

**FOR  
AGENDA**

SM/01/269

CONTAINS CONFIDENTIAL  
INFORMATION

August 22, 2001

To: Members of the Executive Board

From: The Secretary

Subject: **Sweden—Selected Issues**

This paper provides background information to the staff report on the 2001 Article IV consultation discussions with Sweden (SM/01/257, 8/15/01), which is tentatively scheduled for discussion on Friday, August 31, 2001. At the time of circulation of this paper to the Board, the Secretary's Department has received a communication from the authorities of Sweden indicating that they consent to the Fund's publication of this paper.

Questions may be referred to Mr. Thakur (ext. 34860), Mr. Keen (ext. 34442), Mr. Horváth (ext. 38529), and Ms. Cerra (ext. 38596).

Unless the Documents Section (ext. 36760) is otherwise notified, the document will be transmitted, in accordance with the procedures approved by the Executive Board and with the appropriate deletions, to the WTO Secretariat on Thursday, August 30, 2001; and to the European Commission, the Food and Agriculture Organization, and the Organisation for Economic Cooperation and Development, following its consideration by the Executive Board.

Att: (1)

Other Distribution:  
Department Heads



INTERNATIONAL MONETARY FUND

SWEDEN

**Selected Issues**

Prepared by Subhash Thakur, Michael Keen, Balázs Horváth and Valerie Cerra

Approved by the European I Department

August 22, 2001

Contents	Page
Basic Data Table .....	3
I. Introduction and Overview .....	4
II. Main Elements of the Swedish Welfare State .....	7
A. The Structure of Government, Social Welfare and Taxation.....	7
B. Past Developments in Fiscal Aspects of the Swedish Model.....	12
III. Theory and Evidence on Fiscal Policy and Growth .....	17
A. Introduction .....	17
B. Expenditure Policy and Growth .....	17
Public expenditure and labor productivity .....	17
Government capital expenditure and productivity .....	18
C. Redistribution, the Size of the Public Sector, and Growth.....	19
Empirical problems and overall fiscal policy evidence .....	20
D. Other Public Policies and Growth.....	21
IV. Has Swedish Growth Lagged Behind? .....	22
A. Rankings.....	22
B. Measurement Problems and Alternative Explanations .....	24
C. Analysis Over a Longer Period .....	25
D. The Emergence of the Technology Sector .....	33
V. The Labor Market .....	37
A. Background: Experience of the 1990s .....	37
B. Assessing the Impact of Government.....	37
Incentives and the tax-transfer system .....	37
Hours worked.....	39
Participation and search incentives .....	44
C. Collective Bargaining and the Effects of the Tax-Transfer System.....	47

Participation and search incentives .....	44
C. Collective Bargaining and the Effects of the Tax-Transfer System .....	47
D. Wage Compression .....	48
E. Active Labor Market Programs .....	49
VI. Investment and Savings .....	51
A. Introduction .....	51
B. Investment .....	52
C. Savings .....	55
VII. Redistribution .....	60
A. Inequality and Poverty .....	62
B. The Impact of Policy on Inequality and Poverty .....	63
C. Efficiency Gains From Redistribution .....	66
VIII. Pressures On The Welfare State .....	68
A. Increased International Mobility of Tax Bases .....	68
Capital .....	69
Commodities .....	73
Labor .....	75
B. Spending Pressures .....	78
Demography .....	78
Local government spending and the equalization system .....	78
C. Political economy .....	79
D. Changing Labor Market Institutions .....	81
IX. The Way Ahead .....	84

#### Table

1. Relative Ranking Between 1970 and 1991 .....	23
---	----

#### Boxes

1. Principal Transfers .....	9
2. Sweden's 1991 Tax Reform .....	10
3. Trading Off Efficiency and Equity .....	85

## Sweden: Basic Data

### Demographic and other data:

Area	449,964 square kilometers
Population (mid-2000)	8.87 million
GDP per capita	\$27,256
Exchange rate (2 August, 2001)	SKr 10.4 per US \$1

Composition of GDP in 2000, at current prices	In billions of Kronor	Distribution in Percent
Private consumption	1050.0	50.4
Public consumption	552.9	26.5
Total investment (including stockbuilding)	372.7	17.9
Total domestic demand	1975.6	94.8
Exports of goods and services	993.0	47.6
Imports of goods and services	884.6	42.4
GDP at market prices (average estimate)	2084.0	100

Selected economic data	1998	1999	2000
------------------------	------	------	------

Output and unemployment:	(Annual percentage change)		
Real GDP (at market prices, average estimate)	3.6	4.1	3.6
Open unemployment rate (In percent)	1.5	2.2	2.2

### Earnings and prices:

Hourly wages in manufacturing	3.6	2.0	3.6
Consumer price index	-0.1	0.5	1.0

### Money and interest rates:

M0 (end of period)	5.1	12.0	1.9
M3 (end of period)	2.1	9.9	2.1
3-month Interbank rate	4.2	3.1	4.0
10-year government bond yield	5.0	5.0	5.4

TCW-Index	2.2	1.3	-0.2
Real effective exchange rate (based on CPI)	-2.8	-3.2	-2.0

(In percent of GDP)

### Public finance:

General government balance	0.1	-4.1	-2.8
Structural balance 1/	5.3	4.2	4.1
General government debt	71.8	64.8	57.0

### Balance of payments:

Current account balance	2.9	3.5	2.6
Trade balance	9.1	8.3	7.8
Capital and financial account balance	0.1	-3.4	-2.6

Reserves (gold valued at SDR 35 per ounce, end of period, in billions of SDRs)	14.3	15.3	15.1
--	------	------	------

Source: Statistics Sweden; Riksbank; IMF, IFS; and staff calculations.

1/ Structural balance is in percent of potential GDP.

## I. INTRODUCTION AND OVERVIEW<sup>1</sup>

1. **Sweden has a mixed market economy with large, centralized institutions intended to reduce inequality, alleviate poverty and facilitate a close cooperation between the public and private sectors.** This macroeconomic paradigm—implemented most consistently among OECD countries by Sweden since the 1970s and hence aptly referred to as the Swedish model—assigns a major role to government and centralized institutions, trading off some economic efficiency for greater equality. The key features of the policy regime, which employs both fiscal and non-fiscal measures, include (see Lindbeck, et al (1994), Lindbeck (1997), and Atkinson (1995)):

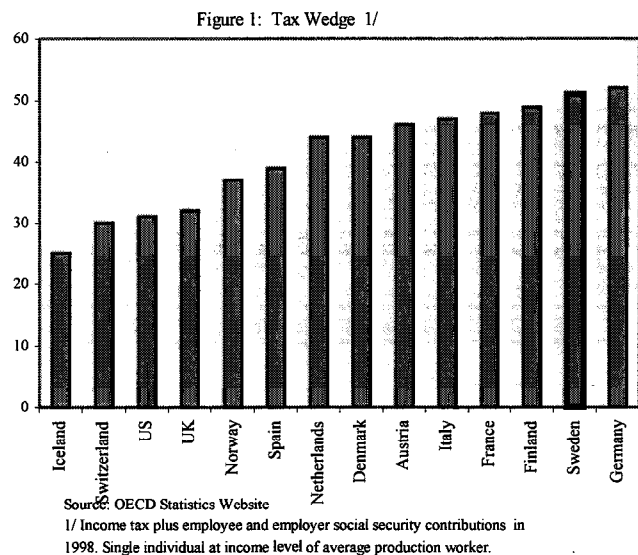
- An active and large state with a broad political mandate to intervene in the market process to secure equality of income and wealth distribution at a socially desired level;
- Highly ambitious social security arrangements covering an unusually wide array of risks and providing generous income replacement when they materialize;
- High levels of taxation and social security contributions, needed to sustain the high level of transfers and sizable public consumption;
- Elaborate centralized institutions and structures aimed at facilitating effective cooperation between the private sector and a large, service-oriented public sector, with the latter responsible for the provision of most social services;
- Extensive regulatory and supervisory intervention (especially, but not only, in the labor market);
- Large-scale public ownership of enterprises, and extensive public employment;
- Wages and working conditions set in a framework of centralized bargaining (involving the government, employers and well-organized trade unions), aiming for full employment, stable labor income and peaceful conflict resolution.

---

<sup>1</sup> Prepared by Subhash Thakur, Michael Keen, Balázs Horváth and Valerie Cerra based on the extensive literature on this subject, and drawing on discussions with policy-makers, and leading contributors to the debate on the Swedish model, including in roundtable discussions at the Stockholm School of Economics and Uppsala University. In addition to government officials, the staff benefited from discussions with Messrs A. Lindbeck, P. Edin, L. Svensson, J. Agell, J. Hassler, M. Lundholm, S. Blomquist, T. Lindh, H. Ohlsson, J. Södersten, M. Persson, K. Andersson, D. Andersson and G. Tersman

2. **The Swedish model has many impressive achievements.** Sweden's quality of life, public health and educational attainment indicators are among the best in the world. The country is politically stable, with high employment and participation rates and remarkably low levels of labor conflict. A high level of economic equality and substantial public support for the creation and preservation of human capital—both distinctive features of the Swedish model—give rise to dynamic advantages offsetting in part the static efficiency losses owing to the higher public intervention in market processes. These dynamic effects arise from coverage against a wide array of risks not insurable in private markets (e.g. the risk of being born to poor or less-educated parents); greater ability to take risks owing to the presence of a strong social safety net; enhanced intergenerational mobility; and greater use of talent resulting from higher female participation rates and the effective incorporation of minorities and immigrants into the labor market. A greater degree of public intervention also has the potential to correct market failures arising from imperfect competition, asymmetric information and various externalities. Not least, the pursuit of equality domestically is matched by relatively generous support of developing countries, and a sensitivity to environmental issues.

3. **But maintaining a very large welfare state has substantial costs.** The tax burden needed to sustain the welfare state in Sweden is among the highest in the world. Owing to the international mobility of capital, the effective burden of this is heavily concentrated on labor income. The high levels of direct and indirect taxation raise the tax wedge on labor to a very high level compared to other OECD countries (Figure 1). This, together with generous welfare provisions, generates strong disincentive effects on effective labor supply, and a sizable black economy (recently estimated at 19 percent of GDP).<sup>2</sup> The centralized institutions associated with the Swedish model lack flexibility, hampering efficiency in the face of rapidly changing economic conditions. The compressed wage scale—a direct consequence of the centralized wage bargaining regime—may adversely affect work incentives at the high end of the skill distribution and is likely to discourage investment in human capital. Last, but not least, Lindbeck (1997) and several other participants in the academic debate on the Swedish model



<sup>2</sup>Calculation of Professor F. Schneider, University of Linz, using the currency demand approach.

have argued that its excessive size was causally related to Sweden's relatively weak growth performance since the 1970s, reflected in a marked decline in its ranking by per capita GDP in the OECD.

4. **While it is impossible to pin down the optimal size of the welfare state precisely, government was generally agreed to have become too big by the late 1980s.** The 'overshooting' of this period—a theme in Lindbeck (1997)—was amplified by demographic developments (Sweden's population was the oldest in the world during the 1980s), and was viewed as an underlying reason for the crisis in the early 1990s precipitated by external shocks and macroeconomic policy mistakes. Despite tax revenues topping 60 percent of GDP on the back of a strong cyclical upswing, high and volatile public consumption and transfers led to general government deficits from 1991, and, with the onset of a crisis, to rapidly rising public debt. The resulting surge in budgetary interest payments was coupled with a widespread loss of confidence in fiscal sustainability. The steady streamlining of government following the crisis was thus seen as a structural necessity, not just a short-term correction of avoidable macroeconomic policy mistakes. The large role played by government was also seen to hamper the flexibility of the economy to rebound from shocks. The incomplete recouping of lost output since the crisis period over the early 1990s, despite a relatively high growth rate in the past few years, underscores the need for a renewed streamlining of the welfare state to restore sustainable high growth.

5. **Globalization is changing the context in which the Swedish model operates by limiting its tax-based financing, but it does not rule out the preservation of its key elements.** In the past it was possible to maintain a drastically higher level of taxation to sustain a wide and all-encompassing social safety net and a pervasive role for the public sector in the economy, irrespective of what other countries did. However, the fiscal basis for this strategy is being increasingly undermined. Massive international capital flows make the base for taxing capital increasingly mobile, and the increasing mobility of both commodities and labor have a similar effect. Moreover, heightened regulatory and tax competition, as well as greater private sector competition and deepening European integration leave less and less room for an inefficient public sector. However, it is possible to streamline the existing welfare state while preserving the key characteristics of the Swedish model. This adaptation can underpin Sweden's competitiveness by building on the economy's existing strengths: effective governance in the public sector, solid and efficient provision of education and health care, wide-ranging public support for human capital creation, maintenance of high employment, and solidaristic assistance for the less fortunate, at home and abroad, to preserve social peace. Sweden's advanced position in the high technology sector also provides scope for enhancing public-sector efficiency. Significant further strides in deregulation and privatization of state-owned enterprises in competitive markets would boost this process, and could help support the continuation of key elements of the welfare state. Finally, streamlining the Swedish model would involve a welcome reduction in the tax burden, which should strengthen the budget in the long run by boosting employment, thus contributing to a broader tax base and reducing the need for budgetary transfers.

6. **This paper assesses the effectiveness and impact of the extensive and highly developed welfare state in Sweden.** The subject is huge, so that the coverage is not exhaustive. The paper proceeds as follows. Chapter II surveys the main elements of the Swedish welfare state. Chapters III and IV explore the theory and evidence on fiscal policy and growth, followed by an investigation of whether Sweden's growth has lagged behind that in other countries. Chapter V surveys labor market aspects, while the topic of the subsequent chapter is investment and savings. Chapter VII discusses redistribution, a central element of the Swedish model. Chapter VIII surveys various pressures on the welfare state, and Chapter IX concludes with a short discussion on the future of the Swedish model.

7. **The paper concludes that further streamlining the scale of government intervention while safeguarding key elements of the Swedish model offers great long-term benefits, since—although ultimately a matter for value judgment—the inefficiencies induced by large-scale government intervention are likely to exceed the equity gains.** Having attained a strong fiscal position following the crisis-induced reforms of the 1990s, the Swedish welfare state now stands at an important juncture. An easing of distortions to working, investment and savings decisions would generate sizeable cumulative efficiency gains, facilitating a higher rate and quality of economic growth. With continued and deepening internationalization, and projected demographic developments putting sustained pressure on the level and nature of government intervention, measures to streamline the role of government and focus on essentials should be continued and reinvigorated. This way, Sweden's highly successful and compassionate society can enjoy sustained high levels of economic growth.

## **II. MAIN ELEMENTS OF THE SWEDISH WELFARE STATE**

### **A. The Structure of Government, Social Welfare and Taxation**

8. **Sweden's state sector occupies a key position in the economy.** The system of government consists of a central and subnational level. The central government consists of Ministries and central government agencies, and employed about 240,000 people in 1998. The Ministries are small, each employing less than 200 people. They are not concerned with details of administration, entrusting the implementation, management and enforcement of government decisions and laws to about 250 central administrative agencies. Subnational government comprises 21 regional and 289 local (municipal) governments. The primary responsibilities of county councils, which operate at a regional level, are health care and regional transport systems. Municipalities have a broad range of local responsibilities, including social services (child-care, and programs for the elderly and families); primary, secondary and adult education; land use planning and building permits; environmental and public health duties; technical services (water, sewage, garbage collection); public emergency services; and some primary health care tasks.

9. **Welfare services are highly developed and have decentralized delivery systems.** Health and social care—seen as public sector responsibilities—are financed and delivered by

a national social insurance system. All residents in Sweden are covered by national health insurance. Medical, dental and medicine charges below pre-defined ceilings are borne by the national health insurance. National occupational injury insurance pays all health-care costs for work-related accidents. The administration and delivery of many welfare services are decentralized, involving local levels of government and also private entities.

**10. Transfers to households are extensive, with relatively limited reliance on means-testing.** The principal transfers are summarized in Box 1. Most working people have unemployment insurance (tax-financed, but administered by trade unions); the few without such coverage receive a lower benefit from the government. Extensive government programs for employment training, subsidized employment, job-search assistance and relocation assistance are available for those unemployed. A basic old-age pension is payable as a citizen's right from age 65, topped up by a supplementary income-related pension. These two elements of the PAYGO system financed by pension contributions aim to provide a replacement rate of two-thirds calculated using the best 15 years of earnings. Additional pension payments resulting from centralized bargaining agreements and from private funded schemes can add to this replacement rate. The mother and father of a newly born child are entitled to a total of 12 months of paid leave from work, with at least one month to be taken by the father. The parents also receive a flat tax-free child allowance until the child reaches 16 years of age. If the child continues education after that age, she is entitled to study allowances, as well as subsidized study loans for university studies. Means-tested benefits—ones that are withdrawn as income rises—include housing allowances, highly subsidized day care and after-school care (if the parents are engaged in paid employment or in studies), together with financial and in-kind social assistance for those who cannot otherwise support themselves. Overall, only about 7 percent of public social transfers are means-tested; 29 percent are paid at a uniform rate to all recipients, and the rest is related to previous income.

**11. Sweden has a dual income tax, with progressive taxation of labor income and a flat tax on capital income.** This was the key structural innovation of the landmark 1991 tax reform (see Box 2), and reflected an awareness of the increasing difficulty of taxing capital income. The rate of tax on capital income is far below the highest rate on labor income, so that difficulties arise—especially in connection with the self-employed and small businesses—from the need to enforce a distinction between the two kinds of income. The table below reports comparative information on key tax parameters in Sweden.

### **Box 1. Principal Transfers**

These can for convenience be divided into two types: contingent benefits (one paid, that is, in the event of some contingency occurring) that are paid in an amount related to previous earnings, and transfers paid in an amount related to contemporaneous income. Most are taxable.

#### **Earnings-related contingent benefits**

**Unemployment benefit** is paid for up to 300 days to those with an adequate employment history, the rate being 80 percent of gross earnings (having been reduced, as with other benefits, to 75 percent in 1996), up to a maximum of SEK 680 per day for the first 100 days and of SEK 580 thereafter.

**Sickness benefit** is also paid at a replacement rate of 80 percent, up to a maximum of about 7.5 base amounts. Employers bear the cost for the first two weeks, and sometimes pay additional amounts. There is no maximum duration.

**Pensions** now (for those born after 1954) compromise two components: one that is related to past contributions (16 percent of earnings) and a premium component (2.5 percent) that is invested in a fund.

**Parental benefit** allows parents to share 450 days of benefit at a replacement rate of 80 percent for 360 days, and with a guaranteed minimum for the remainder.

**Child benefit**, currently non-taxable, is paid for each child under 16, with a supplementary payment for the third and subsequent child.

#### **Means-tested benefits**

**Social assistance** is paid by local authorities to guarantee a minimum level of income. Rates are set by local authorities, but subject to a national minimum. Access is conditional not only on income but also on the level of assets.

**Housing allowance** is paid to those with children and to the young, at levels that vary with the number of children, commonly with a withdrawal rate between 20 and 33 percent.

**Childcare** payments are subsidized for those in work, again at rates chosen by local authorities. Withdrawal rates are in the order of 5 to 7 percent, but expected to fall to 3 to 6 percent in 2002.

**Maintenance support** is paid to those not receiving proper maintenance from an absent parent, with the latter then subject to reimburse the amounts paid in amounts related—with quite high marginal rates—to the debtor's income.

**Repayment of student loans** is generally at 4 percent of income.

### **Box 2. Sweden's 1991 Tax Reform**

The 1991 tax reform (TR) significantly broadened the tax base, markedly lowered the highest marginal income tax rates, and eliminated various tax shelters. The dual income tax that it introduced involves separate tax schedules for earned income and capital income. The TR was designed to (i) be revenue-neutral, leaving the ratio of Sweden's tax revenues to GDP the highest in the world; (ii) be close to neutral for after-tax income distribution, with the cuts in top marginal income tax rates offset by a new capital taxation system and the elimination of tax loopholes and non-uniformities principally benefiting the rich; and (iii) involve a massive shift of the tax burden from labor income to consumption and to individual capital income, enhancing the efficiency and sustainability of the tax system.

The magnitude of the shifts in the tax burden was quite exceptional, with pre-reform estimates of the negative impact on the budget of tax rate cuts and envisaged increases in transfers of around 6 percent of GDP. This impact was to be covered by other elements of the TR: over a third from the new system of taxing capital income, a third from the broadening of the base of the standard VAT rate of 23 percent, and 15 percent from the elimination of loopholes and preferences on earned income. The remainder was to be covered by revenue gains generated by higher output stemming from improved incentives associated with the new tax system. In the event, the TR was underfinanced by an estimated 4 percent of GDP.

The dual income tax approach represented a major improvement despite remaining distortions implied by the 15-percentage point difference that remained between the total marginal tax rates on labor and capital incomes. It unified the bewildering array of different tax rates on the returns from various assets, and eliminated loopholes related to differential tax shields available to private and public sector entities as well as the perverse incentives stemming from the possibility of claiming tax preferences on both personal assets and liabilities (making the purchase of real estate from borrowed funds a massive, low-risk source of tax rebates). However, a strong incentive for labor income to masquerade as capital income was created as a result of the lower taxation of income from capital than from labor. Nevertheless, given the higher mobility of the tax base for capital than for labor income, and the Swedish model's continuing need for very high tax revenues, the dual income tax —also adopted by other Nordic countries—has proved to be an impressive innovation.

The implementation of the tax reform was a systematic effort to overhaul the budgetary foundation for the Swedish model without reducing its size. It was implemented without much of a transition, and against the background of the deepest recession since the Great Depression, perhaps even adding to its severity. While its design undoubtedly had excellent elements and it may have fared better in a tranquil macroeconomic environment, it alone was not—and could not have been—sufficient for averting the need for rolling back the overall level of taxation and with it, the size of the Swedish model, in subsequent years.

International Comparison of Tax Rates									
Taxes on Capital and Capital Income					Taxes on Labor Income				
Corporation Tax (In percent) 1/	Highest Marginal Rate on Interest (dividends, if different)	Wealth Tax Rate (In percent)	Wealth Tax Threshold in euros/2	Starting Marginal Rate (In percent)	Highest Marginal Rate (In percent)	Threshold 2 (In euros)			
Austria	34	25	none	10	50	642			
Belgium	39 (40.2)	15	none	27.6	60.8	5,156			
Denmark	30	58.7 (40)	none	38.5	59				
Finland	29	28	0.9	23	55.5	7,905			
France	33.33 (35.33)	25 (61)	0.55	18.1	61.6	3,979			
Germany	25 (38.875)	48.5	none	19.96	48.5	46,900			
Greece	35	0	none	5	42.5	3,255			
Ireland	20	44	none	22	44	5,333			
Italy	36 (41.25) /3	27 (12.5)	none	19.2	46.2	0			
Luxembourg	30 (36.42)	42	0.5	14	42	6,693			
Netherlands	35	52	none	2.95	52	3,993			
Portugal	32 (35.2)	20 (25)	none	12	40	180 /4			
Spain	35	48	0.2-2.5	18	48	3,306			
Sweden	28	30	1.5	30	55				
United Kingdom	30	40	none	10	40	6,667			
Canada	28 (34.1-46.1)	54.1	none	24.7	48.8	720 /4			
Japan	47.8	20 (65)	none	15	50	3,032			
US	35.62	46.6	none	20.6	45.8	2,602			

Sources: International Bureau of Fiscal Documentation, *European Tax Handbook 2000*; Price Waterhouse Coopers *Corporate Taxes 1999-2000* and *Individual Taxes 1999-2000*, German Ministry of Finance.

1/ Figure in brackets includes local surcharges.

2/ For a single person.

3/ Notional return on equity taxed at 19 percent.

4/ Amount shown is a tax credit.

5/ The government proposed in August 2001 to raise this to 175,868 euros.

12. **Social security contributions are high, and levied mainly on the employer.** The rate on earnings paid by employers is around 33 percent, while employees pay a further 7 percent. The government has embarked on a four-step plan of income tax reductions intended to compensate for the employees' contribution, two steps of which (each costing about 0.6 percent of GDP) remain to be enacted.<sup>3</sup>

### **B. Past Developments in Fiscal Aspects of the Swedish Model**

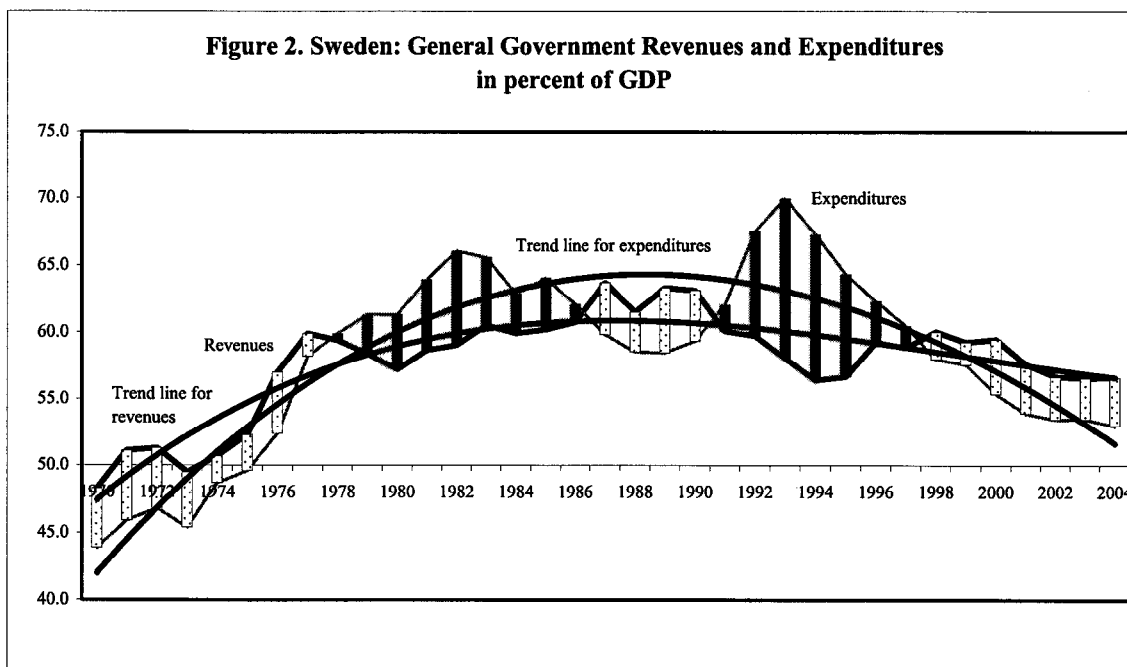
13. **The dramatic increase in the size of the Swedish government was halted following the crisis of the early 1990s, giving way to a steady retrenchment.**<sup>4</sup> Expenditures surged during 1970–1982, followed by an unsustainable squeeze giving rise to temporary budget surpluses (indicated by dotted vertical bars in Figure 2) and another, even larger run-up during 1989–1993. The expenditure ratio reached 70 percent of GDP in 1993 (26 percentage points higher than in 1970), but has been on a declining trend since then, projected to fall to 53 percent of GDP in 2004. Revenues peaked in 1989 at 63.7 percent of GDP, 15.4 percentage points higher than in 1970, and—with a variance just a third of that of expenditures—were much less volatile. The polynomial trends for expenditures and revenues suggest that a marked reversal in the size of government has begun and that a sustained surplus is emerging. Notably, the swing in expenditures was substantially more pronounced over the past decades than that in revenues. However, the projections through 2004 indicate

---

<sup>3</sup> The essence of the compensation scheme is as follows. With income  $Y$  and social security contribution (deductible against income tax) at rate  $e$ —this is the 7 percent charge to be compensated—liability to income tax plus social security contributions, given  $T(\cdot)$ , the tax schedule, is  $T(Y - eY) + eY$ . The nature of the compensation is to give credit for a proportion  $\alpha$  of the social security payment but at the same time allow only the uncredited portion  $1 - \alpha$  as a deduction. Thus total liability is  $T^* = T(Y - (1 - \alpha)eY) + eY - \alpha eY$ , with  $\alpha$  to be increased in four steps from 0 to 1.

<sup>4</sup> Data underlying the 2001 Spring Budget, on the ESA-95 standard form 1980. While data for the 1970s are on an earlier definition, they were appended without a visible break.

that the momentum for further reductions in the size of government from its current high level may be flagging.



14. **Despite the turnaround and potential problems with international comparisons, government in Sweden remains large.** Average revenues during 2002–2004 are projected to be 6.4 percent of GDP higher than in 1970–72, while the corresponding difference for expenditures is 7.8 percent of GDP. Sweden also comes out at the top when compared with other OECD countries in 2000. However, there are caveats related to the international comparison of the size of the public sector, lending some credence to the claim of some observers that Sweden is not as much of an outlier in this respect as would appear from a comparison of raw data. First, there are data comparability problems. Swedish revenue data include the taxation of gross social transfers (untaxed in many other countries), raising measured revenue and expenditure levels by an estimated 3½ percent of GDP in 2000. Different levels of net tax expenditures—revenue shortfalls from an ideal norm of tax collection owing to tax exemptions, rebates, and preferential rates estimated in Sweden at 5.7 percent of GDP in 2000—also lower the international comparability of the government share figures, especially, since tax expenditure data are not available for most other countries. Second, as evident from the following decomposition from Atkinson (1995), welfare spending is driven not only by the generosity of transfer and social insurance payments (first component of the decomposition), but by the wage share (second component) and the dependency ratio (third component) as well:

$\frac{WS}{Y} \equiv \frac{AB}{\bar{w}} \frac{\bar{w}}{Y/L} \frac{R}{L}$ , where  $\frac{WS}{Y}$  is the share of welfare spending in GDP, AB the average

benefits,  $\bar{w}$  the average wage, L the number of workers, and R stands for the number of benefit recipients. Thus, the relatively early onset of aging of the Swedish population from the 1970s contributed to higher government spending compared to most OECD countries whose populations had a significantly lower average age during the past three decades.<sup>5</sup>

**15. The run-up in spending and its partial reversal demonstrated that expenditure control was key to sound public finance in Sweden.** During the past three decades, large expenditure increases always preceded the emergence of sustained and substantial deficits. At the beginning of both deficit periods, revenues actually fell while expenditures raced ahead toward an unsustainable local peak. As a result, the average deficit, at 4.9 percent of GDP, was much larger than the average surplus (3.5 percent of GDP). Moreover, expenditure levels in excess of 60 percent of GDP were invariably associated with large deficits (concurrently or with a lag, following a short period of surpluses). Accounting for cyclical factors does not alter the conclusion that the fiscal balance deteriorated during the 1970s and 1980s. The key reason for this was a steady upward drift in expenditures stemming from a political consensus in favor of extending welfare arrangements, and strong demographic effects amplifying the boosting effect on the size of government—observed throughout the OECD—of rising per capita income.

**16. General government expenditures have been effectively constrained by medium-term fiscal rules since 1997.** These rules utilize a combination of central government expenditure ceilings, and a balanced budget requirement for local governments stipulating a reversal of any deficits on current spending within two years. The nominal ceilings are set three years ahead, and limit central government non-interest expenditure plus spending on old-age pensions outside the state budget. While their level was set to increase in krona terms in the 2001 Spring budget, their share in GDP is set to decline marginally (Figure 3). The emphasis on central government expenditure ceilings is appropriate: local governments have rarely incurred deficits since 1980 and not at all since 1997, while the pension system has

---

<sup>5</sup> Adema (1997) derives internationally comparable figures on the share of public social expenditure in GDP for 1993. While not accounting for all factors mentioned above, the paper controls for differences in direct taxes and social contributions paid on transfers, indirect taxes on consumption purchased out of net cash transfers, and tax breaks for social purposes on public and private social expenditure. Sweden still comes out at the top of the list of the 8 covered OECD countries, but the difference relative to the U.S. shrinks from 26 percentage points of GDP in unadjusted data to 15 percentage points, and becomes insignificant relative to Denmark.

essentially always been in surplus (Figure 4).<sup>6</sup> Looking forward, the formal introduction of a balanced budget rule for local governments strengthens overall expenditure control.

Figure 3. Sweden: Central Government Expenditure Ceilings, percent of GDP

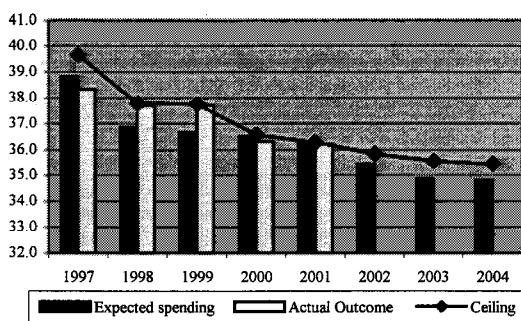
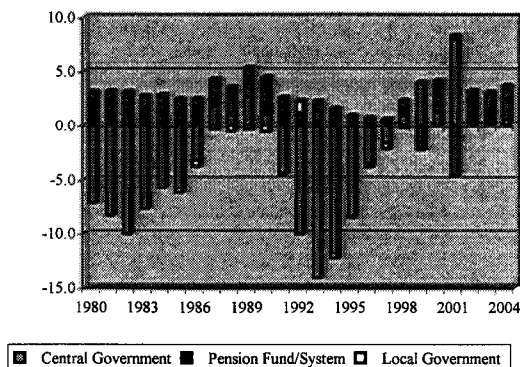


Figure 4. Sweden: General Government Balance in percent of GDP



17. **The budget redistributes high tax revenues through large transfers and public consumption.** The share of tax revenues in GDP has stabilized at around ½ of GDP by 2000, with non-tax revenues declining by half since the late 1980s (Figure 5). On the expenditure side (Figure 6), public consumption and transfers—accounting for 27 and 25 percent of GDP on average, respectively—both peaked in the early 1990s. However, while the level of transfers is about the same now as it was in the early 1980s, enhanced expenditure control helped reduce public consumption by about 4 percentage points of GDP during the same period. The composition of transfers has shifted dramatically since the crisis period. Transfers to business were cut by 7 percentage points of GDP to a quarter of their 1993 level, while those to households were reduced by 5 percentage points, returning them to around their 1980 level. The share of transfers abroad in GDP has marginally grown. With the rapid rise in public debt during the early 1990s, interest payments increased sharply. Once the public debt situation improved, the share of interest payments in GDP began to moderate, dropping to less than half of its mid-1990s peak by 2001.

<sup>6</sup> The large pension system deficits in 1999 and 2001 resulted from nonrecurring transfers to central government as part of the reform of the pension system and boosted central government surpluses.

Figure 5. Sweden: General Government Revenues in percent of GDP

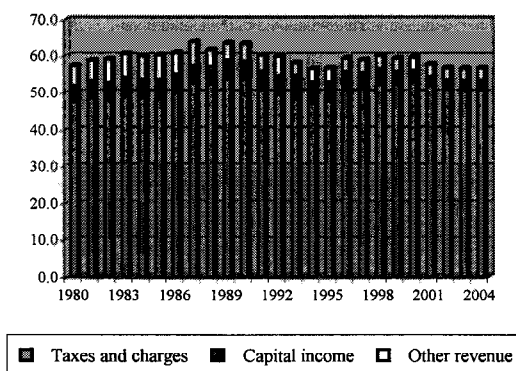
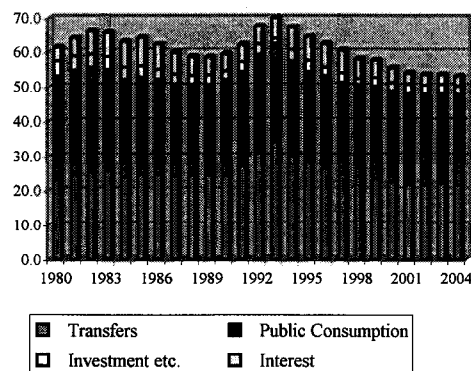


Figure 6. Sweden: General Government Expenditures in percent of GDP



18. **The role played by government in the delivery of services, in regulation, and in managing public enterprises has also been redefined during the crisis-induced reforms** (Gustafsson and Svensson (1999), and Ministry of Finance (2000)). The transparency of central government operations in the enterprise sector was greatly enhanced by moving the government's commercial activities to "arm's length" and clearly separating these activities from exercising other government responsibilities. Large public monopolies (Telecom, Post Office, Energy Company, Forest Management, and retail trade in alcohol and medicine) were corporatized and restructured to operate in a manner similar to private joint stock companies. The monopoly position of these publicly owned enterprises was reduced, their regulation strengthened, and competition with private entities was cautiously encouraged. However, given the lack of political consensus in favor of divesting public assets, only limited progress was made in privatizing state-owned enterprises. As a result, Sweden still does not have a formal privatization program, even for state-owned enterprises in highly competitive sectors. Another important element in reforming central government was to redefine the roles of agencies, redistributing their responsibilities, streamlining and focusing their operations to enhance their effectiveness and responsiveness. Government operations were also decentralized by delegating more decisionmaking rights to agencies from Ministries, and from central to regional and municipal governments.

### III. THEORY AND EVIDENCE ON FISCAL POLICY AND GROWTH<sup>7</sup>

#### A. Introduction

19. **This section summarizes economic theory and cross-country empirical evidence on the impact of fiscal policy on growth and efficiency.** The main economic reasons for public expenditure are to compensate for externalities and market failures, to provide public goods, and to provide social insurance through redistribution. These public activities should be financed in a manner that minimizes distortions and growth losses. Fiscal policies can impact growth by changing: (i) the average skill of workers; (ii) the productivity of capital; and (iii) the supply of labor or capital inputs.

20. **The theoretical mechanism for the effect of fiscal policy on growth broadly depends on whether growth is endogenous or exogenous.** In endogenous growth models, public policies that impact productivity or the incentives to invest in human and physical capital can permanently change the rate of growth. In the neoclassical growth model, output grows in the long run due to exogenous technological change or population growth. Fiscal policy can affect the level of output and welfare. Through a several-year transition period, it can also impact growth until a new steady state is reached.

#### B. Expenditure Policy and Growth

##### Public expenditure and labor productivity

21. **Accumulation of human capital can increase labor productivity.** Human capital can be accumulated through schooling, which takes time away from production, or learning-by-doing, which occurs through repeated work. Human capital can also be accumulated through R&D efforts that increase the stock of knowledge. Health and nutrition can improve productivity by reducing absenteeism and illness and increasing work efficiency. Government financing of education and health care can ensure access to these services in the presence of imperfect credit markets that prevent individuals from borrowing against their future incomes. Public subsidization of education may also be needed to reach an optimal allocation of time to education when social returns are higher than private returns. Nonetheless, public subsidization should concentrate on those components of education and health care that generate the highest social returns.

22. **A more educated work force is likely to boost growth.** A number of studies find a positive relationship between high levels of education achievements and growth

---

<sup>7</sup> This section draws on a number of survey articles, such as Aghion et al. (1998), Gerson (1998), Masson (2000), and Tanzi and Zee (1997).

(Denison, 1967; Barro, 1989) or between public spending on education and growth (Diamond, 1989; Otani and Villanueva, 1990; Hansson and Henrekson, 1994; Barro and Sala-i-Martin, 1995; Tanzi, 1995). Using a Bayesian averaging technique, Doppelhofer, et al. (2000) find evidence that primary education and life expectancy are among the robust determinants of growth in a random sample of approximately 21 million of the possible regressions that include any combination of 32 conditioning variables. However, they did not test whether *spending* on schooling and health is robustly related to productivity enhancement, and other empirical studies provide mixed conclusions. The relationship may be hard to verify because the level of health and educational attainment may not be proxied well by expenditure on these items. In addition, it may take many years before spending can feed through to higher achievement levels and productivity growth.

### **Government capital expenditure and productivity**

23. **Government provision of infrastructure or R&D can enhance growth by increasing the supply of effective capital.** Through its ability to compel payment through the tax system, the government can provide public goods whose benefits cannot be restricted and would not, therefore, be generally profitable for a private firm to provide at socially optimal levels. However, the empirical evidence on the effects of government capital expenditure on growth is mixed. The results depend on the sample and specification, and studies have often not distinguished between types of capital expenditure. Easterly and Rebelo (1993) differentiate between types of capital expenditure in a large sample covering 119 countries from the 1960s through the 1980s and find that public investment in transport and communications improve growth without crowding out private investment; investment in public enterprises has no effect; and public investment in agriculture has a negative effect. Estimated elasticities of growth with respect to public infrastructure investment have tended to be small. However, Berndt and Hansson (1992) find that infrastructure investment had a significant impact on Swedish productivity, allowing a lower labor requirement for firms. Martin (2000) cites evidence that regional infrastructure investment in telecommunications has a more favorable effect on growth in Europe than other types of infrastructure investment.

24. **The evidence on R&D investment is also mixed.** It appears to be important for productivity growth at the firm level (Griliche, 1991), but the effect at the national level depends on the level of development. Coe and Helpman (1993) find that domestic R&D investment contributes significantly to total factor productivity (TFP) growth in G7 countries, and imported R&D is also important for smaller industrial countries. R&D investment has generally not been significant for middle income and developing countries, which may benefit more from domestic competition and importation of new technologies. However, even among industrial countries, public R&D spending does not appear to significantly impact output growth.

25. **Government spending on maintaining a stable political and legal framework and an efficient bureaucracy can facilitate growth.** The key channels through which it achieves

this are the reduction in private investment risk and the encouragement of innovation. Concerns about expropriation or loss of property discourage investment and divert resources to less productive but more secure investments. A number of empirical studies (Barro, 1991; Alesina et al., 1992; Easterly and Rebelo, 1993) find that political unrest and instability and corruption have a significant negative effect on growth. In theory, defense spending could have a positive impact on growth by reducing political instability or by providing “spin-off” effects of technological improvement, provision of infrastructure, or education of soldiers. However, military expenditure could crowd out spending on health and education and civilian infrastructure, and savings for private investment. Overall, the empirical literature shows a negative or insignificant relationship between defense spending and growth. Landau (1993) finds evidence that the impact may be nonlinear, with low (high) defense spending enhancing (inhibiting) growth.

### **C. Redistribution, the Size of the Public Sector, and Growth**

26. **The impact of redistribution on growth depends on the balance of its positive and negative effects.** Redistribution has negative effects on growth through the distortionary taxes required to finance it. In addition, some types of social transfers, such as generous programs of unemployment, sickness, or early retirement, can discourage job search, reduce labor supply, and keep the recipients mired in a poverty trap. However, there are a number of theoretical channels by which redistribution can improve growth. If capital market distortions generate liquidity constraints on investment that prevent resources from going to the most productive uses, redistribution can increase growth by allowing the poor to accumulate capital. The provision of a social safety net to protect against some lifetime risks for which private insurance may not be available can also encourage productive risk-taking by reducing the costs of failure. The social and political stability that arises from a more equal income distribution can enhance incentives to save and invest, thereby increasing growth. Equality can contribute to better health and promote schooling, thereby permitting poor individuals to take advantage of their talents.

27. **The size of government can also affect growth and welfare.** Aside from the productive or unproductive uses of public expenditure and transfers, and the tax distortions (discussed in later chapters) that can occur through their financing, a large public sector can have important political and institutional effects. Organized interest groups evolve to gain advantages for their own group, which may come at the expense of general welfare or growth (Olson, 1982). In addition, large public sectors increase potential profits from rent seeking, leading to greater diversion of resources into unproductive uses (Buchanan, 1980).

28. **A number of studies have found a positive relationship between public transfers or income equality and growth** (Sala-i-Martin, 1992; Barro, 1989; Alesina and Rodrik, 1991; Persson and Tabellini, 1991). Benabou (1996) compared the Philippines and South Korea, which had similar macroeconomic indicators in the early 1960s. In the subsequent thirty years, the more equal South Korea grew fivefold, while the output level of the Philippines barely doubled. Alesina and Perotti (1996) found evidence that inequality

creates social unrest and political instability, which, in turn, depress investment and growth. However, the direction of causality between redistribution and growth is difficult to ascertain. Faster growing countries may be able to afford more generous social assistance schemes. The relationship may also depend on the level of development, with inequality in poor countries contributing to poor health and lack of schooling. The empirical evidence is mixed for OECD countries. Some studies (Hansson and Henrekson, 1994; Weede, 1986; Weede, 1991; Persson and Tabellini, 1994; and Nördström, 1992) find a significant negative effect of various measures of social transfers on growth in samples of OECD countries, whereas other studies find a positive effect (Korpi, 1985; Castles and Dowrick, 1990; and McCallum and Blais, 1987).<sup>8</sup>

### **Empirical problems and overall fiscal policy evidence**

29. **The overall evidence of the effects of tax rates on per capita income growth is mixed.** There are several econometric problems that could be responsible for the vastly different results. The public sector tends to increase with the level of development and wealthier countries tend to rely more on income and payroll taxes and less on trade taxes than do developing countries (Easterly and Rebelo, 1993). Therefore, studies of the effect of the structure and size of government on growth are likely to be affected by reverse causality. This occurs because the initial level of per capita GDP is negatively correlated with growth due to output convergence. Output convergence occurs in exogenous growth models due to diminishing returns to capital, but it can also occur in endogenous growth models due to knowledge or technological spillovers or product imitation across countries. The results of studies that do not control for initial income are particularly likely to be biased. Another problem is that many studies that include the tax ratio in a growth regression do not distinguish between different types of more or less distorting taxes nor for the more or less productive expenditure uses of the revenue. Even if taxes did not have a significant impact on growth, they could still have a negative effect on welfare due to their deadweight losses.

30. **Partial studies investigating the effects of fiscal policy on growth that focus on one side of the government's budget constraint can be severely biased and can lead to a perception that the evidence is non-robust.** Kneller et al. (1999) stress that much of the earlier empirical work needs to be reassessed because of an incomplete specification of the government budget constraint. For example, Mendoza et al. (1997) conclude that the tax mix has no significant effect on growth, but since their regressions do not include expenditure variables, their estimates are biased by the implicit partial financing of productive expenditures. Likewise, several studies on expenditure fail to include tax variables to control for the distortionary financing of the expenditure. Kneller et al. examine a panel of 22 OECD countries over 1970–95, simultaneously testing the structure of both taxation and expenditure. They aggregate a functional classification of fiscal data into several categories,

---

<sup>8</sup> This study finds a nonmonotonic relationship.

including *distortionary taxation* (taxes on income and profit, social security contributions, taxes on payroll and manpower, and taxes on property), *nondistortionary taxation* (tax on domestic goods and services), *productive expenditures* (general public services, defense, education, health, housing, transport and communication), and *unproductive expenditure* (social security and welfare, recreation, and economic services). They find that the distortionary tax aggregate has a significant negative effect on growth, with an increase in these taxes by one percentage point of GDP causing growth to decline by 0.41 percentage points. A 1 percentage point increase in productive expenditure raises growth by 0.27 percentage points. Nondistortionary taxes and unproductive expenditure have an insignificant effect on growth. They also show that their results are robust to several changes in data classification and regression specification, and show how mis-specifying the budget constraint can produce biased results.

31. **The relationship between the level of public expenditure and growth is typically not monotonic.** The Kneller et al. study does not test for nonlinearities, such as the likelihood that beyond a certain range, public expenditure will cease being productive and the negative impact of distortionary taxes will rise rapidly. Tanzi and Schuknecht (1995) argue that growth may be enhanced for some time, but public expenditure increasingly becomes wasteful. Crafts (2000) suggests that the advanced European countries have moved to the point in which the favorable effects of government spending on growth are offset by the disincentive effects of taxation.

#### **D. Other Public Policies and Growth**

32. **Promoting integration into the global economy can enhance growth.** There are several reasons for this. Openness allows countries to take advantage of technological innovations embedded in new capital goods from abroad. Import competition can force domestic firms to operate more efficiently and raise the rate of innovation. The opportunity to produce for export markets can allow the exploitation of economies of scale and scope in production. As for empirical evidence, several studies find a positive correlation between growth and exports ( Balassa (1978), Krueger (1978), Bhagwati and Srinivasan (1979), Otani and Villanueva (1990)), growth and lower tariffs (Knight et al. (1993)), and growth and the ratio of imported to domestic capital (Lee(1994)). Borensztein et al. (1994) finds that FDI can improve growth and crowd in domestic investment. Romer (1989) finds that openness leads to higher investment and capital growth, but not lower marginal productivity, consistent with a higher rate of technological improvement. However, since countries that experience higher growth may have greater incentives to open up, it is difficult to empirically determine the direction of causality between trade and growth. In addition, the benefits of openness may be more pronounced for smaller economies, lacking a sufficient domestic market to take advantage of economies of scale in production.

#### IV. HAS SWEDISH GROWTH LAGGED BEHIND?

33. **A long-running debate has centered on whether Sweden has suffered a relative decline in economic growth and living standards, and if so, the reasons for such a decline.** A part of the debate has focused on the empirical question of the accurate measurement of Sweden's economic performance relative to that of other advanced economies and various technical issues germane to this question. A second part revolves around whether the decline could be attributed to the large public sector or to other factors such as demography and specific policy mistakes. In broad terms, this debate has obvious parallels with the debate on the causes of slower growth in Europe, the so-called "eurosclerosis" question. This chapter summarizes the arguments from the literature and extends the analysis further.

##### A. Rankings

34. **Sweden moved from being one of the poorest countries in Europe in the middle of the nineteenth century to being among the richest countries in the world by 1950.** Industrialization based on raw materials, an exceptionally high rate of labor productivity growth, and Swedish neutrality in the World Wars brought about a century of uninterrupted strong economic growth.

Sweden's Relative GDP per capita 1/

1870	1913	1950
79.8	83.9	134.4

Source: Maddison (2001).

1/ At 1990 PPP dollars relative to 12 largest European economies.

35. **Although Sweden's per-capita income declined relative to the average of the 12 European countries over the subsequent twenty years, it still retained its high ranking through 1970.** Lindbeck et al. (1994) noted that Sweden's ranking among OECD countries fell from number 3 in 1970 to number 14 in 1991. Since this claim generated considerable debate, the table on which it was based is reproduced below for reference.

Table 1. Sweden: Relative Ranking Between 1970 and 1991

1970 Rank		Index	1991 Rank		Index
1	Switzerland	145	1	USA	125
2	USA	141	2	Switzerland	122
3	Luxembourg	108	3	Luxembourg	120
<b>3</b>	<b>Sweden</b>	<b>108</b>	4	Germany	110
5	Germany	105	5	Canada	108
6	Canada	102	5	Japan	108
7	Netherlands	101	7	France	103
8	Denmark	100	8	Denmark	99
8	France	100	9	Belgium	98
10	Australia	99	10	Austria	97
11	New Zealand	98	10	Iceland	97
12	UK	93	12	Italy	95
13	Belgium	90	12	Norway	95
14	Austria	86	<b>14</b>	<b>Sweden</b>	<b>94</b>
15	Italy	85	15	Netherlands	93
16	Finland	82	16	Australia	91
17	Japan	80	17	Finland	90
18	Norway	33	18	UK	88
19	Iceland	75	19	New Zealand	78
20	Spain	64	20	Spain	72
21	Ireland	50	21	Ireland	65
22	Portugal	42	22	Portugal	52
23	Greece	41	23	Greece	44
24	Turkey	17	24	Turkey	20

Sources: OECD National Accounts; Lindbeck et al. (1994).

## **B. Measurement Problems and Alternative Explanations**

36. **The apparently sharp decline in Sweden's ranking has been a subject of intense debate.** Some scholars argue that measurement problems, sample period selection, and other factors give an appearance of relative decline, whereas in fact Sweden's income has been fairly stable in relative terms. Moreover, there may be reasons other than Sweden's welfare state—such as demography, catching up, and avoidable macroeconomic mistakes that have led to any relative decline. This section discusses these various issues of interpretation and alternative explanations of the data.

37. **The use of current exchange rates or arbitrary measurement intervals could produce misleading and volatile GDP comparisons.** Periods of deteriorating terms of trade and of rampant inflation can contribute to an erosion of the exchange rate and a diminishing relative income position. Developments of the U.S. dollar-ECU or dollar-euro cross rates also affected the position of the Swedish krona at times, such as in the mid-1980s. Korpi (1996) used 1985 exchange rates to present Sweden's relative income over time. In 1985, the U.S. dollar was strong relative to the EMS currencies, and Swedish krona was tied to a basket with a disproportionate weight on the U.S. dollar. The use of a strong krona presented the level of Sweden's income favorably. Purchasing power parity (PPP) adjusted exchange rates are widely used in cross-country growth comparisons to help avoid this problem. However, some economists disfavor the PPP measure because it is based on an average OECD consumption basket that does not take into account goods and services provided by the government.

38. **Sweden's initial high income position would suggest that a part of the decline in its relative ranking reflects a convergence phenomenon.** Countries with lower initial per capita income will tend to have higher growth rates as they “catch up” with the richer countries, through, among other factors, the importation of technology. Although this factor need not imply a change in countries' per-capita output rankings, it should force the levels to converge. Convergence would make it easier for small differences in other factors to significantly affect country rankings. Convergence implies that even if countries' rankings remain the same, there should be a decline over time in the relative income levels of the initially rich countries. Dowrick and Nguyen (1989) estimated that Sweden's smaller scope for catching up reduced growth by 0.8 percentage points during the period 1950–73 compared to the OECD average. Decomposing growth, they found that the rate of differential total factor productivity (TFP) growth was 0.79 percent per year in 1950–60, and -0.25 percent per year in 1973–85.

39. **The choice of sample periods can have a decisive influence on the change in relative rankings.** The levels of output of a large group of fairly rich OECD countries are so close to each other that different states of the business cycle can produce volatile rankings among the countries. The comparison of ranking in Lindbeck et al. (1994) relies on the endpoints of 1970 and 1991. According to Walter Korpi, the high Swedish ranking in 1970 is based on a peak in economic activity, as growth was 5.6 percent in this year. Sweden drops to fourteenth place only in the final year of 1991, which was the beginning of a major recession.

Korpi's presentation of 1973 and 1989 shows Sweden's position in a more favorable light because in 1973 Sweden suffered a relatively deep recession, while in 1989 it was in the midst of an unsustainable boom. The choice of two periods of weak relative Swedish performance can change substantially the conclusion about Sweden's relative decline.

**40. The timing of the demographic transition can be an important consideration.**

Since a higher share of the elderly imply a lower saving rate and probably affects the stock of human capital negatively, demographic differences can affect differences in growth rates between countries. One of the reasons underlying Sweden's relative decline in the OECD's ranking by per capita GDP may be that the demographic shock of an aging population hit Sweden well before other countries. This was the consequence of the earlier rapid expansion, which was boosted by the relatively young population after World War II, which, unlike in other European countries, was not decimated by the war. Figure 7 shows that the ratio of working age persons to the total population declined slightly over the four decades, while the percentage rose in an average of 24 OECD countries.

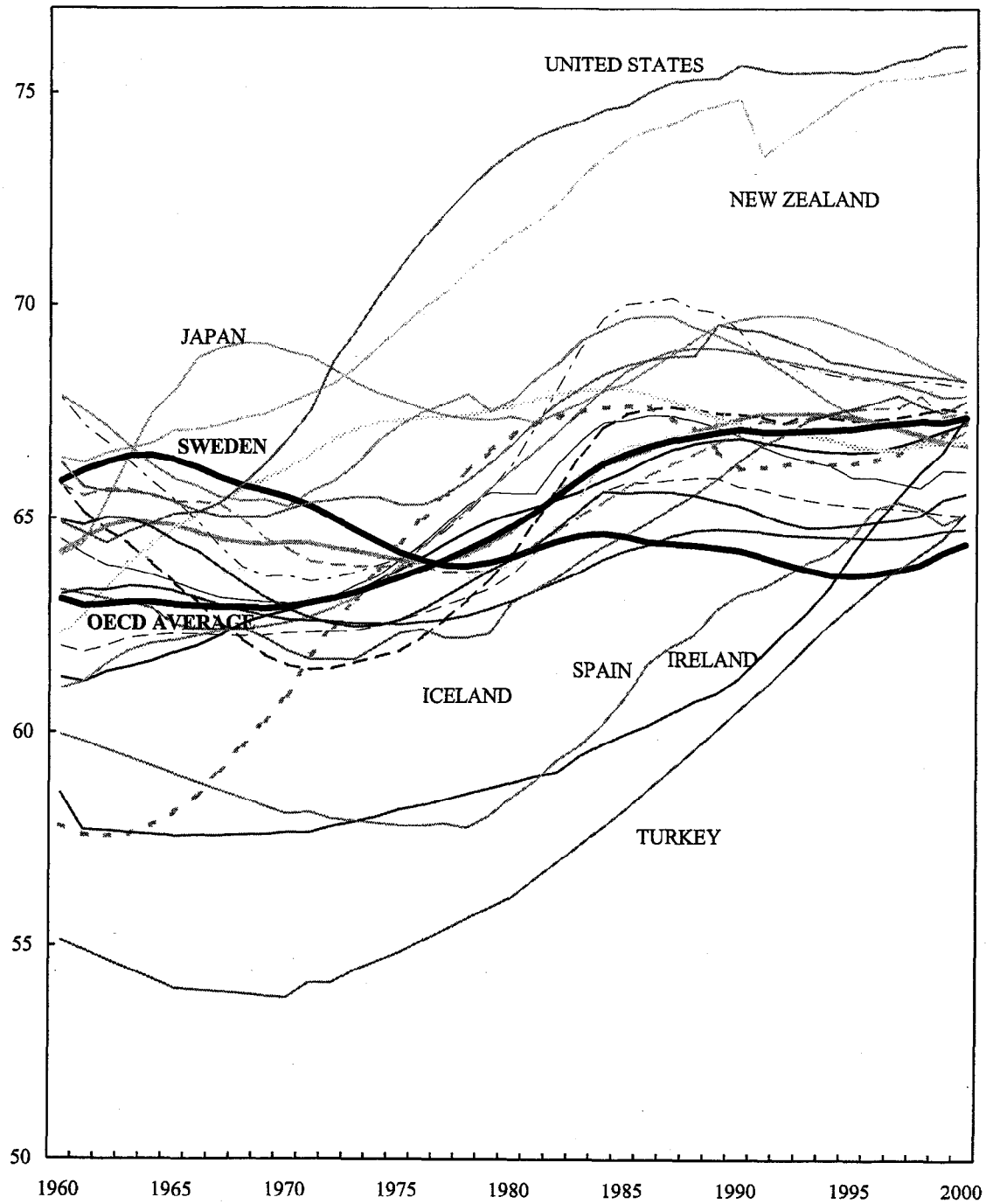
**C. Analysis Over a Longer Period**

**41. Over a long span of years, Sweden seems to have slipped in the table of rankings of living standards as measured by per capita income.** Figures 8 and 9 analyze the developments in Sweden's relative income position, taking into account several of these arguments. To avoid problems of sample period selection, the entire path of relative per-capita output is shown. The effects of convergence can be viewed by comparing the paths of other initially rich countries and of Sweden. Figure 8 shows the path of per capita GDP in Sweden and 23 other OECD countries over the period 1960-2000 based on 1995 prices and purchasing power parity (PPP) exchange rates. From the mid-1970s through around 1990, most countries experienced a slight slowdown in growth, but growth in several countries took off again in the 1990s. Between 1960 and the mid-1970s, Sweden was in the top half of the countries in the sample, but its per capita income was fairly close to levels of many countries. Sweden's per capita income appears to have grown broadly in line with the bulk of countries concentrated in the center of the sample until 1990. In the early 1990s, Sweden's banking crisis and recession appear to have led to a permanently lower level of output, allowing a number of the countries to overtake Sweden in the GDP per capita rankings.

**42. The slippage in Sweden's relative position reflects the convergence phenomenon.**

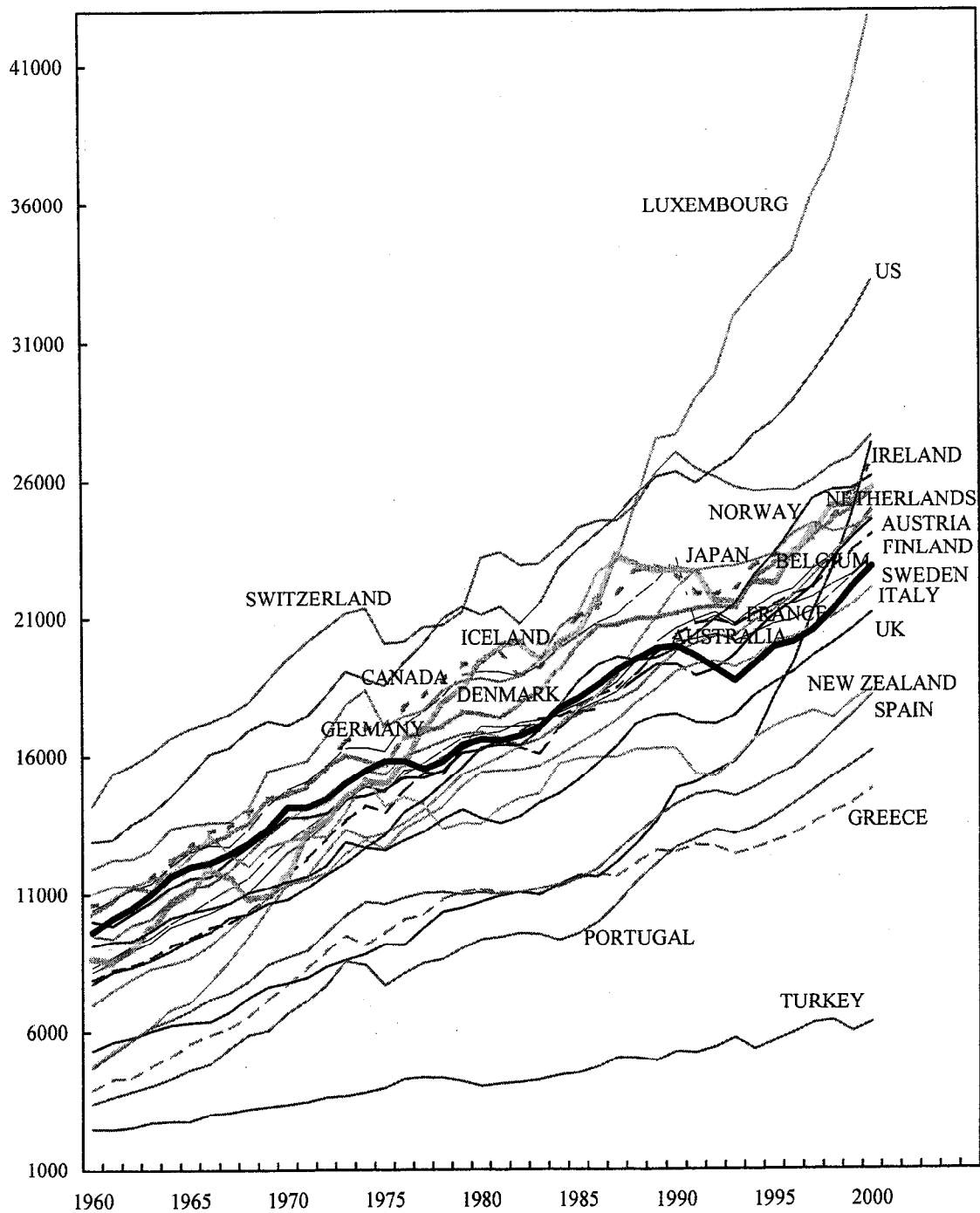
Figure 9 compares each country's GDP per capita to the average of the 24 countries, and shows that, with the exception of a few outliers, there has been a pattern of convergence in relative incomes. Sweden's relative income has trended down over the four decades, with most of the decline occurring in the mid-1970s and around 1990. The oil price shocks of the 1970s hit Sweden relatively hard given its energy-intensive production structure that included forestry and pulp, and automobile manufacture. Forestry, accounting for 40 percent of

Figure 7. Sweden and OECD: Working Age to Total Population, 1960-2000



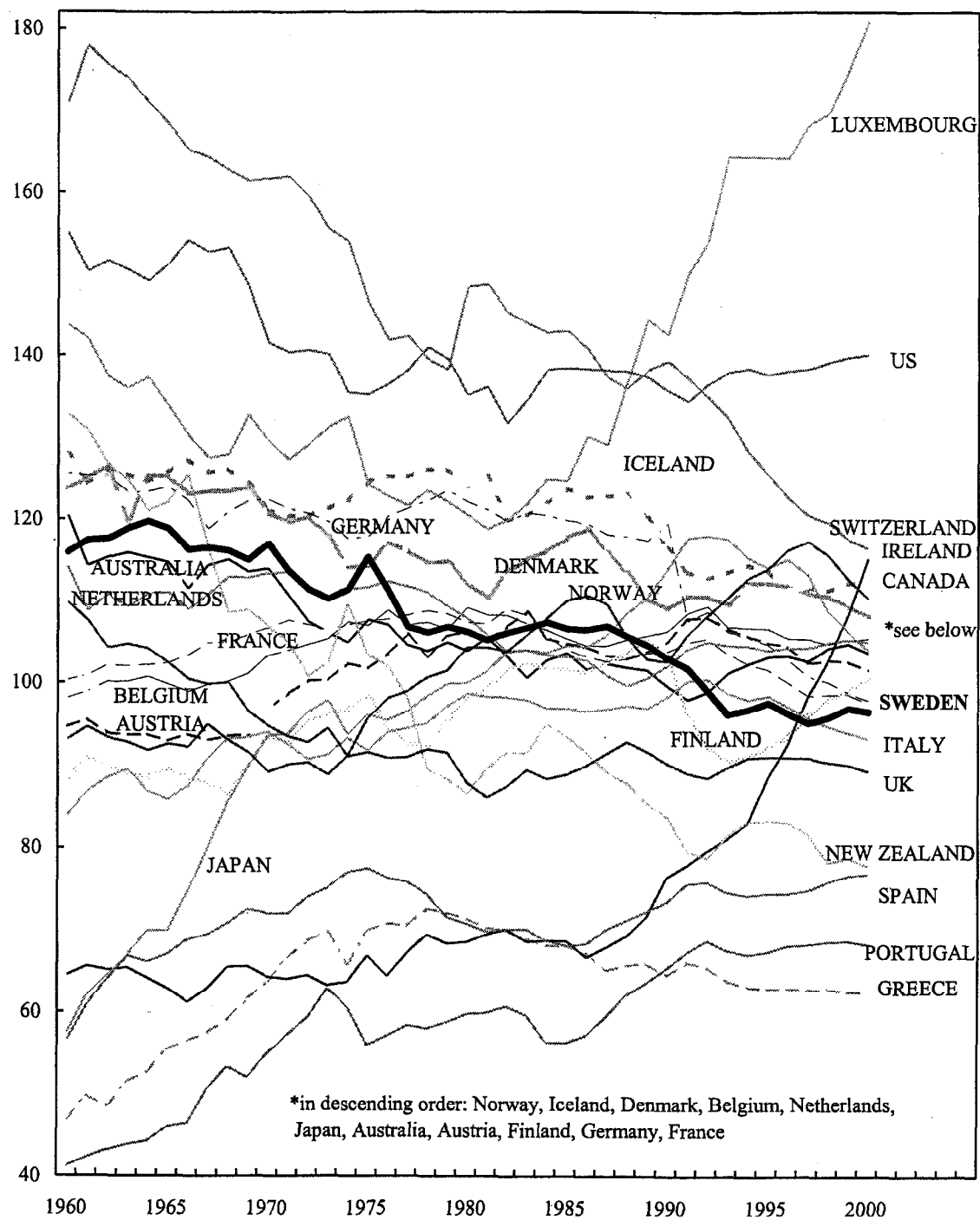
Source: OECD; World Economic Outlook, IMF; Staff calculations.

Figure 8. Sweden and OECD: GDP Per Capita, 1960-2000  
1995 Prices and PPP Exchange Rates



Sources: OECD; World Economic Outlook, IMF; and staff calculations.

Figure 9. Sweden and OECD: Relative GDP Per Capita, 1960-2000



Sources: OECD; World Economic Outlook, IMF; Staff calculations.

1/ Each country's GDP per capita is calculated as a percent of the average of the 24 countries. Turkey is included but not shown; its relative income was broadly stable between 25-30 percent.

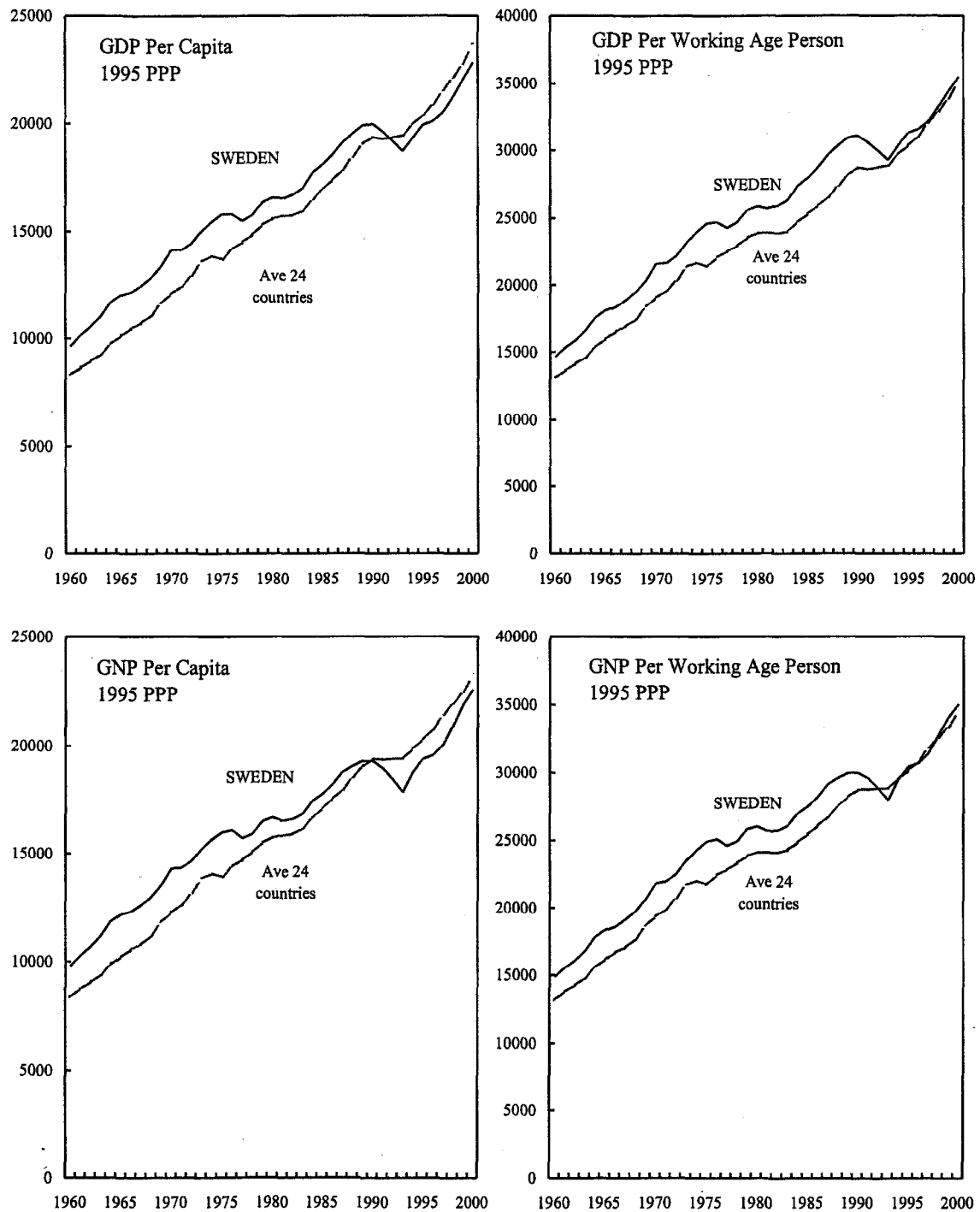
Swedish exports in the early 1970s, was particularly impaired by severe terms of trade shocks.

43. **The deterioration in Sweden's relative position is corroborated by measures of output per working-age population.** One alternative measure to output per-capita that takes account of the differences in demographic structure across countries is output per employed person. However, employment rates vary with the business cycle and long-term unemployment rates differ across countries. Output per employed person could be high due to either a high level of output or an exceptionally high unemployment rate. To avoid these problems, output-per working-age person is used as an alternative income measure that adjusts for the demographic structure. To investigate the possibility that some of the value of production in a country represents income to foreigners, the comparison of Gross National Product can be substituted for Gross Domestic Product. Figure 10 compares these alternative measures of income. The top (bottom) panels present GDP (GNP), while the left (right) panels divide the country's income into its total population (working-age population). All four measures show that Sweden maintained its relative position above the average until its severe recession in the early 1990s. From the early 1990s, Sweden's relative GDP and GNP per capita fell below the average of the 24 countries, whereas its relative GDP and GNP per working-age person fell to approximately the same level as the average. Sweden's position based on GDP is also somewhat superior to its position based on GNP. Figure 11 shows GDP per capita based on prices and PPP exchange rates from several different years. Sweden's relative GDP is broadly similar using 1970, 1995 and 1999 prices and exchange rates; but its relative position improves using 1985 as the base year.

44. **Macroeconomic policy errors leading to the crisis of the early 1990s played a key role in Sweden's relative slippage.** The analysis above demonstrates that Sweden's relative GDP per capita declined over 1960–2000, with a significant relative deterioration in the early 1990s. Sweden made serious policy mistakes during 1974–1992. It lagged other OECD countries in moving toward a low-inflation environment and liberalizing capital markets by up to 12 years. The policy mistakes following Sweden's post-liberalization boom contributed to a banking crisis and sharp recession in the early 1990s. In the latter half of the 1980s, Sweden maintained a fixed exchange rate regime while having high inflation and rapid credit expansion. High inflation and tax policy interacted to produce negative real interest rates. Sweden then began a tax reform without suitable expenditure side adjustment. Real interest rates and the fiscal deficit skyrocketed, asset markets collapsed and unemployment reached unprecedented levels. The costs of recapitalizing the banking sector were substantial. Cerra and Saxena (1999) decompose output, unemployment, and inflation into common permanent, common temporary and idiosyncratic components. Introducing two state variables to allow regime switching in the common permanent and common temporary components, it is shown that there was a permanent output loss associated with the recession in the early 1990s (see Figure on the probability of permanent and temporary output losses).

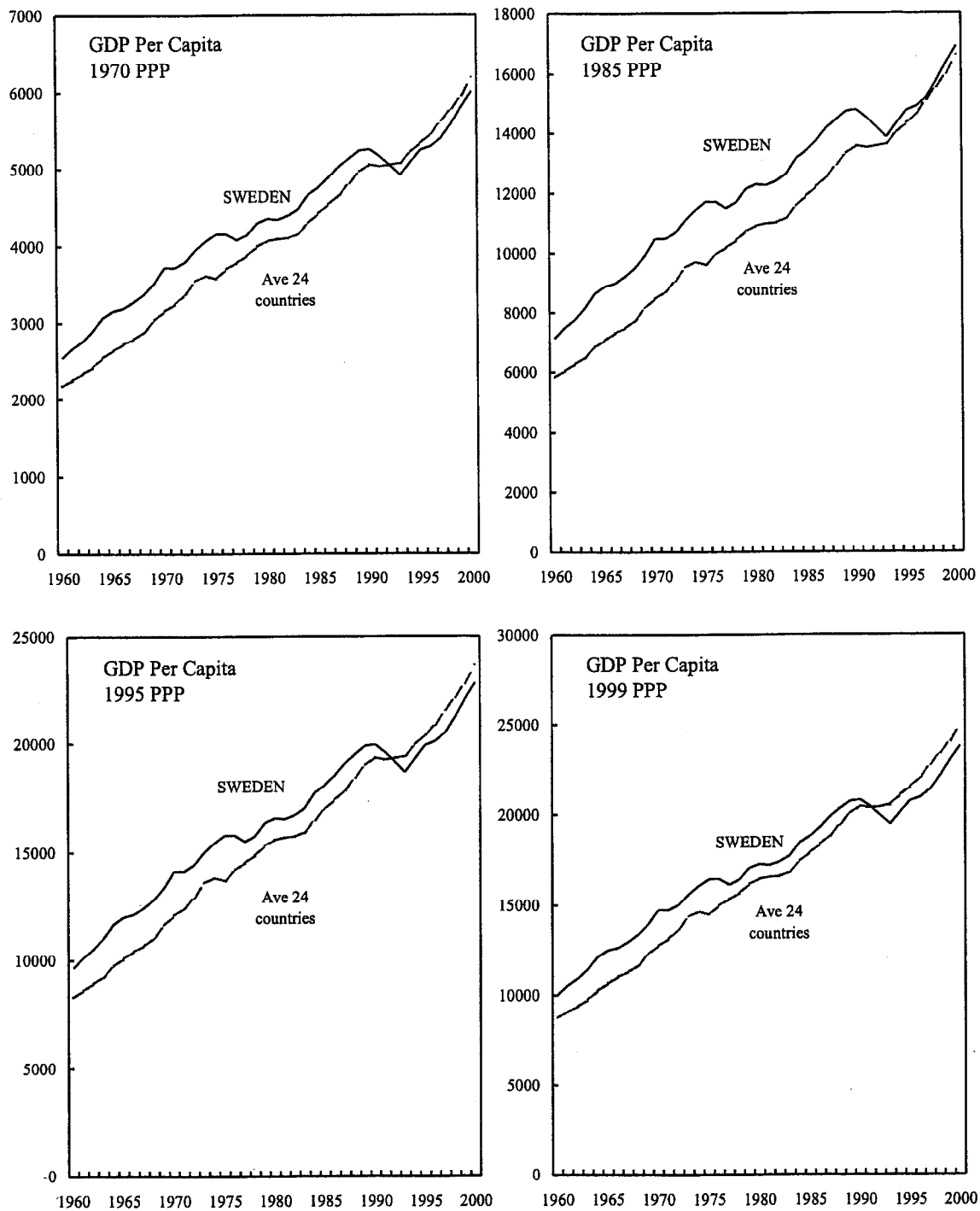
45. **The relationship between the decline in Sweden's ranking in terms of per capita GDP and the welfare state is difficult to assess.** First, the extent of Sweden's welfare state

Figure 10. Sweden and OECD: Relative Income Measures, 1960-2000



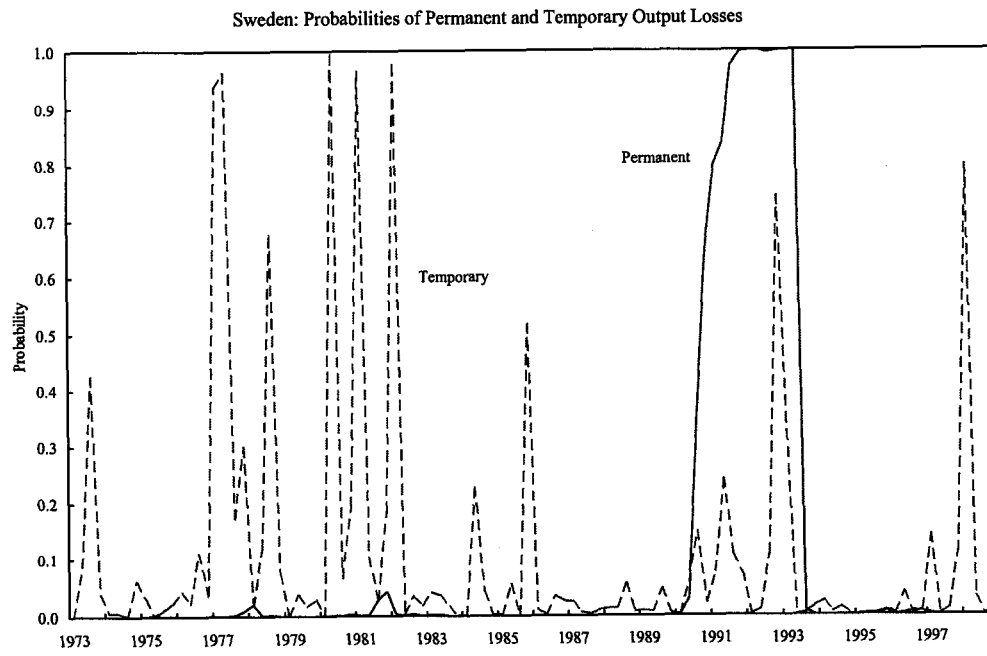
Sources: OECD; World Economic Outlook, IMF; and staff calculations.

Figure 11. Sweden and OECD: Income at Different PPP Years, 1960-2000



Sources: OECD; World Economic Outlook, IMF; and staff calculations.

## Sweden: Probabilities of Permanent and Temporary Output Losses



Source: Staff estimates.

may be overestimated. The grossing up stemming from the taxation of social transfers in Sweden should be accounted for to compare Sweden with other countries. In addition, Sweden's current budget surpluses and its sustainable pension system imply lower future taxes compared with many other European countries. Second, although Sweden's ranking and relative per capita output declined, there were other countries with a significant decline in their relative positions (such as Australia, UK, and New Zealand) that did not follow the Nordic model of public policy. However, it is possible to argue that Sweden's large welfare state may have created rigidities that prevented it from fully rebounding from the severe recession of the early 1990s.

**46. Even if Swedish growth has lagged, its quality of life is consistently ranked high.** Sweden ranks fourth in the world, after Norway, Australia, and Canada, and ahead of the United States (sixth), in quality of life, according to this year's survey by the U.N. Development Program. The survey, published annually since 1990, combines measures of per capita income, health care, life expectancy and educational levels, and began as an experiment to measure a nation's growth by considering statistical profiles of what people can expect in life beyond economic growth. Sweden is tied with Japan for the highest life expectancy among the poor, according to the U.N. Human Development Report.<sup>1</sup> Sweden scored highest in the three main domains of literacy skills in the OECD's International Adult Literacy Survey published in 2000. Three-quarters of adults have graduated high school, the highest rate in the OECD. Sweden also tops the list of 94 countries in the State of the World index covering ten key factors of women's and children's health, education and political status. According to the WHO World Health Report 2000, the population's overall level of health, measured by disability-adjusted life expectancy is the fourth highest in the world.

**47. Sweden has attached importance to, and done much to achieve, high environmental quality.** In terms of the Environmental Sustainability index—the most comprehensive measure of progress towards environmental sustainability—Sweden ranks amongst the top 4 of 122 countries; in its commitment to research and development and protection of the global environment, Sweden is ranked at the top. At 17 percent of GDP, genuine savings—savings taking account, that is, of the degradation of the natural resource base and the acquisition of human capital—are above the OECD average (of 14 percent).

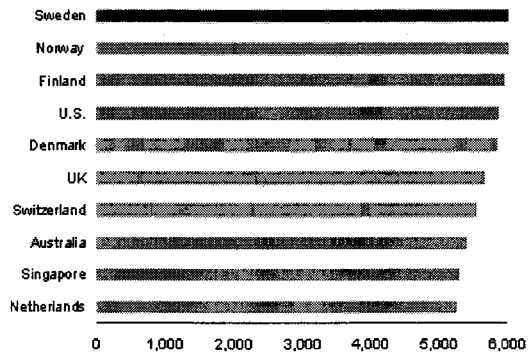
#### **D. The Emergence of the Technology Sector**

**48. In recent years, a strong high technology sector has emerged in Sweden.** Regardless of any growth lag since 1960, Sweden's favorable ranking among all countries of the world, along with other Nordic countries, in the development and use of information and communication technology (ICT) raises the possibility that there are significant "new economy" developments in Sweden. For the second consecutive year, Sweden has been ranked by the International Data Corporation as the leading IT nation. Sweden's advanced position is due to a large extent to the success of Ericsson, the largest ICT company in Sweden, the world's largest producer of mobile networks and the third largest supplier of handsets. Ericsson stock makes up about 1/3 of the value of the Swedish stock market. In

addition to its high position in development of information and communications technologies, Sweden also ranks high in the usage of these technologies.

#### The top ten IT countries in the world

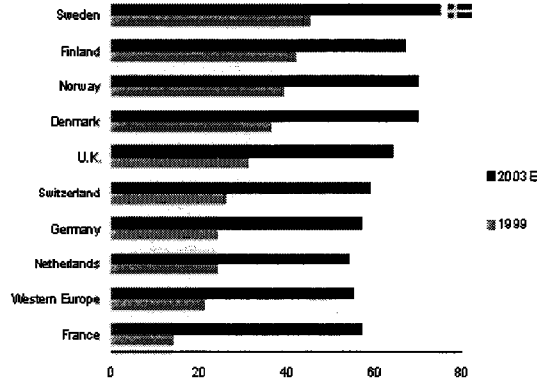
Scores



Source: IDC/World Times Survey 2001

#### Internet penetration

users as a percentage of total population

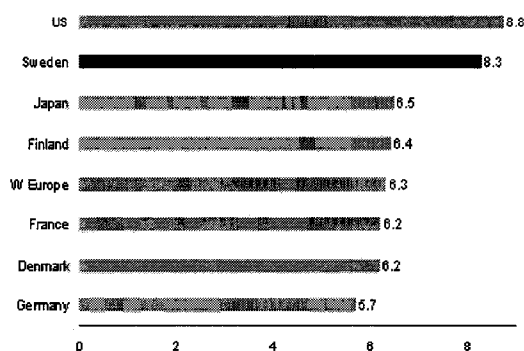


Source: IDC/Financial Times, Feb 10, 2000

**49. Several factors contributed to Sweden's high position in the ICT sector.** Ericsson and the public telecommunications monopoly, Telia, invested early in establishing a mobile network. They designed the first generation of a mobile network in the 1970s, the Nordic Mobile Telephony, which was launched in 1981 as a Scandinavian-wide mobile system. Ericsson and Telia also introduced the digital Global System for Mobile Communications in 1992, which became the most widely-used mobile phone standard. High expenditure on R&D supported the development of the industry. Sweden was also one of the first countries in Europe to deregulate the telecommunications market, which spurred competition and helped establish mobile phones and GSM system throughout the country. In addition, there were a number of public incentives for adoption of ICT. For instance, the government subsidized schemes to allow employees to lease computers from their employers for home use. Special tax rules gave sellers and buyers of corporate automobiles incentives to adopt new technologies, including mobile phones, without affecting the taxed benefit of the car. Sweden's openness has also facilitated trade. High public investment in education contributed to a highly skilled labor force, which has helped support the ICT industries. Finally, labor relations in Sweden have generally been productive and free of strife.

## Investments in IT and telecom

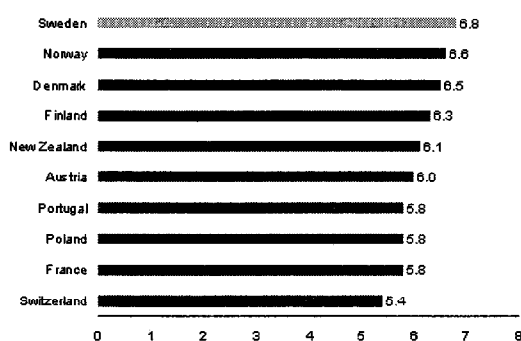
2000, percent of GDP



Source: EITO, 2001

## Public expenditure on education

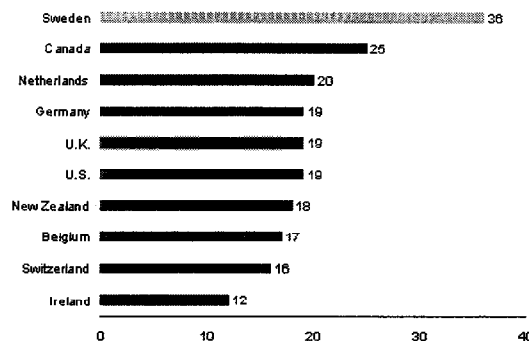
The top ten OECD-countries, percent of GDP



Source: OECD 2000

## Literacy skills

Percentage of the population (16 to 65 years) at the highest literacy levels



Source: OECD, Education at a glance 2000

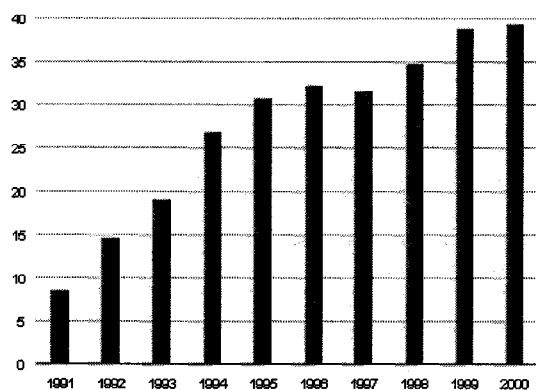
50. **High wage compression may have led to low labor costs for skilled workers, but in the long run hampers the ability to attract and retain skilled workers.** The ICT companies, and Ericsson in particular, are not outside the wage bargaining system and the level of unionization is not noticeably lower in the ICT sector than elsewhere in the economy. One important reason for this is that part of the social security system is administered through trade unions. The resultant low wages have enhanced profitability of ICT companies, but this labor market feature could erode the ability of companies to recruit and retain high skilled workers in Sweden over time. Wage compression lowers the absolute and relative return to investment in human capital, necessitating significant subsidies for public education. Progressive taxation adds to the problem: if an engineer was paid a US-style salary in Sweden, the total labor costs including social security contributions, the bulk of which are closer to taxes in nature, would be excessively high. This system is open to abuse by obtaining subsidized higher education, then leaving Sweden to reap much higher after-tax salaries abroad. At the highest ranks, ICT companies have used other means to stimulate performance, notably stock options, which were also a feature of remunerating top people in

the financial sector. However, according to the UNICE benchmarking report, Swedish employees would pay in tax 53 percent of the gains from a typical stock option program, compared to only 20 percent in the United States and less than 10 percent in Belgium.

51. **However, much of the windfall from positive developments of Swedish enterprises (e.g., a surge in productivity) increasingly accrues to foreigners.** To the extent that this trend is caused by a desire for greater diversification, it can help shield Sweden from volatile wealth effects of a technology-based equity market. Yet, the pattern of ownership of Swedish stocks is probably heavily influenced by tax considerations. The reasonable level of corporate income tax combined with a very high taxation of savings implies that foreigners will tend to own a large share of Swedish stocks. Indeed, the share of foreign stock ownership has been growing over the last decade.

#### Foreign ownership

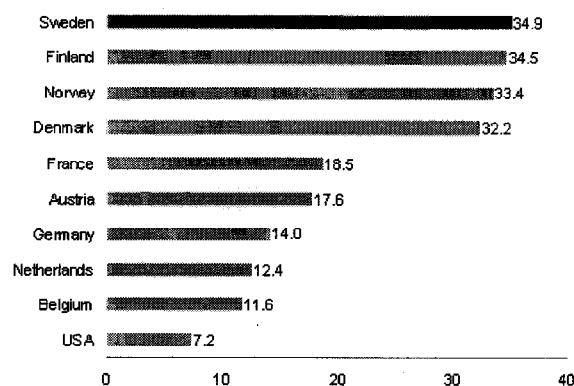
Stockholm stock exchange, 1991-2000, percent



Source: SIS Ägarservice AB

#### Sweden in top in online banking

Internet accounts in percent of total amount of accounts



Source: IDC, 2001

52. **Overall, Sweden has done well in ICT and the outlook is promising, but some incentive issues for skilled workers will need to be addressed.** Sweden continues to solidify its early-gained position, in ICT especially mobile communications. However, it will need to increase incentives to attract and retain high skilled workers. The high taxes on savings and wealth will need to be reduced to discourage the outflow of domestic capital seeking tax havens.

## V. THE LABOR MARKET

### A. Background: Experience of the 1990s

53. **A substantial build-up of tensions in the labor market up to 1990 was followed by significant policy adjustments.** Centralized bargaining, a pivotal component of the Swedish model, aimed for full employment at high participation rates to broaden the tax base and hence help finance high budgetary expenditures, and for job security with an equal distribution of labor income to preserve social peace. While these goals had largely been achieved through the mid-1980s, as welfare arrangements grew in size the long-term disincentive effects of the Swedish model became more apparent: with growing tax wedges, increasingly generous transfers, legislation raising the cost of firing and hiring, a high effective floor on the wage level, and growing uncertainty about the real value of future welfare entitlements as public debt grew, jumping in 1990–93 by 30 percentage points of GDP. The result was a period of latent increases in unemployment (with the consensus estimate of the equilibrium unemployment rate steadily rising throughout the 1980–1993 period) followed by a sudden quadrupling of the open unemployment rate during 1990–1993 to 8 percent. The macroeconomic crisis hit employment, and brought the public employment boom—which boosted public employment from 15 percent of the labor force in 1970 to a third in the early 1990s—to an end. Awareness of these structural weaknesses was a key factor in the consensus underlying the 1991 tax reform summarized in Chapter II above, which is estimated by Agell et al (1998) to have led to an increase in labor supply in the order of 2 percent. Following the deep recession, steady improvements were registered in employment, unemployment and participation rates. The levels of the late 1980s, however, have not been recovered: participation rates, for example, remained 7 percent lower in 2000 than a decade earlier, with a drop of over a fifth for workers under 25.

### B. Assessing the Impact of Government

54. **A wide range of policy measures impact a variety of labor market outcomes.** The state affects the labor market through the tax-transfer system, through its influence on wage bargaining institutions and outcomes, and through spending on labor market programs. These potentially bear on all key dimensions of labor market performance, including hours worked, participation decisions, the duration of unemployment spells and intensity of search effort, absenteeism and the acquisition of human capital. These are areas, moreover, in which there has been substantial policy change over the last decade or so. Not surprisingly, the labor market impact of intervention in Sweden have been widely discussed and studied over this period. This section offers an overview of some of the principal issues.

#### **Incentives and the tax-transfer system**

55. **The most direct (and readily quantified) effects are those of the tax-transfer system on labor market incentives.** Assessing these incentives, which bear on labor market outcomes, requires taking account of a wide range of features of the tax-transfer system:

- Local income tax payable beyond a low basic allowance, at rates between 26 and 34 percent and averaging a little over 30 percent. Central income at 20 percent becomes payable at taxable income of SEK 252,000, and at 25 percent above SEK 390,400.<sup>9</sup> These latter thresholds are high, so that only about 9 percent of full-time employees pay central income tax.
- Social security contributions payable at 32.92 percent by employers, and at 7 percent (up to SEK 301,011) by employees themselves. To the extent that these are not perceived to carry actuarially fair benefits, the incentive effects of these will be akin to a tax.
- Indirect taxes—not least VAT at 25 percent—affecting individuals' budget constraints in much the same way as taxes on their labor income, and so should have similar incentive effects.
- The withdrawal of means-tested benefits as income rises reduce disposable income just as would an explicit tax. Sweden has no general in-work benefit explicitly structured as a supplement to low incomes as such, along the lines of the Earned Income Tax Credit in the US or Working Families Tax Credit in the UK. Social assistance payments are available, however, to guarantee a minimum level of income to all, with an implicit tax as income rises above that level. These are paid by local governments, which have some discretion over their level. Moreover, housing allowances and the subsidy to childcare payments are means-tested. So too is the repayment of student loans, again having an effect—since the benefits of the loan have already been enjoyed—similar to an explicit tax.
- Contingent benefit payments for unemployment, sickness and parental duties, which potentially affect labor market status. These are typically related to prior earnings, and so may also affect the work effort of those likely to fall into these contingencies.

56. **These taxes and transfers potentially distort labor market decisions by driving a wedge between the cost to the employer of expanding employment and the real value of the resources that the associated net earnings will buy the worker.** When the former exceeds the latter, society loses from dissipation of the otherwise mutually beneficial expansion of employment that the tax-transfer system frustrates. Such distortions operate on a variety of margins.

---

<sup>9</sup> There is no deduction or credit of either tax against the other.

## Hours worked

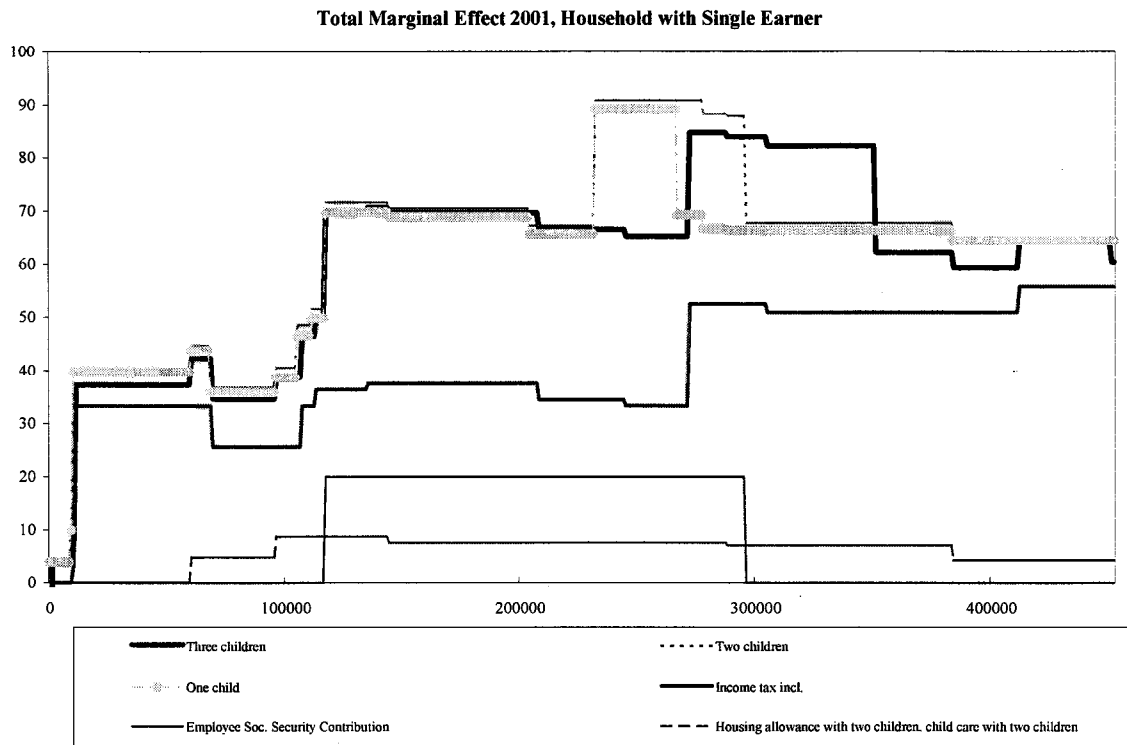
57. **Much attention traditionally focuses on the decision as to the number of hours worked.** Many workers of course have relatively little control over the hours they work in the short-term, especially given the institutional restrictions on overtime in Sweden. Over the medium-term, however, there is scope for variation in the renegotiation of labor agreements.

58. The impact of the tax-transfer system on hours worked depends on both the average and the marginal rates of taxes and transfers combined, with the former critical for participation decisions and the latter for the distortions of those in work. Conditional on having chosen to participate in the labor market, the average effective rate—likely to be negative at low incomes, with benefits received exceeding transfers paid—determines the income effect of the system: the higher the proportion of income taken in tax, the less the household can afford to take leisure and so the greater on this account will be its labor supply. The average rate will also affect the discrete choices as to whether to work at all, and of whether to migrate. The marginal tax rate, on the other hand, determines the substitution effect: the higher it is, the less is the return from additional earnings and so the lower will be labor supply. While the overall outcome depends on both marginal and average rates, the two differ crucially in their welfare significance. Since the income effect arises from the need to raise revenue, it is in a sense inescapable: even the least distorting tax system would generate an income effect. Thus, conditional on participation, it is only the marginal rate that generates efficiency losses; and that is the focus here.

59. **The extent of the distortion to labor market incentives at the margin is conveniently described by the marginal effective tax rate on labor income (METR),** defined as the proportion of an additional SEK of earnings that is offset by increased tax payments and the withdrawal of benefit. Simple calculations show that this can be substantial in Sweden: for a worker paying at the top central marginal tax rate, the combined effect of income tax, VAT and employer's social security contributions is an METR in the order of 73 percent.<sup>10</sup> That is, SEK 100 additional expense by the employer buys the worker goods worth only SEK 27. For those lower down the income scale, the impact of the income tax will be less, but the withdrawal of means-tested benefits (particularly housing allowance and child care support) will tend to raise the METR.

---

<sup>10</sup> Calculated as  $1 - (1 - 0.55) / (1 + 0.3292)(1 + 0.25)$ , this assumes local tax at 30 percent.



60. **METRs on labor income in Sweden are high over some income ranges and for some household types.** This is illustrated in the figure above, which shows the METR for single earner households differing in the number of children. The unbroken line shows the impact of the income tax and the employees' social security contributions, which is less straightforward than might have been supposed. In particular, the METR from these sources at some points actually falls with income, running counter to the usual notion that the marginal tax rate ought to increase with income.<sup>11</sup> The most striking downward dip reflects the unusual feature of the Swedish tax system—for which there appears to be no clear rationale—that, over a range of low incomes, the allowance (the amount that is, by which taxable income is reduced) actually increases with income.<sup>12</sup> However, income tax and social

<sup>11</sup> There is in theory no reason to require the METR to everywhere fall with income: indeed optimal tax schedules in some key cases imply that it should fall over high income ranges (Seade, 1977). But there is no obvious rationale for a falling METR over a range of low incomes.

<sup>12</sup> More precisely, as income increases, the allowance increases and then declines back to its initial level, implying an METR initially below and then above the statutory tax rate.

security are not the only important determinants of the METR. The withdrawal of means-tested housing and child care benefits can give rise to very high METRs at lower levels of income: well over 60 percent over quite a wide range, and in some cases even over 90 percent.

**61. Averaged across all households—and ignoring both the employers' social security contributions and indirect taxes—the marginal effective tax rate is about 46 percent.** The table below shows the average METR for a hypothetical increase of SEK 12,000 in the earnings of all (and thus includes the effects of moving from unemployment back to work, an issue addressed below), together with a decomposition into its underlying components. Such an average clearly conceals important inter-household variation in the METR. For this reason it should be thought of as understating the effective distortion of the labor supply decisions: since the excess burden of a tax is a convex function of the tax rate, the associated inefficiency when METRs vary around an average will be greater than it would be if all households faced that average METR.

#### **The Average METR Across Households on Labor Income, 2001**

(In percent)

Total	46.0
<i>Of which</i>	
Income tax	34.5
Child-care	0.2
Housing allowance	1.5
Social assistance	1.6
Maintenance advance	0.2
Unemployment insurance	7.6

Source: Ministry of Finance, Sweden

**62. While the METR provides a conceptually sharp quantification of the strength of disincentives to marginal labor effort, the key policy question is the extent of the welfare losses from these disincentives.** It is these efficiency costs that need to be weighed against any distributional gains. The extent of these losses depends on both the size of the METR and, for the reasons given above, the strength of substitution effects, as measured by the compensated wage elasticity of the supply of labor. By way of illustration, the table below reports figures for the marginal excess burden of labor income taxes at various levels of the METR and at various plausible levels of the compensated wage elasticity for primary earners in Sweden.

**Marginal Excess Burden per Additional SEK of Revenue**  
(In percent)

METR	Compensated Elasticity ( $\epsilon$ )		
	0.05	0.11	0.25
35	2.7	6.2	15.4
46	4.4	10.1	26.5
60	7.9	19.1	57.3
70	12.5	32.5	125.9
80	22.7	68.8	1250.0

Note Marginal excess burden is calculated as  $(t/(1-t))\epsilon/[1-(t/(1-t))(\epsilon+\alpha\eta)]$ , where  $m$  is the marginal effective tax rate,  $\epsilon$  the compensated wage elasticity and  $\eta$  the income elasticity of labor supply (taken to be  $-0.05$ —in line with estimates for Sweden reported by Agell et al (1998)—and to be independent of the net wage) and  $\alpha$  is the ratio of hours worked to the time endowment (assumed to be 0.4). Excess burden is defined as in Kay (1980). Non-labor income is assumed to be zero, and there are no taxes other than on earned income.

Source: Staff calculations.

63. **At high METRs, the inefficiency loss is considerable even when compensated labor supply is relatively unresponsive.** At a marginal effective rate of 80 percent, for example, even with a compensated elasticity as low as 0.05, the additional excess burden created by raising an additional SEK 1 of revenue is over SEK 0.2. In this context it should be emphasized that the 1991 tax reforms, although to some degree undone since (by, for instance, the introduction of the 7 percent employee's social security contribution) have greatly reduced the distortionary cost. Agell et al (1998) report, for example, that the METR on the average blue collar worker was reduced from about 70 percent to about 60 percent by the reform, nearly halving marginal excess burden per SEK of revenue even at low levels of responsiveness. Nevertheless, the persistence of high METRs noted above means that there is still potentially worthwhile gain from further reducing METRs. Even at the average current METR of 46 percent, the marginal loss per SEK may be plausibly be as high as SEK 0.1–0.2.

64. **The question then is how a significant reduction in METRs be achieved without unduly jeopardizing revenue or wider social objectives.** Distinct issues arise at the top and bottom of the income distribution, where METRs are the highest.

65. **Action at the top of the distribution is relatively easy.** Simply eliminating the top central marginal rate of tax—establishing a common rate of 20 percent—would cost only about SEK 3 bn, roughly 0.3 percent of general government revenues. Going further and

reducing the uniform central rate thereby established to 17 percent would only cost an additional SEK 5 bn.

66. **Reducing the high METRs associated with the withdrawal of means-tested benefits is more difficult.** Simply adopting a slower phase-out, for example, in itself raises the cost of the benefit (the limiting case being that in which benefit is paid to all, irrespective of income). It also raises METRs above the income level at which the benefit would previously have been extinguished, making the problem of METRs less marked but more widespread (although since excess burden rises more than proportionately with the tax, this is likely to reduce the aggregate inefficiency cost).<sup>13</sup> Offsetting these effects requires reducing the basic level of the benefit, and so reducing their effectiveness at the lowest levels of income. Attention thus focuses naturally on the purpose of the means-tested benefits, and whether they might be better served by other instruments. The aim of providing acceptable housing for all, for example, might be better served by freeing up the housing market to allow for the expansion of cheap housing.

67. **A key purpose of many of these benefits, moreover, is clearly to support households with children.** An alternative way of pursuing this end would be to increase the child benefit. This too would be costly in so far as these are paid to all, but some of the cost could be recouped by making the benefit taxable. For most households taxability would make little difference, since it would be possible to pay the same net amount at the same cost simply by grossing up the payment; where the schedule is progressive, however—which in Sweden is mainly in the higher reaches of the distribution—more effective targeting of the benefit would be achieved.

68. **There may also be scope for moderating the impact of the income tax on low earners.** The basic allowance is very low, and the starting rate of 30 percent is high (as can be seen from the table on the international comparison of tax rates. Changes in these dimensions are liable to be costly, since an increased allowance or reduced starting rate would benefit all taxpayers. Indeed the gain from increasing the allowance would be greatest to the highest earners, since doing so reduces the amount of income taxable at their highest marginal rate, and they are able to take maximum advantage of a reduced starting rate. Both effects could be limited, however, by transforming the basic allowance into a zero-rate amount<sup>14</sup> or credit. The state of the public finances is healthy enough to suggest that a start in this direction could be made in the foreseeable future.

---

<sup>13</sup> METRs are also likely to have to rise in order to finance any increase in the costs of the benefit.

<sup>14</sup> That is, instead of deducting an allowance—the same for all—in calculating taxable income, simply levy a rate of zero on taxable income up to the threshold amount.

## Participation and search incentives

69. **Participation rates are high in Sweden, and public policy seems likely to have contributed to this.** Participation rates are especially high for women, and in the 50–64 age bracket: Swedish participation rates for the latter are 12 percentage points higher than the OECD average. While the quite high average effective tax rates in Sweden—documented in discussing labor mobility in Chapter VIII below—would tend to discourage participation, a range of other measures act in the opposite direction. The elaborate and effective social support system for working parents and elderly workers, as well as the wide availability of part-time work, especially in the public sector, have all played a key role.

70. **The unemployment benefit regime was significantly improved in early 2001.** Prior to this, benefit duration spells could effectively be extended indefinitely by participation in labor market programs. This is no longer the case. Under the new ‘Activity Guarantee’ scheme, at the end of the 300 day spell claimants who have not worked enough within that period to qualify for another 300 day benefit spell<sup>15</sup>—an extension that is available once only—are required to enter a full-time activity.<sup>16</sup>

71. **The formal replacement ratio, however—which was increased to its current level from 75 percent in 1996—remains quite high.** While the effect of this has been mitigated by the SEK 580 ceiling—which has remained unchanged for several years, and now bites for about 45 percent of claimants—the increase in the ceiling to SEK 680 from July 2001 marks a significant increase in generosity. The figure below compares the replacement rates for relatively low paid workers across the EU, as of 1997, showing Sweden to have amongst the highest. This is especially so for households with children, apparently reflecting a relatively high level of the child benefit.<sup>17</sup> Replacement rates are generally lower for higher paid workers, reflecting the operation of the benefit ceiling, but those in Sweden again rank amongst the highest.

72. **Disincentives to employment are especially high amongst the low paid with children.** Calculations of replacement rates for representative workers mask the considerable cross-household variation that can arise from the diversity of households’ situations and the corresponding complexity of benefit arrangements. The table below shows not the replacement rate, but—a related quantity—the METR (per SEK of additional income)

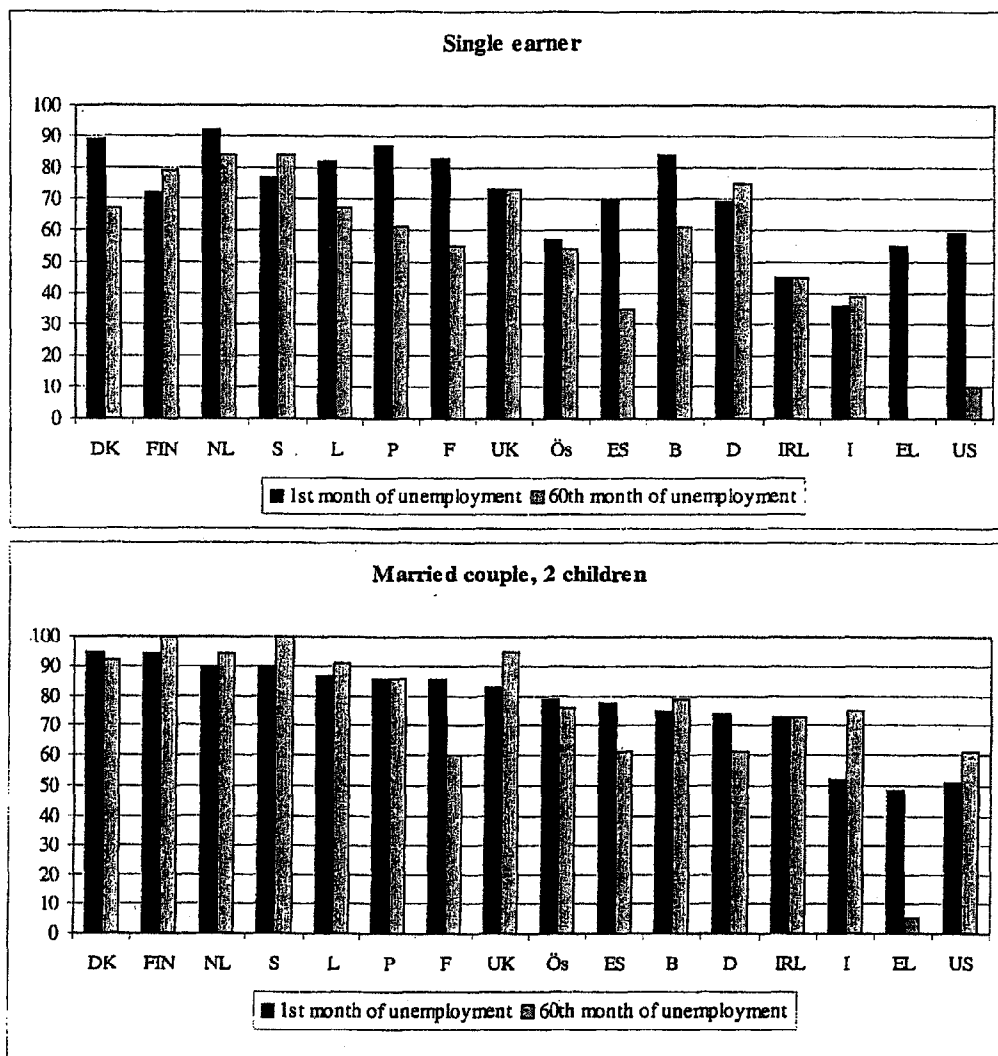
---

<sup>15</sup> At least 70 hours per month for 6 months.

<sup>16</sup> Such activities may be offered during the benefit spell, with sanctions in the form of reduced benefit payment if not accepted.

<sup>17</sup> Payments received both in and out of work, such as child benefit, appear in both numerator and denominator of the replacement ratio.

Figure 12. Net Replacement Rates of the Unemployed at Low (67% APW) Wage Level, 1997



Source: OECD (1999), *Benefit Systems and Work Incentives*

faced by workers moving into employment. This is over 90 percent for the low-paid worker with 2 children, reflecting a sharp withdrawal rate for the housing allowance and a marked increase in child care costs.

### METRs on Returning to Employment, 1999

Unemployment Benefit	Wage on Return to Employment	METR	
		One child in day care	Two children in day care
96,000	120,000	64.1	92.7
150,800	192,000	63.4	70.1
150,800	300,000	54.8	57.6

Source: Ministry of Finance.

### Sickness benefits

73. **Absences through sickness have increased substantially in recent years:** by an average of 20,000<sup>18</sup> in 2000 compared to 1999. There has been a strong procyclical movement of absence from sickness in Sweden since the late 1960s (Aronsson and Walker (1997)), suggestive either of work-related stress or intertemporal smoothing of labor supply. But there is also evidence that, in Sweden as elsewhere, sickness is responsive to the incentive effects of the benefit system (Johansson and Palme (1993)).

74. **In this setting the sickness benefit system has rightly come under scrutiny.** The recent tightening of unemployment benefit rules described above will make it still more important to guard against an inappropriate expansion of sickness payments. The sickness scheme was tightened in 1991, but the formal replacement rate subsequently increased from 75 to 80 percent. With employers bearing none of the cost after the first 14 days of a spell, it may be difficult to guard against abuse. A natural strategy is to improve employers' incentives to monitor absences more closely, either by increasing the periods for which they bear the cost of the benefit (from the present two weeks to, say, one month) or by introducing a system of experience-rating (under which social security contributions would increase with the extent of their employees' claims).

<sup>18</sup> Absent for the entire week through sickness.

### **C. Collective Bargaining and the Effects of the Tax-Transfer System**

75. **The effective incidence of the tax-transfer system can be hard to gauge.** Much discussion of the labor market impact of the tax-transfer systems focuses, as above, on the effects on the incentives faced by individual workers, given the wider labor market setting they face—their wage rates, the level of unemployment benefit and so on. But that wider context is also liable to be affected by the tax-transfer system, making it important to consider issues concerning its effective incidence. Part of the benefit of housing allowances, for instance, may accrue to landlords in the form of increased price of housing services; and employment subsidies may in part go to the benefit of employers, able to pay reduced gross wages. Assessing effective incidence is difficult, and in many respects this remains an area of considerable ignorance.

76. **What has become clear in recent years, however, is that the existence and nature of collective bargaining arrangements can significantly shape the effective incidence of the tax-transfer system.** Two effects merit emphasis.

- Centralization of wage bargaining is likely to mean that negotiators recognize the cost of financing unemployment benefit, so internalizing more of the cost of high wage settlements. Unemployment becomes less acceptable as a price to be paid for higher wages of union members in work.
- Progressivity of the tax-transfer system is itself conducive to wage settlements that imply relatively low unemployment. The reason for this—an effect shown by Koskela and Vilmunen (1996) to apply in a range of bargaining models—is that a high marginal tax rate raises the pre-tax cost to the employer of meeting any increase in after-tax wages; which means that it also raises the cost to the union, in terms of induced unemployment, of seeking such net wage increases. Empirical support for an effect of this kind has been found in a range of countries, including Sweden (Holmlund and Kolm (1995)).

As they note, this may be one reason why the positive correlation between labor taxes and unemployment that Daveri and Tabellini (2000) find elsewhere is not apparent in Sweden and the other Nordic countries.

77. **Both of these effects—mitigating the adverse employment consequences of the tax-transfer system—have become less marked in recent years.** The bargaining system has become significantly less centralized since the 1970s. Friberg and E. Uddén-Sonnegård (2001) distinguish three periods since 1970: the traditional centralized wage formation model during 1969–1982, decentralized wage formation during 1983–1990, and wage formation under stabilization policies during 1991–2000. This last commenced with a recession and soaring unemployment rates, convincing social partners of the need for restrained wage increases as part of a policy package to stabilize the economy. And the tax-transfer system has become less progressive since the 1991 reform: The table below shows a significant

increase in the average direct taxes paid by the least well-off between 1989 and 1998, and a reduction in the average tax rate on the best-off. Although it is hard to quantify the significance of these developments, their direction is fairly clear: the employment effects of the tax-transfer system have become, through these routes, more adverse.

#### Average Direct Tax Rates by Income Group, 1989 and 1998

(In percent)

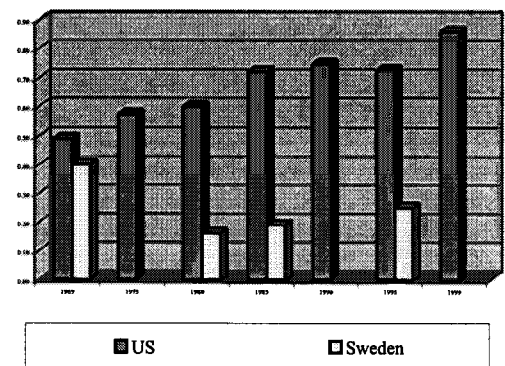
	1989	1998
0-50,000	14	23
100,000-150,000	33	31
200,000-250,000	36	35
500,000 -	58	43

Source: Riksskatteverket (2000).

#### D. Wage Compression

78. **Centralized bargaining in Sweden gave rise to a growing compression of the wage scale with complex consequences.** Starting from levels comparable to that in the U.S. in 1969, wage compression as measured by the university wage premium reached extreme levels by 1986, severely diminishing the private financial pay-off to education, followed by a marginal decompression by 1993 (Figure 7). Lindquist (2000) estimates that the potential welfare gain from removing wage compression would be around 4 percent of GDP, mainly due to higher employment of low-skill workers, and the resulting broader tax base and reduced need for transfers. Hibbs and Locking (2000) on the other hand argue that wage compression between plants and industries can induce the movement of labor to more efficient uses. The mechanism is that compression helps destroy inefficient jobs (which cannot cover wages for the relatively overpaid low-skilled workers), while the most productive units pay less in wages than they would be ready to, resulting in an incentive to create highly efficient ones. However, this

Sweden: University Wage Premium: Percentage difference in Average Wage between Workers with 16 and 12 Years of Education



argument does not hold in the public sector, and it ignores varying wage shares, the barriers to moving across professions, and international mobility.<sup>19</sup> Moreover, underpaying high-skill workers need not lead to additional job creation.

**79. Wage compression, especially in the context of progressive and high labor taxation, drives a wedge between relative wages and productivity differentials, giving rise to distortions and efficiency losses.** The substitution effects of a wage scale compressed across skill levels reduces work intensity and hours worked by high-skill labor, and induce low-skill workers to work too much, impairing average productivity levels. Exacerbated by high and progressive labor taxation, it reduces the returns to education, and hence the incentives for acquiring education, lowering the average skill level. While the subsidization of education can counter this effect, it tends to lead to inefficient resource utilization, unless the positive externalities associated with higher education levels are substantial. Wage compression also diminishes incentives for creating jobs for low-skilled workers, or for retaining them. A significantly compressed wage structure is invariably associated with a relatively high minimum wage (even if, as in Sweden, there is no legislated minimum wage), which hampers the entry of low-productivity workers, especially youth. Finally, the response of migration patterns to wage compression may result in net loss of human capital.

**80. A related problem is that relative wage adjustment is very sluggish in the present low inflation environment, exacerbating the effect of an already compressed wage structure.** Nominal wages remain sticky in Sweden, with downward adjustments in them extremely rare even in a crisis Agell and Lundborg (1999). The only exceptions are sector- or individual-specific. Nominal salary cuts have occurred in the IT sector recently as a result of the sudden worsening of the outlook in the sector. In addition, individuals may choose to trade off a higher but volatile income stream for a lower, but steady source of income.

### **E. Active Labor Market Programs**

**81. Sweden supplements passive labor market measures with a wide array of active labor market programs (ALMPs).** They consist of self-employment grants, subsidized on-the-job training; wage and employment subsidies, and training courses. About 4.5 percent of the labor force participated in ALMPs in 1997. Sweden led the OECD rankings in the proportion of total labor market program spending allocated to ALMPs in the 1980s, and has remained among the top three since then. By specifically aiming to enhance employment rather than finance spells of unemployment, ALMPs, if well designed, tend to alleviate structural rigidities, and help maintain attachment to the labor market, a factor deemed crucial in bringing about a rebound in participation rates following major deteriorations in labor market conditions Forslund and Kolm (2000). However, they do have costs for the budget

---

<sup>19</sup> Which is particularly high for highly educated workers, but also marked overall, with immigration accounting for about 40 percent of the Sweden's population growth since 1940.

and for the individual (who effectively stops the job-search upon entering a program). In addition, with spending on ALMPs being less countercyclical than passive spending (OECD (2001)), they tend to reduce the automatic stabilizing effect associated with spending on unemployment. ALMPs also affect the measured unemployment rate, because participants in ALMPs (other than in education programs) are not considered unemployed in official Swedish statistics.

**82. Recent research points to the need for refinements to enhance the efficiency of ALMPs.**<sup>20</sup> Measures to improve the intensity and efficiency of job search hold the promise of raising employment in a cost-effective manner. Youth, the most mobile group in the labor force with the greatest capacity to absorb risk, would generally be better off if they kept searching for a job, especially because they have the most to lose from a prolonged cut-off from active employment. The most effective training programs for the individual are those that are closest substitutes for regular employment. While this would argue for employment subsidies, the negative externality (crowding out) on others is largest exactly in this case, so the social optimum does not coincide with the individual optimum. A good middle ground would be to target employment subsidies at the long-term unemployed, who would have little chance at re-entering employment otherwise. Direct measures to support regional mobility were generally found to be ineffective.

---

<sup>20</sup> A center of research in this area is the Office for Labor Market Policy Evaluation (IFAU).

## VI. INVESTMENT AND SAVINGS

### A. Introduction

83. **The potential effects on investment and savings are amongst the key routes through which government may affect long-run growth and the efficiency of the intertemporal allocation of resources.** By altering the user cost of capital, taxes directly impact the incentive to invest, with empirical evidence increasingly confirming the potential importance of this affect: one recent survey of US evidence concludes that the elasticity of the capital stock with respect to the user cost is about  $-0.25$  (Chirinko et al (1999)). Studies of aggregate saving behavior, on the other hand, generally find relatively low responsiveness. This does not mean, however, that tax effects are unimportant. As with labor supply, so in relation to savings it is the substitution effect—in this case between present and future consumption—that determines the excess burden of the tax, which can be substantial even if the uncompensated elasticity is low. Moreover, taxation may distort the composition of both investment and saving across different types of asset.

84. **Sweden has traditionally set low average effective tax rates at corporate level but high rates on personal savings.** In a closed economy, savings and investment are identical, so that policy measures which affect one will affect the other equally: the distinction between taxes at corporate level and on personal savings is of no economic significance. In an open economy, in contrast, savings and investment are not identical, and the tax system may affect them differently.<sup>21</sup> This distinction is especially important in Sweden, over 40 percent of the equity market being held by non-residents. Indeed, the importance of the distinction has been appreciated in Sweden longer than in most other countries, with a traditional pattern—dating back to the days of ‘capitalism without capitalists’—of relatively low tax rates on corporate income and relatively high rates on saving. Even with a corporate rate of 57 percent at the start of the 1980s, for instance, the real impact of the tax on businesses was moderated by the Investment Funds system<sup>22</sup> and other provisions: the proportion of corporate profits taken in

---

<sup>21</sup> Empirically, savings and investment have been somewhat closely correlated than might have been expected, a puzzle first noted by Feldstein and Horioka (1980).

<sup>22</sup> Under which firms could allocate up to half of their pre-tax profits to an investment fund (escaping corporation tax on this amount), at the price of making a non-interest bearing deposit at the Riksbank of some fraction of the amount reserved (the deposit then being repaid when the fund is used, in time of recession, for investment). The funds could then be used to finance investment in times of recession: in effect, such investment received immediate expensing. The scheme was abolished as part of the 1991 reform. See Södersten (1993) for an analysis of the impact of the effect of the system on incentives to invest.

tax has for long often been less than half the statutory rate.<sup>23</sup> This same pattern of low rates on companies and relatively high rates on savers continues to prevail.

## **B. Investment**

85. **The central ingredient in assessing incentives to invest is the treatment of business income under the corporate tax.** For foreign investors, the impact of this will then be modified by double tax arrangements and the treatment of final investors in their residence countries; for Swedish investors, it will be mitigated by the Swedish personal tax system, discussed below. In either case, however, the corporate tax system is clearly critical.

86. **Sweden has a relatively simple corporation tax system, with the 1991 reform establishing a rate of 28 percent and essentially standard depreciation allowances.** The sole significant non-standard feature is a provision enabling firms to deduct up to 25 percent of their profits for allocation to a 'periodization reserve', these funds to be recovered (and taxed) within no more than five years. This enables firms to defer part of their corporation tax liability: at an interest rate of 10 percent, it is equivalent to a reduction in the statutory rate from 28 to about 25 percent.

87. **The net impact of the corporate tax system—both the statutory rate and the various allowances—is conveniently summarized by the marginal effective corporate tax rate (MECTR),** defined as the difference between the pre-tax return on a hypothetical marginal investment—one, that is, which just meets its costs—and the rate of return net of corporation tax. The important benchmark here is an MECTR of zero, meaning that the corporate tax system leaves marginal investment decisions entirely unaffected. This will be that case if the tax system enables all true costs associated with an investment, both financial and the acquisition cost of the asset, to be fully deducted over the life of the project: one way to achieve this being, for example, to allow interest costs to be fully deductible against tax (as they are in Sweden) and grant depreciation allowances on physical assets that match the true reduction in their value from economic depreciation.

88. **On average, the corporate tax somewhat discourages investment, but with debt finance significantly favored over equity.** Table below reports current MECTRs for various kinds of investment in Sweden, under varying assumptions on the inflation rate (which affects the real value of nominal interest deductions and depreciation reductions based on historic cost). At the target inflation rate of 2 percent, the MECTR is a little over 5 percent, so that the corporate tax system, considered in isolation, provides a modest discouragement to investment: as has been traditional in Sweden, the corporate tax bears relatively lightly on marginal investments. Within this, however, there is significant variation across types of investment. In particular, the low average reflects the balance between a significant subsidy

---

<sup>23</sup> See Figure 4.1 of Agell et al (1998).

to debt-financed investments, and an even larger charge on equity-financed investments: this is because the interest costs of debt finance are deductible against corporate tax whilst the cost of servicing equity investments is not. There is also some distortion across forms of investment, with machinery subsidized while buildings and, especially, inventories carry a significant burden.

**Effective Marginal Corporate Tax Rates, Sweden 2001**

	Inflation Rate (In percent)		
	Zero	Two	Five
Asset			
Machinery	-4.8	-6.3	-8.6
Buildings	7.8	5.9	2.4
Inventories	10.7	12.6	15.5
Source of Finance			
Debt	-7.9	-10.7	-15.1
Equity	18.2	20.4	23.2
Overall	4.7	4.2	3.2

Source: Provided by Professor Jan Södersten (University of Uppsala).

89. **These figures may overstate the distortion, however, to the extent that legal constraints on dividend distributions bite.** It is assumed in the calculations of the table above that the firm makes full use of all allowances available to it. In practice, however, it has long been a puzzle in Sweden that tax allowances are not fully utilized: Södersten (1993) cites evidence that in 1979–85 about two-thirds of tax allowances remained unused. One explanation for this is that companies are constrained to pay out in dividends no more than their after-tax profits, so that the use of allowances may imply an unwanted reduction in dividend payments. But if this constraint bites, then it can be shown that the corporate tax is effectively neutral, implying an MECTR of zero (Kannainen and Södersten (1994)).<sup>24</sup>

---

<sup>24</sup> Intuitively, if all post-tax profits are distributed then, from the identity between the firm's sources and uses of funds, investment must be financed from debt issues and the tax value of  
(continued...)

90. **By international standards, Swedish MECTRs are low.** For comparison, the table below reports MECTRs (for investments in different assets) for a range of countries. While the two sets of figures are calculated under different assumptions, and so not entirely comparable, it is clear that the corporate-level incentives to invest in Sweden are relatively strong.

**Swedish MECTRs in an International Perspective**

	Sweden	U.S.	Japan	Germany 1/	U.K.	Denmark	Netherlands
Plant and machinery	-4.8	4.0	18.0	6.0	6.0	3.0	7.0
Buildings	7.8	39.0	34.0	50.0	20.0	18.0	21.0

Sources: from Prof. J. Södersten, Tables 3 and 4 of Bond and Chennells (2000).

1/ After completion of phased 2000 reform.

91. **For internationally mobile investments, however, the average effective corporate tax rate—and the statutory rate of tax—are also important.** In choosing where to locate a discrete project, it is not simply the tax treatment of the marginal investment that matters but also that of the intra-marginal investments: those that yield more than the required after-tax return.<sup>25</sup> Thus the marginal effective *average* rate of corporate tax also matters in choosing where to locate an investment. No estimates of this appear to be available for Sweden. A key determinant, however, is the simple statutory corporate tax rate.<sup>26</sup> This also has a key role to play in relation to transfer pricing decisions and in multinationals' choice of financing methods: the attractions of moving paper profits into Sweden either by manipulating the

---

depreciation allowances. This in turn implies that the equity part of the investment is identical to tax depreciation, so that the cost of equity finance is effectively deductible against tax, implying neutrality.

<sup>25</sup> For example, if all countries had a corporate tax with interest deductibility and true economic depreciation then the MECTR would be zero in all of them, even if they set different statutory rates. But firms will clearly wish, all else equal, to locate investments in the country with the lowest statutory tax rate.

<sup>26</sup> For instance, in the circumstances of the previous footnote the tax bears only on rents, so that the average effective tax rate coincides with the statutory rate.

prices of intra-group transactions or by inter-group financial transactions will depend on the differences between the statutory tax rate in Sweden and those faced elsewhere in the group.

92. **Sweden has been successful in attracting foreign investment.** In 1999, it was the third largest recipient of investment capital; relative to GDP, it was the largest. While this reflected one unusually large transaction, it seems plausible to suppose that the tax regime has been a broadly helpful factor. At the time of its introduction in 1991, the 28 percent rate was very low by international standards. But corporate tax rates have since fallen substantially in other countries, and (as discussed in Chapter VII) further downward pressures may emerge.

### C. Savings

93. **The final after-tax return to Swedish investors also depends, of course, on the personal tax treatment of capital income.** Under the dual form of income tax adopted in 1991, essentially all forms of such income—including dividend, interest and capital gains—are taxed at a flat rate of 30 percent. Net returns are further reduced by the wealth tax, levied at 1.5 percent on annual wealth in excess of SEK 1 million. This translates into a significantly higher tax rate on the associated capital: at an interest rate of 10 percent, for instance, it is equivalent to a tax of 15 percent on the equivalent annualized income.

94. **Marginal effective tax rates on personal savings—showing the combined effect of business and ownership-level taxes—are high.** Such METRs—reflecting the effect of investor-level taxes combined with the MECTR discussed above—are reported in the table below. The METR varies across ownership class, being lower for tax-exempt institutional shareholders and insurance companies than for persons. For the latter, the METR is about 45 percent, far higher than the corporate level tax of 4 percent.<sup>27</sup> This reflects the impacts of both the flat personal tax on capital incomes and the wealth tax, with the latter appearing to exert a significant disincentive effect.

---

<sup>27</sup> The relationship between the MECTR, METR and personal tax rates is complex: it is not in general the case that  $1 - \text{METR} = (1 - \text{MECTR})(1 - \text{MEPTR})$ , where MEPTR depends only on personal tax rates. See King and Robson (1993).

### METRs on Saving in Sweden, 2001

	Inflation Rate		
	Zero	Two	Five
<i>Asset</i>			
Machinery	17.3	19.0	21.5
Buildings	28.1	29.4	31.0
Inventories	30.3	35.1	42.2
<i>Source of Finance</i>			
Debt	13.6	15.1	17.0
New share issues	46.6	52.5	61.2
Retained earnings	37.3	41.2	46.8
<i>Owner</i>			
Households	40.7	45.3	51.9
Tax-exempt	8.1	8.4	8.6
Insurance company	23.5	27.0	32.0
Overall	25.4	28.0	31.7

Source: Provided by Professor Jan Södersten (University of Uppsala).

95. Around this high average level of the METR on savings, there is considerable variation between different sources of finance, with new equity finance relatively disfavored. Debt is by far the cheapest source of finance, followed by retentions: a ranking that reflects the deductibility of interest payments but not of financing equity returns. Most heavily taxed is new equity finance. This reflects the 'classical' form of corporation tax in place in Sweden, with dividends being taxed at personal level without any credit or deduction being given against corporate tax. Funds injected into companies in the form of new equity

are thus subject to double taxation, tax being payable both at corporate level from the income generated and at personal level on the payment of these proceeds as dividends.<sup>28</sup>

96. **The double taxation of dividends discourages the use new equity finance, which may cause particular difficulties for new firms traditionally reliant on this as a major source of finance.** It may also give rise to significant international tax planning opportunities. For example, it has been said that in a merger of Swedish and Norwegian banks it became tax advantageous to locate the headquarters of the new enterprise in Norway rather than Sweden: since Norway operates a partial imputation system, under which Norwegian shareholders can use part of the corporate tax paid to offset their personal tax liability, they prefer, all else equal, to receive dividends from a company resident in Norway.

97. **While these difficulties are clear—and have been worsened by developments over the over the 1990s<sup>29</sup>—there is little evidence as to how costly they are.** There are few estimates for Sweden, or other countries, of the welfare cost of the distortion in financing methods it implies, and in particular for new enterprises. Moreover, it can be argued that in an economy as open as Sweden the effect will be largely mitigated. For if the marginal purchaser of new shares is a foreigner (a plausible supposition for large Swedish companies) then the domestic tax on dividends should have no effect on incentives to invest, or even on share prices. The effect may be more marked for smaller companies unlikely to be purchased directly by foreign investors (who are unlikely to be well-informed as to their prospects). As Apel and Södersten (1999) point out, however, to the extent that some domestic shareholders hold both traded and non-traded shares, the impact of the dividend tax on the latter may be muted: since foreign investors do not pay the dividend tax, they will have a comparative advantage in holding the traded shares, inducing domestic shareholders to substitute towards the non-traded and thereby lower their cost of funds. In any event, measures have been taken to mitigate double taxation in respect of unlisted companies.<sup>30</sup>

---

<sup>28</sup> For equity finance in the form of retained profits, in contrast, the personal tax treatment of dividends is irrelevant. The choice is then between distributing profits today or instead reinvesting them and paying dividend taxes in the future; so long as its rate does not change over time, the dividend tax cancels out of the calculation.

<sup>29</sup> While the 1991 reform had dividends fully taxed, the impact of this on the cost of new equity finance was mitigated by the 'Annell deduction,' allowing firms to claim a partial deduction in respect of new equity issues. In January 1994 both the tax on dividends and the Annell deduction were removed; but when the dividend tax was reintroduced by a new government in 1995, the Annell deduction was not.

<sup>30</sup> Distributions to individual shareholders by unlisted or non-resident companies (not having or having had substantial ownership of listed companies) are exempt to the extent of an imputed return on invested equity.

98. **Further measures to mitigate the double taxation of dividends would appear worthwhile, though not urgent.** There has been continuing controversy as to whether Sweden would benefit by moving to some alternative structure that mitigates the double taxation of dividends. There are a number of ways in which this might be done. Sweden might for instance, adopt some form of imputation system, of the kind currently in place in France, Norway, Australia and elsewhere. This, however, would run counter to a recent trend away from imputation within the EU. Complications, and potential legal difficulties, arise in connection with international aspects of imputation.<sup>31</sup> These have been a key reason for recent movements away from imputation and towards classical taxation in Germany, Ireland and the UK. There are alternatives: a credit in relation to dividends might be given at corporate level rather than personal; or, simpler still, dividends might simply be exempted from personal tax. Such measures are unlikely to be especially costly in revenue terms. While there is no strong evidence that the double taxation of dividends currently causes significant welfare losses, there is also no reason to suppose that it conveys great benefit. A case can thus be made for further reform in this area, though it cannot be seen as a priority.

99. **Tax advantages to investment in owner-occupation further distort the allocation of capital.** The calculations reported above concern investment in real business assets. Traditionally, the Swedish tax system has treated relatively more favorably investment in owner-occupied housing: as in many other countries, this benefits from the combination of interest deductibility and exemption of the effective return. While the 1991 reform and others in the late 1980s substantially reduced the tax favoring of owner-occupation<sup>32</sup>—by limiting interest deductibility, replacing a tax on imputed income with a more burdensome real estate tax, and extending VAT to housing construction costs—some preference seems likely to remain. A particular concern with this is that the tax-favoring of owner-occupation, not least through the exemption of the implicit value of occupation, may worsen the bias against the provision of rental properties that is implied by continuing de facto rent control.

100. **Political pressures to cut the real estate tax have proved irresistible, but the tax continues to have a potentially useful role.** The recent increase in valuations for the property tax—having been frozen for several years—led to substantial pressure to lighten the burden of the tax. This was in part on distributional grounds, with less well-off residents of sought-after holiday home areas facing awkward bills. In the event, the government announced in August 2001 its intention to cut the rate of real estate tax from 1.2 to 1 percent. Property tax rates have indeed been rather high by EU standards. Nevertheless, the real estate

---

<sup>31</sup> They arise, for example, from the natural inclination to deny imputation credit on dividends paid from foreign-source income that has not borne tax in the home country; and legal requirements in the EU may require that the credit be extended to residents of all member states, potentially eroding the revenue collected at corporate level.

<sup>32</sup> See Chapter 3 of Agell et al (1998).

tax has important merits. In so far as it bears on the immobile attractions of the location itself, it is likely to impose a relatively modest marginal excess burden. Outside the Nordic countries, it is unusual for this tax to be allocated to central government, the usual argument being that it is well-suited as a transparent means of local finance, being in some respects akin to a benefit tax. One merit of its allocation to the center, however, is the prospect of avoiding downward tax competition, an attraction that, as pressures on tax revenues emerge in the coming years (see Chapter VIII) should be exploited.

**101. Coherent policy making in the housing sector requires a long-overdue review and reform of all interventions in the area, embracing taxes, regulation and the housing assistance system.** The potential efficiency costs in such a key area, with considerable implications for the functioning of the labor market and the allocation of capital, are substantial.

**102. The wealth tax also merits significant reform.** Levied at the relatively high rate of 1.5 percent above a relatively modest threshold of SEK 1 million, it can imply a significant disincentive to saving. Even relatively modest housing wealth, for instance, is likely to incur a charge. At the same time, however, the tax is marked by exclusions that are likely to favor the most well off: most unlisted shares are excluded, as are principal shareholdings (over 25 percent of voting rights). Since it is relatively easy for the well advised to structure their affairs so as to take advantage of such provisions, the equity of the tax is undermined. There are thus two main options for reform. One is to simply abolish the tax: it raised only about 6 billion SEK in 1999, about 0.5 percent of total tax revenue. As can be seen from the international comparison of tax rates, many countries have no wealth tax, and those that do commonly set a lower rate and higher threshold than does Sweden. There seems, however, to be general support in Sweden for the existence of a tax on wealth. This points towards the second option, which is to mitigate its disincentive effects and improve its fairness by substantially increasing the threshold and scaling back exemptions. While many wealthy individuals will doubtless find other ways to avoid the tax, such distortions may be seen as a price worth paying for the equity gain from the tax.

## VII. REDISTRIBUTION

103. **A key objective of the Swedish welfare state is to ensure a distribution of real income, and a pattern of economic opportunities, that meet criteria of social justice with broad political support.** A wide range of policy instruments are deployed to this end, including:

- Regulations and other interventions aimed at fostering labor market incomes of the lower paid, including a tradition (now weakening) of wage compression, and support of work-related expenditures, notably childcare;
- A progressive tax system, intended to ensure that the burden of financing public expenditure bears disproportionately on the better off (in the sense that they face a higher average tax rate);
- Public and largely uniform provision of key commodities, notably health care and education, serving both as a direct instrument of redistribution—to the extent that their value is independent of income, their effect is akin to reducing tax payments by the same absolute amount, so increasing progressivity—and as a means of promoting greater long-term equality by equalizing earnings capacities; and
- An extensive system of direct income transfers (the main ones being described in Box 1).

104. **Though not necessarily the most important element in this set of redistributive measures, the transfer system has naturally received particular attention.** As shown in the table below income transfers to households currently amount to about 18 percent of GDP, significantly above the OECD average and matched amongst the most developed countries only by Austria, Germany and France.

**Income Transfers, 2000**  
(In percent of GDP)

Australia	8.3
Austria	18.3
Belgium	14.4
Canada	10.9
Denmark	17.2
Finland	12.6
France	18.1
Germany	18.6
Greece	16.1
Ireland	9.7
Italy	17.3
Japan	15.7
Korea	3.3
Mexico	2.6 1/
Netherlands	11.8
Norway	13.7
Portugal	12.5
Spain	12.4
<b>Sweden</b>	<b>18.3</b>
United Kingdom	13.1
United States	10.5
OECD average	12.8 2/

Source: OECD Analytical database.

1/ For 1995

2/ Excluding Mexico

### A. Inequality and Poverty

105. In terms of standard indicators, the outcomes for inequity and poverty in Sweden are as egalitarian as in virtually any other country. The table below reports recent comparative statistics for other EU countries. As a simple summary indicator of inequality, the first column shows the share of disposable income<sup>33</sup>—income, that is, after all taxes and transfers—earned by the best-off 20 percent relative to that of the bottom 20 percent: the greater this ratio, the more unequal the distribution of disposable income. At 3.7, this ratio is far below the average of 5.7; only Denmark has a more egalitarian outcome in this sense. The poverty outcome is also impressive. The second column reports the headcount measure of poverty—the proportion of the population that is in relative poverty (after taxes and transfers)—when the poverty line level of income is taken to be 60 percent of the median. The outcome in Sweden is again far better than the average: 14 percent of the population remains in poverty, compared to an average of 17.2 percent elsewhere in the EU. While different choices for the poverty line are liable to give different impressions of cross-country performance, Jäntti and Danziger (2000) show that on a test of first-order poverty dominance—the requirement of a lower headcount measure of poverty for any choice of poverty line—only a few countries (notably Austria, Finland and Germany) fare better while many fare unambiguously worse.

#### After-Tax/Transfer Inequality and Poverty in the EU, 1996

	Inequality 1/	Poverty /2
Austria	4.0	13.0
Denmark	2.9	11.0
France	4.5	16.0
Germany	4.7	16.0
Greece	6.1	21.0
Ireland	5.6	18.0
Italy	6.0	19.0
Luxembourg	4.5	12.0
Netherlands	4.7	12.0
Portugal	6.6	20.0
Spain	5.9	18.0
<b>Sweden</b>	<b>3.7</b>	<b>14.0</b>
UK	5.6	19.0
EU15	5.2	17.2

Source: Eurostat

1/ Ratio of total equivalized disposable income of top and bottom quintiles.

2/ Share of population with equivalized after-transfer income below 60 percent of median.

<sup>33</sup> The figures are for 'equivalized' income; adjusted, that is, for family size and composition.

106. **While there are many difficulties with summary outcome indicators of this kind, other measures tell broadly the same story.** There are many other and perhaps better ways of measuring inequality and poverty: the headcount measure takes no account, for instance, of the depth of the poverty of those below the cut-off poverty line. Yet most summary measures convey much the same impression. For instance, Gottschalk and Smeeding (2000) report Sweden as having the second lowest after-tax and transfer Gini coefficient amongst 21 developed countries (only Finland having a lower one), while Jäntti and Danziger (2000) find that in terms of second-order poverty dominance—looking not at the numbers in poverty for any given poverty line but the extent to which their incomes fall short of that line—Sweden's performances also relatively good.

107. **More fundamentally, in focusing on the pattern of annual incomes, these summary measures make no distinction between transitory and permanent differences in economic position.** A more complete treatment would focus on differences in lifetime economic status: it may be, for instance, that greater inequality of annual income in one society relative to another simply reflects a greater variance (around the same mean) of incomes over the lifetime; a difference which, if capital markets enable individuals to borrow freely against future income, is of little significance to economic well-being. In similar spirit, a given incidence of poverty may be viewed as less damaging if those in poverty in different years tend to be different people. While data problems pose difficulty for lifetime assessments of inequality and poverty,<sup>34</sup> such evidence as there is suggests that in this dimension Sweden also performs well. Jäntti and Danziger (2000) report exit rates from poverty as being relatively high in Sweden (bettered, within a set of ten industrialized countries, only by Finland and the Netherlands). Inter-generational mobility in Sweden also appears relatively high: Björkund and Jäntti (1993) find the correlation between earnings of fathers and sons to be far lower in Sweden than in the United States.

## **B. The Impact of Policy on Inequality and Poverty**

108. **While the outcomes for inequality and poverty are thus strong, the key question is how much of this is attributable to the interventions of the welfare state.** Determining this requires, in principle, constructing the counter-factual of how real income would be distributed in its absence. While it is natural to take as a starting point the actual distribution of income before taxes and transfers, that will itself reflect the incentive effects created by the tax and transfer system: the assurance of a pension, for instance, may reduce the earnings of

---

<sup>34</sup> To the extent that individuals' consumption decisions reflect their own assessment of their lifetime income prospects, the distribution of consumption would provide a better indicator of lifetime inequality than that of relatively short-term income measures. But no comparative data of this sort appear to be available.

those approaching retirement. These responses are likely to mean, for example, that poverty in the absence of policy would be less than poverty measured simply in terms of the pre-tax and transfer incomes that are actually received in the presence of the tax-transfer system.<sup>35</sup>

109. **Considerable effort has traditionally been made in Sweden to equalize the distribution of gross earnings by wage compression and promoting employment of the low skilled, so that a simple comparison of incomes before and after the effects of the tax-transfer system may understate the extent of redistribution achieved by policy.** Wage dispersion has been relatively low in Sweden: in 1993, the wage rate of the highest paid decile was about 59 percent above the median, about the same as in Germany, but much lower than in the United Kingdom (86 percent) and in France (99 percent). The impact of this on the distribution of earnings has been amplified by traditionally high levels of employment. Moreover, it seems that this relatively egalitarian distribution of earnings cannot easily be explained in terms of an underlying heterogeneity of abilities: Bjorklund and Freeman (1997), for instance, find that the earnings distribution of Swedes in the US is essentially the same as the overall U.S. distribution. Thus the relative equality of earnings in Sweden appears to be largely attributable to policy, so that much redistribution has already been done before the tax-transfer system comes into play.

110. **The redistributive effect of the tax-transfer system—easier to assess, in the mechanical sense of accounting for the difference between the inequality of market incomes and that of disposable incomes—has been considerable.** The table below shows, the tax-transfer system has for many years reduced the extent of inequality in annual income by 50 to 55 percent. This is a very considerable amount: the comparable figure in Germany has been around 35 percent, for instance, and in the US 25 percent.<sup>36</sup> In terms of poverty reduction, Jäntti and Danziger (2000) find that around the start of the 1990s, Sweden was one of only three (among fifteen) industrialized countries in which the tax transfer system reduced the headcount measure of poverty (relative to a poverty line of 50 percent of median income) by over 75 percent.

---

<sup>35</sup> The impact of the tax-transfer system on pre-tax inequality is less clear cut. If the main impact of progressivity is to induce the higher paid to earn less, pre-tax inequality will increase; on the other hand, the inducement to risk-taking implied by social insurance (discussed in Section D below) may generate increased pre-tax inequality.

<sup>36</sup> See Table 13 of OECD (2000).

### Gini Coefficients and Redistribution

	Factor Income	Disposable Income	Proportionate Reduction
1975	0.476	0.233	51.1
1980	0.476	0.206	56.7
1985	0.495	0.221	55.4
1990	0.501	0.246	50.9
1995	0.563	0.256	54.5
1999	0.578	0.294	49.1

Source: Table 57, *Income Distribution Survey in 1999* (Statistics Sweden).

111. **Within a broadly constant total extent of tax-transfer redistribution, however, there has been a significant change in the relative contribution of taxes and spending.** With the 1991 reform, the tax system has become significantly less progressive, as illustrated in the table above. The effect of this on the overall distribution of income has been largely offset, however, by increased redistribution on the spending side. In particular, the increase in child allowances has targeted a group generally poor in terms of market income, and the increase in housing allowances has been directly targeted on low-income households with children. Thus the net effect of the reforms of the early 1990s has been to leave the overall extent of redistribution broadly unaffected, but with a significant change in its pattern: roughly speaking, redistribution between those with and without children has increased, while within household types it has, if anything, fallen.

112. **Much redistribution is intertemporal rather than interpersonal.** The table below shows the broad composition of transfers to households, with the significant role of child and housing allowances—over ten percent of the total—apparent. Almost half of all transfers, however, are in the form of pensions. The importance of these transfers—reflected in what are by international standards particularly low poverty rates amongst children and the elderly (Jäntii and Danzinger (2000))—again points to the importance of taking a lifetime perspective on redistribution: to the extent that pensions are related to contributions (a tighter link has now established under the reformed pension system), they reflect not redistribution across persons but redistribution over the lifecycle. Indeed the same may be true to a large extent of child allowances. Thus one estimate is that about two-thirds of all transfers are intertemporal rather than interpersonal (OECD (2000), p. 116). This is not to say that such redistribution is without value: to the extent that market imperfections mean that individuals are unable themselves to borrow against their future incomes, state intervention may be welfare enhancing. The argument may be less powerful in Sweden than elsewhere, however, since capital markets are well developed. Moreover, the evidence suggests that relatively few Swedish households are liquidity constrained; and against any benefits in overcoming market failure must be set the distortions that arise if the extent of forced saving exceeds the level individuals would wish to undertake.

**Transfers to Households**  
(In percent of GDP)

<b>Total</b>	19.1
<i>Of which</i>	
Pensions	9.0
Sickness	4.2
Unemployment benefits	2.0
Child benefits	2.0
Student benefits	0.6
Housing and social allowances	1.3

113. **Even abstracting from redistribution over the lifecycle, the extent of interpersonal redistribution achieved appears to be considerable:** following a set of individuals from 1971 to 1991, Bjorklund et al (1995) find that the extent of redistribution of lifetime incomes through the tax system is broadly comparable to that of annual incomes.

114. **A full assessment of the extent of redistribution would also take account of the public provision of various services at less than market value, which in Sweden is considerable.** Many of these items—health care, education, and social services—are very extensive. They not only effectively redistribute purchasing power directly, but may also have a significant equalizing effect in terms of their long- and short-term implications for labor market status. Subsidized childcare, for example, has facilitated the high levels of labor market participation. Quantifying these effects is difficult, however, both conceptually (in the proper valuation of services enjoyed, for instance) and empirically (in terms of the required data on usage); no thorough and internationally comparable figures appear to be available. The extent of such expenditures in Sweden suggests, however, that the effect may be substantial.

115. **There is no doubt that the Swedish welfare state has achieved a great deal in assuring a distribution of real incomes in conformity with a broad egalitarian social consensus.** Even one of its harshest critics has lauded this as “... a major achievement of modern civilization” (Lindbeck, 1992). The question is how these benefits weigh against the efficiency losses that, as described in previous chapters, have been incurred in pursuing these objectives, and whether the variety of pressures now looming threaten their preservation.

**C. Efficiency Gains From Redistribution**

116. **While some trade-off in the pursuit of equity and efficiency is ultimately unavoidable, there are important circumstances in which redistributive measures can generate efficiency gains.**<sup>37</sup> When individuals have altruistic preferences, for example, so

---

<sup>37</sup> See for instance the survey in Boadway and Keen (2000).

(continued...)

that the better off derive satisfaction from the well-being of the poor, the income of the poor acquires the characteristic of a public good, so that compulsory redistribution towards them can improve efficiency in the strong sense of raising the welfare of all individuals. Such altruism is clearly one possible explanation for the extent of redistribution in Sweden, and also consistent with Sweden's high level of assistance for developing countries.

Redistribution can also increase efficiency (in the sense of raising aggregate output) when individuals' productivity increase with the level of their consumption. To the extent that redistribution is a response to the non-existence, as a consequence of informational imperfections, of certain key markets, it can again improve efficiency. With imperfect capital markets, for example, redistribution may facilitate the acquisition of human capital by the least well-off (Banerjee and Newman (1993)); and by reducing investors' need to rely on external finance, it can ease the hold-up problem that leaves potential partners reluctant to support projects that may leave them in an ex post weaker bargaining position (Hoff and Lyon (1995)). How important these effects are likely to be in Sweden is unclear, however: as noted, capital markets are well developed, so that relatively few individuals appear liquidity-constrained.

**117. A key but open question is the extent to which extensive social insurance in Sweden induces a beneficial increase in risk-taking.** In the absence of well-functioning insurance markets, individuals are likely to under-invest in risky activities, choosing safer occupations or investments than they ideally would. Social insurance may then improve efficiency by encouraging risk-taking (Sinn (1995)). Even a proportional income tax, for instance, reduces the riskiness of an undertaking by taxing away part of the high returns if it turns out well and implicitly bearing some of the cost if it turns out badly. A range of policy measures in Sweden may bear on risk-taking: the availability of social assistance and unemployment benefit, for example, and the knowledge that benefit will be available to support one's children in all outcomes. While the potentially beneficial impact of social insurance on risk-taking has attracted much theoretical attention, its practical importance is hard to gauge. There are some very tentative signs of relatively high risk-taking in Sweden. Equity holdings are more extensive than in other countries.<sup>38</sup> One might also look for signs of risk-taking in the start-up of new businesses: comparing six developed countries, OECD (1994) report Sweden as having the highest number of firm births per existing firm and the third highest number per person. But there are clearly many other factors potentially affecting firm formation, and definitional differences in any event make cross-country comparisons of these figures problematic. The important question of how the welfare state affects risk-taking, in Sweden and elsewhere, deserves closer attention.

---

<sup>38</sup> According to the March 30, 2001 issue of Global Data Watch published by the Morgan Guaranty Trust, two-thirds of Swedes, double the European average, hold shares.

## VIII. PRESSURES ON THE WELFARE STATE

### A. Increased International Mobility of Tax Bases

118. In Sweden as elsewhere, there is widespread awareness that the increased internationalization of economic activity may alter the effectiveness of, and hence proper extent and form of, government intervention. Concern at the potential significance of this trend has led the government to appoint a Committee to review its potential implications, with the aim of reporting in spring 2002.

119. The prospective continued increase in mobility of tax bases reduces the tax rates that a country optimally imposes and the level of revenue it optimally collects. Formal and informal obstacles to cross-border transactions in capital, commodities and labor have been eased, and are likely to be eased still further in the future, both by policy measures—within the context of EU membership and more generally—and by advances in information technology that reduce informational imperfections and transaction costs. As a result, these cross-border transactions are likely to become more sensitive to cross-national tax differentials. This increased elasticity of the tax base with respect to tax rates then tends to reduce the level of tax rates that each country finds it optimal to impose—and also to reduce the associated level of revenue that it is optimal to raise—by reducing the revenue raised from, and increasing the excess burden created by, a marginal increase in the tax rate.<sup>39</sup> More generally, increased mobility makes it harder to sustain taxes other than benefit taxes (ones, that is, which finance offsetting benefits received by the taxpayer, whether a company or individual). This implies, in particular, that redistribution—the essence of which is to impose a net fiscal loss on some in order to convey a net fiscal benefit to others—may become harder (an effect which will be amplified to the extent that the better-off receive forms of income that derive from more mobile sources).

120. While the theory is fairly clear, the quantitative extent of the problems is not. There remain a variety of subtleties in assessing the impact of internationalization on the design of tax-transfer systems. There are complex interactions, for example, between the effects of increased mobility of labor and capital. Increased mobility of labor may actually reduce the downward pressure on capital taxes, since then the beneficial effect on wages of attracting more inward investment are dissipated by the migration it induces (Kessler et al (2000)). Nevertheless, the key qualitative issues are broadly clear. Far less clear is their likely quantitative significance, and it is on this that the rest of this section focuses, taking in turn the three key broad tax bases: capital, commodities and labor.

---

<sup>39</sup> There are exceptions. For instance, opening up the possibility to export a good in which a country has some market power creates an incentive to set a high production or export tax to exploit that power.

## Capital

121. **Sweden has long (and successfully) sought to maintain an attractive tax environment for inward investment,** as was discussed in Chapter V. Mobility of real investment is nothing new for Sweden, which has for many years essentially viewed itself as an archetypal small open economy, open to capital movements and with little ability to influence the return that potential investors can earn in the world capital market.

122. **It is quite a robust theoretical prescription that such an economy should not levy any source-based tax on the marginal return to investment.**<sup>40</sup> The effective incidence of any such tax cannot be on the owners of capital, since they will ensure that they receive in Sweden the same after-tax return that they can earn elsewhere. The effective incidence can only be on domestic immobile factors, but with the unwanted side effect of raising the gross return to capital and so inducing excessive labor-intensity of production. Put differently, increased capital mobility increases the marginal excess burden associated with a source-based capital tax, an effect which Hansson (1987) shows to be potentially significant. This distortion can be avoided by simply taxing the immobile factors directly. Since the key source-based tax is the corporate tax, this prescription translates into that of a marginal effective corporate tax rate of zero. Though that is not achieved in Sweden uniformly for all conceivable investments, it was seen in Chapter V that it has been achieved in a broader sense for many years. While there is scope for achieving this effect by simpler means—establishing more uniform treatment of different kinds of investment—there is thus little reason to suppose or recommend that this aspect of tax policy will or should change as internationalization intensifies.

123. **The prescription of no source-based tax on marginal investments does not imply, however, that there should be no corporate tax, though there are strong reasons for setting it at an internationally competitive level.** Without a business-level tax, tax could be avoided by incorporating, retaining earnings and deferring the realization of capital gains. Moreover, a well-designed corporation tax can raise revenue by taxing the rents earned on intra-marginal investments without distorting investment incentives at the margin. For investments from countries that give a credit for taxes paid in the source country—such as the US, the main single proximate source of direct investment in Sweden—taxes can be levied up to the level of the residence country tax without imposing any additional burden on the investor, the effect of the credit being that residence country taxes are reduced one-for-one by source country payments. The rate of corporation tax cannot be raised too far, however. Doing so will increase the average effective rate of corporation tax—even for investments from jurisdictions offering foreign tax credits, since no additional credit will be available

---

<sup>40</sup> The result is an application of the Diamond-Mirrlees (1971) theorem on the desirability of production efficiency; an explicit statement is in Frenkel et al (1996).

once the rate in Sweden exceeds the residence country rate—and so make Sweden less attractive for companies choosing where to locate investments. Only rents specific to Sweden can be taxed at high rates without risk of driving investment away; and these are likely to become increasingly limited as the Swedish economy becomes more integrated with the rest of the EU and other countries. Not least, high statutory rates of corporation tax make a country vulnerable to transfer pricing and financial operations, which transfer paper profits to lower tax jurisdictions.

**124. Current arrangements in Sweden appear well adapted to these considerations.** The rate of corporation tax remains relatively low by the standards of the major developed economies. Revenue from the corporation tax is somewhat below OECD and EU averages, but nevertheless remains quite substantial: around 5.7 percent of total tax revenue in 1998, or 2.9 percent of GDP. Nor has there been any clear tendency for receipts to fall: in the latter 1980s they were around 2 percent of GDP. This apparent resilience of corporate tax revenues has been observed in many other countries, and is something of a puzzle (Chennells and Griffith (1997)). It appears to reflect the consequences of reforms that, like the 1991 reform in Sweden, have lowered statutory rates of corporation tax (so preserving the base from transfer pricing devices) whilst broadening the base (so bolstering revenue at least from relatively immobile domestic investments). Nevertheless, continued downward pressure on the rate of corporation tax in Sweden can be expected. While the 28 percent rate established in 1991 was then amongst the very lowest of developed economies, this is no longer the case: the U.K. rate, for instance, is now 30 percent, that in Germany was reduced dramatically by the 2000 reform from 40 percent (on undistributed profits) to 25 percent, and the Irish rate is to be reduced to 12.5 percent by 2005.

**125. The likely extent of these pressures on corporate tax revenues is hard to gauge, but, in the absence of effective international coordination, the direction is clear.** With the MECTR averaging close to zero, it is unlikely that the effective incidence of the corporate tax is substantially passed on to labor, suggesting little prospect of painlessly replacing it by an explicit increase in the tax on employment income. In this sense the whole of the corporate tax revenue is at stake. The pressures on these revenues would be mitigated to some degree if the EU were to adopt, as has sometimes been proposed (notably by the Ruding Committee (1992)) a minimum rate of corporation tax. That remains a remote prospect, however, and in any event pressures from low tax rates outside the EU would remain. Recent experience, and Sweden's long-established expertise in preserving an attractive tax environment whilst sustaining revenues, both imply a limited risk of a dramatic erosion of corporate tax revenues in the near future. But it would be prudent to factor in a modest reduction into medium-term fiscal planning.

**126. A quite different set of considerations arise in relation to personal savings: openness per se does not imply that these are optimally zero.** In Sweden, as is the norm, capital income accruing to individuals is taxed on a residence basis: that is, Swedish residents are liable to Swedish tax on their capital income (and, under the wealth tax, on their assets) wherever in the world it arises (generally with a credit for foreign taxes paid on that income).

In sharp contrast to the result for source taxes referred to above, there is no intrinsic reason for a small open economy to set a low or zero residence based tax. There may be other arguments for doing so—in terms of the impact of savings on capital accumulation, or the structure of consumer preferences<sup>41</sup>—but openness as such does not directly affect the optimal tax treatment of personal savings. The real issue is simply the difficulty of enforcing the residence principle, given the opportunities—which are likely to continue to increase—that internationalization creates for individuals to locate their savings abroad in low-tax jurisdictions and simply fail to report the associated income and/or capital to the authorities of their residence country. Evasion of domestic savings taxes by this route jeopardizes revenue and creates pressure to reduce the tax rates applied.

**127. Though reliable information is naturally hard to obtain, the revenue loss from undeclared assets abroad is likely to be relatively small.** There are few obstacles to Swedish residents investing abroad: they have been able to acquire foreign equities since 1989, and to hold foreign bank accounts since 1993. Assessing the extent to which these opportunities are used to evade Swedish tax is, by the very nature of the activity, extremely difficult. The Social Democratic Party has produced estimates, based on the discrepancy between financial and national accounts, suggesting that households' undeclared savings abroad amounted to about SEK 350 bn in 1997.<sup>42</sup> This is equivalent to about 16 percent of the sector's total measured financial assets, and nearly double the corresponding level of estimated undeclared savings in 1992. Assuming that these assets earned an average return of 8 percent, and that they would be fully taxable in Sweden—so ignoring, for instance, any tax withheld for which a credit would be available in Sweden—the implied revenue loss is about SEK 8.4 bn, or around 0.8 percent of general government revenue in 1997. Assuming further that one-third of these assets were properly liable to wealth taxes, the implied revenue loss is still less than one percent of total revenue.

**128. While the revenue loss would rise if the extent of evasion by locating savings abroad were to increase, it is unlikely to be dramatic at unchanged saving behavior.** Taking the extreme case to illustrate possible orders of magnitude, if all interest and dividend income that was taxed in Sweden in 1998 had instead arisen abroad and been undeclared, revenue would have fallen by about SEK 11.6 bn, roughly 1 percent of the total. Grossing up for an assumed 10 percent return and taking one-third of the implied asset base to be liable to wealth tax, the cost rises to about 1.2 percent of tax revenue.<sup>43</sup> Since individuals are likely to

---

<sup>41</sup> See for instance King (1980) and Lucas (1999).

<sup>42</sup> The Ministry of Finance has indicated that a subsequent revision of the national accounts is likely to reduce these figures.

<sup>43</sup> This is broadly consistent with the estimate of SEK 11 bn for 1999 reported in Table S40 of Riksskatteverket (2000).

continue to hold a substantial portion of their wealth in real estate and Swedish equities, the opportunities for evading individual taxes on wealth and capital gains by taking income abroad, though not zero, are likely to be less. If a third of the bases of each were to vanish, revenue would fall by an additional SEK 7.7 bn, for a total loss of a little under 2 percent of general government revenues.

129. **The revenue loss may be further increased, however, by tax arbitrage.** The illustrative calculations in the preceding paragraph are based on assumptions that will tend to overstate the revenue risk. In one important respect, however, they may understate it. In so far as interest income is deductible against Swedish tax at a marginal rate higher than that at which it is taxed abroad, there are potential gains from pure tax arbitrage. Borrowing SEK 100 in Sweden at an interest rate of 10 percent in order to lend, at the same rate, in a country which taxes interest at 5 percent—a transaction that generates no profit in the absence of taxes—generates a profit after taxes of SEK 2.5 (the excess of the deduction in Sweden, SEK 3, over the tax payable abroad, SEK 0.5). Thus the risk is not merely that interest income otherwise taxable in Sweden will escape tax, but that revenues in Sweden will be further undermined by residents borrowing, and taking tax deductions, to acquire interest income untaxed in Sweden. The likely extent of such transactions is hard to judge, being in principle limited only by imperfections in the capital market. Certainly the attractions of such arbitrage are limited by spreads between borrowing and lending rates, and by exchange rate risk; but the former will become less of a concern as the efficiency of the banking sector improves (Andersson and Fall (2000)), while the latter would be reduced if Sweden were to adopt the Euro. There are signs indeed, that taxpayers are adept at exploiting the potential value of interest deductions: net revenue from the taxation of interest income is already negative, with net taxable interest in 1998 of SEK -19 bn.

130. **There is thus reason to suppose that pressures to reduce the rate of tax on capital income will intensify.** As seen earlier the current rate of 30 percent on interest and dividend income is not amongst the highest of the top marginal rates in the OECD, but nor is it among the lowest. (For those with relatively small amounts of capital income, however, the flat rate of 30 percent under the Swedish dual income tax is likely to be higher than the rate they would pay in countries that apply a progressive tax to an aggregate of capital and labor income). One difficulty that would arise in lowering the rate applied to capital income is that it would intensify the incentives that currently exist under the dual income tax to transform labor income (taxed at marginal rates of up to 55 percent) into capital income. Policing the borderline between the two types of income is especially difficult for small businesses: employees can for instance acquire equity stakes and take part of their employment income as lightly taxed return on capital. Thus reducing the flat rate of capital income tax would put pressure on current levels of labor income taxation, creating a further downward twist to revenues.

131. **These downward pressures on the flat tax on capital income may be mitigated by a recent agreement in principle in relation to the taxation of savings within the EU.** Member states agreed in 2000 to move towards a mutual routine sharing of information

enabling them to bring under taxation their residents' savings located elsewhere in the EU. Much important detail remains to be resolved, however—not least in terms of negotiations with key non-members. At a technical level, the proposal to exchange information routinely is innovative, and its effectiveness remains to be tested. Doubtless though, the mere knowledge that information is being exchanged will have a salutary effect on taxpayers, at least in the early years of the scheme. The more fundamental difficulty remains, however, that the agreement will leave open opportunities for tax evasion through non-participant countries.

**132. While there remain many imponderables in assessing the outlook for revenues from the taxation of savings, there is a clear downside risk.** This risk is perhaps even higher than with the corporation tax, and may be of the order of a few percentage points of current tax revenues.

### **Commodities**

**133. The increased ease of moving commodities across borders, both legally and illegally, makes high indirect taxes harder to sustain.** Cross-border movement of commodities into and out of Sweden has become easier in recent years, particularly with the easing of fiscal controls at frontiers in the context of the EU's single market program and the expansion of links with the countries of the former Soviet Union. This facilitates the arbitraging of indirect tax differentials across countries—both through relatively small scale, legal, own-use purchases by individuals, and through organized smuggling—and so potentially exerts downward pressure on both tax rates and revenue.

**134. High excises on drink and tobacco are likely to come under particular pressure.** The incentive for 'cross-border shopping'—using this term to refer to the full range of transactions, legal and illegal—depends on the extent of tax differentials between countries. As can be seen from the comparative indirect tax rates for the EU countries shown in the next table, Sweden has the highest excises of any EU country on wine and spirits: far higher, in particular, than Denmark or Germany, both easily reached from Sweden. The tax differentials this implies are amplified, moreover, by the high rate of VAT in Sweden—equaled only by that in Denmark—which is applied to the excise-inclusive price. Cigarette taxes are not out of line with those in neighboring EU countries, though the prospect of more open borders with nearby EU accession countries does pose a risk. While the incentive for cross-border shopping out of Sweden on these items is clear enough, the VAT rate itself is also sufficiently in excess of that charged elsewhere, notably in Germany, to risk generating tax-induced shopping on a broad range of items.

### Indirect Tax Rates in the EU, July 2001

	VAT 1/	Excises				
		Cigarettes 2/	Unleaded Petrol 3/	Still wine 4/	Beer /5	Spirits (ethyl alcohol) 4/
Austria	20	73.07	408	0	2.1	10.02
Belgium	21	74.36	494	0.47	1.71	16.61
Denmark	25	81.67	524	0.95-1.42	3.62- 36.02	36.89
Finland	22	76.03	552-561	2.35	28.58 6/	50.46
France	19.6	74.80	571-621	0.03	2.59 6/	14.50
Germany	16	68.86	593	0	0.79	13.04
Greece	18	72.75	298-372	0	1.13	9.08
Ireland	21	79.01	348-454	2.73	19.9	27.62
Italy	20	74.67	520	0	1.4	6.45
Luxembourg	15	67.72	372	0	0.8	10.41
Netherlands	17.5	72.97	590	0.49	9.1-26.6	15.04
Portugal	17	80.73	289	0	7.22-20.2	8.36
Spain	16	71.18	372-403	0	0.77	6.85
<b>Sweden</b>	<b>25</b>	<b>70.47</b>	<b>528-531</b>	<b>3.19 /5</b>	<b>17.2 6/</b>	<b>58.80</b>
United Kingdom	17.5	79.50	765-815	2.58	29.5	32.65

Source: EU Excise Duty Tables (July 2001).

1/ Standard rate.

2/ Euros per 1000 liters.

3/ As percentage of price of most popular category.

4/ Per hectoliter per degree Plato of finished product.

4/ Euros per liter of product.

5/ Currently proposed to be reduced by nearly 20 percent.

6/ Euros per hectolitre per degree of alcohol of finished product.

135. **Cross-border shopping does indeed appear to be sizable in Sweden.** It is estimated that about one-third of the spirits consumed in 1996/7 were either smuggled or illegally distilled.<sup>44</sup> The table below reports estimates of the excise revenue lost from cross-

<sup>44</sup>Riksskatteverket (2000).

border shopping. For cigarettes, it is estimated that about 159 mn sticks were smuggled, for a revenue loss of SEK 0.25 bn; the SEK 0.9 bn in the table comes from applying the same loss per stick to an estimate<sup>45</sup> of 540 mn sticks—a considerable increase—smuggled more recently. For alcoholic drinks, the foregone excise revenue is SEK 2.2 bn, with the associated VAT loss estimated by the Ministry of Finance to be SEK 0.94 bn. The implied total loss on excisable commodities is a little over SEK 4 bn, around 0.34 percent of general government revenue. To this may be added a loss of around SEK 0.75 bn in relation to new cars.

**Estimated Excise Revenue Losses From Cross-Border Shopping (SEK bn)**

Cigarettes 1/	Petrols 2/	Wine 3/	Beer 3/	Spirits 3/
0.9	0.2	1.3	0.5	0.4

1/ See text for derivation.

2/ Riksskatteverket (2000).

3/ Excises only. Provided by Ministry of Finance

136. **The downward pressures on excise tax rates implied by cross-border shopping are already being felt, and acted upon, by Swedish policy-makers.** In June 2001, the government announced a modest reduction in the excise on wine, by nearly 20 percent. There is little doubt that these pressures will increase. The derogation under which Sweden is allowed to limit the quantities of tax-paid goods that travelers may import expires in January 2003. It may also be that the internet will further facilitate cross-border movements, although business-to-consumer transactions (the only ones that properly give rise to a consumption tax liability) remain relatively limited. Some protection against erosion is provided by the minimum indirect tax rates set by the EU, which in due course may also come to apply to other of Sweden's Baltic neighbors. Nevertheless, the revenue at risk is significant. The yield from the excises in 1999 was about SEK 82 bn. Even ignoring the associated reduction in VAT payments, a loss of one-quarter of this would reduce general government revenues by about 1.7 percent. Still larger sums would be at stake if the high standard rate of the VAT itself were to come under strain.

**Labor**

137. **Labor mobility is potentially a concern—in terms of both its potential distortion by, and effect on, the welfare state—mainly at the two ends of the income distribution.** The risk is that measures of redistribution may give rise to emigration by the better off (with

---

<sup>45</sup> Riksskatteverket (2000).

consequent loss of tax revenues and skills) and immigration at the bottom end (with consequent pressures on the welfare state in so far as migrants are net fiscal beneficiaries).

**138. The prospect of outward movement of labor in response to the tax-transfer system has been a concern for some years.** Indeed Bhagwati and Wilson (1989) argue that “The departure of Ingmar Bergman, Björn Borg and Ingemar Stenmark...has done more to focus Swedish attention on the enormous erosion of incentives than the writings of all the economists between Stockholm and Stanford.” How significant a threat this is to the current welfare state, however, is far from clear.

**139. High average effective tax rates on labor income will in themselves tend to foster net emigration.** The next table shows the average effective tax rates that a worker receiving the average production wage (second column) or 167 percent of that wage (third column) would face in the countries of the EU. The first figure in each cell shows the rate taking account of income tax, employee’s social security contributions and transfers. To take account of the reduction in real incomes brought about by indirect taxation, the figure in parentheses adjusts also for the standard rate of VAT. Though clearly high relative to a number of member states, those in Sweden are not out of line with those in the other countries of continental northern Europe.

**Average Effective Tax rates for a Single Earner, 1998**

	Average Production Wage	167 Percent of Average Production Wage
Austria	28.6 (40.5)	35.0 (45.8)
Belgium	41.8 (51.9)	48.7 (57.6)
Denmark	43.4 (54.7)	50.4 (60.3)
Finland	35.4 (47.0)	42.6 (53.0)
France	27.3 (39.2)	30.7 (42.1)
Germany	42.1 (50.1)	47.5 (54.7)
Greece	18.3 (30.8)	23.3 (35.0)
Ireland	24.9 (37.9)	35.9 (47.0)
Italy	29.1 (40.9)	33.8 (44.8)
Luxembourg	24.6 (34.4)	33.9 (42.5)
Netherlands	34.4 (44.2)	38.9 (48.0)
Portugal	18.1 (30.0)	24.5 (35.5)
Spain	20.2 (31.2)	12.8 (24.8)
<b>Sweden</b>	<b>34.4 (47.5)</b>	<b>42.0 (53.6)</b>
United Kingdom	25.2 (36.3)	27.0 (37.9)

Source: OECD (2000) and staff calculations.

Note: Figure in parentheses is  $(v+t)/(1+v)$ , where  $v$  is the standard rate of VAT and  $t$  the effective rate preceding the parentheses.

140. **The migration decision is affected, however, by a range of measures not included in these calculations.** The average pay on which these calculations are based is likely to be affected, for instance, by the relatively high level of social security contributions in Sweden and by the extensive wage compression. Comparing net pay across countries within occupational groups, Andersson (1995) reports substantially lower net wages in Sweden. He also emphasizes, however, that account needs to be taken of the consumption benefits from public expenditure enjoyed in the various countries, on which score Sweden looks attractive. Moreover, the migration decision is more complex than such comparisons allow. Individuals may exploit tax differentials of different kinds at different times in their life, earning and saving in low income tax countries—perhaps repatriating earnings to their families in the home country—and then retiring to countries with low consumption and wealth taxes. Although there are significant avoidance opportunities under the wealth tax, as noted earlier, Sweden would seem in a fiscal sense relatively unattractive to the wealthy.

141. **Outward migration of Swedes does not appear to have been high enough to become a serious concern.** Emigration does not currently appear high or increasing, even within the common Nordic labor market. In the 1980s, for example, an average of only 0.1 percent of Swedes emigrated, far below corresponding figures for Germany and Norway. While it appears relatively commonplace for highly skilled workers in Swedish multinationals to spend time working abroad, return migration historically seems to be high.

142. **Sweden has been quite open to inward migration, notably of asylum seekers and refugees.** In 1998, about 5.6 percent of the population was foreign born, a higher proportion than in any other Northern EU country. In recent years a high proportion of these—around 70 percent—have been asylum seekers, a group with a high welfare dependency. There appears to be no assessment of the net fiscal cost from this, although survey evidence continues to show a relative lack of political concern amongst Swedes (Brücker et al (2000)).

143. **Looking forward, the key issue is the likely extent and impact of inward migration associated with EU enlargement.** Current estimates are that ultimately 2–4 percent of the population of the potential accession countries may wish to migrate to the current members (Brücker et al (2000)). Since persons from these countries account for a higher proportion of the population in Sweden (3 percent) than in any other EU member except Germany, Sweden may be a target destination for a significant number of these migrants. Moreover, during its presidency of the EU in the first half of 2001, Sweden committed itself to a liberal immigration policy towards these countries. Assessing the extent of the likely inflow with any precision is extremely difficult. The relative generosity of the tax-transfer system may increase the attractiveness of Sweden as a destination, but the state of the labor market is likely to be also important. Continued rigidities may make it hard to absorb inflows, which in turn will have feedback effects on migrants' decisions that tend to reduce the inflows. The impact on the public finances depends on the nature of the immigrants, and is not necessarily adverse. If, as seems likely, they are largely relatively young and relatively highly skilled, perhaps with a high propensity to return home after a period of good earnings, the impact may be to strengthen the finances.

## B. Spending Pressures

### Demography

144. **The aging of the population set in earlier in Sweden than elsewhere, and firm action has been taken to deal with the pension implications.** By the early 1990s, the old age dependency ratio in Sweden was already at levels that other industrialized countries are projected to reach only in the coming years (Hagemann (1995)). This prompted a major reform of the pension system in 2001. The new system—which applies in full to those born after 1954—comprises two tiers. Of the 18.5 percent contribution on earnings, 2 percent is allocated to funded schemes. The remainder finances pensions on a pay-as-you-go basis, but with pension entitlements tightly linked to past contributions and an automatic balance mechanism in place to cut the real value of pensions if notional liabilities of the system exceed its notional assets.<sup>46</sup> Under current projections, this mechanism is unlikely to be brought into play.

145. **After 2010, however, significant pressures can be expected, largely from non-pension age-related spending.** Projections in the 2001 Spring Budget show a sharp increase in general government expenditure from 2010. Excluding interest payments, this is projected to be around 55 percent of GDP compared to the current 51 percent. This reflects the retirement of the baby-boomers of the 1940s, the increased pension payments that will be increasingly accommodated within the new pension arrangements and an increase in other age-related expenditures on health and social services.

### Local government spending and the equalization system

146. **Control of local government spending is key to controlling the overall level of public expenditure.** Local government spending, on health, education, social services and other items mentioned in Chapter II, accounts for over 40 percent of general government expenditure. Although subject to a balanced budget rule, with expenditure ceilings applying only to central government, there is some risk that pressures on the level of spending at central level may be deflected into an increase in local spending.

147. **Current equalization arrangements limit the incentives that local authorities face to improve the quality of the services they provide or limit the tax rates they set.** In an attempt to redistribute resources towards poorer localities, funds are reallocated horizontally between them, with each ultimately receiving an amount equal to:

$$(\text{Own tax base}) \times (\text{Own tax rate}) + (\text{Average tax base} - \text{Own base}) \times (\text{average tax rate}),$$

---

<sup>46</sup> For an account of the system by one of its architects, see Settergren (2001).

the averaging being across all local authorities. This structure has two adverse consequences on the incentives faced by local authorities, best seen by noting that for an authority charging the average tax rate:<sup>47</sup>

- There is no revenue to be gained by increasing the tax base through improving the quality of public services or the effectiveness with which money is spent;
- A small increase in its own tax rate will always increase the revenue it receives: the usual limit to increasing revenue by raising tax rates that is implied by the contraction of the tax base it induces is fully compensated for, from the authority's perspective, by an increase in the transfer it receives.

While local governments are not simply 'leviathans' concerned only to maximize their own tax revenue, the inducement to inefficient and excessive expenditures consequent upon such full equalization is clear.

### C. Political economy

148. **The Swedish welfare state has been built upon—and continues to enjoy—a broad consensus of political support, reflecting both a widespread egalitarian sentiment (also reflected in Sweden's strong record of support for developing countries) and, doubtless, some degree of vested interests.** The retrenchment of the 1990s also had broad social support: with a budget deficit of over 12 percent of GDP in 1993, the need for scaling

---

<sup>47</sup> More formally, suppose that the tax base of local government  $k$  is a function  $B(\tau_k, g_k)$  of its own tax rate  $\tau_k$  and the quality of its public services  $g_k$ . Then its net revenue is

$$R = \tau_k B(\tau_k, g_k) + (\bar{B} - B(\tau_k, g_k))\bar{\tau}$$

where a bar indicates an average over all localities. Differentiating, under the assumption that  $k$  takes the decisions of all other localities as given, one finds

$$\frac{\partial R}{\partial g_k} = (\tau_k - \bar{\tau}) \frac{\partial B}{\partial g_k} \quad \text{and} \quad \frac{\partial R}{\partial \tau_k} = (\tau_k - \bar{\tau}) \frac{\partial B}{\partial \tau_k} + B_k.$$

For a locality which sets the average tax rate, there is thus no revenue gain from an increase in the quality of spending; and there is an unambiguous gain in revenue from increasing the tax rate.

back public expenditure was clear enough. In the present strong fiscal position, however, there will be pressure to reverse some of the past expenditure cuts. These have already found some reflection in the Spring Budget of 2001 (in which, for instance, the ceiling on unemployment benefit receipts was increased). Such pressures may be compounded by a sense, among some commentators at least, that the reforms of the early 1990s compounded the recession that followed—inducing precautionary saving by the prospect of reduced social insurance—and that the gains from those reforms may not have been as spectacular as the more ardent advocates projected.

149. **Increased pressure for redistribution might also be expected, and perhaps is already arising, from the rise in pre-tax inequality over recent years.** The Gini coefficient for the distribution of factor income—movement in which has commonly been glacial—has increased by around 15 percent over the past decade. The table below shows a significant increase in overall wage dispersion, especially as between the upper and lower deciles. Many models would predict such an increase in pre-tax inequality to lead to increased political support for redistribution. Majority voting over a linear income tax, for instance, leads to more progressivity in the tax the greater the amount by which the median income falls below the mean.<sup>48</sup>

#### Wage Dispersion

	90/10 ratio 1/	50/10 ratio 2/
1992	1.69	1.21
1993	1.74	1.22
1994	1.78	1.23
1995	1.75	1.22
1996	1.79	1.23
1997	1.81	1.24
1998	1.90	1.26
1999	1.96	1.27

Source: Ministry of Finance

1/ Ratio of wage rate of 90th decile to that of 10<sup>th</sup> decile.

2/ Ratio of wage rate of 50th decile to that of 10<sup>th</sup> decile.

---

<sup>48</sup>The net payment to any household under such a scheme depends on the difference between their own income and the mean (the redistribution under such a scheme comes from the uniform subsidy component, the extent of which depends on the average income), and hence the net gain to the median voter is greater the greater is this difference.

150. **The politics of redistribution<sup>49</sup> are complex, however, and there is some empirical evidence to suggest that higher pre-tax inequality is associated with less redistribution.** Persson (1995) suggests that this may be explained in terms of individuals' preferences being defined not only over their own consumption but on their consumption relative to that of others: taxation then serves in part to correct the external damage that each individual confers on others by working more, and the more equal are initial incomes the more this consideration dominates over standard efficiency and redistribution concerns. Peltzman (1980) argues that a negative association between basic inequality and the extent of redistribution might be explained by a diminished sense of solidarity between middle and lower income groups as inequality increases. However, there appears as yet no reason to expect a substantial erosion of intrinsic support for the present extensive government intervention in Sweden.

#### **D. Changing Labor Market Institutions**

151. **Sweden's specialized labor market institutions had a mixed record over the past decades.** They have delivered stable periods with nearly full or fast-growing employment, as well as unstable ones characterized by exploding unemployment. Investigating actual wage outcomes, Friberg and Uddén-Sonnegård (2001) distinguish three periods since 1970: the traditional centralized wage formation model during 1969–1982, decentralized wage formation during 1983–1990, and wage formation under stabilization policies during 1991–2000. The key negotiating partners under the centralized framework were the LO and the SAF, central organizations representing trade unions and employers, respectively. They sought to maintain full employment, but—relying on the safety valve of periodic large devaluations—ended up with a high wage-growth equilibrium characterized by annual nominal wage increases of over 10 percent. During the second period, the emphasis shifted back and forth between central and branch or individual trade union-level negotiations, still retaining the LO–SAF partnership. As a result, the wage determination framework moved toward a more decentralized, patently suboptimal, mid-point where social partners failed to internalize the macroeconomic implications of higher wage increases. This led to a price-wage spiral, with ex post real wage increases averaging around 1 percent per annum during this period. The third period commenced with a recession and soaring unemployment rates, convincing social partners of the need for restrained wage increases as part of a policy package to stabilize the economy. With a single hiccup in 1996–97, wage growth was halved to around 4 percent on average, as the Riksbank's inflation targeting framework gained credibility and inflation expectations subsided. Despite the widely varying outcomes, the paper found that the wage determination process was largely unchanged since 1970: once inflation expectations and demand for labor were included among explanatory variables for wage developments, results of Chow tests indicated no significant structural break.

---

<sup>49</sup> For a survey, see Boadway and Keen (2000).

**152. The bargaining framework has improved since the early 1990s, but remains vulnerable to exogenous shocks.** Two key lessons from the theoretical literature are that the middle ground between centralized and decentralized wage bargaining should be avoided, (Calmfors and Driffill (1988)) and that some cushion is needed to avoid excessive wage scale compression (Flanagan (1999)). The approach evolving during the most recent period builds on these insights. It combines sound macroeconomic policies leading to low inflation expectations, a sufficient centralized component to impose macroeconomic wage discipline, and enough elbow-room for follow-up negotiations to reflect local supply and demand conditions within the macroeconomic constraints. The introduction of an agreed set of rules for bargaining, and the creation in 2000 of a National Mediation Office to settle unresolved procedural disagreements without interfering in the wage determination process are added safety valves to ensure a sound outcome. Moreover, the replacement rate provided by the unemployment benefit has reversed its increasing trend from the early 1990s, improving incentives for job-search (Forslund and Kolm (2000)). While these improve the bargaining process, the new framework has not yet been tested by adverse macroeconomic conditions, and—as all centralized wage-setting regimes—remains highly vulnerable to sudden shocks. Much like a large ship, the Swedish labor market needs time to turn around if such shocks materialize, losing ground during the protracted adjustment process, as vividly demonstrated by the emergence of high unemployment in Sweden during 1993–1998.

**153. As for the broader picture, various non-wage indicators also point to improving labor market performance during the past decade, but further progress hinges on lowering the burden of labor taxation.** Since the crisis period, the number of hours worked has steadily increased, and public sector employment has been curbed. Thus, the predominant part of the employment gains occurred in the non-government sector (Figures 13 and 14). However, as noted in Chapter V, absences from work have steadily risen since the mid-1990s, with a particularly worrisome increasing trend in sickness absences. While this level is not unprecedented in a historical perspective and may reflect easing unemployment levels, it also reflects the disincentive effects stemming from a still highly compressed after-tax wage scale. With the logic of the bargaining framework (whose stability requires a minimal wage drift) precluding substantial step increases in pre-tax wage dispersion, tax policy measures are the only available instruments for rapidly bringing about significant improvements in after-tax wage dispersion. In this context, Lindquist (2000) emphasizes the negative impact of the progressive tax system on the supply of skilled labor as a separate factor from wage scale compression.

Figure 13: Annual hours worked per employee

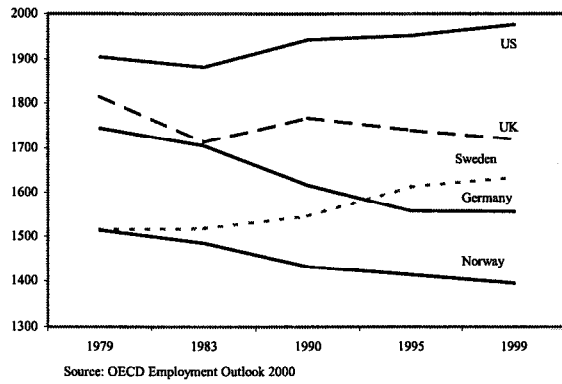
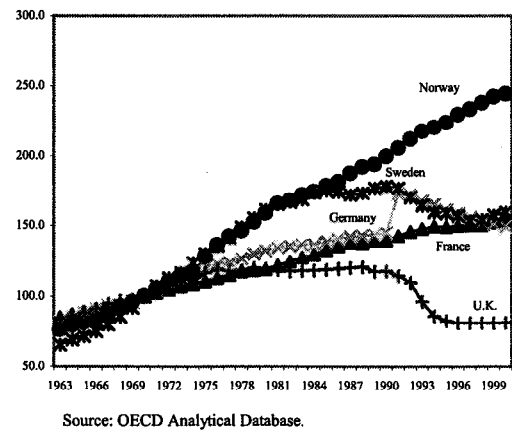


Figure 14: Government Employment Index, 1970 = 100



## IX. THE WAY AHEAD

154. **The Swedish welfare state now stands at an important juncture.** After the retrenchment of the 1990s, subsequent recovery, and now with a strong fiscal position, there are broadly two directions in which Sweden might move. One is to increase spending on transfers to restore some of the cutbacks of recent years. The other is to continue the streamlining of the 1990s, with a reinvigoration of the reduction in the scale of government intervention. This paper argues for the latter.

155. **At its most basic, the key issue is the optimal size of government, which is inescapably in part a matter of ethical judgment.** While there are circumstances in which equity gains can be achieved at no efficiency cost, as discussed in Chapter VI, assessing the proper extent of government intervention ultimately involves trading off the efficiency costs of intervention (some of which, for example in relation to public goods or the correction for missing insurance markets, may be negative) against its equity benefits. Since value judgments come into play in assessing the latter, complete consensus on the proper extent of government involvement is highly unlikely: some may be willing to accept very high efficiency costs in return for modest improvements of the well-being of the worst-off. Moreover, although relatively well-defined conceptually, empirical and modeling issues leave considerable scope for disagreement as to the marginal excess burden of taxation. Nevertheless, it is possible to derive some quantitative feel for the nature of the trade-off between efficiency and equity in Sweden, and hence perhaps move toward some broad agreement on appropriate directions for change. An extremely stylized example of how this might be done is given in Box 3.

156. **This exercise is no more than a crude illustration, but does suggest that at reasonable orders of magnitude—and even ignoring potential growth effects—the inefficiencies induced by intervention may plausibly be felt to exceed, at the margin, the equity gains.** For example, suppose the marginal effectiveness of tax-transfer system in reducing inequality were equal to its average effectiveness, measured as the difference between the Gini pre and post tax-transfers for 1999 divided by the share of transfers in GDP, 0.183: giving  $G'$  as about 1.5 (since diminishing returns can reasonably be supposed to apply to inequality reduction, this is likely to be an over-estimate). Suppose too that the Marginal Excess Burden (MEB) is 0.75, corresponding to the higher end of the estimates for an METR on labor income of 60 percent. Then all observers who value a 1 percent increase in Gini-measured equality less than they do a 0.35 percent increase in average real incomes would wish to see the size of government reduced.

### Box 3: Trading Off Efficiency and Equity

Suppose that policy is evaluated by an objective function of the form  $Y(T).(1-G(T))^\alpha$ , where  $Y$  denotes average real income,  $G$  the Gini coefficient measure of after tax-transfer inequality, and  $T$  the total level of taxes and transfers, while  $\alpha$  parameterizes the relative weight attached to average incomes and equality: a 1 percent increase in after-tax inequality is valued the same as an  $\alpha$  percent increase in average real incomes. The dependence of  $Y$  on  $T$  reflects the inefficiency cost of redistribution: normalizing  $Y$  to unity in the initial position, the derivative  $Y'$  is the negative of the additional excess burden of the system per dollar raised at the margin, MEB. Similarly the dependence of  $G$  on  $T$  reflects the impact of the system, on both the tax and transfer side, on after tax inequality.

Differentiating the objective function, a small increase in  $T$ —the extent of government intervention—is desirable if and only if

$$\alpha > -(1-G) \frac{MEB}{G'} \quad (1)$$

As one would expect, an increase in  $T$  is more likely to be desirable, for any given value judgment, the lower is the marginal excess burden it creates and the greater is the reduction  $G'$  in inequality it allows. More to the point, by specifying values for the MEB and  $G'$  one can infer from (1) the critical level of  $\alpha$ —the weight one attaches to inequality—such that all those who care more or equally about inequality would welcome a further increase in the scale of intervention. Illustrative calculations are presented in the below:

#### Critical values of the equality preference parameter $\alpha$

$G'$	MEB			
	0.1	0.5	0.75	1
0.5	0.14	0.71	1.06	1.40
1.0	0.07	0.35	0.53	1.71
1.5	0.05	0.24	0.35	0.47
2.0	0.04	0.18	0.26	0.35

Note: Initial inequality is assumed throughout to be 0.294 (the 1999 estimated value).

157. **While the impact of extensive government intervention on the rate and quality of economic growth is hard to assess, there is a presumption that in this respect too an easing of distortions to work, investment and savings decisions would generate sizeable cumulative efficiency gains.** The illustrative figures for the marginal excess burden of taxation in Box 3 derive from a static framework. Though less extensively studied and understood, the cost of distortions that affect the long-term growth rate—part of which will be borne by generations yet unborn, and so unable to directly represent their interest in current politics—could be even greater, so reinforcing the case for tilting the balance to efficiency considerations.

158. **The next decade and beyond is likely to see both an increase in inefficiency costs of current tax arrangements and increased pressure for high priority expenditures.** Though the extent of the effect is still to some degree imponderable, continued and deepening internationalization will put continued pressure on the level and nature of government intervention. So too may changes in the pattern of collective bargaining. At the same time, the aging of the baby boomers will add to pressures from spending not only on pensions—this can be broadly accommodated within the reformed pension system—but also on other age-related items.

159. **Both for their own merits, and to prepare for what may lie ahead, measures to streamline the role of government and focus on essentials should be continued and reinvigorated.** Assessments of the 1991 tax reform and other policy initiatives of the 1990s have been very positive. More can be done to better position Sweden to preserve its considerable achievements. While a full strategy requires addressing more questions of detail, and undertaking deeper analysis, than this paper has done, some areas of possible attention emerge clearly:

- The risk of high marginal effective tax rates on the better-off—by definition a particularly productive group—could be lowered by cutting the top rate of central income tax, and perhaps unifying the central rate somewhat below the current standard rate, all at relatively little revenue cost. By mitigating the problems that arise from the current disparity between the top rate of tax on labor income and that on capital income, this might also pave the way for an eventual cut in capital income taxation, should that prove necessary.
- The more difficult problem of high marginal effective tax rates on the less well-off could be ameliorated by, for example:
  - reducing the starting rate of the local income tax;
  - increasing the level of the child benefit, and taxing it.

- High marginal effective tax rates on domestic savings could be eased, and the fairness of the tax system improved, by increasing the threshold for the wealth tax and tightening exemptions;
- Housing policy is characterized by a range of measures—de facto rent control, housing allowances, tax advantages to owner-occupation—that have complex effects in a market that is key both to the efficiency of the labor market and the allocation of capital. A review of these interventions, taking a holistic view of the interactions between them, and a fundamental overhaul, are long overdue;
- Incentives under the sickness benefit scheme could be improved by having employers bear more of the cost, either by extending the period for which they are responsible for payment or by introducing some form of experience rating. More generally, the generosity of benefits—not only in terms of their levels but also the entitlement conditions attached to them—needs continual review;
- Further measures could be taken to alleviate the double taxation of dividends, which runs the risk of discouraging young and growing enterprises;
- Easing wage compression and other rigidities would improve labor market prospects for the lower waged (and ease the absorption of prospective immigrants as the EU expands), stem incipient emigration of high-skilled labor, and improve the allocation of labor resources.
- The downward trend in the expenditure share should continue to safeguard the authorities' medium-term surplus target.

160. **Sweden is on almost all indicators a highly successful and compassionate society.** Continued vigilance is needed to preserve these achievements. The authorities are aware of these issues and possibilities. Indeed as this report was being finalized, they announced significant tax policy measures, including an increase in the threshold for the wealth tax along the lines suggested above. They are another reminder that changing circumstances may call for different ways of pursuing established objectives, and for continued movement towards a new Swedish model.

## References:

Adema, W., What Do Countries Really Spend on Social Policies? A Comparative Note. OECD Economic Studies #28, 1997

Aronsson, Thomas and James R. Walker, 1997, "The effects of Sweden's welfare state on labor supply incentives," in *The Welfare State in Transition; Reforming the Swedish Model* ed. By Richard B. Freeman, Robert Topel and Birgitta Swedenborg (Chicago: University of Chicago Press).

Agell, Jonas, 1996, "Why Sweden's Welfare State Needed Reform," *Economic Journal*, Vol. 106, pp. 1760–71.

Agell, Jonas, 1998, "What Can the Welfare State Accomplish: An Introduction," *Swedish Economic Policy Review*, Vol. 5 No. 1, pp. 3–10.

Agell, Jonas, L. Berg and P.-A. Edin, 1995, "The Swedish Boom to Bust cycle: Tax Reform, Consumption and Asset Structure," *Swedish Economic Policy Review*, Vol. 2, 271–314.

Agell, Jonas, Peter Englund, and Jan Södersten, 1995, "Swedish Tax Policy in Theory and Practice: The 1991 Tax Reform," (Stockholm: Frizes).

Agell, Jonas, Peter Englund, and Jan Södersten, 1998, *Incentives and Redistribution in the Welfare State: The Swedish tax Reform* (Basingstoke: Macmillan).

J. Agell and P. Lundborg: Survey Evidence on Wage Rigidity and Unemployment: Sweden in the 1990s. IFAU Working Paper #1999:2

Aghion, Philippe, Eva Caroli, and Cecilia García-Peñalosa, 1999, "Inequality and Economic Growth: The Perspective of the New Growth Theories," *Journal of Economic Literature*, Vol. 37, pp. 1615–1660.

Alesina, Alberto, and Roberto Perotti, 1996, "Income Distribution, Political Instability, and Investment," *European Economic Review*, Vol. 40 (June), pp. 1203–28.

Alesina, Alberto, and Dani Rodrik, 1992, "Distributive Politics and Economic Growth," NBER Working Paper 3668 (Cambridge, Massachusetts: National Bureau of Economic Research).

Alesina, Alberto, and Dani Rodrik, 1992, "Political Instability and Economic Growth," NBER Working Paper 4173 (Cambridge, Massachusetts: National Bureau of Economic Research).

Andersson, Krister and Johan Fall, 2000, "The ongoing tax competition in the EU to attract capital," Mimeo, Federation of Swedish Industries.

Apel, Mikael and Jan Södersten, 1999, "Personal taxation and investment incentives in a small open economy," *International Tax and Public Finance*, Vol. 6, 79–88.

Atkinson, A.B., 1995, "The welfare state and economic performance," *National Tax Journal*, Vol.48, 171-198.

Banerjee, A.V. and A.F. Newman, 1993, "Occupational choice and the process of development," *Journal of Political Economy*, Vol. 101, 274–298.

Barro, Robert J., 1989, "A Cross-Country Study of Growth, Saving and Government," NBER Working Paper 2855 (Cambridge, Massachusetts: National Bureau of Economic Research).

Barro, Robert J., 1991, "Economic Growth in a Cross Section of Countries," *Quarterly Journal of Economics*, Vol. 106 (1991), pp. 407–43.

Barro, Robert J., and Xavier Sala-i-Martin, 1995, Economic Growth (New York: McGraw Hill).

Belassa, Bela, 1978, "Exports and Economic Growth: Further Evidence," *Journal of Development Economics*, Vol. 5, pp.181–89.

Benabou, Roland, 1996, "Inequality and Growth," in B. S. Bernanke and J. Rotemberg, eds., NBER Macroeconomics Annual, Vol. 11 (Cambridge, Massachusetts: MIT Press).

Berndt, Ernst R., and Bengt Hansson, 1992, "Measuring the Contribution of Public Infrastructure Capital in Sweden," *Scandinavian Journal of Economics*, Vol. 94, pp. s151–s168.

Bhagwati, Jagdish N., and T. N. Srinivasan, 1979, "Trade Policy and Development," in International Economic Policy, ed. by Rudiger Dornbusch and Jacob Frenkel (Baltimore: Johns Hopkins University Press).

Bhagwati, Jagdish and John Douglas Wilson, 1989, Income taxation and International Mobility (Cambridge, Mass: MIT Press)..

Björklund, Anders and Richard B. Freeman, 1997, "Generating equality and eliminating poverty, the Swedish way," in The Welfare State in Transition; Reforming the Swedish Model ed. by Richard B. Freeman, Robert Topel and Birgitta Swedenborg (Chicago: University of Chicago Press).

Björklund, Anders and Markus Jäntti, 1997, "Intergenerational income mobility in Sweden compared to the United States," *American Economic Review*, Vol. 87, 1009-1018.

Boadway, Robin and Michael Keen, 2000, "Redistribution," in *Handbook of Income Distribution Vol.1*, ed. by Anthony Atkinson and François Bourguignon (Amsterdam: North-Holland).

Bond, Stephen and Lucy Chennells, 2000, "Corporate income taxes and investment: A comparative study," Mimeo, Institute for Fiscal Studies, London.

Borensztein, Eduardo, Jose De Gregorio, and Jong-Wha Lee, 1994, "How Does Foreign Direct Investment Affect Economic Growth?" IMF WP/94/110 (Washington: International Monetary Fund).

Brücker, Herbert, Gil S. Epstein, Barry McCormick, Gilles Saint-Paul, Alessandra Venturinin and Klaus Zimmerman, "Managing migration in the European welfare state," Mimeo.

Buchanan, J. M., 1980, "Rent Seeking and Profit Seeking," in J. M. Buchanan, G. Tullock, and R. Tollison, eds., Toward a Theory of a Rent Seeking Society, (Texas A&M University Press).

Calmfors, Lars, and Mats Persson, 2000, "Economic Policy and Growth—An Introduction," *Swedish Economic Policy Review*, Vol. 7 No. 1, pp. 3–6.

L. Calmfors and J. Driffill: Bargaining Structure, Corporatism and Macroeconomic Performance, *Economic Policy* Vol. 6, 1988.

Castles, Francis G. and Steve Dowrick, 1990, "The Impact of Government Spending Levels on Medium-term Economic Growth in the OECD, 1960–85," *Journal of Theoretical Politics* 2, pp. 173–204.

Cerra, Valerie, and Sweta C. Saxena, "Alternative Methods of Estimating Potential Output and the Output Gap: An Application to Sweden," IMF Working Paper WP/00/59 (Washington, DC: International Monetary Fund).

Chennells, Lucy and Rachel Griffith, 1997, Taxing Profits in a Changing World, (London: Institute for Fiscal Studies).

Chirinko, Robert, Stephen Fazzari and Andrew Meyer, 1999, "How responsive is business capital formation to its user cost? An exploration using micro-data," *Journal of Public Economics*, Vol.74, 53–80.

Coe, David R., and Elhanan Helpman, 1993, "International R&D Spillovers," NBER Working Paper 4444 (Cambridge, Massachusetts: National Bureau of Economic Research).

Crafts, Nicholas, 2000, "Globalization and Growth in the Twentieth Century," IMF Working Paper WP/00/44 (Washington, DC: International Monetary Fund).

Dennison, Edward, 1967, Why Growth Rates Differ: Post War Experience in Nine Western Countries (Washington: Brookings Institution).

Daveri, F. and G. Tabellini, 2000, "Unemployment, growth and taxation in industrial countries," *Economic Policy*, No. 30, 49-104.

Diamond, John, 1989, "Government Expenditure and Economic Growth: An Empirical Investigation," IMF Working Paper WP/89/45 (Washington: International Monetary Fund).

Diamond, Peter and James Mirrlees, 1971, "Optimal taxation and public production, II: Tax rules," *American Economic review*, Vol. 61, 261-278.

Doppelhofer, Gernot, Ronald Miller, and Xavier Sala-i-Martin, 2000, "Determinants of Long-term Growth: A Bayesian Averaging of Classical Estimates (BACE) Approach," NBER Working Paper 7750.

Dowrick, Steve, 1996, "Swedish Economic Performance and Swedish Economic Debate: A View From the Outside," *Economic Journal*, Vol. 106, pp. 1772-79.

Dowrick, Steve, and Duc-Tho Nguyen, 1989, "OECD Comparative Economic Growth 1950-85: Catch-up and Convergence," *American Economic Review*, Vol. 79, pp. 1010-30.

Easterly, William R., and Sergio Rebelo, 1993, "Fiscal Policy and Economic Growth: An Empirical Investigation," *Journal of Monetary Economics*, Vol. 32, pp. 417-58.

Feldstein, Martin S., and Charles Horioka, 1980, "Domestic Savings and International Capital Flows," *Economic Journal*, Vol. 90, pp. 314-29.

R. J. Flanagan: Macroeconomic Performance and Collective Bargaining: An International Perspective, *Journal of Economic Literature*, Vol XXXVII (September 1999), pp 1150-1175.

A. Forslund, A. S. Kolm: Active Labor Market Policies and Real Wage Determination – Swedish Evidence. IFAU Working Paper 2000:7.

Frenkel, Jacob, Assaf Razin and Chi-Wa Yuen, 1996, Fiscal policies and Growth in the World Economy (Cambridge: MIT Press).

Friberg and E. Uddén-Sonnegård: Changed wage formation in a changed environment? Riksbank Economic Review, 2001:1.

Gerson, Philip, 1998, "The Impact of Fiscal Policy Variables on Output Growth," IMF Working Paper WP/98/01.

Gottschalk, Peter and Timothy M. Smeeding, 2000, "Empirical evidence on income inequality in industrialized countries," in *Handbook of Income Distribution Vol. 1*, ed. by Anthony Atkinson and François Bourguignon (Amsterdam: North-Holland).

Griliches, Zvi, 1991, "The Search for R&D Spillovers," *Scandinavian Journal of Economics*, Vol. 94, pp. 29–47.

L. Gustafsson, A. Svensson: Public Sector Reform in Sweden, Liber Ekonomi 1999

Hagemann, Robert, 1995, "Social security in Sweden," in Challenges to the Swedish welfare state, Lachman et al (IMF Occasional paper 130).

Hansson, Ingemar, 1987, "Marginal cost of public funds for different tax instruments and government expenditures," *Scandinavian Journal of Economics*, Vol. 86, 115-131.

Hansson, Par and Magnus Henrekson, 1994, "A New Framework for Testing the Effect of Government Spending on Growth and Productivity," *Public Choice*, Vol. 81, pp. 381–401.

Henrekson, Magnus, 1996, "Sweden's Relative Economic Performance: Lagging Behind or Staying on Top?" *Economic Journal*, Vol. 106, pp. 1747–59.

D. A. Hibbs, Jr. and Håkan Locking: Wage Dispersion and Productive Efficiency: Evidence for Sweden, *Journal of Labor Economics*, Vol 18, No. 4.

Hoff, Karla and Andrew B. Lyon, 1995, "Nonleaky buckets: Optimal redistributive taxation and agency costs," *Journal of Public Economics*, Vol. 58, 365–390.

Holmlund, B. and A.-S. Kolm, 1995, "Progressive taxation, wage setting and unemployment—Theory and Swedish evidence," *Swedish Economic Policy Review*, Vol. 2, 423–460.

Jäntti, Markus and Sheldon Danziger, "Income poverty in advanced countries," in *Handbook of Income Distribution Vol. 1*, ed. by Anthony Atkinson and François Bourguignon (Amsterdam: North-Holland).

Johansson, P. and M. Palme, 1993, "The effect of economic incentives on worker absenteeism: An empirical study using Swedish micro data," *Journal of Public Economics*, Vol. 59, 195–218.

Kanniainen, Vesa and Jan Södersten, 1994, "The importance of reporting conventions for the theory of corporate taxation," Uppsala University Department of Economics Discussion Paper No. 1994:5.

Kay, John A., 1980, "The deadweight loss from a tax system," *Journal of Public Economics*, Vol. 13, 111–120.

Kessler, Anke, Christoph Lülkesmann and Gordon Myers, 2000. "Redistribution, fiscal competition, and the politics of economic integration," Mimeo, Simon Fraser University.

King, Mervyn, 1980, "Taxation and savings," in Public Policy and the Tax System ed by Geoffrey Heal and Gordon Hughes (London: Allen & Unwin).

King, Mervyn and Mark Robson, 1993, "United Kingdom," in Tax Reform and the Cost of Capital: An International Comparison ed by Dale Jorgensen and Ralph Landau (Washington D.C.: Brookings Institution).

Kneller, Richard, Michael Bleaney, and Norman Gemmell, "Fiscal Policy and Growth: Evidence from OECD Countries," *Journal of Public Economics*, Vol. 74, pp. 171–190.

Koskela, Erkki and J. Vilmunen, 1996, "Tax progression is good for employment in popular models of trade union behavior," *Labor Economics*, Vol. 3, 65–80.

Knight, Malcolm, Norman Loayza, and Delano Villanueva, "The Peace Dividend: Military Spending Cuts and Economic Growth," IMF WP/95/53 (Washington: International Monetary Fund).

Korpi, Walter, 1985, "Economic Growth and the Welfare System: Leaky Bucket or Irrigation System?" *European Sociological Review*, Vol. 1, pp. 97–118.

Korpi, Walter, 1996, "Eurosclerosis and the Sclerosis of Objectivity: On the Role of Values among Economic Policy Experts," *Economic Journal*, Vol. 106, pp. 1727–46.

Krueger, Anne O., 1978, Foreign Trade Regimes and Economic Development: Liberalization Attempts and Consequences (Cambridge, Massachusetts: Ballinger).

Landau, Daniel L., 1993, "The Economic Impact of Military Expenditures," World Bank Policy Research Department WPS 1138 (Washington: World Bank).

Lee, Jong-Wha, 1994, "Capital Goods Imports and Long-Run Growth," NBER Working Paper 4725 (Cambridge, Massachusetts: National Bureau of Economic Research).

Lindbeck, Assar, 1997, "The Swedish Experiment," *Journal of Economic Literature*, Vol. 35, pp. 1273–1319.

Lindbeck, Assar, Per Molander, Torsten Persson, Olof Petersson, Agnar Sandmo, Birgitta Swedenborg, and Niels Thygesen, 1994, Turning Sweden Around, MIT Press, London.

Lindquist: Wage Compression and Welfare in Sweden, Stockholm University, Department of Economics Working Paper 2000:4.

Lucas, Robert E., 1990, "Supply-side economics: An analytical review," *Oxford Economic Papers*, Vol. 42, 293-316.

Maddison, Angus, 2001, The World Economy: A Millennial Perspective, OECD Development Centre Studies.

Martin, Philippe, 2000, "A Quoi Servent les Politiques Régionales?" *Economie Internationale*, No. 81 (1<sup>st</sup> quarter), pp. 3–20.

McCallum, John and André Blais, 1987, "Government, Special Interest Groups, and Economic Growth." *Public Choice*, Vol. 54, pp. 3–18.

Masson, Paul, 2000, "Fiscal Policy and Growth in the Context of European Integration," *IMF Working Paper* WP/00/133.

Mendoza, Enrique, Gian Maria Milesi-Ferretti, and Patrick Asea, 1997, "On the ineffectiveness of tax policy in altering long-run growth: Harberger's superneutrality conjecture," *Journal of Public Economics*, Vol. 66, pp. 99–126.

Ministry of Finance, Sweden, 1995, The Medium Term Survey of the Swedish Economy.

Ministry of Finance, Sweden: Updated Swedish Convergence Program, November 2000.

Nördström, Håkan, 1992, "Studies in Trade Policy and Economic Growth." Monograph No. 20, (Stockholm: Institute for International Economic Studies).

OECD (2000), "The tax and transfer system—Balancing efficiency and welfare," in OECD Economic Surveys: Sweden.

OECD (1994) Regional Characteristics Affecting Small Business Formation: A Cross-National Comparison. Working Papers (International) Vol II, #8.

Olson, M., 1982, The Rise and Decline of Nations, (New Haven, Connecticut: Yale University Press).

Otani, Ichiro, and Delano Villanueva, 1990, "Long Term Growth in Developing Countries and its Determinants: An Empirical Analysis," *World Development*, Vol. 85, pp. 223–38.

Peltzman, S., 1980, "The growth of government," *Journal of Law and Economics*, Vol. 23, 209–287.

Persson, Mats, 1995, "Why are taxes so high in egalitarian countries?" *Scandinavian Journal of Economics*, Vol. 97, 569–621.

Persson, Torsten, and Guido Tabellini, 1991, "Is Inequality Harmful for Growth? Theory and Evidence," NBER Working Paper 3599 (Cambridge, Massachusetts: National Bureau of Economic Research).

Persson, Torsten, and Guido Tabellini, 1994, "Is Inequality Harmful for Growth?" *American Economic Review* 84, pp. 600–21.

Riksskatteverket, 2000, Tax Statistical Yearbook of Sweden, 2000.

Romer, Paul M., 1989, "What Determines the Rate of Growth and Technological Change?" World Bank Policy, Planning, and Research WPS 279 (Washington: World Bank).

Ruding Committee, 1992, Report of the Committee of Independent Experts on Company Taxation (Brussels: European Commission).

Sala-I-Martin, Xavier, 1992, "Public Welfare and Growth," Yale University Economic Growth Center Discussion Paper 666 (New Haven: Yale University).

Seade, Jesus, 1977, "On the shape of optimal income tax schedules," *Journal of Public Economics* Vol. 7, 203–235.

Settergren, Ole, 2001, "The automatic balance mechanism of the Swedish pension system," Mimeo, National Insurance Board of Sweden.

Sinn, Hans-Werner, 1995, "A theory of the welfare state," *Scandinavian Journal of Economics*, Vol. 97, 495–526.

Södersten, Jan, "Sweden" in Tax Reform and the Cost of Capital: An International Comparison ed by Dale Jorgensen and Ralph Landau (Washington D.C.: Brookings Institution).

Tanzi, Vito, 1995, "Long-Run Growth and Public Policy," in Social Capability and Long-Term Economic Growth, ed. by Bon Ho Koo and Dwight H. Perkins (New York: St. Martin's Press), pp. 142–56.

Tanzi, Vito, and Ludger Schuknecht, 1995, "The Growth of Government and the Reform of the State in Industrial Countries," IMF Working Paper WP/95/130 (Washington: International Monetary Fund).

Tanzi, Vito, and Howell Zee, 1997, "Fiscal Policy and Long-Run Growth," *IMF Staff Papers*, Vol. 44 (June), pp. 179–209.

Temple, Jonathan, 1999, "The New Growth Evidence," *Journal of Economic Literature*, Vol. 37, pp. 112–156.

Wasylenko, Michael, 1991, "Empirical Evidence on Interregional Business Location and the Role of Fiscal Incentives in Economic Development," in Industry and Location in Public Policy, ed. by H.W. Herzog, Jr., and A.M. Schlottmann (Knoxville: University of Tennessee Press).

Weede, Erich, 1986, "Sectoral Reallocation, Distributional Coalitions and the Welfare State as Determinants of Economic Growth Rates in Industrialized Democracies." *European Journal of Political Research*, Vol. 14, pp. 501–19.

Weede, Erich, 1991, "The Impact of State Power on Economic Growth Rates in OECD Countries." *Quality and Quantity*, Vol. 25, pp. 421–38.  
161.