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The Swedish Tax Reform: An Introduction

Jonas Agell, Peter Englund and Jan Södersten*

The papers in this issue of Swedish Economic Policy Review derive from an evaluation of the Swedish 1990–91 tax reform commissioned by the Ministry of Finance. The evaluation project has resulted in a summary report available in Swedish,[1] and a large number of specialised studies published by the Economic Council of Sweden in a series of Tax Evaluation Reports. The Swedish reform is one of the most far-reaching tax reforms undertaken in any industrialised country. According to its proponents the reform would avoid the classical goal conflict between efficiency and income distribution. In spite of drastic marginal tax cuts in high-income brackets, high-income earners were not supposed to gain relative to other groups; all strata in society would gain as a result of a generally more efficient economy. The proverbial free lunch would materialise.

Five years have passed since the tax reform was implemented, and it seems natural to ask whether the expectations have been fulfilled. A superficial answer appears to be negative. Since 1990 production has fallen, unemployment has increased, income inequality has grown and the government budget deficit has reached record heights. A growing number of critical voices now put part of the blame on the tax reform. The papers presented here attempt to disentangle the effects of the reform from other shocks that hit the Swedish economy in the early 1990s.

* *All authors are Professors of Economics at Uppsala University.*

[1] See Agell, Englund and Södersten (1995). The Tax Evaluation Reports are available from the National Institute of Economic Research.

1. The 1991 tax system

The 1990–91 tax reform can be described as a policy of *tax-cut-cum-base-broadening*, designed to be revenue neutral. Estimates presented by the Ministry of Finance indicated that the rate cuts would reduce tax revenue by some 90 billion kronor. In combination with increased housing and child allowances, intended to cushion the distributional effects of the reform, a total revenue loss on the order of 6–7 percent of GDP was projected. Measured in this way, the Swedish tax reform stands out as considerably larger in scope than for example the US Tax Reform Act of 1986, with an estimated revenue loss of 1–2 percent of GDP.

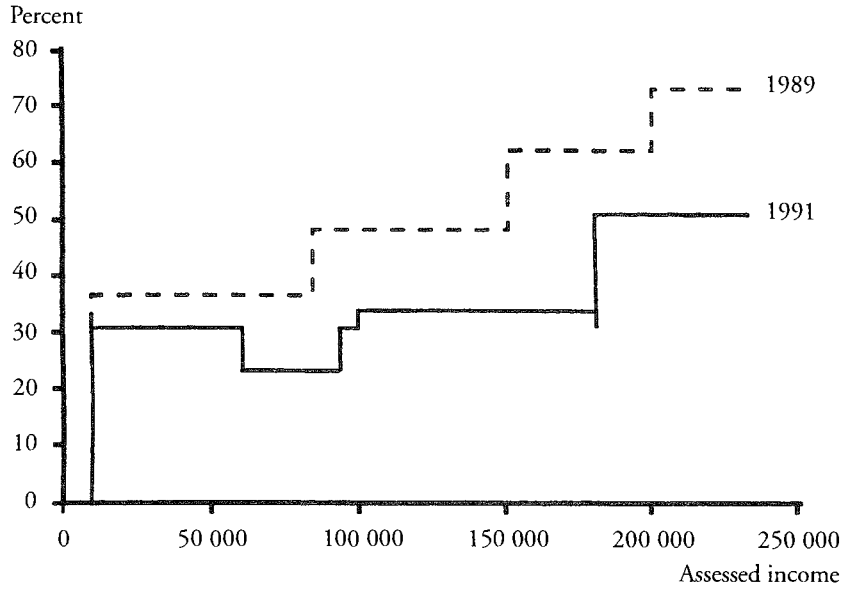
Almost 40 percent of this revenue loss was to be compensated for by increased revenue from a new system of taxing capital income, real estate and owner-occupied housing. The second main source of financing, with a projected revenue increase of some 28 billion, was a broadening of the value-added tax to include goods and services previously exempted or granted lower rates. Elimination of loopholes and preferential rules for taxing earned income was estimated to yield additional revenue of almost 13 billion. The remaining revenue needed was expected to accrue through what was labelled dynamic effects of the tax reform.

A completely new schedule for taxing earned income was introduced. Almost 85 percent of the income earners would pay only local income tax. In 1991 the countrywide average of the local income tax was 31 percent. A national income tax of 20 percent was imposed for incomes exceeding 185 000 kronor, which meant that the top marginal tax rate on earned income was set at 51 percent. The maximum income allowed so as to avoid the 20 percent national income tax would be raised by 2 percent a year in real terms.

The post reform income tax schedule brought dramatic cuts in marginal tax rates for most full-time employees, see Figure 1. Compared to the 1989 tax schedule, the marginal rate was reduced by 22 percentage points for an annual income of 250 000 kronor, and by as much as 27 percentage points for an annual income of 160 000 kronor. Part-time employees found their marginal rates cut by up to 12 percentage points, due to a special arrangement with a higher and income-dependent basic deduction. The change over time in the basic deduction would be tied to the change in the consumer price index.

Before the tax reform, more than 40 percent of private consumption was exempt from the value-added tax or granted lower tax rates. The fa-

Figure 1. Marginal tax rates 1989 och 1991 as a function of tax assessed income



voured areas included housing, hotel and restaurant services, and transportation. Although the initial ambition was to levy a uniform VAT on all commercial turnover of goods and services, several areas have remained tax exempt. These include various cultural and social services, and rents. Housing costs have risen as a result of the tax reform, however, partly because the VAT was broadened to include real estate maintenance, heating and electricity.

A new proportional tax of 30 percent was introduced for dividends, interest income and nominal capital gains, replacing the old system of taxing capital income according to a progressive rate schedule under the regular individual income tax. Short and long term capital gains would now be treated equally. A stated purpose of the new capital income tax was to reduce the scope for tax avoidance in various forms, and the full nominal taxation of capital gains has considerably reduced incentives to transform high-taxed regular income into low-taxed capital gains.

The tax reform also included new rules for the taxation of homeownership. A new property tax of 1.5 percent replaced the old scheme of taxing imputed income. Mortgage interest is still fully deductible, but because the taxation of owner-occupied housing was integrated with the new capital income tax, the value of interest deductions is now limited to

30 percent. Compared to the rules in effect immediately before the reform, this meant a reduction of 17 percentage points. If the comparison is extended to the beginning of the 1980s, the 1990–91 tax reform more than halved the value of interest deductions for owner-occupiers. As is the case for corporate shares, capital gains on housing are fully taxed on a nominal basis, but the legislation places an upper limit on the tax actually paid upon realisation. This limit is set at 9 percent of the proceeds from the sale of a house.

The changes in the corporation income tax were no less dramatic. The new rules implied a noteworthy departure from the previous long-standing policy of stimulating business investment in fixed capital through a combination of a high statutory tax rate and generous investment allowances. The statutory tax rate was reduced to 30 percent. Since the reform also included elimination of a surcharge known as the profit-sharing tax, the total statutory tax rate was cut almost in half.

In order to maintain an unchanged level of revenue, the rate reduction was combined with substantial broadening of the base. The possibility of undervaluing inventories for tax purposes was eliminated. The investment fund system was also discontinued, and the regular rules for fiscal depreciation for structures were made less generous. A new reserve option was introduced, however, enabling companies to deduct up to 30 percent of the net increase in the book value of equity, including the increase in accumulated retained earnings. The effect of this deduction is equivalent to a partial (30 percent) deduction for the nominal cost of equity.

2. An overview of the studies

A major cause of concern in the political debate preceding the reform was whether broadening of the tax bases in combination with improved housing and child allowances would be sufficient to counteract the increased inequality brought about by the drastic cuts in marginal income tax rates. In their paper "Tax Reforms and Income Distribution: An Assessment Using Different Income Concepts", **Anders Björklund, Mårten Palme** and **Ingemar Svensson** report results that help to settle the question. Using data from Statistics Sweden and the Level of Living Surveys, the authors calculate the impact of taxes and benefits on income distribution in terms of Gini coefficients going back as far as 1967. The equalising impact of the tax and benefit system is decomposed into two components,

one measuring vertical equity, and the other horizontal equity. The major finding of the study is that on the whole, the 1991 reform did preserve the equalising impact of taxes and benefits from the pre-reform period. The greater income inequality that followed from the reduced tax progressivity was offset by the increased allowances that accompanied the reform. There was also a considerable improvement in horizontal equity, i.e., more of equal treatment of equals.

However, when the data set is broken down into groups with the same demographic composition in terms of number of children and cohabiting status, the conclusions are modified somewhat. Within groups of households with less than two children, the equalising effect of taxes and benefits decreased after the reform. It should also be noted that the authors' conclusions seem to be fairly robust with respect to various alternative choices of income definitions and equivalence scales used to compare families with different numbers of children.

The paper by **Jonas Agell, Lennart Berg** and **Per-Anders Edin**, "The Swedish Boom to Bust Cycle: Tax Reform, Consumption and Asset Structure", explores a range of issues concerning the response of consumption and household portfolio allocation. The Swedish consumption boom of the mid to late 1980s was followed by a sharp spending reversal in the early 1990s. Although the consumption bust coincided with the tax reform, the authors conclude that other factors are more likely culprits. Because of the low interest sensitivity of consumption, the implied increase in real after-tax interest rates mattered less. To the extent that the tax reform played a role, the main channel seems to be wealth effects stemming from tax induced windfall losses in the housing market. But the evidence also suggests that consumption behaviour may have changed in a more fundamental way during the economic depression. Even when the authors account for several explanatory factors proposed in the literature, there are large negative errors in the consumption function in 1992–93.

On the asset side, however, the tax reform had a greater impact. Before the tax reform most observers agreed that the system of capital income taxation had two major shortcomings. First, as the tax system treated the returns on different assets in a non-uniform manner, especially in times of inflation, it was feared that savings were channelled to the wrong kinds of investments. Second, the old system permitted a number of straightforward arbitrage operations, which undermined the tax base and stimulated borrowing. Calculations reported by Agell, Berg and Edin indicate

that the tax reform implied a large step in the direction of levelling the playing field and reducing the incentives for debt financed tax arbitrage. Aggregate data suggest that households responded to these incentives. In the absence of the tax reform, aggregate financial savings would have been lower, and real investments in housing and consumer durables higher. Finally, Agell, Berg and Edin examine the microeconometric evidence on household portfolio composition. Somewhat surprisingly, their results indicate that most of the tax clientele effects that were present in the data in the early 1980s were gone already before the tax reform went into effect. In terms of portfolio allocation, the tax reform may be interpreted as a general change in the macroeconomic environment, rather than as a specific chock affecting particular households.

The asymmetries in capital taxation under the old tax system led to large differences in capital costs across sectors, and costs in terms of an inefficient allocation of investment resources. A striking example is the housing sector, where nominal interest payments were fully deductible and the implicit income from owning one's home was taxed only lightly. Furthermore, large interest subsidies and income related housing allowances were added to the tax subsidies. In the paper by **Peter Englund, Patric H. Hendershott** and **Bengt Turner**, "The Tax Reform and the Housing Market" it is shown that the combined effect of these subsidies reduced the marginal rental cost of owner-occupied housing to around half of the pre-tax cost. The degree of subsidisation was considerably reduced as a result of the reform. On the basis of new econometric evidence, the authors conclude that the tax reform led to a decrease in the demand for owner-occupied homes by around 15 percent.

Between 1990 and 1993 the real price of owner-occupied homes fell by around 25 percent. It is widely believed that the tax reform, and further cuts in interest subsidies in 1993, played the main role here. Calculations presented in the paper suggest that this is probably somewhat exaggerated. Only if the reform had been fully unexpected and market expectations of future house prices were static would such a large price response have seemed reasonable. It may be more realistic to assume that market participants have forward-looking expectations, in the sense that they realise that prices are tied down by production costs in the long run. In this case an initial drop in prices would generate expectations of future price increases, and these expectations limit the amount of the initial price decrease. Accounting for this mechanism, Englund, Hendershott and Turner conclude that prices may have fallen by not much more than

ten percent as a result of the reform. The remainder is probably explained by the general depression in the Swedish economy in the early 1990s.

Ever since balance of payments deficits arose in the mid-1960s for the first time during the postwar period, expansion of industrial investment has received considerable attention in Swedish policymaking. Increasingly generous investment incentives were offered to companies and the special Swedish scheme of subsidising investment, the investment fund system, was put to frequent use. The 1991 tax reform signified a sharp departure from these long-standing policies. **Alan J. Auerbach, Kevin Hassett** and **Jan Södersten** focus on the effects of this policy change in their paper "Taxation and Corporate Investment: The Impact of the 1991 Swedish Tax Reform". Predicting the impact of the tax reform is complicated by the lack of consensus regarding the net impact of the pre-1991 system on the user cost of capital. The incentive effects of the investment fund system are particularly difficult to determine, partly because firms have to a large extent abstained from making maximum contributions to the system, and partly because "releases" of funds have often been insufficient to finance investment. The authors estimate a model of equipment investment to determine which of several potential regimes best described investment behaviour before the tax reform. Even though the regression results do not settle the issue, evidence on the use of tax allowances, quoted by the authors, is seen to support the view that the pre-reform corporate tax system had essentially no effect on investment. The authors also conclude, "with some confidence", that the effects of the corporate tax reform itself (as opposed to the contemporaneous macroeconomic factors) on equipment investment are likely to have been minor.

The effects of taxes on labour supply is the subject of a vast literature. It is typically found that the compensated elasticity of labour supply (measured by hours of work) with respect to the post-tax marginal wage is rather small; 0.11 is a representative elasticity from a sample of Swedish studies. Although this is a small number, it implies fairly large reform effects. Calculations in Agell *et al.* (1995) demonstrate in a simple model that it may give rise to sizeable excess burdens. Evaluated at the pre-reform tax wedge for white-collar workers (79 percent), the marginal excess burden is 65 percent of the revenue raised. Further, at such high tax wedges, the excess burden is extremely sensitive to the exact value of the labour supply elasticity; at an elasticity of 0.05 the marginal excess burden is only 22 percent, but at an elasticity of 0.25 it is more than twenty times the revenue raised!

This example demonstrates the importance of good measures of labour supply elasticities. Most previous Swedish studies have been based on cross sections of individuals observed at a single date. The paper by **Susanne Ackum Agell** and **Costas Meghir**, "Male Labour Supply in Sweden: Are Incentives Important?" contributes to the literature by using panel data. The study is based on yearly observations of blue-collar workers between 1970 and 1987, a period of wide variations in marginal tax rates, with increases throughout the 1970s and decreases in the 1980s. As Ackum Agell and Meghir rely on panel data, they are able to integrate labour supply decisions and life-cycle behaviour. This leads to a formulation where the rate of growth in hours worked depends on the expected wage change minus the risk free interest rate, i.e., a variant of the Euler equation that is well-known from consumption studies (see e.g. the paper by Agell *et al.* in this volume). The results, which are obtained for different model specifications, indicate a very small elasticity of substitution, not significantly different from zero. The authors also estimate a model which is more closely related to the standard static model, where the rate of change in hours worked is explained by the rate of change in the marginal after-tax wage. This model, which relies on the assumption that the predictable change in non-labour income is unimportant, yields results which are more in line with previous studies. The estimated wage elasticity is 0.14. Even though this is significantly different from zero, the confidence interval is quite large. Taken together these results confirm that our knowledge of labour supply responses is so imprecise that it can be consistent with very different views of the efficiency costs of high marginal taxes.

From an efficiency point of view, one of the main charges against progressive income taxes is that they tend to reduce labour supply. The paper by **Bertil Holmlund** and **Ann-Sofie Kolm**, "Progressive Taxation, Wage Setting and Unemployment: Theory and Swedish Evidence", reminds us of the fact that progressive taxes may in fact have beneficial side effects on wage formation. When there is bargaining over wages, tax progression may promote real wage moderation, with positive employment effects as a consequence. The reason is that tax progression changes the trade-off between workers' real take-home pay and employment – a given increase in the real wage after tax will be more costly in terms of employment. Holmlund and Kolm survey the relevant theory, and introduce some issues that have been neglected in previous studies. The authors provide a brief discussion of how the tax system will shape the structure of relative

wages, but find no support for the idea that tax progression is conducive to pay compression. They also examine the effects of tax progression in a model where there is an endogenous labour supply response. In this setting tax progression may still lead to wage moderation,[2] but at a cost in the form of reduced labour supply. Holmlund and Kolm show how an optimal degree of tax progression balances gains in the form of lower unemployment and costs resulting from fewer hours per employed worker.

In their empirical analysis, Holmlund and Kolm exploit two different data sets. One set contains time series on wages in different skill categories, and the other is a panel for 1989–92 with detailed information on individual workers. The results are broadly consistent with the theory, implying that tax progression contributes to wage moderation. One implication is that the decline in progressivity that has occurred in recent years may have increased the equilibrium unemployment rate in Sweden. However, the implied increase in equilibrium unemployment is small relative to the huge increase in actual unemployment that has taken place in the early 1990s.

3. Conclusions

Did the tax reform fulfil its objectives? The papers in this issue of *Swedish Economic Policy Review* convey a somewhat mixed message. Some of the responses are as hoped for, others are not. The tax reform did much to eliminate tax shelters. It stimulated household financial savings, and it reduced the dispersion of effective tax rates on investments in different sectors. The lower marginal tax wedges on labour income probably imply a non-negligible decrease in the excess burden of the income tax.

However, long run efficiency is not the only thing which counts. In the short run, the tax reform has created unforeseen costs. The tax reform has most likely contributed to the sharp economic downturn in the early 1990s – the boost to household financial savings can explain part of the collapse in aggregate demand. Results reported elsewhere suggest that the reform was far from fully financed in the short run; the original revenue projections relied on an overly optimistic assessment of the development

[2] The nature of the link between tax progression and real wages in this case is clarified in the comment by Lars Calmfors.

of some important tax bases.[3] Moreover, the fairly rapid implementation of the reform has created much turmoil in some markets for long-lived assets, with housing as the prime example. Finally, the evidence in the article of Björklund *et al.* indicates that the tax reform has somewhat increased income inequality in some dimensions.

There is seldom a free lunch in economics. The Swedish tax reform is no exception to this rule.

References

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[3]Available assessments indicate that the tax reform was underfinanced with 30–40 billion kronor per year in 1991–93; see Agell, Englund and Södersten (1995) and Kristoffersson (1995).