

Chapter 3
The Erosion of the Welfare State

in

THE NEW SYSTEMS COMPETITION

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Globalization and the Welfare State

Globalization means gains from trade. The international distribution of labour continually improves and permits each country to display its own strengths. A country produces those goods in which it has comparative advantage and purchases all others. This way, every country gains regardless of whether it is poor or rich.

Thus far the globalization of the world economy has been a success story. It has increased people's welfare and has helped prevent wars over scarce resources. Trade has rewarded the economic endeavours of the countries without causing disadvantages elsewhere.

The people in the Third World who live from their labour income benefit especially from globalization, because globalization means trade, and trade tends to equalize factor prices between the participating countries. Labour demand and wages increase in the labour-abundant and capital-scarce countries because these countries can specialize in the production of labour-intensive goods and because they attract direct investment and loan capital which helps finance domestic investment. The mobility of people also contributes to the factor price equalization because people emigrate from countries where labour is abundant to countries where it is scarce. There is no better way of providing development aid and no better international welfare policy than securing the economic freedom to move and promoting free trade.

Unfortunately, however, trade and migration also create losers. These include, in particular, those workers in the highly developed countries whose jobs can be done at lower wages in other parts of the world. It is true that most of these workers are suppliers of unskilled labour; however, the industrial workers who form the core of the labour supply in the developed countries may also be affected. It is certainly possible that the whole wage scale in the developed countries will start to slide downwards as a result of globalization. This does not mean that wages will fall in absolute terms, but it seems likely that the growth rate of wages in the developed countries will be smaller than it would have been without globalization and that poverty will show up at the margins of society.

The tendency towards the equalization of factor prices, which is inherent in trade, makes the income distribution in the rich countries more unequal and thus increases the need for welfare assistance. The welfare state is urgently needed today to cushion the undesirable consequences of globalization.

The problem is, however, that opening the borders and allowing factors of production to move freely across them makes it more and more difficult to maintain the welfare state. It is in the nature of this state to correct the income distribution produced by the market by transferring incomes from the top to the bottom of the income distribution. The welfare state takes from the rich and gives to the poor. This redistribution of income becomes increasingly difficult when the borders are open. The people who make a net contribution to financing the state transfer their economic activities to the low- tax countries to rid themselves of their responsibilities, and the net recipients of government resources congregate in the well-established welfare states where they make the existing financial problems even worse. Under these conditions, each individual state must endeavour to limit the extent of its redistributive measures so as not to drive away the net contributors to the government budget and not to attract the net recipients. It is difficult for the

welfare state to survive undamaged in the systems competition that follows from the general freedom of movement.

This chapter deals with a basic analysis of the benefits of the welfare state and the competitive pressure placed on it by globalization. Once again, it is appropriate to look at the market failures that were the reason for the welfare state to be established in the first place and to see whether these failures show up again in the 'market' of the welfare states.

Income Redistribution and Selection Principle: An Insurance Theoretic Interpretation

The apparent conflict between equity and efficiency and between redistributive and allocative goals, is one of the great themes of economics, and all too often the state is accused of integrating redistributive elements with its insurance institutions like healthcare or public pensions. However, this view suffers from a severe misinterpretation of what redistribution really is. Redistribution and insurance are two sides of the same coin. Ex post, every insurance contract implies a redistribution from the lucky to the unlucky, and ex ante, before the 'veil of ignorance' has been lifted, most of the redistributive activities of the state can be interpreted as insurance. After all, lifetime careers are uncertain. A young person does not know how much income he will be able to earn during his working life, because he does not know which opportunities he will have, which contacts he will make, how energetic and healthy he will be and so on. The redistribution of lifetime incomes carried out by the state can be seen as a career insurance welcomed by risk-averse individuals. Authors like Friedman (1953), Harsanyi (1953), Rawls (1971), and Buchanan and Tullock (1962) have pointed this out.

The insurance provided by the state is not limited to what is generally called social security. The latter covers only a small part of state insurance protection – the whole system of redistributive taxation also provides such protection. Even the provision of public goods can be

interpreted as insurance protection, in that, as income increases, the use of these goods increases far less than the taxes with which they are financed. Every school, every police officer, and every street can be understood as part of the state insurance protection to the extent that income-dependent taxes are used to finance them. Even the redistributive elements which the state is accused of integrating with its social insurance activities can themselves be seen as insurance.

Paradoxically, social security activities which bear the name 'insurance' often offer very little insurance while others which are counted as 'redistributive' are, in fact, 'insurance'. Take for example the German social insurance system whose main element is the old-age pension. Being a pay-as-you-go system based on individual accounts with a strict proportionality between payments and pensions, this system involves a redistribution to the introductory generations, but it hardly involves any interpersonal redistribution within a generation which could be interpreted as insurance. By way of contrast, the Solidarity Compact, which redistributes tax money from west to east Germany to compensate for the damage under communist dictatorship, can be seen as insurance against the bad luck of living in the wrong part of the country when World War II ended.

Whether a redistributive activity can be seen as insurance is largely a matter of the time perspective. Life is a random process which people can influence only to a limited extent by their own endeavours. It is in the nature of the process that a person's short-term income can be predicted better than his long-term income. From today's perspective, next year's income is not very risky and this makes it difficult for people to perceive the redistributive activities of the state as insurance. But the incomes that these people will be having in 40 years' time are hardly predictable and extremely uncertain. Redistribution of these incomes can be seen as insurance because it will not only reduce the variance of the realized frequency distribution of incomes in

the population but also the variance of the probability distribution of a single individual's future income.

This aspect shows up particularly clearly when we look at it from the perspective of new parents or those who expect to become parents. It is very difficult for parents to predict what their children's journeys through life will be like. They do not know whether their children will be healthy or handicapped, talented or untalented, lazy or industrious. They do not know the teachers and the friends, the spouse and the boss, the child will have contact with. They do not know the accidents and illnesses that will happen and so on. The redistributive state offers insurance protection against such uncertainties and is welcomed in the parents' own interest. Redistribution is insurance and as such must be included in the set of state activities which are legitimated by the goal of increasing allocative efficiency.

The situation of the parents concerned about their children's future also explains why private insurance is unable to cover the career risks that the redistributive state compensates for. Private insurance simply comes too late. A private insurance solution can only come about on the basis of an individual contract with the person affected, and such a contract requires this person to be an adult. By then, however, the way the dice have been cast is mostly evident and taking out comprehensive insurance is no longer possible. Only smaller special risks, which have narrow limits and which relate to the well-defined accompanying circumstances, can still be insured.

For adults, larger deficiencies which lead to income disadvantages can now hardly be insured because too much is known about them. A mutually advantageous insurance contract is no longer available for deficiencies which both parties know about. And deficiencies, which only the potential insurance purchaser knows about and which are possibly overlain by unknown influences, lead to the adverse selection, so often described in the insurance literature, which

makes the establishment of a private insurance market difficult or even impossible.¹ Adverse selection means that the good risks do not participate in the insurance because the premium is too high for them. Only the bad risks demand insurance. But there may also be better risks among the bad risks for whom the premium is too high when the good risks do not participate, and they might then also decide to quit, deteriorating the quality of the risks remaining in the risk pool even further, and so on. The end result can be that no insurance market is established even though the people able to make contracts at the start of their adulthood perceive their future lives as very risky and even though they are risk averse.

It may be objected that parents do have the opportunity to take out insurance for their children. One can think, for example, of education or dowry insurance. Such an "insurance" is, however, an intergenerational transfer of resources, not a risk consolidation between the children like that performed by redistributive taxation. It would damage the basis of our individualistic legal system if parents could commit their successful children to handing over part of their income to the less successful children of other parents.

The reason why the legal system does not allow such generation crossing commitments is a deep cultural and historical question which cannot be gone into here. But the rule does exist and it can be seen as a major reason why the state has taken over the insurance of career and life risks. This reason is consistent with the Selection Principle according to which the state is only active when the private sector is unable to act.

Surprisingly, there is an extensive literature – Bulow and Summers (1984), Gordon (1985), Kaplow (1991) and Konrad (1991) – which implicitly disputes that the distributive state observes the Selection Principle. The authors cited use a variety of models to show that the state is unable

¹ See Pauly (1974), Rothschild and Stiglitz (1976), Wilson (1979) and Eisen (1979). Barr (1992) sees adverse selection as the main reason for government intervention in the insurance market.

to improve the risk allocation in the economy by supplying insurance. Public insurance, they argue, only drives out private insurance, which would have supplied the same protection without the state's intervention. However, the arguments put forward are ultimately not compelling because they all relate to small risks which show up at later stages in people's lives and for which, in fact, private consolidating mechanisms like insurance and stock markets exist. None of the authors consider the career and life risks that are at the centre of the state insurance protection and whose importance far exceeds that of any private insurance risk.

Of course, it cannot be denied that some of the criticism in the literature mentioned is justified. But the extent to which public insurance fails to observe the Selection Principle, and the extent to which it is in accord with this principle, are empirical questions. Certain clues for an answer are provided by a regression like that in figure 3.1.

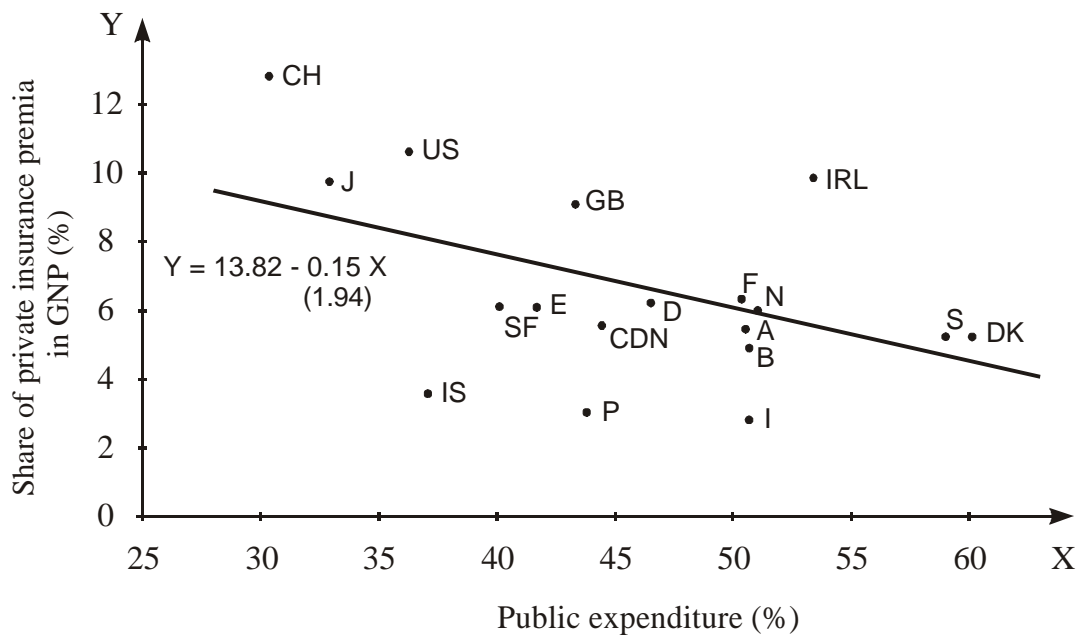


Figure 3.1 Violation of the Selection Principle?

Legend: The data relate to the year 1988 and include all OECD countries for which they are available.

Sources: OECD, *Historical Statistics 1960-1988*, table 6.5. p. 68, Paris 1990. OECD, *Insurance Statistics Yearbook 1985-1992*, table 1.1 p. 18, Paris 1994. OECD, *National Accounts: Main Aggregates 1960-1992*, vol. 1, table 13, pp. 124-5, Paris 1994. After Sinn (1996, p. 262).

The figure shows private insurance premia and government expenditures as shares of the national product for all the OECD countries for which data were available. In fact the share of the private insurance premia is a declining function of the government expenditure and, with a *t*-value of 1.94, the correlation is highly significant. Notice that the regression coefficient is very small. An increase in the government expenditure of one percentage point results in a fall in the share of the private insurance of only 0.15 percentage points. This suggests that the largest part of the state redistributive activities cover risks other than those that can be covered by private insurance.

It may be objected that the regression should have related to quantities other than general government expenditure and private insurance expenditures. Other regressions have, in fact, been tried but they were not significant. For example, the t -value for the relationship between the share of social insurance expenditures and the private insurance share was only 0.6, and the regression coefficient was only 7%.² This information confirms the observation already made at the start that the citizens consider not only the money spent on what is customarily said to be insurance but most government expenditure as insurance.

Redistribution as an Allocative State Responsibility: A Simple Model

In accordance with the basic assumption of this text, it is now assumed that the rational state respects the Selection Principle. It therefore insures only those risks which the private market is unable to insure. A simple model which will be used in the next section to analyse the competition between the welfare states can capture this fact.

Consider an (initially closed) economy, which produces a homogeneous output using capital K and labour L according to the linearly homogeneous production function $f(K,L)$, where labour is measured in efficiency units rather than in time units. Both factors are paid according to their marginal products: $f_K = r$, $f_L = w$. The aggregate supplies of capital and labour are constant despite the fact that, at a micro level, the individual amount of labour supplied is a random variable. The constancy of the aggregate factor supplies ensures that factor prices are constant.

The micro-randomness shows up in the random number of efficiency units of labour, X , supplied by a worker. X is the product of two non-negative stochastically independent random variables θ_1 and θ_2 , which both have an expected value of 1:

² When the share of the expenditures for private health, accident, and life insurance is related to the government expenditure, there is a still more significant t -value of 2.2, but the regression coefficient is only 11%.

$$X \equiv \theta_1 \cdot \theta_2, \quad EX = E\theta_1 = E\theta_2 = 1.$$

The variable θ_1 describes the inborn characteristics and those acquired in childhood which are known to the individual at the start of adulthood. The variable θ_2 covers later reasons for wage variations, such as promotion or health risks, that at this point in time are still unknown. The θ variables are stochastically independent not only over time but also between the individuals. Assuming a large economy with a large labour supply, this is compatible with the assumption that the aggregate labour supply L is constant and measures both the number of labour efficiency units and the number of workers. The workers are risk averse and, in principle, would like to take out wage insurance.

Private insurance contracts can be made at the beginning of adulthood, that is, after θ_1 is known and before θ_2 is known. They result in indemnification payments only after both θ_1 and θ_2 are known. By contrast, the protection promised by the state is defined before θ_1 and θ_2 are known.

Each individual may carry the same stochastically independent risk C , $C \geq 0$, in addition to the wage risk which is still unknown at the beginning of adulthood. The individuals may also have assets \bar{K} that they can invest at the capital market interest rate r . The income of the single individual before taxation and insurance will thus be given by the equation

$$Y = \theta_1 \cdot \theta_2 \cdot w - C + r\bar{K}. \quad (3.1)$$

Because the risk C is the same for all individuals, it can be easily insured in the private insurance market. Respecting the Selection Principle the state does not include this risk in its redistribution policy. In an ideal competitive private market, insurance will be offered at a fair premium of $\beta \cdot EC$, where β is the freely chooseable degree of coverage and E is the expectation operator. Because risk-averse individuals demand full cover contracts ($\beta = 1$), equation (3.1) becomes

$$Y = \theta_1 \cdot \theta_2 \cdot w - EC + r\bar{K}.$$

The insurance of θ_1 and θ_2 is more difficult than that of C . As already explained, the uncertainty about the inborn characteristics and those acquired in childhood, θ_1 , cannot be privately insured because the insurance contract is only available when θ_1 is known to at least one of the contracting parties. The ‘insurance’ would be a known resource transfer from one member of society to another which would never be accepted by the net payers.

The promotion and health risk θ_2 which is realized later can probably also not be insured. The variable θ_2 is a multiplicative risk that increases the life risk by augmenting the effect resulting from θ_1 . An insurance would be possible if the realization of θ_1 could be observed by both contracting parties, as then the premium could be conditioned on this realization. When, however, only the workers know what type they are, while the insurance company cannot distinguish between them, an adverse selection in the form of the better risks opting out of the insurance is to be feared.

Because of the assumption of equal and stochastically independent distributions of the θ variables over all the workers, the realized frequency distribution of θ_1 is the same as the

probability distribution of θ_1 as seen from an ex ante perspective. If θ_1 has a small variance relative to θ_2 the individuals do not differ much but face relatively large risks. Accordingly, the adverse selection is not very strong while the preference for insurance is substantial. Thus a private insurance solution for θ_2 is possible although not with full coverage contracts for the better risks. In the opposite case, where the variance of θ_1 is large relative to that of θ_2 , no market materializes for the good risks (i.e. those with very large θ_1), and when people are not overly risk averse it is even possible that no market at all will come into existence. In the appendix to this chapter the possibility of the non-existence of a market for wage insurance for the case of a sufficiently small constant relative risk aversion and a uniform distribution of θ_1 will be demonstrated.³

The difficulties involved with a private market solution are the main justification for a state solution. When no private market for the insurance of wage risks materializes at all, the necessity for government intervention is particularly great, but even when the adverse selection partly destroys only the market for the good risks, government insurance can be welfare increasing. In the following it will be assumed that only C is privately insured and that private insurance is available neither for θ_1 nor for θ_2 .

Government insurance takes place through the tax system. It is assumed that the state taxes labour income at the rate ω and that the tax revenue is returned in the form of either a uniform lump sum transfer T or publicly provided private goods available to everyone. Because $E\theta_1 = E\theta_2 = E\theta_1 \cdot E\theta_2 = 1$, the government budget constraint is

$$T = w \cdot \omega, \tag{3.2}$$

³ For possible non-existence of a market equilibrium with adverse selection, see Riley (1979).

such that the (non-random) transfer that someone gets equals his tax burden expected ex ante.

Random net income after redistribution is

$$Y = \theta_1 \cdot \theta_2 \cdot w \cdot (1 - \omega) + T - EC + r\bar{K}.$$

The mean and the standard deviation of Y are given by

$$EY = w - EC + r\bar{K} \quad (3.3)$$

and

$$SY = (1 - \omega) \cdot S(\theta_1 \cdot \theta_2) \cdot w, \quad (3.4)$$

where E and S are the expectation and standard deviation operators, respectively, when seen from an ex ante perspective where both θ_1 and θ_2 are still unknown. Equation (3.3) shows that the public redistribution does not change the expected income of an individual, but equation (3.4) makes evident that the standard deviation of the individual income falls with an increasing tax rate. As the class of the distributions which can be generated with alternative tax rates is a linear class, it follows directly that the expected utility of each of the identical risk-averse individuals increases.⁴ This confirms that the introduction of a welfare state results in an unambiguous efficiency gain.

⁴ The distributions Y_1, Y_2, \dots, Y_n are said to be members of a linear class when they all have the same standardized form $Z = (Y_i - EY_i) / SY_i$, $i = 1, \dots, n$. For linear distribution classes, the so called $\mu - \sigma$ criterion coincides with the expected utility criterion in the sense that the choices under risk implied by any arbitrarily given von Neumann-Morgenstern function can be exactly represented by a set of indifference curves in $\mu - \sigma$ space where μ is the mean and σ the standard deviation of a probability distribution. See Sinn (1980, chapter 2, section D).

Proposition 3.1: *By redistributing income, the state can make available to its citizens a welfare increasing insurance against the risk of unequal inborn capabilities and other unequal exogenous influences on the life income, which private insurance cannot supply. Private insurance presupposes private contracts and thus it comes too late in the life cycle to avoid the problem of adverse selection.*

It is self-evident that the increase in welfare through the redistribution of income is just a possibility and not a necessity. In reality, and in realistic models, the fact that redistributive activities have considerable moral hazard effects must be taken into account. These effects are, however, very well known and do not need to be discussed here. They are the main object of the microeconomic theory of tax distortions. The moral hazard effects reduce the advantage of the insurance protection and are an obstacle to excessive redistributive activities of the state. However, they are second-order effects which cannot nullify the first-order effect of an increase in expected utility resulting from the first bit of redistribution. Thus, a boundary solution with no redistribution at all cannot be optimal. Some redistribution in the sense of an insurance protection is always worth while, even when undesirable behaviour results.⁵

The End of the Welfare State in Tax Competition

A private insurance market can only develop its welfare increasing effect if the contracts are settled before the risks have been resolved and if they involve binding redistribution rules without allowing for entry and exit ex post (i.e. after knowing who was lucky and who was unlucky). The situation is no different with government insurance through the redistributive tax system. It

⁵ An explicit model with government redistributive policy and moral hazard can be found in Sinn (1995). See Shavell (1979) for the general theory of moral hazard in insurance.

cannot be permitted that people who know they had good luck (and realize $\epsilon_1 > 1$ or $\epsilon_1 \cdot \epsilon_2 > 1$) opt out the system and that others who know that they had bad luck opt in. Like a private insurance, government insurance would go bankrupt under such circumstances.

This is of crucial importance for the European welfare state. When the borders of the European countries were still closed, maintaining the ‘social contract’ was not a critical condition. Today, however, where the European Union’s goal of freedom of movement has largely been realized, it has become a serious problem. Opting out in the case of good luck and opting in in the case of bad luck has become increasingly easy.

The model described above can be generalized to the case of open borders. Assume a symmetrical world with n identical countries, with the same technical knowledge, identical populations and identical risks, where goods, capital and people can all move freely and without any migration cost among the countries.⁶ Even if the workers were not mobile, the factor price equalization mechanism would ensure equal constant interest rates and gross wage rates per efficiency unit of labour in all the countries. With such a mobility, this must hold a fortiori:

$$r_i = r_j \equiv r = \text{const.}, \quad w_i = w_j \equiv w = \text{const.} \quad \forall i, j = 1, \dots, n. \quad (3.5)$$

When, as has to be realistically assumed, labour can move freely not only before but also after the risk has evolved, an additional condition for an equilibrium in the labour market is the equality of the net wage and transfer incomes for all types of workers, that is, for all realized variates of $\theta_1 \cdot \theta_2$. It thus holds that

⁶ See chapter 4 for an analysis of migration costs.

$$\theta_1 \cdot \theta_2 \cdot w \cdot (1 - \omega_i) + T_i = \theta_1 \cdot \theta_2 \cdot w \cdot (1 - \omega_j) + T_j \quad \forall i, j = 1, \dots, n \text{ and } \forall \theta_1 \cdot \theta_2, \quad (3.6)$$

which, because $T_i = \omega_i \cdot w$ from (3.4), is equivalent to the condition

$$w \cdot [\hat{e}_1 \cdot \hat{e}_2 - \hat{u}_i (\hat{e}_1 \cdot \hat{e}_2 - 1)] = w \cdot [\hat{e}_1 \cdot \hat{e}_2 - \hat{u}_j (\hat{e}_1 \cdot \hat{e}_2 - 1)] \quad \forall i, j = 1, \dots, n$$

and $\forall \hat{e}_1 \cdot \hat{e}_2 \quad (3.7)$

and finally also to the condition

$$\hat{u}_i = \hat{u}_j \quad \forall i, j = 1, \dots, n. \quad (3.8)$$

Equal tax rates in all countries will therefore be necessary for an equilibrium in the labour and capital markets.

An equilibrium in systems competition assumes an equilibrium in the labour and capital markets and therefore requires that the conditions (3.5) – (3.8) be met. In addition it is, however, necessary that no country has the opportunity to improve the situation of its own citizens by changing the tax rates. It can easily be shown that this requirement is inconsistent with positive tax rates.

Assume that, initially, all countries have the same strictly positive tax rate on labour income. In this situation, the individual country has an incentive to undercut the tax rate of the other countries and to reduce its transfers so as to attract the rich and deter the poor. Consider, for example, the possibility that country i reduces its tax rate and its lump sum transfer in a way that the government budget would remain balanced if no migration occurred. (Compare equation (3.2).) This policy is a Pareto improvement with regard to all groups of people in which the

government can potentially have an interest. ‘Rich’ domestic residents with $\theta_1 \cdot \theta_2 > 1$ gain from the policy because they pay less. (This can be seen immediately when we consider that the left side of equation (3.7) is larger than the right side.) ‘Rich’ foreigners with $\theta_1 \cdot \theta_2 > 1$ who immigrate so as to take advantage of this policy also gain. The ‘poor’ domestic residents with $\theta_1 \cdot \theta_2 < 1$ would lose if they stayed at home. But they do not stay. They always are able to emigrate and to work in other countries under the same conditions that would have applied at home without the tax reduction. This way they get to keep their income and utility levels. People with average level incomes ($\theta_1 \cdot \theta_2 = 1$) are not affected by the policy.

Because net payers of government benefits immigrate and net recipients emigrate, such a policy will result in a budget surplus. There is even a strict income advantage for all groups of society in which the government can have an interest if this surplus is used to promote the emigration of the people at the lower income levels (with $\theta_1 \cdot \theta_2 < 1$). This strengthens the conclusion that a competitive equilibrium with insurance protection through redistribution does not exist within the framework of the present model.⁷

Proposition 3.2: *Although welfare states may be Pareto optimal and may, for that reason, come into existence in a world with closed national borders, they cannot survive when the factors of production are free to move across the borders. Each nation will find it Pareto optimal to dismantle its welfare state, given the fiscal situation in others, and an equilibrium in systems competition will not be reached before the welfare states have disappeared.*

⁷ A situation without taxes is the only possible equilibrium in the present model. A state that departs from this equilibrium by demanding positive taxes, which it tries to convert into lump sum transfers, drives the ‘rich’ tax payers away and attracts the ‘poor’ net recipients of government benefits. The policy cannot be financed because there is a budget deficit. A state that departs from the equilibrium in a downward direction by choosing a wage subsidy to be financed with lump sum taxes now drives away the ‘poor’ net payers and attracts the ‘rich’ net recipients of public funds. Once again there is a budget deficit which makes it impossible to finance this departure.

The end of the welfare state is a loss of welfare not only in terms of some utilitarian or moralistic postulate but also in terms of strict allocative efficiency criteria. From the point of view of a single country, it is a Pareto improvement if it cuts back its redistribution system, given the behaviour of other countries, but when all countries do that, there is, in fact, a Pareto deterioration. Because the countries decide individually and not collectively, they end up in a situation which, from an ex ante point of view, provides for all citizens a lower level of expected utility than would have been achievable without tax competition.⁸

The Selection Principle, which implies that the state only insures those risks which cannot be insured privately, can once again be identified as the deeper reason for the failure of systems competition. Private insurance is not possible because it comes too late. It cannot cover the risks which are already resolved when people become adults, and with the remaining lifetime risks still unresolved at that stage it founders on the adverse selection of the bad risks. In a closed economy the state can solve the problem by providing the insurance through the government budget. It has the power to enforce the necessary transfer of resources from the successful to the unsuccessful without being dependent on voluntary private contracts and the corresponding minimum age of insurees. In an open economy, however, where people have the right to change their place of residence, this power vanishes. Good risks leave the welfare state and bad risks seek it out. Systems competition obviously suffers from the kind of market failure that prevented private insurance from coming into existence and that originally caused the state to intervene. Only when the state does not take account of the Selection Principle and supplies, in accordance with the civil law, binding insurance contracts for the privately insurable risks which are resolved later in

⁸ The difficulties of the welfare state in tax competition have been described many times in the literature with the use of positive analysis. See Musgrave (1969), Oates (1972) or, more recent papers, Wildasin (1991, 1992). The Paretian welfare implications of the tax competition have, however, as far as the author knows, never received any attention.

life (C in the above model), is there no need to fear systems competition, as such contracts must then be respected even when the insured leaves the state.

Policy Implications

The approach uses a rather abstract migration model to demonstrate the vulnerability of the welfare state. Of course, much more sophisticated models with migration costs, moral hazard and different categories of labour could be thought of. However, even in these models it will be true that migration creates a severe policy externality between the different countries that reduces the national incentives to maintain a welfare state. A country that decides to extend its redistributive activities will expel some of the rich to, and attract some of the poor from, other countries. This will, in these countries, change the relative scarcity and the remuneration of the factors of production in a way that tends to reduce income inequality. The factors offered by the rich – such as high-quality labour and capital – will become more abundant and so the incomes of the rich will decline. The factors offered by the poor – especially simple labour – will become scarcer and will be able to earn a higher factor income. Thus the acting country helps the other countries to achieve their social objectives and exerts a positive policy externality. Since this externality is not taken into account by the acting country when it tries to find a compromise between conflicting policy goals, the scope of redistributive activities chosen in isolation is too small.

For the European welfare state this situation is alarming. The international factor price equalization which results from globalization increases the need for welfare aid in the high-wage countries, but, at the same time, the welfare state is being eroded by the pressures of systems competition. The fear expressed at the outset of this chapter is confirmed.

The erosive forces of systems competition have been at work for a long time in the United States and have led to an obvious deficiency in social welfare. Only a few years ago, New York

City was on the brink of bankruptcy when it attempted to counter the laws of systems competition with the introduction of a very generous social legislation. The poor moved there from all over America and held their hands out. This forced New York to cut back its generosity. No European state would be able to continue its effective social welfare policy with the kind of mobility found in America. It is true that Europe is not America, but it is becoming like America.

As explained in the introductory chapter, the planned eastern enlargement is currently contributing to the urgency of the problem. After 2004, millions of people from the east European member countries, whose wages will even then be less than one-fifth of the wage in the west, will seek entry to the western welfare states, and their differential mobility will be extremely high. Once the decision to leave their home countries has been made, the determined migrants will be fully flexible with regard to their target countries and react to even small economic stimuli. Under these circumstances, no country will be able to afford becoming a welfare magnet, and social benefits are likely to be cut on a large scale. Countermeasures are needed to prevent this from happening.

At first sight it would appear that harmonizing the redistributive tax and expenditure systems could be one of these countermeasures. Such harmonization is, however, scarcely realizable, given the large prevailing income differences between the European countries, because any reasonable definition of poverty and social need must refer to each country's idiosyncratic conditions rather than a European average. The progressive tariffs of income taxes alone would lead to problems which could not be overcome. With a uniform Europe-wide tariff, the average tax rate of a country would be higher the higher its average income, and there would then be an international, in addition to the interpersonal, redistribution of incomes which benefits the citizens of one country at the expense of those of others.

A better countermeasure would be abolishing or limiting the inclusion principle which has become one of the dominant legal principles for work-related welfare payments in Europe. The inclusion principle is the deeper reason for the difficulties of maintaining the European welfare state. It holds that, regardless of the country of origin, a person pays taxes and claims benefits in the country where he or she lives and works. Without the inclusion principle the deterrence competition described above could not be triggered off.

The home country principle is an alternative. In its strict form, the home country principle states that the country in which a person was born remains responsible for the welfare aid this person receives and the redistributive taxes he or she pays.⁹ When the home country principle is applied there will be no tax flight and no artificial migration incentives, because no one can improve his or her net fiscal position by migrating to another country. There will be migration, but it will be driven by the genuine incentives of the market economy rather than the artificial incentives set by the welfare state. With a single stroke the welfare policy of the national governments could be freed from having to take into account the migration processes it itself causes, and the forces eroding the welfare state would be tamed.

There are important examples for a partial implementation of the home country principle. Swiss cities provide certain kinds of welfare assistance to their inborn citizens even if they live elsewhere. The United States practices a world-wide income concept forcing American firms and individuals operating and living abroad to declare their incomes and pay taxes in the US. Even the EU itself practises a rather strict form of the home country principle for internal migrants who have not come for the purpose of working by excluding them from social aid and similar benefits. The foreign recipients of social aid must work and earn a sufficiently low income or they must

⁹ See also Sinn (1990) and Wissenschaftlicher Beirat beim Bundesministerium für Wirtschaft (1994).

previously have worked in the country where they claim social benefits. Otherwise, they must apply for support in their home country.

In its strict form the home country principle cannot easily be implemented if only because, as explained initially, much redistribution takes place in the form of free provision of public goods. Also, it seems plausible to integrate immigrants at some stage fully into the fiscal system of their host country, because a strong fiscal imbalance is a phenomenon that tends to disappear over time, at least when the lower end of the income distribution is considered. Based on recent German immigration data, the Ifo Institute (Sinn et al., 2001) found that during the first ten years of their presence in Germany, the net benefits (monetary transfers and fiscal cost of free access to impure public goods minus taxes and contributions paid) which immigrants received amounted to €2300 per person and year. However, after 20 years, the few people who had stayed had actually become net contributors to the government budget. The principle of 'delayed integration into the welfare state', as recommended by the Scientific Council of the German Ministry of Finance (2001) and the Ifo Institute, therefore, seems to be a reasonable response of EU immigration policy. According to the principle of delayed immigration, immigrants would immediately be included in the tax and contribution system of the host country and they would have free access to all public facilities and contribution-financed social benefits. However, certain tax-financed benefits such as social aid and subsidized government housing would be available only after a transition period of, say, seven years so as to secure a rough fiscal balance during this period of time. The principle of delayed integration would reduce the artificial migration incentives provided by the welfare state. In particular, it would help avoid the erosion of the European welfare state via a process of deterrence competition without recurring to harmonization or even

more interventionist actions by central authorities such as the postponement of some of the basic liberties granted in the Treaty of Rome.¹⁰

¹⁰ At the time of writing it seems likely that the EU will impose quantity constraints on westward migration from the new member countries, one of the most rigid dirigiste policy measures conceivable, violating the freedom of settlement, one of the four basic freedoms of the Treaty of Rome.

Appendix to Chapter 3

The Non-existence of a Market for Wage Insurance

This appendix shows that the assumptions under which the redistribution policy of the state is a Pareto improvement for the citizens are compatible with the possibility that adverse selection prevents a competitive private market for wage insurance to come into existence at the beginning of adulthood. It relates to the model described in section 3 of chapter 3.

Because in a genuine competitive market individuals can buy coverage from several insurance companies simultaneously, the analysis can be limited to the so-called pooling equilibria. An individual can buy an arbitrary number of units of coverage at a fixed premium per unit of coverage, and the insuree is unable to make this premium dependent on the number of units bought. Let β indicate the degree of insurance coverage. Assume that competition enforces mathematically fair insurance premia on average without any loading on top of the expected indemnification payments. Of course, such premia are unfair for the better risks and lower than fair for the worse risks.

It is assumed that the utility function of the households is characterized by constant relative risk aversion whose value is sufficiently small, an assumption that will become clear below. Assume further that $EC = r\bar{K}$ so that the individual income can be reduced to the expression $w \cdot \theta_1 \cdot \theta_2$. The insurance market is opened after θ_1 has become known but before θ_2 is known. It is assumed that the variable θ_1 is distributed equally over the range $0 \leq \theta_1 \leq \theta_1^{\max}$. Due to the assumption of stochastic independence among the individuals the ex ante probability distribution of θ_1 is identical to the ex post frequency distribution of θ_1 in the total population. No particular assumptions on θ_2 are necessary. θ_2 is a strictly positive random variable with an arbitrary but

non-degenerate distribution. The question is whether the income $w \cdot \theta_1 \cdot \theta_2$ is insurable if each insuree knows his respective variate of θ_1 , but the insurer does not. Both parties are equally ignorant about θ_2 , but they know the probability distribution of this random variable.

The non-existence of an insurance equilibrium can be proved with the aid of figure A3.1 which shows the decision situation of an expected utility maximizer in terms of the mean EY and the standard deviation SY of his income according to the insurance approach developed in Sinn (1980, Chapter V C). Because he can freely choose his degree of coverage between zero and one, each potential insurance purchaser faces an opportunity set of decision alternatives which in the diagram can be represented by a straight line from some point with positive standard deviation and positive mean towards the ordinate. If $\beta = 0$, this point is reached, and by increasing β it is possible to move along the line towards the ordinate which is reached when $\beta = 1$. If the premium is fair, the line is horizontal; if there is a positive loading beyond the expected indemnification payment, it has a positive slope such as the line AB in the figure.

In the present context, preference structures based on mean and standard deviation can be assumed without any loss of generality, because all the probability distributions to be compared belong to the same linear class.¹¹ When a linear class prevails, the assumption of a constant relative risk aversion transforms into a homothetic system of convex and positively sloped indifference curves whose uniform slope along a ray through the origin is an increasing function of the coefficient of relative risk aversion (Sinn, 1980, chapter III).

¹¹ See footnote 4, above.

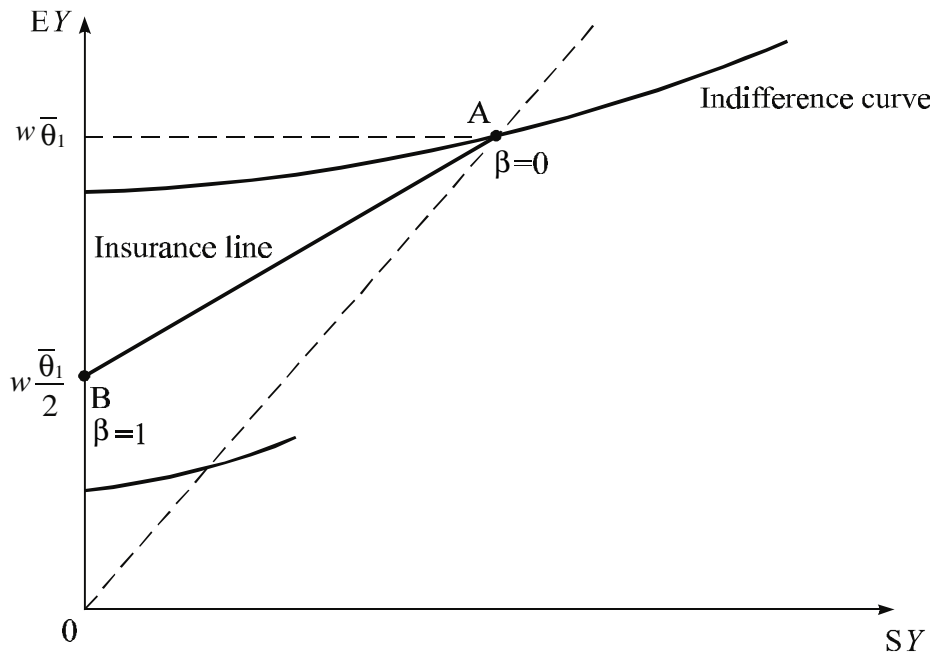


Figure A3.1 The Non-existence of an insurance equilibrium

Let the variates of θ_1 denote the existing risk types where a risk type is said to be ‘better’ than another one if the variate obtains a higher value. If a non-degenerate equilibrium in the insurance market exists, a type $\bar{\theta}_1$ with $0 < \bar{\theta}_1 \leq \theta_1^{\max}$ must exist which buys insurance. If the only type who buys insurance is the worst type with $\theta_1 = 0$, the insurance market has a mass of zero and is degenerate. The proof demonstrates that type $\bar{\theta}_1$ does not exist if the degree of relative risk aversion is sufficiently small.

Consider the decision problem of type $\bar{\theta}_1$ and assume first that this type is the best of all types (i.e. that $\bar{\theta}_1 = \theta_1^{\max}$). Assume for a moment also that the worse risks with $\theta_1 < \bar{\theta}_1$ all buy the same coverage as $\bar{\theta}_1$ does, such that the premium per unit of coverage is unfair for type $\bar{\theta}_1$.

The figure demonstrates the choice set of risk type $\bar{\theta}_1$. Let point A characterize this type's expected income and standard deviation without insurance. Since $E\theta_2 = 1$, the expected wage income EY is $w\bar{\theta}_1$. The standard deviation is jointly determined by the non-random variate $\bar{\theta}_1$ and the random variable θ_2 : $SY = \bar{\theta}_1 \cdot w \cdot S\theta_2$. It is given by the distance of point A from the ordinate. An insurance line goes from point A downwards to the left, to point B on the ordinate; point B characterizes the expected value and the standard deviation of income with full coverage insurance. The insurance line is the locus of those points which type $\bar{\theta}_1$ can reach by varying its degree of insurance coverage β , assuming, as mentioned, that all other types with $\theta_1 < \bar{\theta}_1$ always choose that same degree of coverage. In the case $\beta = 0$, point A prevails; in the case $\beta = 1$; point B prevails, and in the intermediate cases points on the insurance line prevail. When full coverage is bought, $\beta = 1$, the standard deviation is equal to zero and the expected post-insurance income equals the average wage income of all individuals with $\theta_1 \leq \bar{\theta}_1$. Because of the assumed uniform distribution, the average θ_1 -value is $\bar{\theta}_1/2$, and the average wage income is $w\bar{\theta}_1/2$. In general, the expected value and the standard deviation of the post-insurance income of risk type $\bar{\theta}_1$ are given by

$$\begin{aligned} EY &= \hat{a} (w\bar{e}_1/2) + (1-\hat{a}) w\bar{e}_1 & (A3.1) \\ &= w\bar{\theta}_1 \left(1 - \frac{\beta}{2}\right) \end{aligned}$$

and

$$SY = (1-\beta) w\bar{\theta}_1 S\theta_2, \quad (A3.2)$$

where E and S are the expectation and standard deviation operators. (A3.1) and (A3.2) define the insurance line.

Assume that, as in the figure, the indifference curves are sufficiently flat such that the insurance line cuts the indifference curves from below. Then no intermediate solution with a strictly positive degree of coverage is possible, and type $\bar{\theta}_1$ chooses $\beta = 0$.

Let us now remove the temporary assumption that all types with $\theta_1 < \bar{\theta}_1$ buy the same degree of coverage as type $\bar{\theta}_1$. As the other types are worse risks, at least some of them may decide to buy insurance. This means that the composition of the risk pool is worse than assumed and the premium per degree of coverage is higher: the insurance line is steeper than shown in the figure. This a fortiori means that $\bar{\theta}_1$ does not buy any insurance.

The discussion thus far referred to the case where $\bar{\theta}_1$ is the best of all risk types ($\bar{\theta}_1 = \theta_1^{\max}$). Since the best type does not participate, consider a slightly worse one with $\bar{\theta}_1 < \theta_1^{\max}$. In the figure points A and B move downwards along rays through the origin without changing the slope of the insurance line. Since the homotheticity of the indifference curves (constant relative risk aversion) ensures that the slope of the indifference curve through the new point A does not change either, it remains true that type $\bar{\theta}_1$ does not buy any insurance. Moreover, an individual of type θ_1^{\max} will not change his mind and decide to buy insurance if the other members of his type do not participate since the insurance conditions are now even worse than before. Extending the analysis to successively lower values of $\bar{\theta}_1$ and eliminating the respective better risks from the pooling shows by induction that no $\bar{\theta}_1 > 0$ can be found which buys positive amounts of insurance. Thus, no private insurance market is possible, Q.E.D.