | 693 | 5 | 96 |
| Other (2) | 500 | 4 | 75 |
| Military | 262 | 2 | 144 |
| Military Paid from Ministry of Defence | 362 | 3 | 522 |
| Total | 13,359 | 100 | 133 |

(1) Figures do not reflect July and October 1992 increases.

(2) People who never worked included people disabled from childhood and hobos.

Source: Ministry of Social Welfare

Table 2: 1992 Projected Sources of Funds for Pensions
(Ranges Reflect Pension Fund and MOF Estimates)

| SOURCE | 1992F (Rb. MM) | % of Total | % Govt Revenue (1) |
|-----------------------------------|---------------------------|-----------------------|-----------------------------------|
| Total Pension Fund | 286,182 | 89.2 | 25.0 |
| | to | to | to |
| | 358,092 | 91.2 | 29.4 |
| Employer Payroll Tax | 287,320 | 89.6 | |
| | to | to | |
| | 356,268 | 90.7 | |
| Employee Payroll Tax | 8,493 | 2.6 | |
| | to | to | |
| | 11,082 | 2.8 | |
| Other (2) | 150 to 200 | 0.1 | |
| Non-Pension Commitments | (9,458) | (2.4) | |
| | to | to | |
| | (9,781) | (3.1) | |
| State General Revenues (3) | 23,647 | 6.0 | 1.9 |
| | | to | to |
| | | 7.4 | 2.1 |
| State Chernobyl Fund (4) | 10,918 | 2.8 | 0.9 |
| | | to | to |
| | | 3.4 | 1.0 |
| Total | 320,747 | 100 | 28.1 |
| | to | | to |
| | 392,657 | | 32.3 |

(1) Includes state and local general revenues and revenues from the Pension, Social Insurance, Employment and Chernobyl Funds.

(2) Other includes self employed income tax of 10%, investments and grants.

(3) Earmarked for military pensions

(4) Earmarked for additional benefits to Chernobyl workers

Sources: Pension Fund Draft Budget for 1992 (Ministry of Finance and Pension Fund June 1992 versions), 1992 Draft Consolidate State Budget for Ukraine (June 1992 version), Draft of 1992 Chernobyl Fund Budget (June, 1992 version).

**Table 76. UKRAINE: Orphans and Single People by Age
(in Thousand People) a/**

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| | |
|------------------------------|-------------|
| Total: | 3134 |
| up to 19 years of age | 101 |
| 20-24 | 166 |
| 25-29 | 128 |
| 30-39 | 211 |
| 40-49 | 265 |
| 50-54 | 233 |
| 55-59 | 263 |
| 60-64 | 428 |
| 65-69 | 377 |
| 70 and older | 962 |

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Source: Ministry of Statistics

a/ Population Census of 1989.

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Table 77. UKRAINE: Families with Children Under 18

| | Thousand Families |
|--------------------------|----------------------|
| Total | 7,931 |
| of which: | |
| With 1 Child | 4,130 |
| With 2 Children | 3,132 |
| With 3 Children | 511 |
| With 4 Children | 102 |
| With 5 and More Children | 56 |

Source: Ministry of Statistics

Note: Based on 1989 Population Census.

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