Public Disclosure Authorized

Report No. 56593-TJ

Republic of Tajikistan
Delivering Social Assistance to the Poorest Households

April 6, 2011

Human Development Sector Unit
Central Asia Country Unit
Europe and Central Asia Region

FOR OFFICIAL USE ONLY

Public Disclosure

Public Disclosure Authorized

Public Disclosure Authorized

Document of the World Bank

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

CURRENCY EQUIVALENTS
(Exchange Rate Effective December 28, 2010)

Currency Unit	=	Tajikistan Somoni
4.403 TJS	=	US$ 1
5.775 TJS	=	Euro 1
6.85 TJS	=	SDR 1

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

:

ADV	Advantage
CdAS	Comite de Acción Social (Social Action Committee) – Chile
CCP	Conditional cash payments
DISADV	Disadvantage
ECA	Europe and Central Asia Region
EU	European Union
GBAO	Gorno-Badakhshan Autonomous Province
GDP	Gross Domestic Product
GoT	Government of Tajikistan
HMT	Hybrid means-testing
HH	Households
IDA	International Development Association
KWH	Kilowatt hours
MoF	Ministry of Finance
MLSP	Ministry of Labor and Social Protection
PMT	Proxy means-testing
RRP	Regions of Republican Subordination
SIPO	Sistema de Información de la Población Objetivo - Costa Rica
SISBEN	Sistema de Selección de Beneficiarios - Colombia
TJS	Tajikistan Somoni
TLSS	Tajikistan Living Standards Survey
US$	United States Dollar
WFP	World Food Program

Vice President:	Philippe Le Houerou
Country Director:	Motoo Konishi
Country Manager:	Chiara Bronchi
Acting Sector Director:	Mamta Murthi
Sector Manager:	Kathy Lindert
Task Team Leader:	Menahem Prywes

Report No.: 56593-TJ

REPUBLIC OF TAJIKISTAN:

DELIVERING SOCIAL ASSISTANCE TO THE POOREST HOUSEHOLDS

April 6, 2011

Human Development Sector Unit
Central Asia Country Unit
Europe and Central Asia Region

Document of the World Bank

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

CURRENCY EQUIVALENTS
(Exchange Rate Effective December 28, 2010)

Currency Unit	=	Tajikistan Somoni
4.403 TJS	=	US$ 1
5.775 TJS	=	Euro 1
6.85 TJS	=	SDR 1

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

:

ADV	Advantage
CdAS	Comite de Acción Social (Social Action Committee) – Chile
CCP	Conditional cash payments
DISADV	Disadvantage
ECA	Europe and Central Asia Region
EU	European Union
GBAO	Gorno-Badakhshan Autonomous Province
GDP	Gross Domestic Product
GoT	Government of Tajikistan
HMT	Hybrid means-testing
HH	Households
IDA	International Development Association
KWH	Kilowatt hours
MoF	Ministry of Finance
MLSP	Ministry of Labor and Social Protection
PMT	Proxy means-testing
RRP	Regions of Republican Subordination
SIPO	Sistema de Información de la Población Objetivo - Costa Rica
SISBEN	Sistema de Selección de Beneficiarios - Colombia
TJS	Tajikistan Somoni
TLSS	Tajikistan Living Standards Survey
US$	United States Dollar
WFP	World Food Program

Vice President:	Philippe Le Houerou
Country Director:	Motoo Konishi
Country Manager:	Chiara Bronchi
Acting Sector Director:	Mamta Murthi
Sector Manager:	Kathy Lindert
Task Team Leader:	Menahem Prywes

World Bank Task Team

Sarvinoz Barfieva (Consultant and operations specialist)
Gabriel Francis (Program Assistant)
Elena Glinskaya (Country Sector Coordinator for Human Development)
Shafique Jamal (Consultant and statisticians and public policy specialist)
Joost de Laat (Economist and monitoring & evaluation specialist)
Menahem Prywes (Senior economist and task team leader)
Firuz Shukurov (Consultant and fiscal economist)
Shoira Zhukhurova (Program Assistant)

Acknowledgements

The World Bank task team thanks the leaders and personnel of Tajikistan's Ministry of Labor and Social Protection of the Population for their dedication and service to the poor population, and also for their warm reception, and for explaining Tajikistan's system of social assistance. In particular, the team thanks Mr. Mahmadamin Mahmadaminov (Minister), Mr. Emin Sanginov (First Deputy Minister), Ms. Latofat Sharifova (Deputy Minister), and Mr. Davron Valiev (Chief, Department of Social Protection) for their leadership in strengthening the system of social assistance.

The team thanks its donor partners at the Delegation of the European Union to Tajikistan, and in particular Mr. Jean-Bernard de Milito (Attaché) and Mme. Ileana Miritescu (Attaché). The team thanks the European Union's consulting team for their hard work and determination in supporting the Ministry of Labor and Social Protection. Specifically, the team thanks Mr. Robert van Leeuwen (Team leader), Ms. Fariza Ergasheva (Deputy Team Leader), and Nadjezda Timoshenko (Counsel), Ms. Franziska Gassmann (Professor and social protection expert), and Ms. Farangis Ziyaeva (Social assistance expert). Furthermore, the team thanks Mr. Robert Brudzynski (Fiscal consultant to the European Union) for his advice.

Finally, the team thanks World Bank staff who guided us on this work. The team benefitted from much useful guidance from Ms. Kathy Lindert (Sector Manager) and from Mr. Emil Tesliuc (Senior Economist). Furthermore and importantly, the team thanks Mr. William Wiseman (Senior Economist) and Mr. Renos Vakis (Senior Economist) for their comments on drafts of this study.

Table of Contents

Executive summary 1

I. Poverty and social assistance 3
II. Overview of the present System of Social Assistance 6
III. Electricity and gas compensation 9
IV. Conditional cash payments to promote school participation 12
V. Overview of the proposed reform of social assistance 13
VI. Proxy-means testing 14
VII. Methodology for preparing a scoring formula 17
VIII. The Proposed Scoring Formula 18
IX. Registry of social assistance 22

Bibliography 23

List of Tables

Table 1: Budget expenditures on social assistance in 2009 7
Table 2: Mean tests and proxy-means tests: data requirements, eligibility criteria, and advantages and disadvantages 15
Table 3: Variables used in the best performing models for urban and rural areas 19
Table 4: Variables and weights (coefficients)used in the proposed scoring formula. 20
Table 5: Performance of the proposed PMT scoring formula 21
Table 6: Performance of the best geographic formula and the proposed formula 21

List of Annex Tables

Annex Table 1: Consolidated Tajikistan Government budget for Social Protection-Summary 24
Annex Table 2: Generosity - Social assistance paid to beneficiaries as a share of their per capita consumption, across quintiles, in 2009 (in percentage points) 25
Annex Table 3: Coverage rate of social assistance programs across quintiles of per capita monthly consumption in 2009 (in percentage points) 25
Annex Table 4: Targeting Accuracy - Distribution of social assistance benefits across quintiles of per capita monthly consumption in 2009 (in percentage points) 25

List of Figures

Figure 1: Total, urban, and rural estimated poverty rates in 2009 (in percentage points) 3
Figure 2: Estimated poverty rates by oblast (in percentage points) 3
Figure 3: Estimated poverty rates of households by number of children in 2009 (in percentage points) 4
Figure 4: Share of social assistance spending in GDP in ECA Countries (in percentage points) 5

Figure 5: Generosity - Social assistance as a share of the income of the poorest quintile in ECA counties (Percentage point shares) 7
Figure 6: Coverage rate -- Share of households in the poorest quintile who receive social assistance 8
Figure 7: Targeting accuracy in ECA countries: Share of social assistance benefits received by poorest quintile (in percentage point shares in total social assistance) 8
Figure 8: Distribution of payments of social assistance across quintiles of consumption expenditure in 2009 (in percentage points.....9

List of Boxes

Box 1: Tajikistan Living Standards Survey (TLSS).....4
Box 2: Definitions of types of social protection programs 6

EXECUTIVE SUMMARY

During the food, fuel, and financial crises of 2008 and 2009, the Government and donors found themselves without an effective mechanism for channeling assistance to the poor. In 2009, the Government of Tajikistan asked the World Bank to support improvement of its system of social assistance. The World Bank prepared this report to inform its technical and financial support for improvement of social assistance and also to define an initial mechanism for delivering benefits to the poorest households.

At present, Tajikistan's system of social assistance exerts almost no downward influence on poverty rates. This note sets forth the case for reform and then presents some specific technical proposals for reforms. To trace the path to reform, this report starts with an assessment of the present system.

The consolidated budget for social assistance is relatively small. In 2009, the consolidated government budget for social assistance was small, at about 0.2 percent of GDP –the lowest in the Europe and Central Asia member countries of the World Bank. The system is somewhat fragmented, with two main programs (one for electricity and gas compensation, and one for needy families who attend school), a program for resettled people, and nine tiny programs. As a result of the small budget, total social assistance was not particularly generous, and amounted to less than 3 percent of the per capita consumption expenditures of the poorest 20 percent (quintile) of households.

Moreover, the budget for social assistance is not well-targeted. Only 23 percent of social assistance payments reached the poorest quintile of the population –the rest leaked to better-off groups. Thus, scarce budget resources were not used efficiently to reduce poverty.

The largest social assistance program in 2009 was electricity and gas compensation. Each year, the Ministry of Finance prepares the budget for this program by adjusting the past year's budget. This budget is not based on information on beneficiaries. Further weaknesses of the program are in the identification of beneficiaries and maintenance of lists of beneficiaries. The district administrations bear the formal responsibility for identifying beneficiaries, but only one staff member in each district office is paid for that role –which limits administrative incentives to perform the registration functions well.

The other main social assistance program is compensation to needy families whose children attend school. This program pays benefits to selected households if their children enroll in and attend school. The size of the benefit is negligible and is judged too low to influence school attendance. Importantly, the Ministry of Finance transfers funds to the districts as part of a block grant, so that districts are not accountable to the Ministry for spending on the program. As a result, the districts can and do divert these funds to other programs.

An important step in the proposed reform would be to consolidate the two main social assistance programs, and if possible, all the programs, and replace them with a single targeted social assistance benefit program. This would improve targeting by decoupling social assistance from consumption of electricity and natural gas. This is important since some very poor people live in isolated mountainous areas where they are not connected to the electricity and gas grids, and thus would not benefit from these compensation transfers.

A further and important step toward the proposed reform would be to adopt an explicit mechanism for poverty-targeting. This report reviews alternatives for targeting mechanisms, and recommends adoption of a formula for estimating the per capita consumption of each household as a "proxy estimate" of welfare, which could then be used to determine eligibility for social assistance. With such a scoring

formula, households with estimated per capita consumption below a stipulated poverty threshold would receive social assistance.

This report presents proposals for scoring formulas (drawn from proxy-means tests) for urban and rural areas, based on data on the characteristics of households and observable proxies for consumption. Empirically, the most important household characteristics for predicting consumption are the number of children, the number of family members, and the oblast of residence. The most important proxies for assets for predicting consumption are ownership of consumer durables such an electric heater and a car or truck –these are associated with high income per capita.

With all targeting and screening methods, some social assistance leaks to the non-poor. In simulations of the proposed scoring formula, the bulk of leakage is to the near-poor and the middle-consumption groups, rather than to the richest groups. However, the simulations also suggest that the proposed scoring formula would exclude 45 percent of qualified poor households (errors of exclusion) from eligibility for social assistance benefits. To reduce errors of exclusion, the Government could identify households with vulnerable members, such as people with major disabilities (with proper and transparent criteria for certifying disability status). The Government could search out these households and encourage them to apply for benefits. Membership in vulnerable groups could then be included in improved scoring formulas.

A further step in reform is to improve the administration and management of social assistance, in particular through establishing an improved system for managing information, including an electronic registry. This would help the Ministry of Labor and Social Protection to strengthen administration and oversight of the social assistance system. It would also provide the Ministry of Finance with a more informed basis for estimating annual budget allocations for social assistance. An information registry could also help improve control over fraud and errors, which would increase Government and donor confidence, and might attract additional financing.

Even if the Government consolidates social assistance programs and targets to the poor, the impact on poverty will be limited by the small size of the government budget. A simple estimate of the cost of eliminating extreme, 'food,' poverty illustrates the size of the budget necessary for the reform to greatly reduce poverty. Even if targeting of the poor were perfect, the Government would have to budget an estimated US$ 70 million per year (1.4 percent of GDP) to eliminate extreme poverty through payment of social assistance, assuming perfect targeting. This is about seven times the amount currently budgeted for social assistance and beyond Tajikistan's fiscal capacity. Nevertheless, one of the recommendations of this paper must inevitably be to increase the budget for targeted social assistance so as to enhance poverty impact.

Furthermore, both the proxy-means scoring formula and an improved registry information and payment system should be piloted and evaluated to adapt these to local capacities and conditions. These could then be refined on the basis of lessons learned and evaluation results, and then scaled up to support reforms on a national level. This report was written to inform the design of such reforms, first through a stock-taking and assessment of the existing social assistance system and then through the development of proposed proxy-means scoring formulas, which could be piloted, evaluated and eventually scaled-up.

I. Poverty and social assistance

Tajikistan is a poor country. In 2009, Tajikistan's Gross National Income per capita (Atlas method) in current US dollars was 700, which placed Tajikistan at 182nd out of 213 countries and territories. While several education indicators were strong, several health and nutrition indicators were weak. The mortality rate among children aged 5 and under was 61 per 1,000 in 2009, near the world average, but high relative to other countries in the Europe and Central Asia (ECA) region. Importantly, the estimated rate of stunting among children aged 5 and under was 27 percent. Stunting is a form of child malnutrition, measured by height over age, which permanently impairs physical and cognitive development.

An estimated 47 percent of the population was poor in 2009 (Figure 1). Analysis of the Tajikistan Living Standard Survey (TLSS) collected in 2009 found that the consumption expenditure per capita of 47 percent –-not far below half-- of the population fell below the poverty line of 162 Somoni per month (Box 1, World Bank 2010). More than 17 percent of the population fell below the extreme poverty line, which is the cost of a nutritionally minimum basket of food.

Figure 1: Total, urban, and rural estimated poverty rates in 2009 (in percentage points)

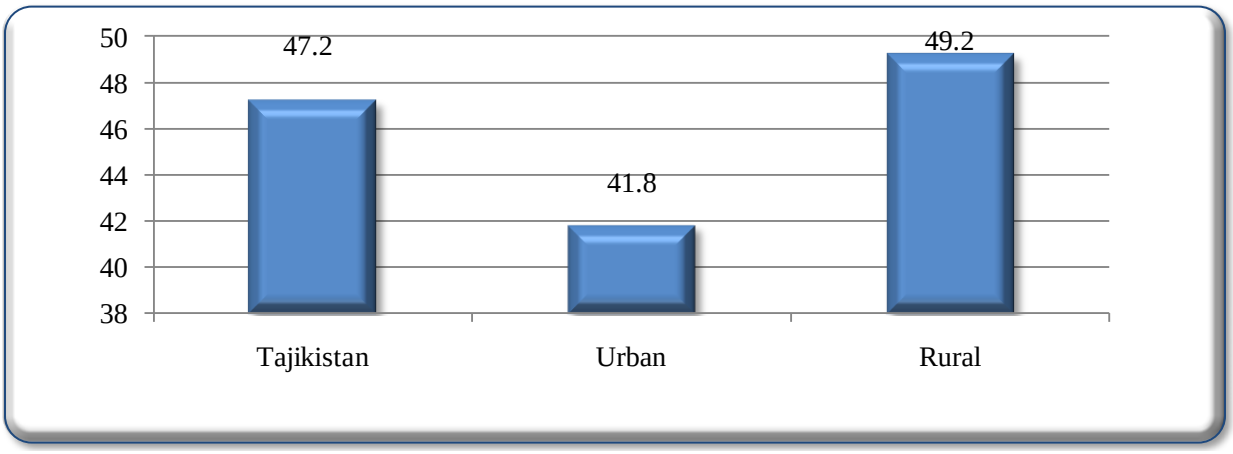
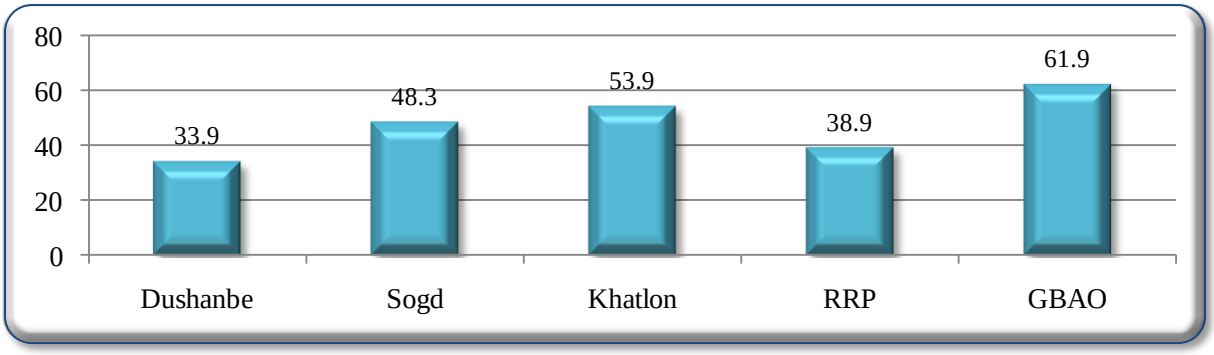


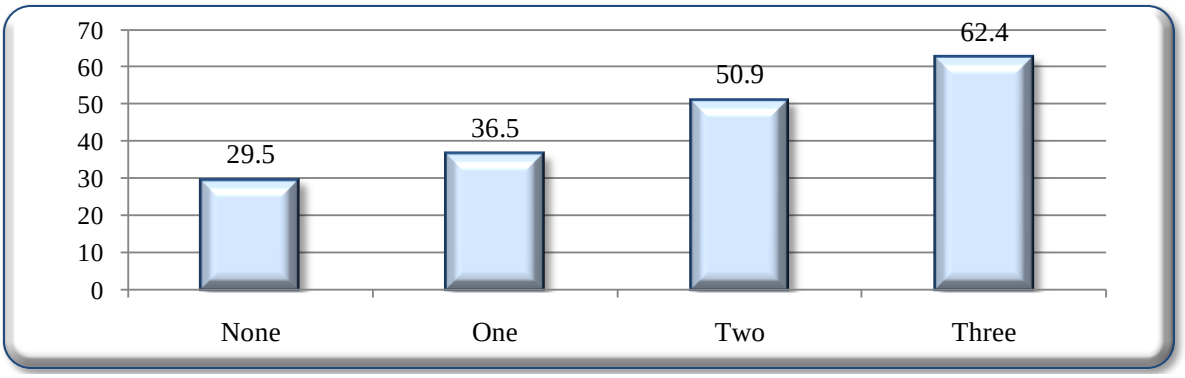
Figure 2: Estimated poverty rates by oblast (in percentage points)



In Tajikistan, the probability that a household will fall below the poverty line depends on where it resides and on the number of children in the household. The estimated rural poverty rate was more than 7 percentage points higher than the urban rate in 2009 (Figure 1). Furthermore, the estimated poverty was higher in Gorno-Badakhshan Autonomous Oblast (GBAO) and Khatlon oblasts and relatively low in

Dushanbe, the capital city (Figure 3). GBAO is a mountainous and sparsely population region in eastern Tajikistan. Khatlon oblast is a low-lying province, in southern Tajikistan, which is affected by the difficulties of the cotton industry, and also by variable rainfall.

Figure 3: Estimated poverty rates of households by number of children in 2009 (in percentage points)

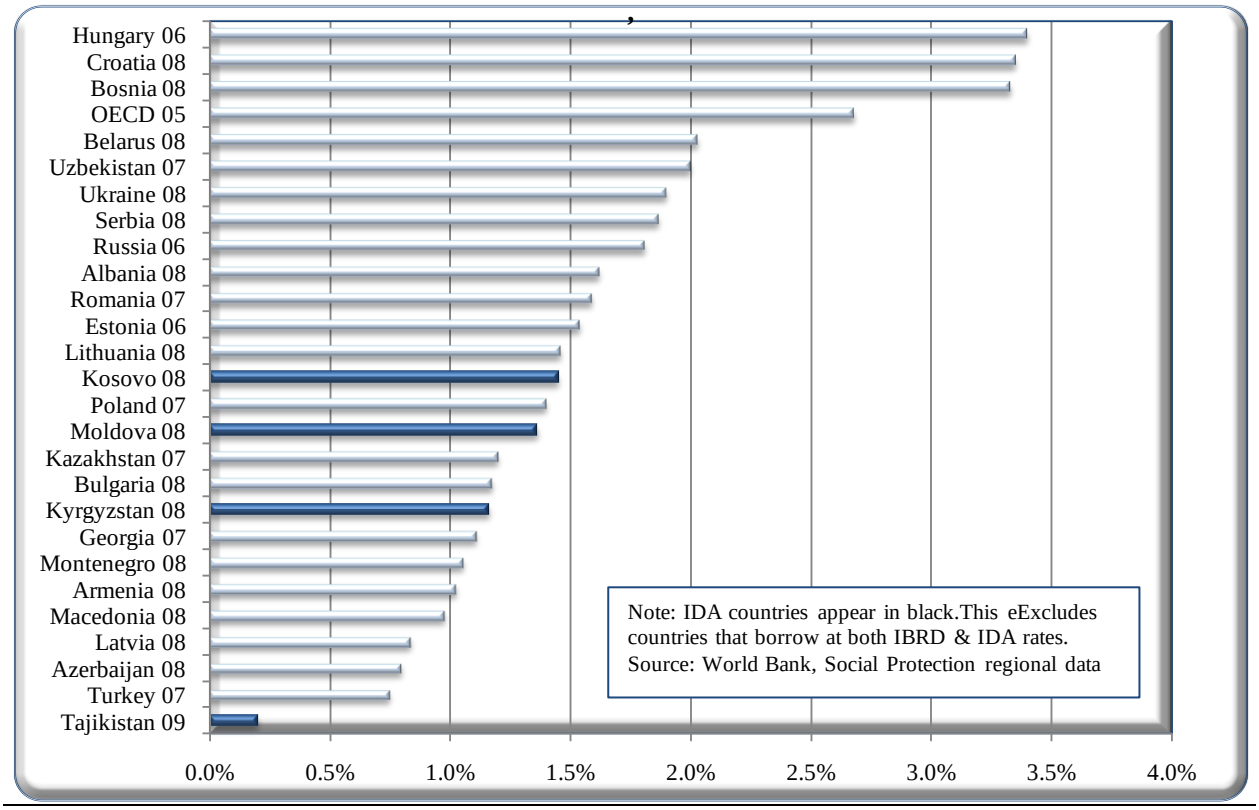


Box 1:Tajikistan Living Standards Survey (TLSS)

The estimated poverty rates draw on data collected by Goskomstat, the state statistical committee, with technical and financial support from the World Bank. The TLSS for 2009 consists of about 1,500 households, and is a representative sample of the population. The survey questionnaire posed questions on consumption expenditures, on income, including from social assistance programs and from pension, on some assets, on health, and on migration and remittances. The 1,500 households were drawn from households who were also surveyed in the TLSS of 2007.

Beyond region of residence and number of children, poverty was also associated with households' receipt of remittances from members working abroad. In Tajikistan, workers' remittances are a major source of household income. Remittances reached US$ 2.3 billion and 45 percent of GDP in 2008. The global financial crisis deflated the real estate and construction bubble in Russia, and as a result, remittances fell by an estimated 35 percent to US$ 1.6 billion and 33 percent of GDP in 2009. The TLSS for 2009 includes information on membership of migrants in households and on receipt of remittances. But comparison of total remittances implied by the TLSS with the total reported by the Central Bank's suggests that households severely under-reported remittances to enumerators for the TLSS. It was therefore not possible to use the TLSS data on migrants and remittances to analyze the influence of remittances on poverty rates.

Figure 4: Share of social assistance spending in GDP in ECA Countries (in percentage points)



The persistence of poverty, and in particular extreme 'food' poverty, despite the inflow of remittances, points to a continued role for a formal system of social assistance. The consolidated government budget for social assistance in 2009 was only 0.2 percent of GDP, the lowest in the Europe and Central Asia (ECA) member countries of the World Bank (Figure 4). It is thus especially urgent for Tajikistan to use this limited budget efficiently.

However, Tajikistan's social assistance system exerts almost no downward influence on poverty rates. This conclusion is based on analysis of recent and detailed data on households. (To clarify, Box 2 explains the definitions of social protection and assistance as they are applied in this note.) A simple simulation suggests that social assistance programs lowered the poverty rate by only 0.3 percentage point. An important reason is that social assistance benefits were negligibly small. The other main reason is that less than a quarter of social assistance was received by the poorest 20 percent (quintile) of the population, while the rest leaked to better-off quintiles. The Government of Tajikistan (GoT) could improve the impact of its limited budget for social assistance by adopting a mechanism for directing social assistance to the poorest households.

Box 2: Definitions of types of social protection programs

- **Social assistance**: Money transfers from the government to beneficiaries, based on need or category of the beneficiary, and not made on the basis of prior contributions.
- **Social care services**: Government services, through institutions or outpatient centers, to vulnerable beneficiaries, such as people with disabilities or orphans,
- **Pensions**. Money payments from the government to beneficiaries, based partly on the beneficiaries' history of prior payments, and usually linked to old age, disability, etc. In Tajikistan, Social Pensions are classified as pensions, but are not based on contributions and thus resemble social assistance.
- **Social protection**. Social protection more generally, covers social assistance, pensions, social care services, unemployment insurance, and other labor-related programs.

The lack of a convincing mechanism for delivering social assistance to the poor discourages donor delivery of assistance to poor and vulnerable households. For example, donors could not find a way of targeting food packages to poor pregnant women during the food price crisis in the summer of 2008. In contrast, the establishment of a convincing targeting mechanism might induce an inflow of funds for social protection.

An efficient system of social assistance, along with a sufficient budget, would help poor households to maintain their human capital during the economic downturn. For example, remittances fell sharply from 2008 to 2009 -during the financial crisis. Remittance-dependent households may have responded by cutting their expenditures on basic health, nutrition for their children, and education, leading to an irreversible loss of their human capital. However, remittances are now recovering strongly from the financial crisis.

This note assesses the present system of social assistance and suggests some avenues for reform. The note covers the budgeting, financial payment methods, administration, governance arrangements, modes of delivery, and the selection of beneficiaries of social assistance. The main technical proposal is to establish a mechanism for poverty-targeting. Finally, the note proposes to better manage social assistance through establishment of a central electronic registry of applications, beneficiaries, and payments.

II. Overview of the present System of Social Assistance

A table of public expenditures on social protection over 2006-2010 should help to address the lack of basic information. This table consolidates three public sources of spending on social protection: the republican (central) state budget, local government budgets, and the budget of the State Agency for Social Insurance & Pensions (Box 1, Table 1 and Annex Table 1). This was not a straightforward exercise, since expenditure items, such as compensation to needy families whose children study in school, were not recorded separately and had to be estimated. Despite difficulties in measurement, some conclusions do emerge.

The social assistance system is small by all measures. In the 2009 budget, social assistance totaled US$ 10 million (Table 1). This does not include social pensions, which the State Agency for Social Insurance & Pensions pays to poor elderly people who have not contributed to the pension fund. But even when social pensions are included, social assistance rises to only 0.5 percent –still far below the ECA country average of 1.6 percent (Figure 4).

Table 1: Budget expenditures on social assistance in 2009

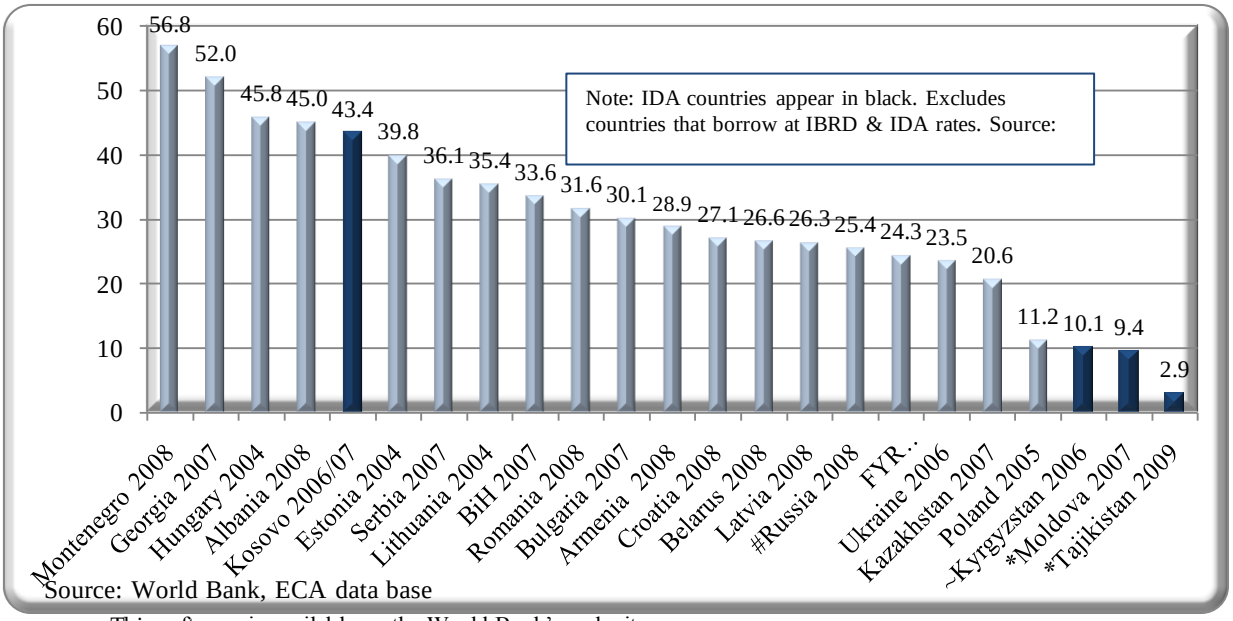
Program	Annual budget in US$ millions	Share in GDP, in percentage points
Social Assistance	**$9.96**	**0.20%**
Social Assistance plus Social Pensions	$22.18	0.45%
Social Pensions	$12.22	0.25%
Main social assistance programs:		
Electricity & Gas Compensation	$4.87	0.10%
Compensation to needy families whose children study in school (Conditional Cash Payments)	$2.86	0.06%

Sources: Ministry of Finance, State Agency for Social Insurance & Pensions, World Bank

The main social assistance programs were electricity & gas compensation and compensation to needy families whose children study in school. In 2009, the Government budgeted about US$ 4.9 million for electricity and gas compensation (Table 1). At least half of the budget for the electricity & gas program was used to purchase and distribute energy-saving light bulbs. The next largest program is for compensation to needy families whose children study in school. This is also known as the conditional cash payment (CCP) program to promote education. The program pays benefits to selected families of poor children from grades 1 through 9 on the condition that they enroll in and attend school. The Government also budgeted about US$ 900,000 in aid to returnees and migrants from dangerous zones, the next largest program.

It's possible to assess the main social assistance programs by estimating their generosity, coverage of the poor, and rates of success in targeting of benefits to the poor.[1]

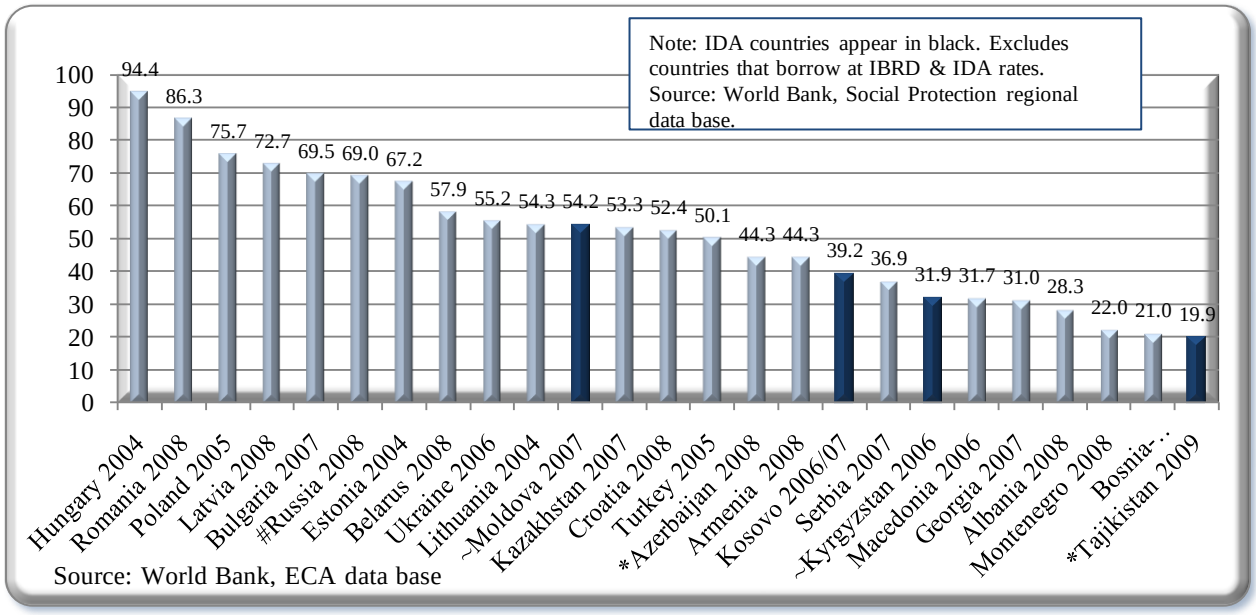
Figure 5: Generosity - Social assistance as a share of the income of the poorest quintile in ECA counties (Percentage point shares)



Source: World Bank, ECA data base

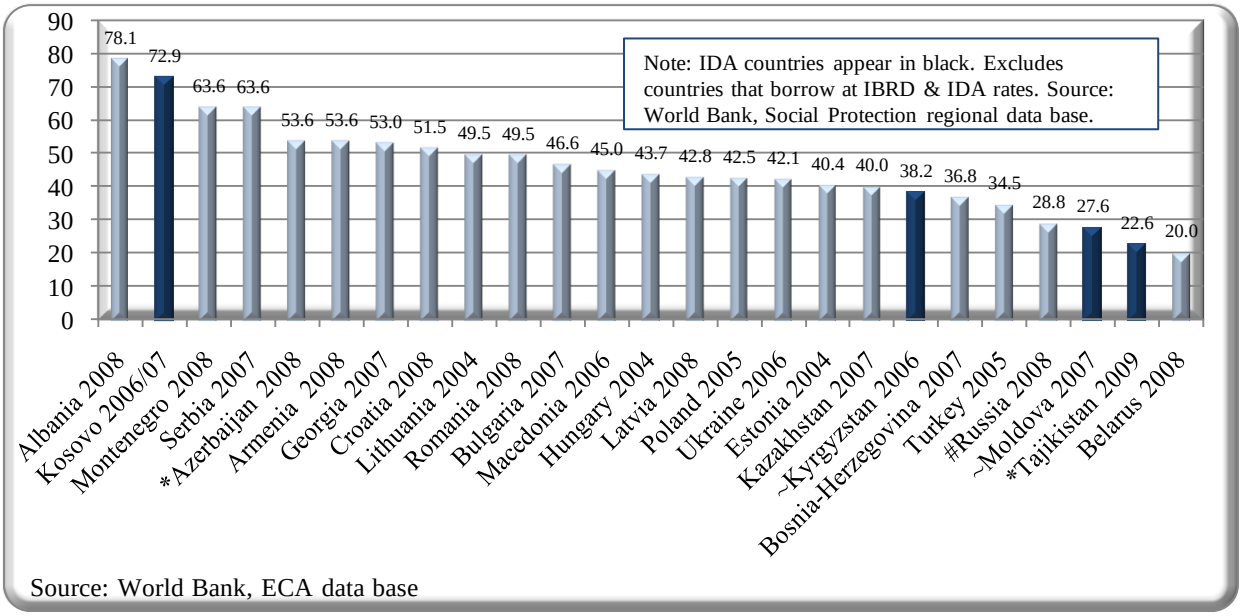
programs. This software is available on the World Bank's web site: http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/EXTPROGRAMS/EXTPOVRES/0,,contentMDK:22359790~pagePK:64168182~piPK:64168060~theSitePK:477894,00.html

Figure 6: Coverage rate -- Share of households in the poorest quintile who receive social assistance (In percentage point shares in households in the poorest quintile)



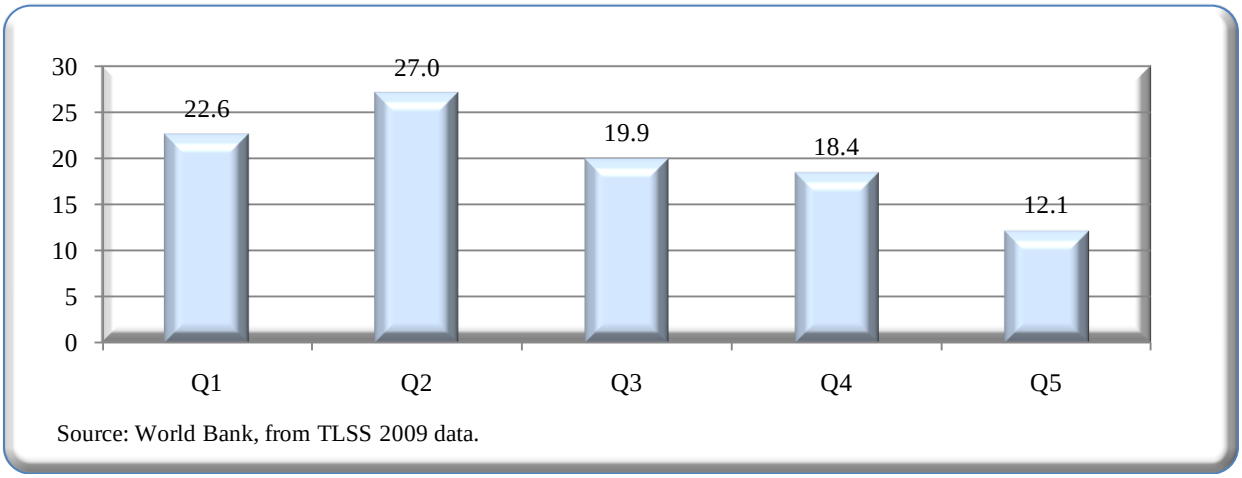
Payments of social assistance were not particularly generous in 2009. Social assistance amounted to less than 3 percent of the per capita monthly consumption of the poorest 20 percent (that is, the lowest quintile) of the population, the lowest in the ECA countries of the World Bank (Figure 5). This contrasts unfavorably with pensions, which amounted to more than 15 percent of the per capita monthly consumption of that quintile (Annex Table 2).

Figure 7: Targeting accuracy in ECA countries: Share of social assistance benefits received by poorest quintile (in percentage point shares in total social assistance)



Furthermore, a relatively small fraction of the poor received any social assistance at all. About 20 percent of the poorest quintile of households was covered by social assistance, the lowest coverage rate in the ECA countries of the World Bank (Figure 6). In contrast almost 44 percent of the poorest quintile of households benefited from pensions (Annex Table 3).

Figure 8: Distribution of payments of social assistance across quintiles of consumption expenditure in 2009 (in percentage points



Source: World Bank, from TLSS 2009 data.

Targeting accuracy: Only 23 percent of social assistance payments reached the poorest quintile of the population in 2009. After Belarus, this was the poorest performance among ECA countries (Figure 7). The second poorest quintile received 27 percent and more than 30 percent of social assistance leaked to the top two quintiles of the population (Figure 8). Annex Table 4 presents the distribution of both social assistance and pension payments across quintiles of households.

The consistent message from the data is that social assistance was generally ineffective in reaching the poor and improving their well-being. To understand how this happened, the next step, in this note, is to review the details of implementation of the two main programs.

III. Electricity and gas compensation

The Government partly compensates selected consumers of electricity and gas. At present, the Government pays a benefit of 9 dirhams (0.09 Somoni) per Kilowatt Hour (KwH). The amount of the benefit is computed as equivalent to the cost of a basic allocation for consumption of KwH of electricity and cubic meters of natural gas.[2] Households that are not attached to the electricity and natural gas grid do not receive these benefits, even if they are very poor.

[2] These basic allocations are:

1. For those who use both electricity and gas: (i) from April to September, 100 KwH per month per family/HH, up to 10 cubic meters of gas per person; (ii) from October to March, 150 KwH/h per family/HH, up to 12 cubic meters of gas per person.
2. For those who use only gas \: from April to September, up to 20 cubic meters of gas per family/HH; (ii) from October to March, up to 30 cubic meters of gas per household.
3. For those who use electricity only: from April to September, 150 KwH per month per household (ii) from October to March, 250 KwH.

The Ministry of Finance's (MoF's) annual budget for the program is based on the previous year's budget rather than on information on beneficiaries or on the population in need. Government Order #379 requires payment of benefits to 18 to 20 percent of the population.[3] However the MoF prepares an estimated budget for electricity and gas compensation for the Republican budget that does *not* reflect the 18 to 20 percent rule. Instead the MoF estimates the budget by adjusting the past year's budget for changes in the price of electricity and gas and for general price inflation.

Surprisingly, there are no district-level budgets. In effect, the districts do not work within fixed budget envelopes for this program. Instead the districts submit demands for payment every two months. These demands are based on the number of beneficiary households each district pays and on the size of the benefits. This may lead to demands for payment from the districts that the central Treasury is unable to meet. In 2008, the central Treasury could not pay all demands from districts, but it was able to pay all demands in 2009.

The program seems protected from budget cuts. In principle, the Government classifies social transfer programs as priority expenditures and protects them from cuts in case of a shortfall in revenues. But in practice there have been delays in payments of 10 to 20 days.

The MoF uses transit accounts to pay districts. Once the Republican Budget is approved, the MoF transfers funds to the transit accounts for compensation payments in districts, which are managed by the district treasuries. Physically, these transit accounts are located at the local branches of Amonat Bank, a state owned commercial bank with an extensive network of branches in towns and villages.

The Amonat bank branch then pays beneficiaries. The Amonat Bank pays beneficiaries every two months. Some beneficiaries pick up their benefits at branch offices. In rural areas, some beneficiaries pick up their payments at the Amonat branch offices, while others receive cash payments at their homes from bank cashiers. Beneficiaries have three months to collect their benefits, after which any remaining money is sent back to the Treasury.[4] The payments are made to lists held at the district level and these lists form the only existing registry; there is no central registry.

The districts report to the MOF on the use of funds for the electricity and gas compensation program. They do not report back to the MLSP. Moreover the *jamuat*s must return undisbursed funds to the MOF and the MOF therefore has an incentive to inspect the districts. This structure of financial reporting imposes a degree of financial discipline on the districts. But there is less accountability to the MLSP for the non-financial aspects of the program, such as accurate identification of beneficiaries.

The district administrations (*hukumat*s) bear the formal responsibility for identifying beneficiaries. The Deputy-Chairman of the district *hukumat* is the head of a commission that selects beneficiaries. The commission consists of representatives from the *jamuat*s (sub-districts), local MLSP offices, local financial departments, local statistics office, local electricity and gas offices, and others. The secretary of this commission updates the list of the approved households. The secretary is the only official in the process who is paid from the social assistance budget and therefore has an incentive to work.

In each *jamuat*, a sub-commission prepares a list of candidates for approval by the committee at the district level. The members of the sub-commission are the *rais-mahalas* (village or neighborhood headmen or women) and *jamuat* representatives, as well as representatives of local housing and utilities

[3] Government Resolution #146 of April 3, 2007 on "Improvement of the mechanism of payment of compensation to low-income households" forms the legal framework for the payment electricity and gas compensation and authorizes payment of benefits.
[4] In Dushanbe, about 7 percent of deposits were sent back. In Varzob District only about 1 percent was sent back.

offices, if any. In practice, the *jamuat* and *rais-mahala*s do not search for eligible families. Rather, families come to the *jamuat* office to apply; sometimes they ask the rais-mahalas to bring them to the *jamuat* to apply. Once the list of beneficiaries in the *jamuat*s is completed, the *jamuat*s send the lists to the districts. The *jamuat* sub-commissions apply the following criteria for households:

a) Receives electricity and / or natural gas.
b) Income is less than 35 Somonis per month per person in income.[5]
c) Households headed by a person with a disability, or an elderly person living alone, qualify if its pension income does not exceed 35 Somonis per month per person.

Households must fill in an application and submit several documents:

a) Copy of the internal passport;
b) Verification of address;
c) Statement of the amount of pension, for each pension-aged person in the household;
d) Statement of amount earned in employment,
e) Statement of scholarship stipend or income, for each student in the household.

Households must visit the *jamuat* office to obtain these documents. This may be an obstacle for applications by residents of geographically isolated villages.

MLSP officials report several breakdowns in the work of *jamuat* commissions and *rais-mahalas*. Specifically, several MLSP officials report that the *jamuat* committees do a poor job of selecting beneficiary households because they are not paid and because inspections are infrequent: both lead to poor discipline. When districts do inspect the lists at the *jamuat*s, they sometimes find that the lists have not been updated and they discover cases of selection of non-poor households. Moreover, the MLSP receives many letters from people who feel they are poor enough to qualify for assistance but have been unfairly excluded.

Furthermore, several MLSP officials report that nepotism is an obstacle to accurate selection of poor beneficiaries. In many villages, a single extended family sometimes forms 80 percent of the population. Moreover, several MLSP officials report that *rais-mahala*s may face a conflict between their responsibilities that leads to exclusion of poor households from the beneficiary list. The *rais-mahala*s are responsible for collecting fees for electricity and gas use, for garbage collection, and for other purposes. Several MLSP officials allege that *rais-mahala*s sometimes exclude poor households to pressure them to pay fees for electricity.

Finally, several MLSP officials believe that many *rais-mahalas* have a limited understanding of the rules for the selection of beneficiaries. This is true even after the MLSP conducted a training campaign for *rais-mahala*s and distributed a pamphlet of rules.

World Bank staff visited Khatlon *oblast* to see how the World Food Program (WFP) works with *rais mahala*s to target food packages to the most vulnerable groups. The WFP did not experience any severe problems with the *rais mahala*s. The WFP contracts with a local NGO, Odamiyat, to monitor the *rais mahala*s, and the Odamiyat representative estimates that only about 10 percent of the *rais mahala*s misdirected food aid. Moreover, both the WFP and the NGO argue that the *rais mahala*s perform best when there is an adequately funded monitoring system, when there is a complaint system for excluded households, and when the anti-corruption office pursues abuse by the *rais mahala*s.

[5] The official instructions for implementing the program say that the benefit should be less than 50 percent of the minimum wage per person per month.

IV. Conditional cash payments to promote school participation

The second largest social assistance program is for conditional cash payment to selected households if their children enroll in and attend school. The program was set up in the early 2000s with the assistance of the World Bank and was intended to reach the poorest 15 percent households. Children in the first through ninth grades (approximately ages six through 14) are eligible.

The size of the benefit is negligible and is judged too low to influence school attendance. The program pays 20 Somonis every six months and totals 40 Somonis per year. This is less than US$ 10 per year and equivalent to about 30 percent of the annual direct schooling expenditures by the family of the average female pupil.

The budgeting process works as follows. The law calls for coverage of 15 percent of secondary school students.[6] To begin the budgeting process for the program, the MOF requests figures on the number of students, in total and by district, from the Ministry of Education. It then checks the Ministry of Education figures against reports from its district offices. After making any corrections to the figures on students, the MOF budgets funds for program by district. In principle, the Government classifies the program as priority expenditure and protects it from cuts in case of a shortfall in revenues.

Importantly, the MOF transfers funds to the districts as part of a block grant, and this has several negative consequences. The block grant includes benefits for Afghan War veterans and the special fund of the district chairman for one-time payments to poor households, in addition to the funding for compensation for needy families whose children attend school. So there is no budget for the program at the central level, only at the district level. The absence of a central budget means that the districts are not accountable to the MOF for delivery of benefits.

Districts can and do divert these funds. The MLSP is responsible for the administration of benefits, through its district offices. MLSP officials report that heads of district divert funds intended for the program to the special funds. A MLSP official in a district office told World Bank staff that they sometimes deliberately leave funds unspent through the year, and then are free to divert them funds to any other purpose in the following fiscal year. Furthermore, a visit to the Dushanbe district office of the MOF revealed that they do not have a record of actual spending on the program.

Eligibility and selection of beneficiaries. Most of the authority for selection of beneficiaries is devolved to local school associations. A family can receive the cash benefit for a maximum of three children at the same time. Pupils are eligible through grade nine, but not beyond. Officially, there should be a school level meeting by the school association committee which draws up the list of poor children. Apparently, the school administration frequently distributes the funds to parents. The school administration draws up a list of eligible children, and this list is sent up to the district education committee, which looks at the list and submits it to Amonat Bank. There is no verification of whether this is indeed a list of the poorest children.

The treasurer of the school committee is supposed to pick up the money and then pay beneficiaries in cash. However, the MLSP reports that benefits are sometimes paid by school principals. According to MLSP officials, the benefits are paid in cash (in contrast with the electricity and gas compensation program, where benefits are paid by bank branches) and this may enable theft of benefits.

[6] Government resolution #244 of May 2, 2007 on "Payment of allowances to poor families whose children go to secondary school" forms the legal framework for the CCP program.

Moreover, MLSP officials report that the school principals do not always pay the full amount to households. The principals are responsible for collecting funds for school rehabilitation, and they sometimes subtract the uncollected contributions of poor households from the school attendance benefit paid.

V. Overview of the proposed reform of social assistance

The case for reform is overwhelming. The consolidated budget shows that social assistance is relatively small. Furthermore, analysis of the TLSS 2009 shows that the current social assistance programs are relatively ineffective in reaching the poor and in reducing poverty. And finally, the review of implementation of the programs identified slips in budgeting, targeting, and accountability.

To deploy the government budget for social assistance more effectively, a reform of social assistance would pursue the following strategy:

- ⇨ Consolidate the present programs into a single social assistance program
- ⇨ Adopt a system of targeting of social assistance;
- ⇨ Improve management of social assistance.

An initial step in the reform would be to consolidate the present social assistance programs to increase the ease and lower the cost of administration. The proposal is to consolidate the electricity and gas compensation and the conditional cash payment program to promote participation in education. Furthermore, the Government could consolidate the budgets for the nine tiny social assistance programs that receive less than one million Somoni per year in budget resources with the larger programs into a single program (see programs listed on Annex Table 1).

By eliminating electricity and gas compensation, consolidation would decouple social assistance from consumption of electricity and natural gas. Many of the poorest households live in isolated mountainous areas where they are not connected to the electricity and natural gas supply network. The Poverty Assessment for 2007 reported that poverty rates rise with the altitude of residence in the mountainous Gorno-Badakhshan Province (GBAO). These poor households are the least likely to have access to electricity, and thus to electricity and gas compensation.

The purpose of social assistance targeting is to deliver scarce fiscal resources to poor. This is the main technical focus of this note and one of the pillars of the proposed reform. The next section explores this in detail.

Yet consolidation and poverty-targeting will have a limited impact on poverty because of the small size of the government budget for social assistance. Estimation of the potential impact of such a reform on extreme 'food' poverty illustrates this. In 2009, the consumption expenditures of an estimated 1.2 million households (17.5 percent of the population) were below the extreme poverty line of 104 Somonis per person per month. The extreme poverty line is a measure of the cost of the basket of food necessary to sustain minimum human nutritional requirements. The estimate is that the extreme poverty rate would fall by less than one percent if the social assistance budget for 2009 was consolidated and if benefits were perfectly targeted to the extreme poor.

A simple estimate of the cost of eliminating extreme, 'food,' poverty illustrates the size of the budget necessary for the reform to greatly reduce poverty. The estimate features payment of the difference between the extreme poverty line and their actual expenditures to each household below the line and also assumes perfect targeting. The Government would have to budget an estimated 312 million Somonis per

year (US$ 70 million (1.4 percent of GDP) to eliminate extreme poverty through payment of social assistance. This is about seven times the amount currently budgeted for social assistance and beyond Tajikistan's fiscal capacity. Consequently, one of the recommendations to the Government is to increase the budget for social assistance.

As a first step, the proposal is to proceed with a reform that identifies and delivers social assistance to the poorest households. The challenge is to screen the population to identify the poor. There are several methods for screening applicants (individuals or families) for eligibility based on quantifiable indicators of household welfare or needs. Selection of these methods should be guided by the principles of: (a) accuracy, or the empirical ability to measure "means" and distinguish between the poor and the non-poor without causing distortions in behaviors or work disincentives; (b) simplicity and administrative feasibility, taking into account institutional capacity and economic conditions (such as informality of incomes); and (c) transparency in explicit weighting of eligibility criteria and consistency in their implementation across applicants.

VI. Proxy-means testing

This main technical substance of this note relates to proxy-means testing (PMT), and its advantages, in Tajikistan, relative to means testing (MT).[7] Like any household-level targeting method, the use of these methods to select beneficiaries from amongst the pool of applications requires two main types of information (i) a definition of household needs or "administrative" welfare aggregate; and (ii) a threshold that separate the "needy" beneficiaries from the rest of the population. The choice among methods generally depends on administrative capacity, degree of formality or "measurability" of incomes, and variation in other observable characteristics associated with "need." Table 2 below provides an overview of PMT and MT, the types of data that are collected and their respective advantages and disadvantages, based on international practice.

The definition of household welfare is typically based on income for MT targeting systems, and based on consumption for the PMT ones.

- Proxy-means testing. Countries with a large informal sector use indirect methods of estimating welfare, especially based on a PMT. PMT-based programs determine eligibility based on a multi-dimensional index of observable characteristics that are highly correlated with the welfare (consumption) of the household. Typically, these include information about location, housing quality, possession of assets/durables, education, occupation and income of the adults, and a variety of other characteristics (disability, health, etc.). The variables are aggregated into a composite score (index) using weights determined by using a regression model. Eligibility is determined by comparing the score of each household with an eligibility threshold. First developed in Chile, then used extensively in much of Latin America, PMT programs are now spreading in other parts of the world, such as Turkey, Armenia, Georgia, Indonesia, and Philippines. As we have argued in this paper, the PMT approach seems to fit best the conditions in Tajikistan.

- Means-testing. At the other extreme, countries with a large formal sector use verified income and asset tested programs. This targeting method is found in most OECD countries, with notable examples in the UK, US, France, Australia. The success of the means-tested programs depends on extensive verification of information, which covers two aspects: (i) the identity of the applicant and family/household composition, and (ii) the income and assets of the assistance unit. The information

[7] This section draws on Grosh (2008) pp. 99-103.

submitted by applicants is verified based on documentary evidence (the applicant presents documents and invoices); and via automated computer match.

Table 2: Mean tests and proxy-means tests: data requirements, eligibility criteria, and advantages and disadvantages

	Data	Eligibility Criteria	Advantages/Disadvantages
Means Testing (MT)	• Self-reported income & assets collected through interviews • Verified with certification, public information, cross-checks	• Income < Threshold Income Cut-off Level • Sometimes establish a higher cut-off level for program "exit"	• ADV: Can be very accurate (especially with verification); also: more responsive to transient changes (e.g., in crisis) • DISADV: Administratively demanding; challenging with informality; potential for work disincentives
Proxy Means Testing (PMT)	• Alternative indicators of living standards • Develop models usually with Household Surveys to identify indicators that are correlated with poverty + scoring formula • Collect data on indicators through interviews and (usually) home visits	• Score = $\acute{\alpha} + ß_1X_1 + ß_2X_2 + ß_3X_3$ • Predicted values can establish weights and eligibility cut-offs (thresholds)	• ADV: Useful in situations with high degrees of informality; less potential for work disincentives; allows to capture multi-dimensional aspects of poverty (not just income poverty) • DISADV: Administratively demanding; eligibility criteria may need to change regularly as people learn to "game" the system; doesn't capture changes quickly (less responsive in crisis)

Source: Lindert, et. al. (2009)

- Community targeting. Community-based targeting relies on public meetings or on community leaders to select beneficiaries of social assistance. The concept of community targeting is that local residents are often the better informed about poverty or wealth among households in their communities than district administrations. Examples of community leaders include village elders, school principals, and representative committees. In Tajikistan, some partners object that community-targeting could lead to inequities, as local elites divert benefits. There is little local evidence to bring this discussion to resolution. Moreover, community groups and community leaders can participate in applying proxy-means tests, since they often have better information on who has the assets that are proxies for high income.

- Geographic targeting. This method awards benefits based on whether an applicant lives in a designated geographic area, prioritized on the basis of a micro-areas poverty map. This is the simplest method of targeting, and appropriate when poverty is concentrated in relatively small regions. Geographic targeting is usually applied together with other targeting methods. However it is politically difficult to exclude poor people in relatively rich regions.

- Demographic targeting. Demographic targeting determines eligibility based on categorical variables such as age and gender. The Unified Monthly Benefit in the Kyrgyz Republic is an example of a program that uses demographic targeting combined with means and proxy-means testing.[8] Demographic targeting is administratively simple, yet it is more politically feasible than geographic

[8] Social Safey Net In The Kyrgyz Republic (2009)

targeting. It is most effective when the demographic variable of interest is highly correlated with the measure of welfare (usually consumption expenditures).

Targeting those "in need" requires a "threshold" cutoff to distinguish between those who are eligible and those who are not. Such a threshold can be determined empirically – e.g., a poverty line estimated using costs of basic food and non-food consumption. Or it can be determined more broadly – to allow for inclusion of the near-poor (vulnerable) or lower-middle income groups, depending on the objectives of the program and the political calculus for acceptability of the reforms/program. Regardless of the level of the threshold for eligibility, the "tools for targeting" should be standard, common and transparent for all: namely, a consistent measure for estimating "means" (PMT, MT). strongly correlated with the measure of welfare being used.

There are costs to targeting. Administrative costs include those related to collection and verification of information. Private costs are those borne by the applicants when they comply with the application requirements. For instance, the costs of gathering the necessary information and supporting documentation, travel costs, etc. Disincentive costs are those that result from people negatively changing their behavior in order to qualify for the program (e.g. by working less). Further costs may result from the stigmatization associated with social assistance[9].

The benefits of developing a targeting system go beyond identification of the poorest households for receipt of assistance program. Once an effective targeting mechanism has been developed, financial controls are in place, and a delivery system is functioning, this infrastructure can be used to deliver other services to the poor, such as housing, education and health services[10].

Means testing is likely to prove ineffective in Tajikistan. This is of because of under-reporting of income and the difficulty of verifying the largest types of income. Importantly, many households receive remittances from family members working in Russia. Households surveyed in the TLSS 2009 reported remittances at about a quarter the rate reported by the Central Bank. Some receive remittances in cash from returning or visiting family members and this is nearly impossible to monitor. Households receive much of the remittances by wire transfer, but may redistribute some of this to related households, so that it is difficult to identify the final recipient.

Furthermore, many poor households grow their own vegetables and wheat and raise chickens, sheep, and cattle (cows and bulls). They consume some and barter or sell the rest. It is difficult to impute the value of this income accurately. A further complication in verifying means is that most wage labor is informal and it is therefore difficult to verify earned income.

Geographic targeting is not efficient because poverty in Tajikistan is not geographically concentrated. Simulations show that geographic targeting performs more poorly than PMT (See Table 6).

PMT is likely to perform better than the alternatives. In simulations using the TLSS of 2009, PMT performs better than any of the other targeting methods. Proxy means testing, as is shown below, is a more efficient and practical option for use in Tajikistan. Similar countries have succeeded with PMT: for example, Armenia's Family Poverty Benefit[11]. Several Latin American countries are characterized, like Tajikistan, by large informal labor markets and weak systems for tracking income, and have successfully

[9] Grosh (2008) pp. 86-87
[10] Grosh (2008) p. 86
[11] Posarac (2003)

applied PMT[12]. Some examples are Chile's Ficha CdAS, Colombia's SISBEN, Costa Rica's SIPO and Mexico's Oportunidades.

VII. Methodology for preparing a scoring formula

A scoring formula is an equation that ranks the welfare of households or individuals based on information about them. For Tajikistan, the basic unit for poverty-targeting is the household. The PMT-based scoring formula ranks households by their estimated per-capita consumption based on variables such as demographic information about household members and the proxies for household consumption. The scoring formula identifies beneficiaries of social assistance through the following steps:

i. Estimate the formula through statistical analysis of national household survey data;
ii. Insert the values of the variables, for each households, into the formula; the household's estimated consumption per capita is a 'score' or rank;
iii. Set a threshold, or cut-off, for estimated consumption, so that households that fall below the threshold will receive social assistance.

The formula will not predict each household's consumption per capita perfectly; this will result in targeting errors, as described below.

The performance of the scoring formula is measured by its targeting accuracy. This is defined as the percentage of social assistance that goes to members of the target group. This indicator is supplemented by the errors of inclusion and exclusion. Errors of inclusion occur when the social assistance system pays benefits to households that are outside of the target group. For example, if the objective is to target the poorest 20 percent, then the inclusion error rate is termed leakage. Errors of exclusion occur when the system fails to pay benefits to households that are in the target group. The coverage rate for any given quintile is the percentage of beneficiaries in the quintile that receive social assistance.

There can be a trade-off between errors of inclusion and exclusion for the simulated PMT model. Raising the threshold for eligibility can decrease errors of exclusion and increase errors of inclusion. Overall, more of the population is covered as the threshold is raised. For the planned pilot, the Government wishes to cover the bottom quintile of the population.

The basic principles for the specification and estimation of the scoring formula are:

- *Transparency.* The variables and their weights should be defined unambiguously. Moreover, there should be a single scoring formula for each type of settlement (urban and rural);
- *Empirical correlation.* Variables should be well-correlated with household consumption per capita. And the estimated weights (coefficients of the variables) should be statistically significant at the 5 percent level; and
- *Administrative simplicity*: The variables should be easy for civil servants to verify upon inspection of the household and difficult for applicants to hide or change. Also, the number of variables should be small enough to avoid complication in collection and verification of the information on the variables.

The steps for preparing the scoring formula are as follows:

[12] Castañeda (2006) p. 1

Step 1: Establish a statistical basis for preparation of the formula. The formula must use variables for which there are data from a recent household survey.

Step 2: Specify and estimate scoring formulas to predict consumption. The PMT formula consists of a set of variables and the functional form of these variables. For example, variables can be included in a linear form (e.g. "age of household head"), quadratic form (e.g. "age of household head" and "age of household head squared"), log form ("log of household size"), or as categorical variables (e.g. household sizes: 1-2; 3-5; 5-12; more than 12). The choice of variables to include, and their form, is determined through search. The feedback which informs the search is the statistical significance of the variables and measures of PMT model performance.

For each iteration, variables that are not significant are dropped, and another is added to test for significance. This continues until no variables are excluded that are both significant and feasible for use in implementation. The performance of the formula is then simulated to obtain the estimated inclusion error rate, exclusion error rate, and coverage at each quintile (for a given overall coverage rate, in this case 20 percent). The simulation assumes a 100 percent take-up rate. This process is then repeated using variables in a different form in an effort to find a model with improved performance. The final set of variables and the form in which they are used will depend on which variables are used at the start of the process, so several trials are necessary.

Separate models are developed for urban and rural settlement types because the characteristics of urban and rural areas differ markedly.

Step 3: Accommodate vulnerable groups. There are several ways to assure that the scoring formula treats vulnerable groups fairly.

For example, a government may want to assure fair treatment for households with disabled members. One way to do this would be to estimate the per-capita forgone consumption of members of households with disabled members, based on the time and cash they spend looking after disabled household members. The estimate of foregone consumption would be subtracted from predicted consumption. This would give households with disabled members a higher probability of being eligible for benefits.

The process leads to a final PMT, given the available information.

VIII. The Proposed Scoring Formula

The team applied these methods to obtain the proposed scoring formulas for urban and rural areas.

The statistical basis for estimation of the scoring formula is the TLSS 2009 Household Survey (Box 1). The survey contains modules on education, health, employment, social transfers, private transfers, income, expenditures, and information on household members[13].

[13] TLSS 2009 Note for users (2010)

Table 3: Variables used in the best performing models for urban and rural areas

Characteristic	Used for Urban Model	Used for Rural Model
Household size	*	*
Gas oven		*
Generator		*
Electric radiator	*	*
Refrigerator	*	
Satellite dish	*	*
Car or truck	*	*
Computer	*	
Household Head's Employment Sector	*	
Household Head's Education	*	
Housing Roof Material	*	*
Number of Children under 15	*	*
Oblast	*	*
Total Number of Variables	11	9

Source: World Bank analysis of the Tajikistan Living Standard Survey of 2009.

However, the survey did *not* gather data for some key variables that may predict consumption well. Some examples are possession of productive vehicles and machinery; number and type of farm animals; and the presence and degree of disability.[14] Some variables, such as possession of animals, were imported from the TLSS 2007 data set. The variables for use in each of the models for urban and rural settlement types appear on Table 3.

Consumer durables are strong proxies for consumption. Ownership of a satellite dish, a refrigerator, a radiator, a car or truck, and a gas oven are associated with higher consumption.
Several of the variables for consumer durables are statistically correlated with each other (collinear). In these cases, one of the proxy variables is eliminated.

Some of the variables listed in Table 3 above appear in the PMT formulas of other countries. The programs in several Latin American countries all use dummy variables for location that are more specific than oblast, such as municipality and village. They also use combinations of the
following information: housing quality (e.g. roof, wall, and floor materials), ownership of assets (e.g. refrigerator, water heater, motor vehicle) as well as information on the occupation of the household head and disability status of members of the household[15].

[14] The data included information on households which had a member who received disability pension. A disability indicator was created based on this information. While obtaining variables this way is not fully reliable, it was the most practical option.
[15] Castañeda (2006) p.27

Table 4: Variables and weights (coefficients) used in the proposed scoring formula.

Urban		**Rural**	
Variable	**Weight**	**Variable**	**Weight**
Log household size	-0.5694	Household size = 4 to 5	-0.2182
Electric radiator	0.2333	Household size = 6 to 7	-0.3063
Refrigerator	0.2135	Household size = 8 to 12	-0.4412
Computer	0.2354	Household size = 13 or more	-0.6043
Satellite dish	0.2399	Gas oven	0.0801
Car or truck	0.3137	Generator	0.2033
Number of children under 15 years	-0.0253	Electric radiator	0.3441
Employment in Agriculture, Fishing or Forestry	0.2389	Car or truck	0.2203
Employment in Manufacturing or Mining	0.0427	Satellite dish	0.1915
Employment in Services (utilities)	0.1548	children under 15 = 1 or 2	-0.1041
Employment in Construction	-0.0109	children under 15 = 3	-0.2329
Employment in Public Admin, Health or Educ.	-0.0215	children under 15 = 4 to 6	-0.3391
Employment in Sales and Services	0.1141	children under 15 = 7 or more	-0.4688
Sector of Employment = Other	-0.0375	Housing roof material = metal sheeting, tiles, mud, concrete slab	-0.1865
Household head's education = basic	-0.1727	Housing roof material = thatch	-0.0249
Household head's education = secondary	-0.0107	oblast = Sughd	-0.1258
Household head's education = higher	0.1081	oblast = Khatlon	-0.1448
Housing roof material = metal sheeting, tiles, mud,	-0.0846	oblast = GBAO	-0.2360
Housing roof material = thatch	0.2684	Constant	5.6923
oblast = Sughd	0.0038		
oblast = Khatlon	0.0526		
oblast = RRP	0.2395		
oblast = GBAO	-0.0616		
Constant	5.8783		

Source: World Bank analysis of the Tajikistan Living Standard Survey of 2009

Demographic characteristics and location of households are correlated with poverty. In particular, household size and the share of children aged 15 and under in the household are strongly correlated with poverty. The information on the scoring formula for determining eligibility for the proposed program appears in Table 4.

A simulation shows the performance of the proposed formula when the public administration applies the targeting rules fully (Table 5). The simulation assumes that all households receive the same –constant- transfer. In the simulation, targeting accuracy is 54 percent –so that the target group receives more than half of payments of social assistance. A strength of the formula is that most of the errors of inclusion are to households in the second and third quintiles. Few households in the top two quintiles qualify for social assistance.

Targeting accuracy is better in urban than in rural areas. This may reflect the absence of observations on variables relevant to the consumption of rural households, such as possession of farm animals and equipment.

Table 5: Performance of the proposed PMT scoring formula

Settlement Type	N	R2	Predicted error of Inclusion	Predicted error of Exclusion	Predicted targeting accuracy
Urban	539	48.8%	42.3%	31.0%	57.7%
Rural	963	29.2%	47.5%	50.4%	52.5%
All	1,502	.	45.9%	45.4%	54.1%

Note: The scoring formulas are estimated for rural and urban areas separately. The target group is the lowest quintile of per-capita consumption. Source: World Bank analysis of the TLSS 2009. 'N' is the number of households in the sample. 'R2' is the percent of variation in consumption per capita that's explained by the formula (estimated regression equation).

Moreover, a simulation of the proposed formula for Tajikistan perform better than a simulation of geographic targeting. The geographic targeting formula would pay social assistance to all residents of rural areas of the highest poverty provinces and none to the lower poverty ones (Table 6).

Table 6: Performance of the best geographic formula and the proposed formula

	Errors of Inclusion	Errors of Exclusion	Targeting accuracy
Geographical targeting formula	76.3%	57.7%	23.7%
Proposed formula (PMT)	45.9%	45.4%	54.1%

Source: World Bank analysis of TLSS 200

One promising way to improve the scoring formula would be to collect new data. One option for expanding the scope of variables believed to be associated with poverty would be a small survey that asks the population to suggest such variables based on their own observations or experience. This might lead to the identification of new easy-to-observe proxies. The Government could then introduce questions about these proxies, along with questions about livestock and cultivated land, into the next consumption expenditure survey. Estimation from a data set with this additional information might lead to a scoring formula with improved performance. Furthermore, new data should include more information about households with severely vulnerable members, such as people with disability. There is potential to collect this data as part of the monitoring and evaluation of the pilot.

The PMT scoring formula presented in this note can be applied in a pilot of reform of social assistance. To do this, the next step is to prepare an administrative questionnaire. The questionnaire should include the variables in Table 3, as well as identifying information for the individuals (e.g., ID numbers, addresses, etc.) that would be used to screen for eligibility. (The household survey data are only used for the design of the scoring formula.) The next step, after designing the questionnaire, is to train the staff that will collect applications; further steps are to collect applications, enter data, evaluate applications, check a small random sample of approved applications, and process and monitor payments.

IX. Registry of social assistance

Implementation of social assistance transfers requires a registry system to manage information on applicants (household composition, eligibility information), eligibility determination (approvals, rejections), payroll, and so forth. As a follow up to this study, the World Bank team will support development of an electronic registry through a proposed IDA grant. The World Bank will provide technical assistance alongside partners from the EU.

The purpose of the registry is to improve management of information and facilitate payments, and oversight and controls. This will increase the MLSP's and MoF's ability to monitor social assistance transfers and to detect and remedy errors, duplications and potential fraud. A credible registry system will also reassure donors interested in financing social assistance transfers, or using the registry to channel aid (assistance or services) to the poor (e.g., in times of crisis). At present, the ministries cannot easily confirm whether qualified beneficiaries have received payments: there is no central record to audit.

Content of the registry. Information included in the registry would consist of information on applications for social assistance, on the variables necessary for approval of benefits (Table 3), the list of beneficiaries, and records of individual payments. Officials at the district and jamuat level would gather this information for their own use and also for transmission to the MLSP and MoF in Dushanbe, while protecting the confidentiality of applicants and beneficiaries.

Developing these basic building blocks is crucial for effective implementation of an improved social assistance system. It is also technically challenging, particularly in low-capacity contexts. Given capacity, the technical objective is to identify the simplest feasible set of information technologies necessary for the establishment of a national registry for social assistance, including identification of hardware, infrastructure, technology stack and software. This choice of technology is inevitably constrained by the technical staff and budget resources available to maintain and operate an electronic registry in Tajikistan. To sustain the registry, the partners will have to build Tajikistan's capacity to implement and operate a national registry for social assistance: for example, by recruiting and training staff of the management units, changing the IT-related processes and procedures, and strengthening the technical infrastructure. These aspects will be further defined in the upcoming RSR and proposed IDA operations.

BIBLIOGRAPHY

Castañeda, Tariscio and Kathy Lindert, with Bénédicte de la Brière, Luisa Fernandez, Celia Hubert, Osvaldo Larrañaga, Mónica Orozco, and Roxana Viquez. Designing and Implementing Household Targeting Systems: Lessons from Latin American and the United States, Third International Conference on Conditional Cash Transfers, Istanbul, Turkey June 26-30, 2009

Grosh, M., C. del Ninno, E. Tesliuc and A. Ouerghi. For Protection and Promotion. The Design and Implementation of Effective Safety Nets. The World Bank, Washington, DC., 2008

Posarac, Aleksandra. Armenia's Experience with Proxy Means Testing, Background Material for Presentation, World Bank, Washington, DC, 2003.

Social Safey Net In The Kyrgyz Republic: Capitalizing On Achievements And Addressing New Challenges, Report No. AAA-38-KG, Human Development Sector Unit, Europe and Central Asia Region, May 20, 2009.

Tajikistan Living Standards Survey 2009, Notes for Users, May 2010.

World Bank (2009). Republic of Tajikistan: Poverty Assessment.

World Bank (2010). Tajikistan Poverty Update 2007-2009. Information Brief.

STATISTICAL ANNEX

Annex Table 1: Consolidated Tajikistan Government budget for Social Protection-Summary

	Functional and Economic Budgetary Classifications: Summary	2006 Outturn	2007 Outturn	2008 Outturn	2009 Budget	2010 Budget
	TOTAL SOCIAL PROTECTION	**352,126,924**	**396,404,401**	**724,584,292**	**824,715,541**	**851,986,163**
I	**Social Insurance**	**275,362,556**	**319,218,359**	**616,042,393**	**684,798,940**	**704,928,004**
I.1	**Pension** (State Agency for Social Insurance & Pension)	**253,684,668**	**286,178,221**	**563,656,730**	**601,200,000**	**625,400,000**
I.1.1	Old Age Pensions	147,427,284	151,580,924	305,522,011	309,400,000	360,700,000
I.1.2	Disability Pension	62,906,229	69,181,373	130,872,960	136,900,000	172,700,000
I.1.3	Survivor Pension	33,946,874	34,413,094	62,966,958	63,600,000	73,000,000
I.1.4	Work Experience Pension	1,538,958	2,008,409	3,946,838	4,100,000	5,100,000
I.1.5	Special Pensions	7,865,323	7,668,223	10,741,838	11,100,000	13,900,000
I.1.6	Social Pensions	13,408,121	21,304,984	49,528,402	50,600,000	
I.2	**Pensions (Republican State Budget)**	**21,677,888**	**33,040,138**	**52,385,663**	**83,598,940**	**79,528,004**
II	**Labor Markets**	**5,767**	**13,696**	**0**	**0**	**0**
	Allowances (unemployment)	5,767	13,696	0	0	0
III	**SOCIAL ASSISTANCE**	**44,860,679**	**43,003,218**	**41,540,085**	**41,216,063**	**57,115,795**
III.1	Subsidies for electricity and gas	21,973,276	24,735,120	27,384,194	20,172,000	
III.2	Price difference payments to GPW veterans and equiv. people with disabilities	50,218	53,733	58,569	63,547	
III.3	Subsidies for communal services	410,978	431,730	661,646	871,251	
III.4	Subsidies for telephone services	470,000	572,000	600,000	803,982	
III.5	Loans to re-settlers / migrants from dangerous zones and lump-sum fin. assistance	2,364,637	3,420,337	3,997,496	4,514,795	
III.6	Pension bonuses to GPW veterans	4,843,948	814,750	707,190	900,000	
III.7	Subsidies for all means of transportation services	257,071	352,538	359,823	607,338	
III.8	Other assistance to the population	4,757,583	2,149,600	163,450	1,423,150	
III.9	National Union of People with disabilities	0	12,150	0	0	
III.11	**Allowances:** sick, pregnancy or temporary, .disability	0	0	22,375	0	
III.12	**Allowances:** retirement, disabilities, and loss of family	0	400	5,370	0	
III.13	**Allowances:** Compensation for families of needy children who attend school, i.e. conditional cash payments	9,732,968	10,460,860	7,579,972	11,860,000	10,515,000
IV	**SOCIAL CARE SERVICES**	**7,904,307**	**9,054,623**	**11,177,751**	**19,131,275**	**22,456,165**
IV.1	**Institutions for children**	572,714	777,313	1,575,294	3,569,251	5,061,687
IV.2	**Institutions for adults**	1,250,473	1,417,289	1,079,625	3,107,199	3,230,927
IV.3	**Institutions for elderly**	3,774,626	4,308,708	5,219,706	6,608,488	6,669,068
IV.4	**Sanatoriums and prophylactoriums**	1,450,916	1,363,241	1,702,779	1,681,039	2,166,327
IV.5	**Other social protection institutions**	840,042	1,145,924	1,504,420	1,616,926	1,853,494
IV.6	**Social protection not indicated in other categories**	15,536	42,148	95,927	2,548,372	3,474,662
V	**Administration and miscellaneous**	**23,993,615**	**25,114,505**	**55,824,063**	**79,569,263**	**67,486,199**

Source: World Bank, based on Ministry of Finance, Ministry of Labor & Social Protection, and State Agency for Social Insurance & Pension Sources.

Annex Table 2: Generosity - Social assistance paid to beneficiaries as a share of their per capita consumption, across quintiles, in 2009 (in percentage points)

	Quintiles of per capita consumption					
	Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Total**
All social assistance, *of which*	**2.9**	2.4	1.5	1.5	0.8	1.7
Compensation to needy families whose children study in schools (over the past 6 months)	**1.0**	0.6	0.4	1.0	0.2	0.7
Electricity and gas compensation, paid in cash	**1.6**	1.4	1.0	1.4	0.8	1.3
Electricity and gas compensation, paid light bulbs	**2.8**	2.1	1.7	1.4	0.7	1.6
Note:						
All pensions	15.4	12.7	9.1	7.2	6.7	9.0
All social protection	13.9	11.4	8.4	6.9	5.8	8.3

Note: Generosity is the mean value of the transfer of social assistance received by all beneficiaries in a group as a share of consumption per capita of the social assistance beneficiaries in that group. Source: Nov. 2009 panel of the Tajikistan Living Standards Survey

Annex Table 3: Coverage rate of social assistance programs across quintiles of per capita monthly consumption in 2009 (in percentage points)

	Quintiles of per capita consumption					
	Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Total**
All social assistance, *of which*	**19.9**	**20.9**	**18.3**	**13.2**	**10.7**	**16.6**
Compensation to needy families whose children study in schools (in past 6 months)	2.7	1.6	4.0	2.1	0.7	2.2
Electricity & gas compensation, paid in cash	3.4	5.0	3.2	0.9	0.7	2.6
Electricity & gas compensation, paid in light bulbs	17.9	19.7	13.5	11.7	9.9	14.5
Note:						
All pensions	43.7	43.8	46.0	40.8	30.0	40.9
All social protection	52.2	53.2	53.2	45.4	36.9	48.2

Note: Program coverage is the portion of households in each group where at least one member receives social assistance through the program. Source: Nov. 2009 panel of the Tajikistan Living Standards Survey

Annex Table 4: Targeting Accuracy - Distribution of social assistance benefits across quintiles of per capita monthly consumption in 2009 (in percentage points)

	Quintiles of per capita consumption					
	Q1	**Q2**	**Q3**	**Q4**	**Q5**	**Total**
Social assistance	**22.6**	**27.0**	**19.9**	**18.4**	**12.1**	**100.0**
Pensions	17.2	21.0	20.5	18.9	22.4	100.0

Note: These figures are the transfer amount received by the group as a percent of total transfers received by the population. Source: Nov. 2009 panel of the Tajikistan Living Standards Survey