Public Subsidies to Industry
The Case of Sweden
and Its Shipbuilding Industry

Carl Hamilton

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Public Subsidies to Industry
The Case of Sweden and Its Shipbuilding Industry

Carl Hamilton

The World Bank
Washington, D.C., U.S.A.
This report is part of an inquiry undertaken by the World Bank in conjunction with scholars from 12 industrial countries into the penetration of the markets of industrial countries by exports of manufactures from developing countries. The project sought to establish the shares of industrial country markets held by the developing countries, changes in such shares in the 1970s, and why they vary among industry groups and countries. The aim is to assist developing and industrial countries to improve their policies through a better understanding of trade patterns and protectionist pressures.

The second part of the 1970s were a period of recession in Sweden. One cause was a reduction in Sweden's competitiveness in world markets. In response, Sweden's industrial policy became tuned to maintaining high levels of employment by slowing adjustments to the changes occurring in the world's production structure.

Swedish industry was given unusually high levels of government subsidies during the recession years. The Swedish shipbuilding industry, which was particularly hard hit by a combination of domestic cost increases and competition from abroad, received even higher than average levels of subsidies. By 1978/79, the subsidies to the shipbuilding industry reached US$50,480 per employee, more than double the employer's average cost of keeping a worker employed.

This paper examines the reasons for the substantial subsidization of industry in general and shipbuilding in particular. Sweden's approach to shipbuilding problems is compared with that in Japan, where the industry faced a similar situation.
This study concludes that Sweden needed a stabilization policy that aimed at maintaining the general competitiveness of its industries. Such a policy would have addressed the real problems in Sweden, which were mainly rising production costs. Instead, government policies hampered profitable areas of industry, preventing them from expanding and thus absorbing the unemployed and those employed in subsidized industries. Moreover, the subsidies may not have gone to those workers most in need, but to those, as in the shipbuilding industry, able to mount an effective lobby for subsidies.

Where the government's objective is to maintain the income of those threatened by unemployment, the subsidies should go directly to those individuals. If it is also to secure a workplace, then the subsidies should be provided to the productive units on a per employee basis. When a subsidy policy is formulated, the policy needs to be resistant to lobbying. Finally, a subsidy system should be transparent, showing citizens how they depend on each other.

ACKNOWLEDGEMENTS

The author wishes to thank participants in a workshop in Brussels, December 1980, and Göte Hansson, Assar Lindbeck, Sören Mannheimer and Hans Tson Söderström for their comments on an earlier version of this paper.
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I. INTRODUCTION

During the second half of the 1970s, almost all branches of Swedish industry received public subsidies to an extent never experienced before. The purpose was to compensate for the overall poor macroeconomic performance of the Swedish economy, with the prime objective the maintenance of a high level of employment.

One purpose of this paper is to examine the policy of public subsidies generally, and that with regard to the shipbuilding industry in particular. Included is a brief comparison with the Japanese shipbuilding industry, which also suffered from contraction. Swedish subsidies to shipbuilding are contrasted with those to the textile and clothing industry to provide some insight into the political economy of public subsidies in that country. In the concluding section, the relationship between the overall macroeconomic performance of the economy and subsidies to industry is discussed and illustrated.

II. SWEDISH INDUSTRIAL POLICY

Typically, a government proclaims not a "subsidy policy" but rather an "industrial policy." This has been true for various Swedish governments. The stated objective of Swedish industrial policy has been the same as for its macroeconomic policy: full and efficient use of resources (the resource allocation objective); an acceptable distribution of welfare (the distribution objective); and as small fluctuations as possible in the level of economic activity (the stabilization objective).
In the field of industrial policy, these objectives have been reflected in both "defensive" and "offensive" measures. Defensive measures include, among other things, paying subsidies to prevent an industry from reducing its labor force too fast from a political point of view. An official document stated the goal as follows:

Industrial policy shall contribute towards a reduction in society's costs in connection with structural changes. An important component in this effort is for industrial policy to contribute towards structural changes taking place under socially acceptable conditions. 1/

Offensive measures, on the other hand, are meant to increase industry's efficiency and to speed up structural change:

Industrial policy shall contribute towards an efficient production in industry. The endeavor for efficient production implies considerable structural changes. 2/

In theory, then, industrial policy involves two tasks. In practice, however, the defensive task has dominated.

In a situation where domestic costs are increasing more rapidly than in other countries, what are the effects of defensive industrial policy measures as compared with macroeconomic measures such as changes in taxes or exchange rates? By using defensive industrial policy measures, specifically subsidies, a private industry or firm remains profitable at the expense of the profitability of other private industries and firms. Taxes are increased for all production units (or there is an indirect "tax" through an increase in the budget deficit), and the prices of the factors of production for non-subsidized production units rise.


2/ Ibid.
With macroeconomic measures, it is hoped that employment can be maintained through a general reduction in the real wage. 1/ A lower real wage will tend to slow down structural changes, but will still force production units to adjust to changes in competitiveness. Subsidies, on the other hand, tend to "freeze" the industrial structure at a higher wage level, and as a result the adjustment period is prolonged. 2/ The optimal duration of the adjustment period is, of course, a matter of political judgement. 3/

**Subsidies to Swedish Industry**

Table 1 shows the most important government support to Swedish industry during the 1970s. That support took two forms -- pure subsidies, and loans given on roughly the same conditions as ordinary bank loans (all figures are in fixed prices). In total, just over US$6 billion were paid in subsidies during the fiscal years 1970/71 to 1979/80. From fiscal year 1976/77 onward, the subsidies were at a much higher level than earlier. In 1976/77, they came to $1,245 per employee. When measured as a share of the value added, the subsidies peaked in 1978/79 at 6.1 percent. This pattern was paralleled by government loans to industry over the same period.

---

1/ For the sake of simplicity, the very real possibility of an increased wage drift in the case of increased subsidies to an industry is disregarded here, as is the fact that subsidies are financed in part by those employed in the subsidized production units.

2/ This disregards the maintenance of production for non-economic reasons, e.g., the national defense.

Table 1: GOVERNMENT SUPPORT TO SWEDISH INDUSTRY, FISCAL YEARS 1971/72-1979/80 /a

(million US$ in 1980)

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<tr>
<td>1. Subsidies</td>
<td>65</td>
<td>124</td>
<td>53</td>
<td>80</td>
<td>78</td>
<td>408</td>
<td>1,148</td>
<td>1,150</td>
<td>1,865</td>
<td>1,250</td>
<td>6,221</td>
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<tr>
<td>2. Government loans</td>
<td>2</td>
<td>64</td>
<td>50</td>
<td>21</td>
<td>120</td>
<td>27</td>
<td>11</td>
<td>0</td>
<td>139</td>
<td>563</td>
<td>997</td>
</tr>
<tr>
<td>3. Total payments (1 + 2)</td>
<td>67</td>
<td>188</td>
<td>103</td>
<td>101</td>
<td>159</td>
<td>435</td>
<td>1,159</td>
<td>1,150</td>
<td>2,004</td>
<td>1,813</td>
<td>7,218</td>
</tr>
<tr>
<td>4. Subsidies as share of value added, %</td>
<td>0.3</td>
<td>0.5</td>
<td>0.2</td>
<td>0.2</td>
<td>1.2</td>
<td>3.7</td>
<td>3.9</td>
<td>6.1</td>
<td>3.9</td>
<td>n.a.</td>
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<tr>
<td>5. Subsidies per employee, dollars</td>
<td>71</td>
<td>138</td>
<td>59</td>
<td>87</td>
<td>83</td>
<td>434</td>
<td>1,245</td>
<td>1,293</td>
<td>2,135</td>
<td>1,432</td>
<td>6,977</td>
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<tr>
<td>6. Credit guarantees (changes in stocks)</td>
<td>262</td>
<td>275</td>
<td>433</td>
<td>161</td>
<td>192</td>
<td>888</td>
<td>614</td>
<td>1,077</td>
<td>325</td>
<td>368</td>
<td>4,595</td>
</tr>
</tbody>
</table>

/a Industry is defined as ISIC groups 2 and 3.
/b Value added is defined so as to include subsidies.
/c Refers to calendar year 1979.

Note: n.a. = Not applicable.

Further, although the competitive position of Swedish industry improved after the crisis years of 1976/77, the subsidies to industry were still about 10 times larger during fiscal year 1979/80 as compared with the recession year of 1971/72.

In addition to subsidies and loans, the government also provided support in the form of credit guarantees (Table 1, line 6), mostly to the shipbuilding industry. These guarantees reached substantial amounts at the end of the 1970s. The extent to which they will have to be honored by the government during the 1980s is still an open question.

Besides the government's support to shipbuilding and the textile and clothing industries, which are analyzed in some detail below, public support was given to Sweden's steel, forest-based and iron ore mining industries. The extent of this support is shown in Table 2. (As the support was almost minute before 1975/76, those years have been disregarded, along with some minor "other subsidies." ) In total, the three industries received some US$2.7 billion in subsidies over the period, of which almost 60 percent went to the steel industry. The subsidies to that industry peaked in 1977/78, even before the peaks of the iron ore mining, the forest-based and shipbuilding industries. In terms of subsidies per employee, those employed in the iron ore mines received up to US$29,200 per person (1978/79), compared with a maximum of US$9,200 (1976/77) in the steel industry and US$1,900 in the forest-based industry. 1/

1/ The iron ore mines are located in the extreme north of the country, where local alternative employment opportunities hardly exist, even in the longer run.
Table 2: GOVERNMENT SUPPORT TO THE STEEL, FOREST-BASED AND IRON ORE MINING INDUSTRIES, FISCAL YEARS 1975/76 TO 1979/80\(^a\) (1980 prices)

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<tbody>
<tr>
<td><strong>Subsidies (million US$)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steel (ISIC group 37)</td>
<td>128</td>
<td>636</td>
<td>364</td>
<td>291</td>
<td>142</td>
<td>1,561</td>
</tr>
<tr>
<td>Forest-based industry (33, 34)</td>
<td>66</td>
<td>60</td>
<td>75</td>
<td>86</td>
<td>338</td>
<td>625</td>
</tr>
<tr>
<td>Iron ore mining (2301)</td>
<td>66</td>
<td>60</td>
<td>15</td>
<td>237</td>
<td>170</td>
<td>548</td>
</tr>
<tr>
<td><strong>Subsidy per employee (US$)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steel</td>
<td>1,800</td>
<td>9,200</td>
<td>5,600</td>
<td>4,600</td>
<td>2,200</td>
<td></td>
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<tr>
<td>Forest-based industry</td>
<td>360</td>
<td>330</td>
<td>420</td>
<td>490</td>
<td>1,900</td>
<td></td>
</tr>
<tr>
<td>Iron ore mining</td>
<td>7,000</td>
<td>6,400</td>
<td>1,900</td>
<td>29,200</td>
<td>20,400</td>
<td></td>
</tr>
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</table>

\(^a\) Government loans to these industries have been comparatively insignificant.


III. THE SHIPBUILDING INDUSTRY

The International Background

As a result of the expansion in world trade during the 1960s, world production of ships increased rapidly. From a level of 10 million gross registered tons (GRT, a volume measure) in 1963, production increased to 56 million GRT in 1975. The world's tanker fleet increased particularly rapidly — in 1975, 56 percent of the total world production was tankers.

Between 1968-69 and 1976-77, the volume of the world's production of ships increased by 50 percent (Table 3). This increase took place in all regions. In Africa, Egypt emerged as a shipbuilding nation, although
<table>
<thead>
<tr>
<th>Area</th>
<th>Production volume (in GRT, '000)</th>
<th>Growth of production (measured as (2) divided by (1))</th>
<th>Share of world Production (volume), percent</th>
<th>Change in share of world production between 1968/69 and 1976/77</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of which Egypt /a</td>
<td>15</td>
<td>55</td>
<td>3.66</td>
<td>0.0</td>
</tr>
<tr>
<td>S. Africa</td>
<td>11</td>
<td>35</td>
<td>3.18</td>
<td>0.0</td>
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<tr>
<td></td>
<td>1,073</td>
<td>2,555</td>
<td>2.38</td>
<td>2.9</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South America</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of which Brazil /a</td>
<td>337</td>
<td>1,659</td>
<td>4.9</td>
<td>0.9</td>
</tr>
<tr>
<td></td>
<td>278</td>
<td>795 /b</td>
<td>2.9</td>
<td>0.7</td>
</tr>
<tr>
<td>Asia (excl. USSR)</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>of which India /a</td>
<td>17,549</td>
<td>26,100</td>
<td>1.69</td>
<td>46.8</td>
</tr>
<tr>
<td>Japan</td>
<td>17,438</td>
<td>23,562</td>
<td>2.11</td>
<td>0.1</td>
</tr>
<tr>
<td>S. Korea /a</td>
<td>19</td>
<td>2,131</td>
<td>1.35</td>
<td>46.5</td>
</tr>
<tr>
<td>Singapore /a</td>
<td>5</td>
<td>204</td>
<td>0.9</td>
<td>0.0</td>
</tr>
<tr>
<td>Turkey /a</td>
<td>34</td>
<td>63</td>
<td>1.85</td>
<td>0.1</td>
</tr>
<tr>
<td>Europe (excl. USSR)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>of which France</td>
<td>18,311</td>
<td>26,187</td>
<td>1.43</td>
<td>48.8</td>
</tr>
<tr>
<td>Germany D.R.</td>
<td>4,191</td>
<td>3,181</td>
<td>0.76</td>
<td>11.2</td>
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<tr>
<td>U.K.</td>
<td>1,934</td>
<td>2,414</td>
<td>1.25</td>
<td>5.1</td>
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<tr>
<td>Norway</td>
<td>1,251</td>
<td>1,280</td>
<td>1.02</td>
<td>3.3</td>
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<td>Sweden</td>
<td>2,381</td>
<td>5,175</td>
<td>2.17</td>
<td>6.4</td>
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<td>Germany, P.R.</td>
<td>578</td>
<td>753</td>
<td>1.30</td>
<td>1.5</td>
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<td>Poland</td>
<td>789</td>
<td>1,143 /b</td>
<td>1.45</td>
<td>2.1</td>
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<td>Greece /a</td>
<td>74</td>
<td>160</td>
<td>2.16</td>
<td>0.2</td>
</tr>
<tr>
<td>Spain /a</td>
<td>1,067</td>
<td>3,199</td>
<td>3.00</td>
<td>2.8</td>
</tr>
<tr>
<td>Yugoslavia /a</td>
<td>939</td>
<td>876</td>
<td>0.93</td>
<td>2.5</td>
</tr>
<tr>
<td>Total world production (excl. USSR)</td>
<td>37,477</td>
<td>56,158</td>
<td>1.50</td>
<td></td>
</tr>
</tbody>
</table>

/a Referred to later in the text as a newly industrializing country (NIC).

/b Refers to 1975-76.

still with a negligible share of world production. Brazil almost trebled its production, but still did not account for more than just over one percent of the world total in 1976-77.

Japan completely dominated world production. At the beginning of the period, it alone accounted for 46.5 percent, although this share fell during the period to 42.0 percent, a decrease in volume of 35 percent. With respect to the tanker market (a subset of the market presented in Table 2), at the beginning of the period Japan had accounted for almost 60 percent of world production, a share that fell by 26 percent.

Japan's neighbor, the Republic of Korea (South Korea), on the other hand, increased its production more than tenfold, having started, of course, from a very low level. Still, South Korea is the country which increased its share of world production more than any other -- by 3.8 percent. Singapore also increased its production rapidly, but so far has remained of almost negligible importance in world production.

In terms of the newly industrializing countries (NICs) \(^1\), their production grew almost fourfold over the period. Still, their share of the world's total was small -- going from 6.4 percent for 1968-69 to 13.2 percent for 1976-77. \(^2\)

\(^1\) The newly industrializing countries are variously defined in different contexts. For example, they may be countries which are increasing their industrial capacity or which are increasing their exports of manufactures. A number of international institutions have specific definitions for this group or only include some countries. In this paper, they refer to Egypt, Brazil, India, South Korea, Singapore, Turkey, Greece, Spain and Yugoslavia (see Table 3).

\(^2\) Their production volume in 1967-69 was 1,524,000 GRT (of which Spain had 1,067,000); in 1976-77 it was 7,541,000 GRT.
Toward the end of 1972, it was already being noticed (for example, in the shipbuilding group of the OECD) that within a few years and at unchanged prices, the world's supply of ships, and in particular tankers, would far exceed demand. On top of the factors on which that forecast was based came the oil crisis of 1973-74. The fall in world trade and economic activity drastically reduced the demand for ships, particularly tankers. Whereas at the beginning of 1974 it was estimated that the world's shipyards had a total order stock of about 133 million GRT, a figure never achieved before or later, the corresponding figure for 1979 was estimated at a modest 29 million GRT.

As the production of a ship takes between one and three years, the number of ships delivered in 1975, 1976 and during part of 1977 remained high. Not until 1978 and 1979 was the reduction in new orders completely felt in shipbuilding employment.

It should be noted that GRT, the common measure of production in the industry, is not a good measure of the man-hours required for production. A more sophisticated ship, for example, an icebreaker, takes many more man-hours to build than a simple oil tanker with the same GRT. A measure has been developed that takes this aspect into account -- compensated gross registered tons, or CGRT. It gives a more accurate picture of the number of man-hours expended in the shipbuilding industries in different countries, an aspect of central interest in a discussion of industrial adjustment. Unfortunately, CGRT data are available only for the OECD countries, and not for the NICs.

When measured in CGRT, it was found that the Federal Republic of Germany (West Germany), France and Sweden all reduced their production
faster than the OECD average. Sweden, for example, reduced its production by half between 1975 and 1979. Thus, even if it is perhaps thought that the Swedish shipbuilding industry was not dismantled quickly enough, in terms of an international comparison it did in fact shrink fairly rapidly after 1975. However, it must be noted that this reduction followed a period of rapid expansion during the first half of the 1970s.

Those OECD countries which best survived the crisis can be divided into two groups. The first includes countries with comparatively low costs of production -- Spain, Great Britain and Japan. These countries have been producing comparatively standardized and simple types of ships (see columns (5) and (6) in Appendix Table A.1). The second group includes countries which have been producing comparatively sophisticated ships: Finland, the Netherlands and Norway. Both groups showed a similar, limited reduction in output.

**Shipbuilding in Sweden**

Sweden has been producing comparatively unsophisticated types of ships, i.e., the kinds of ships that have also been produced in countries like Japan, Spain and South Korea. In fact, Sweden should be ranked lowest as regards sophistication, judging from Appendix Table 1.

Swedish shipbuilding has had comparatively high production costs. To make things worse, between 1975 and 1977 these costs increased dramatically relative to those of its competitors. A combination of these comparatively high production costs and a technology which rapidly became commonplace no doubt are important explanations for the collapse of Swedish shipbuilding.
Some basic information about the industry is given in Table 4. The number of employees reached a peak in the fiscal year 1975/76 at 31,300. Production also reached its maximum that year. Under different labels, the industry was given subsidies every year during the 1970s, including in those years in which Swedish decision-makers regarded the outlook for the industry as favorable.

Government subsidies increased dramatically from 1976/77, reaching US$1,151 million in 1978/79. This figure implies a subsidy per employee of US$50,480, or more than double the employers' average cost for an employee. As is seen from line 4 in Table 4, the shipyards received subsidies of such a magnitude during 1978/79 that they far exceeded the value added in the industry. The implication is that inputs in the production process (steel, electric equipment, etc.) were worth more when they arrived at the shipyards than when they left in the form of newly built ships. Thus, in an economic sense, inputs in Swedish shipbuilding were destroyed during 1978/79.

The shipbuilding industry involves at least three different activities: the building of a ship, the financing of production, and, in some cases, services for shipping. All these activities received government support. Firm-specific subsidies dominated the picture, constituting about three-quarters of the total subsidies going to the industry (Appendix Table A.2). In fact, the government accepted ownership of one shipyard after another as they faced bankruptcy. Further, the government had guaranteed to repay the loans which the shipyards had taken, and started doing so during 1978. As many of the guarantees were made several years ago, no one knows their total amount ex post. In any case, the guarantees must have been a tempting form of support from the point of view of a
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<tbody>
<tr>
<td>No. of employees (000)</td>
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<tr>
<td></td>
<td>27.3</td>
<td>28.4</td>
<td>29.3</td>
<td>30.9</td>
<td>31.3</td>
<td>28.6</td>
<td>25.5</td>
<td>22.8</td>
<td>21.6/a</td>
</tr>
<tr>
<td>Value added, including subsidies, 1980 prices, million US$</td>
<td>599</td>
<td>730</td>
<td>826</td>
<td>927</td>
<td>1,012</td>
<td>1,004</td>
<td>897</td>
<td>753</td>
<td>723/a</td>
</tr>
<tr>
<td>Government subsidies, 1980 prices, million US$</td>
<td>93</td>
<td>5</td>
<td>61</td>
<td>4</td>
<td>54</td>
<td>321</td>
<td>511</td>
<td>1,151</td>
<td>439</td>
</tr>
<tr>
<td>Subsidies' share of value added, percent</td>
<td>15.5</td>
<td>0.7</td>
<td>7.4</td>
<td>0.4</td>
<td>5.3</td>
<td>32.0</td>
<td>57.0</td>
<td>152.8</td>
<td>60.7/a</td>
</tr>
<tr>
<td>Subsidies per employee, 1980 prices, US$</td>
<td>3,410</td>
<td>180</td>
<td>2,080</td>
<td>130</td>
<td>1,720</td>
<td>11,220</td>
<td>20,040</td>
<td>50,480</td>
<td>20,320/a</td>
</tr>
</tbody>
</table>

/a Refers to 1979.

minister: maintain employment today without any cost to the budget today. (The guarantees are not included in Table 4, but most are included in Table 1, line 6).

An interesting item in the list of subsidies is the support for production other than shipbuilding. For example, the government offered subsidies and loans to entrepreneurs who planned to expand private employment, e.g., in the Gothenburg region. This "carrot" does not seem to have worked, however. One reason may have been the poor profitability in Swedish industry overall during the years in question, 1977-78. It is interesting to note that the local trade union wanted these subsidies to be channelled to potential investors and firms through the local private banking system. The argument was that the commercial banks had the best knowledge of potential borrowers and also the professional competence to judge the commercial realism of investment proposals. The (non-socialist) government did not, however, go along with this approach, which would have been most unconventional for Sweden. Instead, it channelled the money through a local government agency (Lånsstyrelsen), whose personnel were inexperienced in this field.

The Swedish government also supported Swedish shipowners who bought ships produced in Sweden, a form of "buyers' credit." This form of support was also used by some small and medium-sized shipyards which, through daughter companies, were also engaged in shipping. (These subsidies are included in Table 4.)

---

1/ Ships which were produced with the help of this kind of support were in several cases sold to shipowners, mainly in Hong Kong, at prices 30-50 percent below the (private) cost of production in Sweden. This could be seen as a peculiar form of tied aid.
A Comparison with Adjustment in the Japanese Shipbuilding Industry

A recent analysis of the Japanese shipbuilding industry and its adjustment appears in Yonezawa. 1/ Rather than repeat that work, the focus here is on some points that emerged from a comparison of the policies of the two nations vis-à-vis their shipbuilding industries.

First, it is clear that the Japanese government had for a long time, and long before the Swedish government, used "buyers' credits" as a way of subsidizing its shipbuilding industry. During the last 15 years, this subsidization had led to recurrent complaints against Japan by other shipbuilding nations in the OECD.

Second, the government of Japan has had legislation at its disposal, and has used it, to limit any growth in production capacity so that domestic shipyards do not compete "too" fiercely with each other. They have therefore enjoyed a monopolistic rent. Had this kind of legislation been available in Sweden, however, it would probably not have been used. To the contrary, the Swedish government was encouraging new investments in the industry as late as 1973-74.

Third, the Japanese government decided (partly in cooperation with management and the industry's union) on quantity limitations in production during 1976-78 in response to the slackening of demand. Rules were introduced for the total maximum working hours and output of each shipyard. However, the formal sanctions against shipyards which did not comply seem to have been quite lenient. In Sweden, the government's response up to 1978 was to take over the shipbuilding industry when the

shipyards faced bankruptcy and to try to maintain most of the production capacity and to keep employment intact.

Fourth, in Japan, management and the government reached a decision that the most efficient shipyards would "buy out" those shipyards which had to close down. In Sweden, this opportunity never existed — no profitable major shipyards were left. (Whether the Japanese policy on this point was good is, of course, doubtful in terms of efficiency.)

IV. ON THE POLITICAL ECONOMY OF PUBLIC SUBSIDIES

It may be questioned why the subsidies to Swedish shipyards became so much larger than the subsidies to other parts of Sweden's industry. Were the needs of employees in shipbuilding such that they required protection against unemployment more than other groups did? If so, then it could be argued that shipbuilding employees should have been more protected than other groups.

If individuals needs are taken as a starting point for distribu-tional considerations, there is no reason to argue that all industries, regions, etc. require equally large government support. As a general rule, the more firms and regions that receive government support, the less support there will be for those firms and regions which were already being supported by the government.

To analyze the political economy of distributing subsidies, compare the support for the textile and clothing industry with that for the shipbuilding industry. Compared with the subsidies to the textile and clothing industry, those to shipbuilding have been very large. In 1977-79,
when subsidies to the former industry reached their maximum on the average, they did not constitute more than 10-11 percent of the subsidies going to the shipyards, as measured in terms of subsidy per employee. During all of the 1970s, the shipyards received more subsidies per employee than the textile and clothing industry did. 1/ However, it cannot be concluded from this fact that the level of protection against foreign competition in the textile and clothing industry has necessarily been lower than that of the shipyards. In addition to subsidies, employees in the textile and clothing industry received protection in the form of trade barriers.

In order to compare government support for the two branches of industry in an accurate way, it is necessary to know what magnitude of subsidies to shipbuilding would have been equivalent to the support received by textiles and clothing through trade barriers. Unfortunately, this calculation has not been made. However, given that the level of trade barriers remained more or less unchanged during the second half of the 1970s, it is certainly true that the increase in government support for the shipbuilding industry was very much larger than the increase in government support for the textile and clothing industry. Several arguments have been forwarded to explain this phenomenon.

The Subcontractor Argument

This argument is as follows. As the number of subcontractors to shipyards is far larger than the number of subcontractors to the textile and clothing industry, shipbuilding subsidies cover a far larger number of individuals than those employed directly in shipbuilding.

The question is whether this is a correct and relevant argument. The answer is no, except under very special conditions. First, for the argument to be relevant, a subcontractor would have to have no other opportunities for maintaining employment in terms of selling its products to other customers. Second, there should be no possibilities for subcontractors' switching their production mix so as to maintain employment. This should not be possible even in the long run. Third, no better forms of government support should be available to the subcontractors than subsidies to the buying firms.

It is known, to the contrary, that other types of government support were available and would have been preferable both from a resource allocation point of view and relative to the distributional objective. 1/

The simplest instrument is a direct subsidy per employee in the subcontracting firm. Such a subsidy has the advantage of not conserving the tie between the subcontractor and a specific buyer (the shipyard). Another instrument is the regional subsidy, perhaps a temporary one. In the case of Sweden, the Labor Market Board (AMS) and other government agencies had several instruments which would have been more effective in maintaining

employment than support to buying firms. In fact, there were roughly 80 different forms of government support to choose from. 1/

Assume, however, that the subcontractors had no adjustment possibilities whatsoever and that there were no forms of government support available other than subsidies to the buying firms. This may in fact have been the perception of the political decision-makers. Is it still possible to explain why larger subsidies went to the shipyards in terms of the difference in the number of subcontractors?

This question can be analyzed with the help of an input-output table. 2/ Data from the end of the 1960s, the latest available for this particular question, suggest that approximately 0.8 Swedish workers were needed outside of shipbuilding to provide the inputs for one worker in shipbuilding. The corresponding number for a worker in the textile and clothing industry was 0.2. 3/ However, even taking into account the indirect employment pattern, the textile and clothing industry received a substantially smaller increase in government subsidies per employee than the shipbuilding industry did.

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1/ Examples may be found in Hamilton, "A New Approach...," op. cit.
2/ Dr. Harry Flam has carried out some very useful work on this point.
3/ The number of 0.8 indirectly employed per worker in shipbuilding refers to the entire Swedish economy. Of these 0.8 indirectly employed, approximately 0.25 were employed locally. The latter figure was taken from a cost-benefit analysis undertaken by the Ministry of Economic Affairs in 1978. Within the textile and clothing industry, there was a substantial intra-industry trade, indicating that for every worker in the industry there were 0.3 workers providing for the inputs within the textile and clothing industry itself. However, as a result of the rapid increase in import penetration in the industry during the 1970s, this intra-trade figure probably fell drastically.
The Obscured Change in Competitiveness Argument

A unique aspect of ship production is the violent price fluctuations for ships. These fluctuations have probably obscured from decision-makers the changed long-run competitiveness of shipbuilding. In the textile and clothing industry, on the other hand, the change in competitiveness was obvious for a long time. This difference in perception of the long-run profitability of the two industries is probably an important explanation for the large subsidies going to the shipyards. 1/

The Nature of Employment Argument

Another explanation could well be that employees in shipbuilding have been a more efficient pressure group. In 1977, a majority were men — only 2 percent were women, as compared with 62 percent in the textile and

---

1/ There are several factors behind the violent price fluctuations for ships. First, the supply cannot increase much in the short run (one to three years), which results in large price fluctuations even for small fluctuations in demand, a situation that can give rise to dynamic instability in the formation of prices. (It is an example of the pig cycle.) Second, the demand for trade carriers varies not only with the activity level in the world generally, but also with the synchronization of the activity in different countries. Excess demand in one region can spill over into increased import demand in spite of constant total world demand. Third, the prices of raw materials vary more than the prices of manufactures. This feature results in large variations in freight prices, and also in fluctuations in the derived demand for ships, as raw materials constitute a predominant share of the sea-transported commodities: in 1978, oil tankers and bulk carriers constituted 70 percent of the world’s merchant fleets. Finally, based on experience, international political crises affect shipping more than most other industries, as was shown clearly during the wars in the Middle East.

A fairly obvious conclusion from the existence of the large price fluctuations for ships is that a society which puts a premium on the smooth development of production and employment is wise to avoid having shipbuilding among its industries. "Job security" for employees in shipbuilding is a difficult objective to fulfill in any country.
clothing industry. Further, shipbuilding employees worked in comparatively large production units which dominated their local communities. The average was roughly 4,000 employed per shipyard, as compared with less than 50 per workplace in the textile and clothing industry. In addition, the share of non-Swedish citizens was comparatively low in the shipyards: only 8 percent in the transport equipment industry as a whole, while the figure was around 25 percent of the total labor force in the textile and clothing industry. It is well-known from other empirical investigations that women and immigrants are on the whole less active in trade union work than are their male Swedish counterparts, as they have lower levels of education and training and are more weakly organized politically.

V. CONCLUSIONS

The Importance of Stabilization Policy

Stabilization policy is of decisive importance if the objective of full employment is to be achieved. Government subsidies can maintain employment only marginally and temporarily. New or extended subsidies to industry cannot increase employment unless the government and the agents in the labor market can also maintain the general competitiveness of the country’s industry.

The following argument is, to the contrary, often voiced when relative cost comparisons are taken up by economists. The government should act offensively to increase employment through massive investment, research and development, etc. However, it should be remembered that these
measures can have an impact only after a number of years. At the same time, such long-term measures in no way clash with, or substitute for, the necessity of maintaining an approximate relative cost parity over the short run. Countries will have to continue competing over the next 10-20 years with roughly the same structure of industry they have today.

The importance of stabilization policy can be illustrated through the developments in Sweden during the last couple of years. If Swedish industry had not been subsidized in 1976, how many jobs would have been lost in the country's industry?

It is known that the relative price of Swedish manufactures in the export markets increased by at least 12 percentage points during the period 1975 to the middle of 1977. This can be seen from Figure 1. As a result, Swedish industry's market shares abroad diminished.

**Figure 1:** Market share and relative price of manufactures exported to the OECD area, 1969-80

(1970:100)

Market share, volume

Relative price

Source: Revised national budget, 1980.
This weakened competitiveness would probably have resulted in at least 180,000 employees in industry losing their jobs, or roughly 20 percent of the total number of employees in industry. Alternatively put, had the drastically reduced competitiveness been avoided, the jobs of 180,000 individuals would never have been in jeopardy. This conclusion can be drawn from an extension of an investigation by Heikensten, 1/ which is presented in part in Table 5. Heikensten posed this question: Suppose world market prices for Swedish manufactures had fallen by 12 percent in 1976, how many employees in industry would have lost their jobs? Here the question has been turned around, and it has been assumed that Swedish relative costs increased by (at least) 12 percentage points, in accordance with actual developments in 1975-77. Table 5 indicates how such a uniform price increase would have affected the different industries. 2/ Employment in the production of food, textiles, clothing, leather and footwear, wood and wood products, non-ferrous metals and in particular iron and steel would have been hit severely by such an increase in relative costs.

In retrospect, it was not 180,000 jobs that were lost but 64,000: from 925,000 employed in manufacturing industry in 1975 to 861,000


2/ The method used to estimate potential unemployment is an application of the Salter model, in which production units are ranked according to their competitiveness. Hamilton ("A New Approach...," op. cit.) describes in some detail how the method works with regard to the Swedish textile and clothing industry. In principle, the same approach was used in Heikensten's simulation. The results for the entire manufacturing sector should, however, be treated with caution.
Table 5: ESTIMATED REDUCTION IN EMPLOYMENT IN INDUSTRY RESULTING FROM A 12 PERCENT INCREASE IN THE RELATIVE PRICE OF SWEDISH MANUFACTURED TRADABLES, 1976

<table>
<thead>
<tr>
<th>ISIC code</th>
<th>Industry</th>
<th>No. of employees</th>
<th>Percent of total number of employees in the industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Manufacturing</td>
<td>180,200</td>
<td>19.5</td>
</tr>
<tr>
<td>31</td>
<td>Food, beverages and tobacco</td>
<td>18,500</td>
<td>25.1</td>
</tr>
<tr>
<td>321</td>
<td>Textiles</td>
<td>6,000</td>
<td>23.0</td>
</tr>
<tr>
<td>322</td>
<td>Clothing</td>
<td>6,300</td>
<td>28.5</td>
</tr>
<tr>
<td>323,324</td>
<td>Leather and footwear</td>
<td>1,700</td>
<td>27.1</td>
</tr>
<tr>
<td>33</td>
<td>Wood and wood products</td>
<td>17,500</td>
<td>23.2</td>
</tr>
<tr>
<td>3411</td>
<td>Pulp, paper and paperboard</td>
<td>9,900</td>
<td>18.9</td>
</tr>
<tr>
<td>3412-3419</td>
<td>Containers, boxes, pulp and paper articles</td>
<td>850</td>
<td>8.1</td>
</tr>
<tr>
<td>342</td>
<td>Printing, publishing and allied products</td>
<td>1,600</td>
<td>3.7</td>
</tr>
<tr>
<td>351-354</td>
<td>Chemicals</td>
<td>7,900</td>
<td>18.0</td>
</tr>
<tr>
<td>355</td>
<td>Rubber products</td>
<td>300</td>
<td>2.3</td>
</tr>
<tr>
<td>356</td>
<td>Plastic products</td>
<td>1,300</td>
<td>10.5</td>
</tr>
<tr>
<td>371</td>
<td>Iron and steel</td>
<td>36,300</td>
<td>62.8</td>
</tr>
<tr>
<td>37101</td>
<td>Pig iron, steel-making</td>
<td>34,700</td>
<td>67.7</td>
</tr>
<tr>
<td>372</td>
<td>Non-ferrous metals</td>
<td>3,900</td>
<td>30.3</td>
</tr>
<tr>
<td>381</td>
<td>Metal products</td>
<td>12,300</td>
<td>14.3</td>
</tr>
<tr>
<td>382</td>
<td>Machinery (excl. electrical)</td>
<td>18,100</td>
<td>13.6</td>
</tr>
<tr>
<td>383</td>
<td>Electrical machinery</td>
<td>14,600</td>
<td>17.8</td>
</tr>
</tbody>
</table>

in 1978. That the number was lower than 180,000 depends at least partly upon policy measures taken (subsidies and devaluations, which the trade unions to only a negligible extent took back in higher wages and salaries) and the adjustment possibilities that existed in production units. 1/

However, even if Sweden had maintained an unchanged relative cost in relation to the rest of the world, would not the textile and clothing and shipbuilding industries have had to close down in the long run anyway?

They probably would have, but the reductions in production and employment would have taken place at a slower pace than actually happened. That slower pace would presumably have meant lower costs of adjustment in connection with the structural change. Further, a relative cost crisis prevents an expansion of the profitable parts of industry, the parts which can absorb redundant labor from, for example, the shipbuilding and the textile and clothing industries.

1/ Two points need to be made here. First, the short-run adjustment possibilities for production units are a change in product mix; the temporary maintenance of employment and production in spite of not covering variable costs; and temporary compensation for cost increases through an increase in the price of outputs.

Second, it is interesting and at first surprising to note that the share of contract workers increased when the overall situation in the Swedish shipyards deteriorated in 1977. It seemed likely that the contract workers would have been fired first. A possible explanation is that contract workers often were the key workers who had alternative employment opportunities. They left the shipbuilding industry quite early. Workers with these skills then had to be hired in increasing numbers by the shipyards in order to complete existing orders. In fact, from talking to people in the industry, it is clear that the flight of key workers made it difficult to prolong production even when government subsidies were forthcoming on a large scale. In one occupation, the worker is at the mercy of the political system, and in the other at the mercy of the market economy system. Key workers may well have good reason to prefer the latter situation.
Maintaining international competitiveness is thus the first front against potential unemployment. If this front is broken, as happened in Sweden in 1977-78, industrial policy and labor market policy can only temporarily maintain the objective of full employment.

Criteria for a System of Public Subsidies

It is very conceivable that the increase in government subsidies in Sweden did not go to those groups in society which had the greatest needs, but rather went to groups which had been the most effective in mobilizing the mass media, members of parliament, influential trade union leaders, leading individuals within management, local councils, politicians, etc., for their cause.

There were no clear criteria as to how the government distributed its support -- as to how one group's needs were balanced against another's. (This was seen most clearly in the distribution of firm-specific subsidies.) It should be noted, however, that in a competition for government support, strong pressure groups do not want clear distributional criteria and have no reason to press for transparent forms of government support. Such criteria are primarily for the benefit of the weak groups in society which need rules as a support for their requests.

What criteria should be used in distributing public subsidies aimed at maintaining employment?

The first question is what is to be subsidized -- the place of work or the worker? If the government's objective is limited to maintaining the income level of those threatened by unemployment, the subsidy should go to these individuals, irrespective of whether the work
place is kept or not. If the government's objective is to maintain the income level and, in addition, to secure the workplace for the individual, then the government should give a subsidy per employee to the production units. 1/ Such a subsidy would stimulate firms to use relatively labor-intensive methods of production and, if it is regional, to encourage relatively labor-intensive industries to remain or to establish themselves in the region. To subsidize capital (for example, investment) would, to the contrary, stimulate firms to substitute relatively cheap capital for relatively expensive labor.

Second, generally speaking, it seems reasonable to have the following two criteria for a system of public subsidies:

(1) Priority to the groups with the greatest needs. This implies, among other things, that the system must be robust against the lobbying of various pressure groups. The system should not result in priority being given to groups in society which, for example, are characterized by easy access to decision-makers, directly or indirectly, via the mass media. (Examples are political parties, management, trade unions, big business, local party constellations, etc.)

(2) A system that is transparent and pedagogical in nature. For democracy to work well and the word

solidarity to retain its meaning, it seems important that citizens can observe the consequences of distributional decisions taken by their elected representatives and administrators. In a system with 80 different kinds of subsidies to industry, this requirement is unlikely to be fulfilled. A system of public subsidies should also pedagogically show citizens how they depend on each other in spite of living in different regions, working in different industries, etc. If the social system is not so structured that it provides such pedagogical insights, the evolution of consensual attitudes among individuals can hardly be expected. To learn "consensus by doing" requires transparent and pedagogical organization of the tasks which citizens contribute to the public sector.
Table A.1: LAUNCHED SHIPS MEASURED IN COMPENSATED GRT, 1975 AND 1979, AND A MEASURE

OF THE DEGREE OF SOPHISTICATION IN PRODUCTION IN SELECTED OECD COUNTRIES

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
</tr>
<tr>
<td>Germany, F. R.</td>
<td>1,383</td>
<td>617</td>
<td>-55</td>
<td>-2.5</td>
<td>0.99</td>
<td>4</td>
</tr>
<tr>
<td>Denmark</td>
<td>524</td>
<td>315</td>
<td>-40</td>
<td>-0.2</td>
<td>0.70</td>
<td>7</td>
</tr>
<tr>
<td>France</td>
<td>1,248</td>
<td>474</td>
<td>-62</td>
<td>-3.1</td>
<td>0.80</td>
<td>5</td>
</tr>
<tr>
<td>Netherlands</td>
<td>598</td>
<td>351</td>
<td>-41</td>
<td>-0.2</td>
<td>1.17</td>
<td>2</td>
</tr>
<tr>
<td>Spain</td>
<td>859</td>
<td>649</td>
<td>-24</td>
<td>1.1</td>
<td>0.65</td>
<td>8</td>
</tr>
<tr>
<td>Norway</td>
<td>836</td>
<td>577</td>
<td>-31</td>
<td>0.5</td>
<td>1.08</td>
<td>3</td>
</tr>
<tr>
<td>Finland</td>
<td>491</td>
<td>389</td>
<td>-21</td>
<td>0.7</td>
<td>1.46</td>
<td>1</td>
</tr>
<tr>
<td>U.K.</td>
<td>746</td>
<td>584</td>
<td>-22</td>
<td>1.1</td>
<td>0.76</td>
<td>6</td>
</tr>
<tr>
<td>Sweden</td>
<td>941</td>
<td>475</td>
<td>-50</td>
<td>-1.2</td>
<td>0.50</td>
<td>10</td>
</tr>
<tr>
<td>Japan</td>
<td>7,305</td>
<td>4,542</td>
<td>-38</td>
<td>-0.9</td>
<td>0.64</td>
<td>9</td>
</tr>
<tr>
<td>OECD total</td>
<td>15,993</td>
<td>10,147</td>
<td>-37</td>
<td>0.0</td>
<td>0.68</td>
<td></td>
</tr>
</tbody>
</table>

a/ The higher the value of the coefficient, the more sophisticated the production. The coefficient was calculated as the ratio between the volume measured in CGRT and the volume measured in GRT. The 1973 and 1975 coefficients are based on so-called "intermediate coefficients" from 1967, while the 1977 and 1979 coefficients are based on "intermediate coefficients" of 1977.

b/ Includes more countries than the ones mentioned.

**Table A.2: Subsidies Paid Out to the Swedish Shipbuilding Industry, Fiscal Years 1970/71 to 1979/80**

<table>
<thead>
<tr>
<th>Type of subsidy</th>
<th>Share of total subsidies to the industry, percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research and development</td>
<td>1.4</td>
</tr>
<tr>
<td>Alternative production</td>
<td>1.6</td>
</tr>
<tr>
<td>Regional subsidies</td>
<td>1.3</td>
</tr>
<tr>
<td>For export to developing countries</td>
<td>0.0</td>
</tr>
<tr>
<td>Firm-specific subsidies</td>
<td>74.5</td>
</tr>
<tr>
<td>Honored guarantees</td>
<td>6.4</td>
</tr>
<tr>
<td>Loans transformed to pure subsidies</td>
<td>6.5</td>
</tr>
<tr>
<td>Shipbuyers' subsidies</td>
<td>8.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Source: Unpublished data supplied by Industriutredningen [Government Commission on Support to Industry].
REFERENCES


Adjustment Policies and Problems in Developed Countries
Martin Wolf

Stock No. WP-0349. $10.00.

Adjustment to External Shocks in Developing Economies
Bela Balassa

A background study for World Development Report 1981. Analyzes adjustments to external shocks, in the form of changes in the terms of trade and the slowdown in foreign export demand, in twenty-eight developing economies, classified according to the character of external shocks, the level of industrial development, and the policies applied.

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Vincent Cable and Ivonia Rebelo

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Capital-Importing Oil Exporters: Adjustment Issues and Policy Choices
Alan H. Gelb

A background study for World Development Report 1981. Uses a simple two-sector model involving traded and nontraded goods as a conceptual framework to compare the evolution of critical macro and sectoral variables for a number of oil economies after 1974 and discusses government responses to the oil crisis and the effects of these responses of the nonoil economies.

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The Export Experience of Developing Countries
Barend A. de Vries
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Carl Hamilton
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Alan S. Manne and Sehun Kim
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