Public Employment and the Welfare State in Sweden

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This is a nontechnical summary of a much longer study which will appear with the same title in Richard Freeman, Birgitta Swedenborg, and Robert Topel, eds. (forthcoming). I am especially indebted to Henry Ohlsson and Birgitta Swedenborg, and to Stan Engerman, Vic Fuchs, Assar Lindbeck, Stephen Lundgren, and Agnar Sandmo for comments on initial drafts. I alone am responsible for the views expressed here.

I. The Data

EMPLOYMENT IN Sweden during the past 35 years reflects growth of the welfare state. Two basic facts dominate the data. First, the local public sector has accounted for all employment growth in Sweden since the early 1960s. Second, almost all of it has been by women. Figure 1 shows that total employment increased by about 20 percent over the period 1963–1993: private sector and central government sector employment remained essentially constant, but local government employment of women increased almost fourfold and employment of men doubled. Services provided by local governments have implemented the welfare state in Sweden. Figures 2 and 3 show that the employment of women in local government jobs overwhelmingly accounts for Sweden’s total employment growth. Employment in all sectors increased by about 725,000 workers: the number of females working in local government increased by the same amount and total and sectoral composition of male employment remained constant. Increasing labor force participation of women was needed to sustain these patterns. Sweden has among the highest fertility and female labor force participation rates among developed nations.

The increasing role of the state in social insurance and rising labor force participation of women are worldwide trends of the twentieth century, but nowhere has the public sector grown so fast, nor achieved such a large scale relative to the economy as in Sweden and other Scandinavian countries. Public employment and public outlays are from 50 to 100 percent larger than in most other developed countries. The standard of living is high in Sweden. However, causal linkages from the welfare state to high incomes are tenuous: Sweden had achieved one of the highest standards of living in the world well before the Swedish Model was implemented. Perhaps it was the great wealth generated by the Swedish economy that allowed this model to grow and flourish, for living standards, while still high and generally growing, have eroded relative to other wealthy nations in the past two or three decades. Economic growth in Sweden
Figure 1. Private and Public Employment in Sweden

Figure 2. Male Employment by Sector
has not kept pace with that of Europe generally, even excluding the severe macro economic slump of the last few years (Lindbeck et al. 1994).

The economics of the welfare state suggests cause for concern about these trends. Government expenditures account for more than 60 percent of output in Sweden today, much larger than almost every other (non-Scandinavian) rich country. By itself, there is nothing to suggest that the size of government expenditures per se affects either living standards or growth rates one way or another. What is important is that government expenditures must be financed by taxation. All taxes blunt the information content of the market price system. They cause private valuations of taxed goods and services to differ from their true social costs and introduce inefficiencies in an economic system. The size of the public sector has to be considered from both expenditure and tax sides simultaneously to understand this point. Marginal effective tax rates for the average citizen were 70 percent or more a few years ago and though somewhat smaller today, remain extremely large, so large that any calculation of true economic tax burdens using standard economic methodology has to result in sizable efficiency losses compared to countries where tax bites are much smaller.

This work analyzes how the welfare state interacts with the economics of household. The most important finding is that the welfare state encourages excessive production of household goods and discourages production of material goods. Too many people provide paid household (family) services for other people in the subsidized state sector and not enough are employed in the production of material goods. This is what explains the employment statistics and the growth of local government employment in Sweden. A rough quantitative assess-
ment of the distorting effects of the taxes needed to finance the welfare state is provided. The efficiency losses may be substantial, perhaps as large as half of the direct expenditures on these programs. Whatever those may be, there is evidence that child-care subsidies are too large and that a reduction accompanied by a budget balancing reduction in marginal income taxes would increase efficiency.

II. Economic Background and Context

Providing services through government tax-finance breaks the links between a person’s claims to government-provided services and their direct costs to the person. Because everyone is sharing the production cost burdens through general taxation, the private costs of these services at the point of service appear to be much smaller than their true social costs. And because collective choices invariably are mediated through politics, the voting mechanisms that determine outcomes tend to conceal voters’ true valuations and encourage excessive consumption of government provided goods. In addition, the reduction in after-tax returns discourages participation in the taxable activities needed to finance the public expenditures (Lindbeck 1982). This ultimately limits the extent to which goods can be publicly provided, even apart from the control problems and “soft” budget constraints generally encountered in government-run enterprises. The marginal social costs of financing collective choices are increasing in their amounts (Ingemar Hansson 1984).

Decentralized private market transactions provide tight connections between the social costs of goods and personal evaluations of their worth. That individual consumers and producers take full responsibility for decisions that are in their own best interests is, in fact, the chief virtue of decentralized private market activity for economic efficiency. This, however, does not preclude a role for collective choice and government involvement. Decentralization results in inefficient underproduction of those goods and services whose consumption or production confer external benefits on others, of goods for which technological conditions and information limitations make private transactions excessively costly, and of those goods, such as education, where financial constraints unduly constrain private choice. Individuals don’t see or can’t exploit the full social costs and benefits of their economic actions, and efficient coordination of individual decisions is not achieved without government intervention. Collective decisions can improve matters in principle, if the collective choice mechanism elicits reasonably accurate value assessments from citizens. Moreover, general tax financing of government services at any level introduces distortions of its own that can be offset by introducing taxes or subsidies in related markets. Still, the larger the size of the public sector, the larger the social costs of financing it, so the central question in thinking about the size and role of government involves weighing the benefits of collective decisions against their costs. Somewhere a balance is struck.

That balance in Sweden has tipped in favor of a greatly enlarged role of the state in many family services compared to other countries. These services come at the cost of much larger tax burdens than elsewhere. Nonetheless, Sweden constrains its public sector in important ways. First, a person’s benefits from participation in public welfare programs are tied to employment. It is difficult to imagine how the system could be managed without the labor market tie-ins that gear payout to current and previous
work records. Second, the state is not involved in public production of ordinary goods and services. The production sector in Sweden is largely in private hands and most commercial transactions are organized through private markets. Sweden maintains strong private property institutions, free markets in consumer and producer goods, and personal and political freedoms that have probably insured that resources supplied to the private sector flow to their highest socially valued uses. And though private business is subject to substantial regulation, it is about on the same scale and magnitude as in other developed market economies. Where Sweden and other Scandinavian states especially differ from modern western economies is in a greatly enlarged government role in household and family activities. The essence of the matter is most plainly put in Lindbeck’s (1988) statement that Sweden has “nationalized the family.” A different way of saying this is that Sweden has “monetized” the household sector of its economy.

III. Nationalizing the Family

Sweden has substituted publicly provided for privately produced household services on a grand scale, not only relative to other countries, but also compared to its own past. Figure 4 shows how the composition of public sector employment has changed over the years. During the 1960s and 1970s, employment in medical care and education increased rapidly. Since 1980, employment in education has been constant and employment growth in medical care declined. Publicly provided child care for preschool children at day care centers was only two percent of public employment in the mid-1970s, but has grown explosively ever since. Presently, employment in public day care is almost

![Figure 4. Public Employment by Sector](image-url)
half as large as the education sector and one-third as large as employment in medical care. Excluding after-hour care of school children, it now accounts for 16 percent of public employment. Figure 5 details growth of subsidized preschool child care over the past several years.

The increasing market value of women’s time is the primary cause of the growth of both private and state provided household services throughout the world. Rising wages and work opportunities for women have increased the cost of staying at home and producing household services oneself, and have decreased demand for it: fertility has declined at the same time that labor force participation of women has increased in most countries. In addition, technological improvements have made market production more efficient than self-production of many household services. For instance, changing medical technology and longer life spans have increased the productivity and demand for formal medical and old-age services. The great value of skilled labor in modern technology requires that the fewer children we have be educated (by others) much more intensively than in the past. But it is exceptional that all employment growth in the Swedish Economy has been has been confined to the local public sector, that nearly all of it has been accounted for by women, and that female labor force participation is so large relative to fertility. The Swedish welfare state family policies—publicly provided child care, parental leave and parental insurance, child and housing allowances, as well as the design of the income tax—have contributed to this.

The substitution of government for private and family provided household services that stands out in the employment statistics is the real sense in which Sweden has nationalized the family and monetized the household. In most other countries a larger share of these activities are provided privately within the informal household sector, often in transactions that never appear in national accounts. In Sweden a large fraction of women take care of the children of
women who work in the public sector to care for the parents of the women who are looking after their children. If Swedish women take care of each other’s parents in exchange for taking care of each other’s children, how much additional real output comes of it? In order for the state to provide services socially that otherwise would be privately produced in the family or in the private sector, many ordinary, inherently personal activities must be reckoned in explicit monetary terms, tax revenues must be raised to finance them, and complex rules and conditions must be imposed to limit undesirable side effects. At the same time that Swedish family policy encourages high fertility and large families, other aspects of the welfare state encourage women to participate in the labor force and shift some of the costs of raising their children to others.

Estimates of the government budgetary costs of various child policies alone are shown in Table 1. Total annual public sector tax expenditures on preschool children were SEK 48 billion in 1991–92, or about SEK 60,000 ($8,000—$10,000 at recent exchange rates) per preschool child per year. In Spring 1994, the majority in Parliament introduced a child-care allowance for children not in publicly provided day care. It will add another SEK 3.5 billion to the bill. These policies were designed to increase the fertility of Swedish women and to encourage a greater allocation of their time toward market rather than nonmarket uses. They have succeeded in those goals.

IV. The Economics of the Swedish Model

Assessing the economic consequences of the welfare state requires analyzing the determinants of the economy-wide division of labor between the nonmarket, household sector and the market sector, and how tax incentives and welfare policies affect those allocations. To begin, observe that in all societies, a very large share of total economic activity takes place within households (Euston Quah 1993; James J. Thomas 1992). Even in modern developed economies the mostly unmeasured household sector probably accounts for more than half of total economic production. Household services are self-produced by combining own time with purchased inputs. They tend to be very labor intensive. The rearing of children is one of the most important of these activities. Family time devoted to children has great economic value, both to parents and children, in the skills and character children acquire while growing
up and in the bonds that last for life-times. Similar things could be said about
the care of parents in old age.

Though few of us think about these ac-
tivities in such terms, conceptually they
contribute to standards of living just as
material goods do, even though difficult
to measure and not counted in official
estimates of output and income.

The marginal cost-prices to the family
of household produced goods are the
most important economic determinants
of their production and consumption.
These costs depend in turn on the mar-
et prices of purchased inputs into these
activities, and on the opportunity cost
of using one’s own time in that way rather
than working in the market sector and
hiring someone else’s time instead. For
instance, a woman with small children
might be able to earn a substantial sum
in a market job and hire someone to look
after her children during the day, she
might forego the job and look after them
herself, or do some of both. Such factors
as how much the job pays and how inter-
esting it is, the costs of hired child care,
and the value parents place on continu-
ous contact with children determine this
choice in any particular case. Whatever
that choice may be, an increase in the
wage or a decrease in the costs of child
care make paid market work more at-
ttractive and tend to increase the alloca-
tion toward market activities. This is
what lies behind the worldwide observa-
tions of rising wages, decreased fertility,
and greater labor force participation of
women.

In evaluating the economic efficiency
aspects of welfare state policies, it is con-
tventional practice to take expenditures
as given and trace how tax-financing af-
fected behavior (Arnold Harberger 1964).
In an economy where the government
controls such a high proportion of total
expenditure, it is inevitable that the mar-
ginal after-tax return to a person supply-
ing labor to the taxable market economy
is reduced substantially below its social
value. This difference or “tax-wedge”
represents the potential unit distortion.
The total distortion is the product of this
unit amount and the change in allocations
to which it gives rise. Thus the total
loss in efficiency depends on how much
individuals respond to price incentives,
as well as on the magnitude of taxes
themselves. A small tax or subsidy can
cause large efficiency losses if it pro-
vokes a substantial change in behavior. A
large tax or subsidy does not cause large
distortions if it doesn’t change behavior
very much.

A practical example of the distortion is
the relative dearth of personal services in
Sweden. If the household keeps 40 out
of each 100 kronar it earns, it pays mem-
ers to do house repairs and personal
services themselves, rather than use that
time to work for pay and hire specialists
to do it (Lindbeck 1982). A more impor-
tant example, though of a similar kind, is
the effect of taxes on the labor market
decisions of women. When marginal tax
rates are high, it may not pay a women to
take a market sector job and hire child
care in the private market, even when it
is economically efficient for her to do so,
because after-tax pay is not large enough
to leave any surplus. Such effects were
seen in the large labor market entry of
women after Sweden switched its tax ba-
sis to individual rather than family ac-
counts. Those reforms greatly reduced
the marginal taxes on women’s earnings
and increased their private return to
work. Child-care subsidies have the same
effect of nullifying the income tax pen-
alty to working for pay. They, too, en-
courage female labor force participation.

These examples make clear that in-
come and expenditure taxes inefficiently
reduce the level of economic activity in
the private market for purchased house-
hold services and encourage excessive
self-production. Child-care services are expensive and difficult to arrange when few women are working. Because income and other taxes reduce the private return to work below its social return, there is a clear efficiency case for subsidizing child-care activities in order to economize on family time allocations and produce household goods with the efficient proportions of hired and own time (Sandmo 1990; Ted Bergstrom and Soren Blomquist 1993). However, these subsidies must be financed by even greater taxes on income, payrolls, or expenditures. The indirect effect of the required tax increase has been overlooked in previous economic analysis of this problem. It reduces the marginal costs of household goods in general below their true social costs and encourages excessive market production of household goods at the expense of material goods production. Too many people are involved in the household production of other families and too few in producing nonhousehold material goods and services. This second effect does not necessarily mean that household subsidies are inappropriate. Rather, it illustrates that one distortion must be weighed against the other when assessing the economic consequences of family and child care subsidy policies that promote labor force participation.

Detailed analysis indicates that the magnitudes of various behavioral response to prices determine the terms of this tradeoff. Subsidizing the hired time of others (child care) increases purchased child care services and the labor force participation of women. Subsidizing any economic activity increases its output. However, a more realistic experiment yields a surprising result. Suppose that when the child-care subsidy is increased, income, payroll, and value-added tax rates simultaneously are also increased by the amounts required to raise the public revenue necessary to pay for them. This conceptual experiment is complicated, because it requires calculating the change in taxes that maintains budget balance after all behavioral responses to prices, taxes, and subsidies have worked themselves out in the economy at large. In this case output and total time allocated to material goods production and its output declines, and total time allocated to household production—the sum of purchased time and own time—increases. Subsidies which encourage market work only lead to increased production of household goods: production of other goods actually declines.

In other words, child-care subsidies result in a kind of cross-hauling. They cause women to work outside the home, but there is a sense in which all of it is work in someone else’s home, not in the material goods sector. Women work for each other for taxable pay needed to help finance the subsidies that induce them to work for each other in the first place, rather than remain working for themselves, “self-employed,” in the tax sheltered, nonmarket household sector. Cross-hauling is the practical route that limits the efficient amount of child-care subsidies, and reveals why large subsidies are inefficient.

Close examination of the efficiency tradeoff itself shows how “optimal” taxes and subsidies depend on the behavioral parameters that determine the responsiveness of labor supply decisions to economic incentives. Income taxes should be higher when household responses to price incentives are small. This follows the general logic of efficiency-loss-minimizing taxation, that high tax rates are warranted when they elicit small changes in behavior. The determination of the optimal subsidy is more subtle. It depends on the difference in two responses. Larger subsidies are warranted
the greater the degree of substitution between own and hired labor in household production. The adverse allocative effects of taxes in discouraging labor market activity are large when hired labor is a good substitute for own time and need to be offset by large subsidies. But there is another factor working in the other direction. Subsidizing child care and raising taxes reduces the implicit price of household goods, encourages socially excessive consumption of their quantity and quality, and inefficiently discourages the consumption of material goods. The larger the degree of substitution between material and household goods, the smaller the optimal subsidy. The two effects tend to offset each other. For example, if the consumption substitution response is as large as the production substitution response, it is best not to subsidize child care at all. If the consumption effect is larger than the production effect, it is efficient to tax hired child care rather than subsidize it.

V. How Big Are Efficiency Distortions In Sweden?

On what side of this tradeoff does Sweden sit today? Available evidence on the size of the behavioral responses is not extensive enough to provide a definitive answer to this question. However, what can said with some confidence is that child-care subsidies are too large in Sweden from the traditional point of view of pure economic efficiency. With less certainty, a plausible case can be made that the social efficiency losses—too much cross hauling and providing too many family services for pay through the state at the sacrifice of material goods—are substantial, perhaps as large as half the sums spent by the government for this purpose.

First, observe that, considering the high income taxes, payroll taxes, and value-added taxes, the current effective marginal income tax bite for the average family in Sweden today is in the neighborhood of 60–65 percent, the largest in the democratic world. It has been as large as 70–75 percent in the past. Child-care subsidies also are very large. Local governments pay most of the costs of day care and home time (leave from work) of mothers with very small children. The average subsidy is on the order of 90 percent. These are big numbers.

Second, and consistent with the discussion above, it can be shown that household production distortions between own and hired time of others depend on the square of the difference between marginal income tax and child care subsidy rates, but that the consumption distortion between household and material goods depends on the square of the sum of tax and subsidy rates. Though the subsidy rate is a bit larger than the income tax rate, distortions in labor supply incentives are more-or-less eliminated under current policy. However, the sum of tax and subsidy rates is huge, on the order of 150 percent, so the unit distortion in consumption of household goods compared to material goods currently is very large.

The after-tax wage is relevant for valuing one’s own time in household production, so higher income taxes subsidize the cost of own time in nonmarket household uses. And because direct child care subsidies lower the costs of hiring the labor of others, both together artificially reduce the overall private cost-price of household goods relative to material goods. In sum, the relative size of taxes and subsidies in Sweden has eliminated inefficient incentives against female labor force participation and the use of own time in household production among women with small children, but their absolute size has increased the potential distortion of excessive consump-
tion of household goods compared to material goods.

The main empirical evidence on economic behavior relevant for calculating net gains and losses relates to labor supply responses to wages. Extensive empirical studies in Sweden (Thomas Aronsson and James Walker, forthcoming; Blomquist and Urban Hansson-Brusewitz 1990; Siv Gustafsson and Frank Stafford 1992; Bjorn Gustafsson and N. Anders Klevmarken 1993) and elsewhere indicate that the labor supply of women to wage prospects is greater than for men. This is also borne out in the Swedish employment data shown above: most of the employment changes occurred among women. Men were hardly affected. Labor supply responses depend on both the degree of substitution between hired and own labor in household production and the degree of substitution between material goods and household goods in consumption. Direct evidence on the labor supply responses is available, but not on the two substitution parameters, so Sweden's precise location on the efficiency tradeoff cannot be identified. Instead, available evidence provides a restriction on the range within which these two substitution terms lie. It is possible to calculate the range of efficiency losses for all possible decompositions of the production and consumption distortions that are consistent with the empirical labor supply evidence.

The major conclusion is qualitative: The range of possible efficiency effects of the high marginal tax rates required to finance current welfare state policy almost certainly results in losses in aggregate output and per capita welfare in Sweden today. The estimated range of losses covers a wide interval, from close to zero if the household production response is large and the consumption response is small, to 100 percent of the total value of household production attributed to women with small children if the production response is small and the consumption response is large. That these are substantial sums is indicated by the SEK 50 billion (SEK 60,000 per child) estimate of public child care expenditures alone. The total value of household production of women with small children in the Swedish economy is much greater than that.

Economist's judgments will differ on point estimates for Sweden within this range. If Swedish women desire to purchase substantially more child care than what current policy allows, the estimates are biased upward. Further research must address this point. My own judgment of the most likely point estimate falls in the middle of this range, equivalent to an additional social expenditure of half the value of household production of women with small children, or as much as SEK 30,000 ($4000) per child per year. This judgment is based on two considerations. One is that the responsiveness of female labor supply is not low, especially taking into account all the dimensions on which labor supply adjusts. The other is the fact that further substitution of purchased for own time is limited in Sweden presently: child-care activities have grown so fast and are so extensive that parents allocate most of their own child care time to the highest quality uses for which substitution of hired time is very difficult. If this is true, then the consumption response must be large, and that is the one that is most distorted under current policy.

Whatever the point estimate of efficiency losses turns out to be, all of the estimates suggest that child-care subsidies in Sweden are too large today. Specifically, reducing the percentage subsidy by small amounts accompanied by budget balancing tax reductions appears to decrease the efficiency losses by an equal percentage. These estimates refer
to local approximations in the neighborhood of existing policy parameters and must be used with caution in extrapolating to more global changes in policy.

VI. Conclusion

These calculations suggest sizable efficiency losses caused by the large marginal taxes and subsidies needed to implement the welfare state. Evidently Swedish citizens regard the social value of the welfare state and related wage compression and other egalitarian policies to be worth their total social costs. For example, promoting the economic independence of women is said to be important political motivation for current policy, but is not counted here. In any event, it is worthwhile every now and then to be reminded of how large the hidden efficiency costs might be.

In many ways and at least in the aggregate, government-provided services replace what would have been purchased in other, more decentralized ways and without the associated tax burdens. The fundamental manifestations of these costs are tendencies to over-consume subsidized government-provided goods, and to provide numerous incentives to engage excessively in personal activities that are beyond the reach of the tax collectors. By reducing the linkages between personal contributions to production and claims on social output, the welfare state encourages people to produce utility in ways that don’t have to be shared with others. The real household sector in Sweden is too large on both counts. The monetization of household services provided through the subsidized state bureaucracy increases the demand for publicly provided services and the size of the public sector, but reduces the value of social output and living standards in the economy. Total output is smaller than it would have been if household services had been paid privately and transacted through the market.

REFERENCES


