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RECONCILING WORK AND FAMILY

CHILD CARE SUBSIDIES AS SOCIAL POLICY

DAVID M. BLAU*

Labor force participation by mothers of young children (ages 0 to 5) more than doubled in the United States from 30 percent in 1970 to 63 percent in 2000. Similar trends in many other countries raise the questions of who will take care of children while parents work and how such child care should be financed. Child care is thus an issue of considerable interest to families, employers and policy makers. Among high-income countries, the United States is an outlier in its child care policy, as in many other areas of social policy. Many European countries include publicly-provided and heavily subsidized child care in a portfolio of policies that provide support for families with young children. There is significant public funding of child care in the US, although much less in per-child terms than in Japan and Europe, but it occurs in the context of a market for child care that is the main institution through which child care arrangements are made. Child care markets appear to be much more limited in most other high-income societies. A large majority of child care arrangements in Europe are in public preschools such as *ecoles maternelles* in France and *scuola materna* in Italy. In those countries, even home-based family day care providers are often part of networks that receive substantial public funding and technical assistance (Waldfogel 2001).

This paper describes US child care policy and compares it to child care policies in other developed countries. The rationale for public child care subsidies is discussed, and US child care policy is evaluated in light of this discussion. A set of principles that could guide reform of the US child care subsidy system is then proposed. The main conclusion of the paper is that US child care policy is too heavily oriented toward facilitating employment and does not provide enough support for high-quality child care.



Child care subsidies in the US and other developed countries

Public subsidies for child care and preschool in the US grew slowly until the mid 1990s and began to grow much more rapidly only with the advent of welfare reform in the mid to late 1990s. In 1999, public child care and preschool subsidies were estimated to be \$21 billion (Blau 2001, p. 155), about one third of the approximately \$60 billion in total child care expenditure in the US (National Research Council 2003). In contrast, Table 1 shows that 70 to 100 percent of child care expenditures were supported by government subsidies or were made directly by public institutions in many

Table 1
A summary of child care policy in the United States and Europe

Country	Percent of child care costs covered by government	Organization	Quality regulation
United States	25 to 30	Mainly private	Varies by state
Austria		Mainly public	Varies by state
Belgium		Public	National standard
Denmark	70 to 80	Public	Set locally
Finland	85	Public	National standard
France	72 to 100	Public	National standard
Germany		Public	National standard
Italy		Public	National standard
Netherlands		Public and private	
Norway	68	Public and private	
Portugal		Mainly public	
Spain		Mainly public	National standard
Sweden	82 to 87	Public	Set locally
United Kingdom		Public and private	National standard

Sources: Column 1 (Waldfogel, 2001); column 2 (Aderna, 2000), from the DICE Database; column 3 (Kamerman, 2000) refers to the largest subsidy programs in term of coverage.

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European countries. Subsidies have been increasingly targeted to low-income families in the US, but a large majority of such families remain unserved by existing programs (Blau 2003b).

There are several large child care subsidy programs in the US and dozens of smaller ones. Some of the subsidy programs are restricted to employment-related child care expenses, for example, the Child Care and Development Fund (the program created as part of the 1996 welfare reform) and the income tax credit for child care expenses (the Child and Dependent Care Credit). Others such as Head Start and Title I preschool have no employment requirement. The latter are typically part-day, part-year programs designed to improve the cognitive development of disadvantaged children. The goals and structure of employment-related child care subsidy programs are quite different from those of early education preschool programs. Nevertheless, the two types of programs are closely related. A subsidy for work-related child care expenses may affect the quality of child care purchased, whether or not this is a goal of the subsidy program, and an early education program may affect the work incentives of the parents, whether by design or not. All such programs can be thought of as being located on a two-dimensional spectrum with respect to the restrictions on the use of the subsidy. One dimension is the employment requirement of the program, with one end of the spectrum requiring full-time parental employment in order to be able to receive a subsidy and the other end not requiring any employment. The other dimension is the quality of child care required in order to be eligible for a subsidy, with one end of the quality spectrum having no restriction on the quality of child care and the other end allowing the subsidy to be used only for child care that meets rigorous quality standards. The choice of where to locate a program in this spectrum is a policy decision. In 1999, only one third of child care subsidies were in programs with a major focus on quality, while the other two thirds were in programs with little emphasis on quality, but strong employment requirements (Blau 2001). In contrast, many other countries place a strong emphasis on quality, which is ensured by public provision and relatively generous funding and coverage. As shown in Table 1, quality is more tightly regulated in Europe, and subsidies are significantly more generous than in the United States.

The rationale for child care policy

Two main arguments have been used in support of government support for child care. The arguments are based on attaining economic self-sufficiency and child care market imperfections.¹

Self-sufficiency. Child care subsidies might help low-income families be economically self-sufficient. Self-sufficient in this context means employed and not enrolled in cash-assistance welfare programs. Self-sufficiency might be considered a desirable goal because it may increase the likelihood of future self-sufficiency by inculcating a work ethic and generating human capital through on-the-job training and experience, and it may therefore save the government money in the long run (Robins 1991, p. 15). This argument explains why many child care subsidies require employment or work-related activities such as education and training. Subsidies for child care and other work-related expenses paid to employed low-income parents may cost the government more today than would cash assistance. But if the dynamic links suggested above are important, then these employment-related subsidies could result in increased future wages and hours worked and lower lifetime subsidies than the alternative of cash assistance both today and in the future. Note that this argument has nothing to do with the effects of child care on children, and there are few restrictions on the type and quality of child care that can be purchased with employment-related child care subsidies.

Recent evidence in a careful study by Gladden and Taber (2000) indicates that wage growth of low-skill workers in the US is modest on average and is not high enough to lift low-skill workers out of poverty. For example, high school dropouts averaged 4.4 percent real wage growth per year of actual work experience over the first ten years of work. Thus, if the average high school dropout began working at the minimum wage of \$5.15 per hour, after ten years of work experience her wage rate would have increased to \$8.00. This is not negligible but is also not enough to significantly reduce dependence on government assistance.

¹ It is sometimes asserted that there are shortages of child care of particular types such as center care for infants, weekend and night-shift care, high-quality care and care for sick children. Subsidies to providers of such types of child care might increase the quantity available. Standard economic arguments suggest that shortages will be the exception rather than the rule and will be temporary when they do occur. See Blau (2001) for a more thorough discussion of this issue.

Market Imperfections. The second main argument for child care subsidies is the existence of imperfections in the child care market. The imperfections that are often cited are imperfect information available to parents about the quality of child care and positive external benefits to society generated by high-quality child care. Walker (1991) spells out these points in detail; the discussion here follows his arguments closely. Imperfect information in the child care market exists because the quality of care offered by any particular supplier is not fully known by consumers. If consumers know less about product quality than does the provider, and monitoring the provider is costly to the consumer, this can lead to moral hazard (hidden action) and/or adverse selection. Moral hazard is a plausible outcome in day care centers (for example, waiting to change diapers until just before the parent arrives to pick up the child). Adverse selection of providers is plausible in the more informal family day care sector. Family day care is a very low-wage occupation, so women with high wage offers in other occupations are less likely to choose to be child care providers. If the outside wage offer is positively correlated with the quality of care provided, then women who chose to work in child care would offer lower-quality care than would the potential care-givers who chose other occupations.

Is there evidence that child care consumers are not well informed? Walker (1991) reports that 60–80 percent of child care arrangements made by low-income parents are located through referrals from friends and relatives or from direct acquaintance with the provider. This suggests that consumers may not be well-informed about a wide range of potential providers, but it does not prove that a sub-optimal amount of information is used by consumers. Cryer and Burchinal (1995) report a direct comparison of parent ratings of various aspects of their child’s day care center classroom with trained observer ratings of the same aspects. The results show that parents give higher average ratings on every item than do trained observers, by about one standard deviation on average for preschool age classrooms and by about two standard deviations on average for infant-toddler rooms. The instrument containing these items is of demonstrated reliability when administered by trained observers, so this suggests that parents are not well-informed about the quality of care in the arrangements used by their children.

Child care subsidies targeted at high-quality providers could induce parents to use higher-quality care by reducing the net price to consumers of such care compared to the price of lower-quality care. This would not necessarily solve the information problem, but would deal with a consequence of that problem, namely a level of child care quality that is sub-optimal from the perspective of society.

The externality argument is a standard one that closely parallels the reasoning applied to education. High-quality child care leads to improved intellectual and social development, which in turn increases school-readiness and completion. This reduces the cost to society of problems associated with low education: low earnings, unstable employment, crime, drugs, teenage childbearing and so forth. If parents are not fully aware of these benefits, or account for only the private rather than the social benefits of high quality child care, then they may choose child care with less than socially optimal quality. This argument could rationalize subsidies targeted to high-quality providers, such as Head Start.

Does current US child care policy adequately address child care problems?

The discussion in the previous section suggests that the main problem in the child care market is the potential risk to the development of children from being exposed to many hours of low-quality child care. Evidence indicates that child care quality is relatively low in the US because of low willingness to pay by parents, not because of a failure on the supply side of the market (Blau 2001). Low willingness to pay could arise from lack of information by parents concerning how to distinguish high and low quality care or from lack of awareness of the benefits of high quality care and the risks of low quality care. Even parents who are fully informed may choose child care of less than optimal quality from a social perspective, if parents fail to account for the benefits to society at large from high-quality child care.

The problem of low quality of child care is not an *employment* problem. Yet, the majority of child care subsidy funds in the US are available only to employed parents and do not place significant restrictions on the quality of care or provide incentives to use high-quality care. There is no obvious economic inefficiency in the child care market for which these subsidies are a logical rem-

edy. They encourage employment of both parents in two-parent families and of the single parent in one-parent families, but it is not clear why society should wish to provide such encouragement in the absence of evidence that low-wage employment leads to significant earnings growth. They increase the well-being of families in which both parents are employed, but do not provide benefits to families in which one parent stays home to take care of children. Policies that deal directly with the underlying causes of low labor market skills would be more a more logical approach to the problem of welfare dependence than a child care subsidy.

Head Start and Title I Preschool are the only major subsidy programs that require high quality child care in the US. These programs account for about one third of all child care subsidies, and a much smaller proportion of all children in subsidized child care. Head Start and Title I are usually not even thought of as child care subsidies, but rather as early education programs for disadvantaged children. They are not designed to facilitate parental employment and are therefore generally not classified as child care programs. But setting aside labels, employment-related and child development-related programs both subsidize care of a child by someone other than the parent, which reduces the cost to the parent of being employed, whether by design or not. And they affect child development via the quality of the care provided, again whether or not this was intended. Viewed in this way, the problem with current child care policy is clear: two thirds of subsidy dollars require employment but not quality. This imbalance does not address the fundamental problem in the child care market.

How should the US change its child care policy?

Child care subsidies that require employment increase the quantity of child care demanded but do not increase the quality of care demanded. Demand for high-quality child care will not increase unless consumers have better information about child care quality and stronger incentives to purchase higher-quality care. The quality of child care is almost surely not the most important determinant of child development and well-being, but it is a potentially important factor, particularly for low-income children. And child care quality may be easier to change through policy than are

aspects of the home environment that affect child development. The following suggested principles for child care policy reflect research findings about the child care market as well as judgments about the goals that child care policy should try to achieve.

Child care policy should be neutral with respect to employment. There are no compelling economic or moral reasons for society to encourage employment of both parents in a two-parent middle-class family. There may be a more compelling case for encouraging single parents to achieve economic independence through employment. But a child care subsidy is at best an indirect approach and at worst an ineffective approach to accomplishing this goal. Indeed, employment-related child care subsidies are likely to have the unfortunate side effect of increasing the amount of low-quality child care experienced by children from low-income families. Instead of subsidizing the employment of parents, government should, if anything, subsidize the costs of raising children, without favoring market costs for child care over the foregone-earnings cost of a parent who stays home to care for a child.

Child care policy should provide information to parents about the benefits of high-quality child care, about how to discern the quality of care and about how to find high-quality care. As in all markets, well-informed consumers are the best monitors of quality.

Child care policy should provide incentives for parents to choose high-quality care. Even if parents are generally aware of the developmental benefits of high-quality care, they may not value those benefits much compared to other things they can buy. For example, parents may feel that their own influence on the development of their children can make up for the effects of low-quality care or that the developmental outcomes measured by standard cognitive, social and emotional assessments are less important than, say, religious values, respect for authority and other intangible attributes. If consumers are given sufficient incentives to choose high-quality care, then providers will have an incentive to offer such care.

Child care policy should encourage the development of programs to help providers learn how to improve the quality of care. An essential feature of a com-

petitive market is that firms can prosper only by offering the services consumers are willing to pay for. Thus, direct subsidies to providers should not be necessary. Providers will have an incentive to increase quality in response to consumer demand, but they may lack the knowledge to upgrade quality. Thus, subsidies for technical assistance to child care providers could be appropriate.

Child care policy should be progressive, with benefits being larger for children in poor families. Because children in poor families are at greater risk of developmental delays and the problems that result from such delays, the benefits of high-quality child care are therefore likely to be larger for them. Equity considerations also favor a progressive child care policy.

Child care policy should be based on incentives, not regulations. Regulating an industry such as child care, with its hundreds of thousands of providers, is likely to be either very costly or ineffective. Evidence suggests that current regulations imposed by the states in the US are not very effective at improving the quality of care being provided (Blau 2003a). Of course, states should not be discouraged from regulating basic safety and health aspects of child care. But financial incentives can be more flexible than regulations, and well-designed incentives can be self-enforcing rather than requiring a monitoring bureaucracy.

Child care policy should presume that well-informed parents will make good choices about the care of their children. Government can provide the best available information to inform parental decision-making, along with incentives for parents to make good choices. But government should not limit the freedom of parents to arrange care for their children as they see fit (subject to regulations regarding neglect and abuse). Not all parents will want to take advantage of subsidized care in preschools and family day care homes, no matter how high the quality of care provided. Some parents will prefer care by a relative or close friend; some will prefer care in a church-based setting that emphasizes religion, and some will prefer care by a babysitter in the child's home. Although these choices may not be optimal in fostering child development, government should not coerce parents to raise children in a particular way. Parents should remain the decision-makers.

Conclusions

The arguments in this paper suggest that child care subsidies in the US are not well-designed to deal with problems in the child care market. This does not necessarily imply that the US should abandon its market-oriented approach to delivery of child care services. Markets have many advantages over public delivery of services, and subsidies can be designed to improve market outcomes rather than replace the market. The US could benefit from careful study of child care subsidy systems in Europe. But it is not necessary for the US to abandon its traditional market-oriented approach to child care in order to develop a more rational approach to child care subsidy policy.

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FIRMS' CONTRIBUTION TO THE RECONCILIATION BETWEEN WORK AND FAMILY

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SAMANTHA CALLAN**



European governments have adopted a wide range of different strategies and initiatives to promote work/family reconciliation. The Nordic countries have pioneered extensive national legislation on maternity/paternity leave, rights to part-time working and publicly funded child care arrangements. Other countries have put more emphasis on collective bargaining, including the Netherlands and Germany. Yet other countries have traditionally relied a good deal on firms – notably the United Kingdom.

However, whatever the context of national legislation, workplace culture is of great importance, for two main reasons. The first is that, certainly in the private sector and now to an increasing extent in the public sector, the economic realities of the workplace cannot be ignored. If firms feel they are being constrained excessively by government efforts to make them family-friendly, they will “work around” the legislation, implementing it grudgingly or in ways that lead to undesirable side effects. The second is that individuals have different preferences for allocating their time between the workplace and their lives outside it, including their family life. Attitude surveys, such as the 1998 European *Employment Options of the Future* survey, have illustrated the enormous range of aspirations in this regard, especially for women, but also for men (Atkinson 2000). National legislation is vital for setting acceptable standards but, once this has been done, firms' requirements and individual aspirations can best be accommodated through agreements at the level of the workplace. In order for this to be possible, the workplace culture must be enlightened and supportive.

This contribution briefly reviews what is known about “family-friendly”¹ work arrangements in European workplaces at the international level. It

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points out some of the difficulties of relying solely on initiatives at the national level and argues the importance of promoting workplace cultures which are both efficient and take account of individual needs for flexibility.

Family-friendly practices in European workplaces

European evidence on the extent of voluntary, family-friendly work arrangements by firms is rather weak. However, it is sufficient to show both the considerable variation between countries and that countries with the best-developed national legislation tend to have the lowest incidence of firm-based arrangements.

The *Second European Survey of Working Conditions* of 1995/96 asked employees whether their employer provided certain family-friendly benefits “over and above statutory requirements”.³ These benefits were: leave to take care of a sick child, maternity leave, parental leave, and provision or support for child day care. Figure 1 shows the average incidence of the three different types of leave benefits reported by women employees with a child under 15 in their household. The highest figures are seen for Austria and the western Länder of Germany, followed by three “Southern European” countries: Greece, Italy and Spain. The Nordic countries are at the bottom, together with Ireland and the United Kingdom. The degree of variation is remarkable – from over 80 percent in Austria to under 10 percent in Sweden. The figure also shows the incidence of employer provision or subsidy for child care. The high figures for the Netherlands reflect its system of partnership between parents, firms and the government.

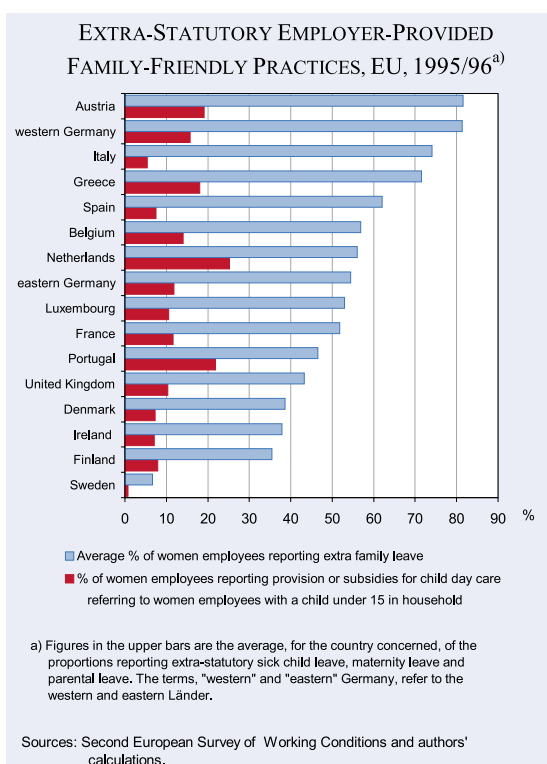
Figure 2 compares the extent of firm-provided maternity leave with an index of national maternity leave in 1995. The Nordic countries are all to the right of the figure, with high national provision but low firm-based provision. Austria and the western

¹ The definition of “family-friendly” working arrangements by enterprises used here is that of Evans (2001, p. 10), “working arrangements, introduced voluntarily by firms, which facilitate the reconciliation of work and family life”. The four broad categories are leave from work for family reasons; changes to working hours arrangements for family reasons; practical help with child care and eldercare; and relevant information and training.

² This is described in European Foundation (1997). The question was omitted from the third survey in the series.

³ For a discussion of these data, see Evans (2001). While they need to be treated with caution, they are corroborated by the available national source for the United Kingdom.

Figure 1



Länder of Germany are towards the top of the figure, with high values for firm-based provision and above average values for national provision. Overall, the pattern seems likely to result from a combination of two factors. First, high levels of national provision are likely to squeeze out provision by firms. Second, there are different national attitudes towards the most appropriate ways of assisting – or not assisting – families. For example, in Austria and Germany it has long been considered appropriate for the family, as an important social institution, to receive relatively high levels of support both from the State and from firms. In the United Kingdom, the family has traditionally been considered to be a private matter, requiring comparatively little attention from either firms or government – though that has changed significantly since 1995.

Further analysis of the data suggests that public sector firms and larger private sector firms provide the most additional leave and child-day care arrangements. Permanent and long-tenure employees are more likely to have access to family leave benefits, as are professional workers. On the other hand, employees working in low-skilled occupa-

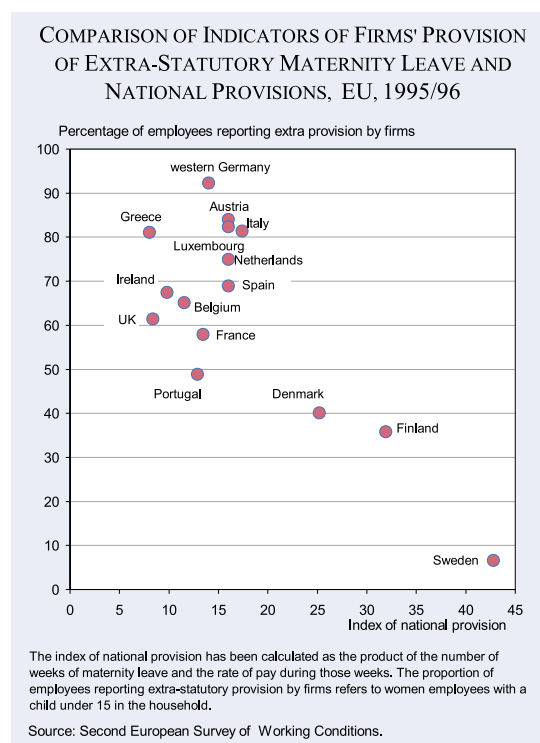
tions, in craft trades or as operatives tend to report comparatively few family-friendly arrangements.⁴

The problems of relying on national legislation

Legislation is essential to ensure minimum standards and protect the less-skilled and less-experienced who are not as likely to be helped by firms. However, national legislation alone is unlikely to be able to fulfil all of the objectives usually associated with work/family reconciliation.

The potential contradiction between work/family legislation and gender equity objectives has been pointed up by a number of writers. For example, Moss and Deven (1999) warn that public policies providing entitlements to long periods of maternity leave can harm gender equity in two ways. First, they can encourage long absences from work during years that are critical for building women's careers. Second, they can foster discrimination against women. Substantial absences impose costs on employers. These costs give them an incentive to discriminate against all younger women, simply because employers have no means of knowing which young women are likely to have children and take up their entitlements to long absences and which are not. Sweden would appear to provide an example of this in practice – it has both

Figure 2



⁴ This pattern is consistent with a number of national studies reviewed in Evans (2001).

exceptionally high levels of maternity leave entitlements and a particularly high degree of occupational segregation (including an extremely low proportion of women in senior positions in private sector firms).

Entitlements to reductions in working hours for family reasons are also likely to work against gender equity. Part-time working tends to be concentrated into a relatively restricted range of occupations and to have lower hourly pay and training opportunities than equivalent full-time jobs. Survey evidence shows that this corresponds to the way that employers tend to view part-time working (OECD 1999).

Publicly financed child care schemes appear to offer a means of combining work/family reconciliation with gender equity. When care for children is assured, women and men are free to compete in the labour market on more equal terms. However, the economic costs of setting up large-scale, high-quality child care schemes are considerable. In addition, there is evidence that many women prefer to look after their young children themselves. Furthermore, as the vast majority of child carers are women, the problem of occupational segregation is by no means solved.

A further strand of government policy has been seen in measures to encourage men to take more responsibility in the household, through entitlements for paternity leave and periods of parental leave available only for men. The Nordic countries have been the pioneers in this regard. However Crompton and Birkelund (2000), in their comparative study of British and Norwegian banking, conclude that such policies make a difference mainly for the small number of men who have already assumed significant child care responsibilities. They do little to affect the mainstream. Part of the reason for this is that such schemes typically replace only a small proportion of the pay that is lost. In addition, such measures, on their own, are unlikely to make much difference to the workplace culture, which generally embodies a tacitly agreed perception of what it means to be an "ideal worker". Male employees who take up leave entitlements may be seen as breaking cultural conventions which are important for advancement within the organisation.

In general, government regulation carries a cost, much of which is borne by industry. For many British firms the pace of legislative change in favour

of work/family legislation since 1997 has been unusually brisk and economically challenging. By May 2002 the regulatory cost of making the British workplace more family-friendly was officially estimated at £9bn sterling, a cost which may fall disproportionately on smaller businesses. If government interventions affect the margins but not the mainstream they may come at too high a price.

In this context, it is also appropriate to mention the 35-hour week in France. While its primary objective was to decrease unemployment, its secondary aim was to improve work/family reconciliation. A survey in 2001 of those already affected by the 35-hour week found that many people had been able to increase the amount of time spent with their families and reported being happier as a result (Cette et al. forthcoming). Women with at least one child under 12 at home tended to be particularly satisfied with the change. However, one disadvantage, in a minority of cases, was a feeling of work intensification and greater pressure to work in ways that gave flexibility to the employer rather than the employee. The net cost of the measure to the public purse is still a subject of great controversy but may have been considerable.

Countries with a strong tradition of collective bargaining, such as the Netherlands, may rely on this to promote family-friendly policies at lower regulatory cost. However, the difficulty is that union leaderships are generally male and traditionally minded. Part-time workers are less likely to be unionised, and even less likely to be active in a union. Thus, unions have traditionally been reticent in demanding family-friendly provisions. For this reason, the Netherlands has found it necessary for the government to add extra incentives for family-friendly behaviour, such as the tax concessions to companies that provide child day care and the recent legislation to provide for care for sick children (OECD 2002).

The importance of the workplace culture

The evidence above suggests that government legislation alone is unlikely to be able to solve the problem of work/family reconciliation satisfactorily. Will the "business case" fill the gap – will firms be drawn to introduce family-friendly practices because they perceive financial advantages in doing so?

Globally, the econometric evidence is still not very encouraging. Case study evidence has shown that there is often a business case for family-friendly working arrangements, particularly in terms of improving retention rates and improving morale (DTI 2000). However, Dex and Smith (2002), using the large scale UK Workplace Employee Relations Survey find only small associations between family-friendly working arrangements and a number of measures of performance in private sector firms. In addition, White et al. (2003) conclude that “high performance” working arrangements (such as team working and pay-for-performance schemes), introduced by firms for business case arguments, can work against work/family reconciliation – presumably because part of their intention is work intensification.⁵

Nevertheless, at the same time as econometric evidence is lacking, it is not hard to find cases of individual firms ascribing huge benefits to their family-friendly stance – for example many of the firms which win the “Family-Friendly Employer of the Year” competitions conducted in a number of European countries. This paradox is probably best explained in terms of the workplace culture in which the family-friendly policies are introduced.

The United Kingdom has been particularly concerned to promote flexible working hours, to reconcile the needs of the employer and of the individual. It has recently published a pamphlet on 50 cases of success in introducing flexible working hours as a family-friendly (or “work/life”) policy (DTI 2003). The different ways in which flexible working is introduced are numerous – including working outside normal working hours, unpaid leave, totally flexible job shares, part-time working, compressed working week, term-time working, and working hours at the discretion of the employee provided the work is done. The advantages claimed for these changes in working hours are equally numerous, covering virtually the whole range of human resource issues: commitment and effort from staff, easier recruitment of higher levels staff, lower turnover, fewer wildcat absences, better staff (as people with children make better workers), more training, better dovetailing of supply and demand during extended working hours.

While the UK government’s publication is intended to extol the benefits of flexible working for both firms and the work/family reconciliation of individuals, the fifty success stories give the strong impression that the family-friendly flexible working arrangements had generally been introduced in the context of a broader cultural change in the workplace, in which flexibility was valued and staff were able to have a considerable say in devising their own working arrangements. For example, the supermarket chain, Asda, which achieves very high ratings from its employees as an employer, reported that all of its particularly wide range of flexible working policies were introduced after proposals from staff. Some of the firms had gone well beyond simply offering flexible work arrangement to the extent of proposing workshops to encourage men to take up flexible work options and running extensive training sessions to teach managers how to manage flexible workers.

This is in line with fieldwork conducted by Evans, which suggested that, in many cases, firms introduce family-friendly working arrangements because of cultural values rather than cost-benefit calculations.⁶ In fieldwork done by Callan, a recurring phrase has been that “flexibility works both ways.” When employers introduce flexible working in order to allow their employees to balance their work and home lives, they often find that their employees respond with increased levels of commitment, to the extent of regarding themselves as individual investors in the success of the organisation. This is exemplified by a small company in the British Midlands: an incoming managing director had saved it from failure through cultural change. This involved accommodating more than two dozen different working patterns and the engagement of every member of staff in the decision-making process at some level.

Some other studies come to similar conclusions. Wood (1999) finds that family-friendly policies tend to be introduced by firms whose management not only places a high value on employees’ welfare in respect to their family situation and perceives a bottom-line benefit from providing family-related benefits but, in addition, is careful to consult with the workforce and gives a high priority to the achievement of employee commitment. Dex and

⁵ It must be admitted that this evidence for the United Kingdom may not apply in countries which evaluate firm performance over a longer time frame.

⁶ This is also one of the conclusions of the large-scale study of family-friendly policies being undertaken by the OECD (2002; 2003).

Schiebl (2002) show the importance of the overall culture in their case studies of small firms. Where flexibility was part of the culture, employers tended to find that family-friendly policies worked well: additional administrative work was less than expected, no evidence was found for loss of clients, workers allowed greater flexibility were happier and more highly motivated, and multi-tasking and team working provided adequate skills mix to cover for absent employees.

Workplace cultures which respect and value individuals can also alleviate the potential conflict between gender equity and family friendliness. When employees are valued for what they can produce, rather than what they have done in the past, and firms take a longer-term view of careers and provide mentoring and training for those returning to the workplace after a break, it is much easier for the talents of mothers to be deployed in higher-level positions (Cooper and Lewis 1995).

Cultural change is not easy and there are obstacles to be overcome. One of the most difficult is perhaps the notion of "professionalism", now applied widely to managerial positions. Kerfoot (2002) has suggested that, particularly for men, professionalism may be a justification for elevating work identity above all other aspects of selfhood, including family responsibilities. However, the cultural changes required may be eased by flatter management structures with less hierarchy, and by the drive for more diverse workforces to serve more diverse customers.

Conclusions

A number of governments have recently introduced greater entitlements for employees to changes in work arrangements for family reasons – for example rights to reduce hours of work or extensions to paternity and parental leave entitlements. All these initiatives may have beneficial effects but, if the conclusions above are correct, they will be incomplete – and even have undesirable side-effects – unless they are accompanied by efforts to promote workplace cultures which value flexibility, show respect for individual preferences, take employees' suggestions for change seriously, and seek to accommodate a wide range of different working arrangements and career paths. National legislation is vital for setting minimum standards

and may also be instrumental in changing workplace culture. However, beyond this governments have a responsibility for identifying best practice, making it known, and assisting firms as they undertake change in those directions. At the same time, unions may find a new source of vitality in advising their members on how best to present the "business case" for the different types of working arrangements they favour as individuals.

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SUPPORTS FOR WORKING FAMILIES: WORK AND CARE POLICIES ACROSS WELFARE STATES¹

JANET C. GORNICK *

MARCIA K. MEYERS **

This contribution highlights key aspects of variation in family leave policy, working time regulations and child care provisions across ten countries: Belgium, Denmark, Finland, France, Germany, the Netherlands, Norway, Sweden, the United Kingdom and the United States.

Introduction

Parents throughout Europe and the United States share the common challenge of balancing responsibilities in the labor market and at home; mothers and fathers everywhere grapple with establishing a division of labor at home that is equitable and economically viable. Yet despite relatively common problems across contemporary welfare states, social and labor market policies vary dramatically

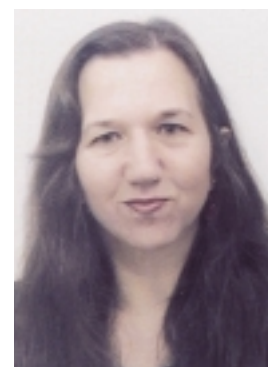
in the level of support that they provide for parents and the extent to which they encourage gender-egalitarian divisions of labor in paid work and care.

Parents in some countries – especially in northern Europe and, to a lesser degree, on the European continent – benefit from family leave policies that grant them paid time off to care for their young children, labor market regulations that shorten their regular working time throughout their children's lives, and public programs that guarantee access to high-quality substitute care during the hours that they spend on the job. In some countries, public provisions not only grant parents caregiving supports, they also encourage gender equality, by strengthening mothers' labor market attachment and/or allowing and encouraging fathers to spend more time caregiving at home. Public financing of these programs distributes the costs of childrearing broadly, spreading the burden across family types, throughout the income distribution, between generations and among employers. In other countries – most markedly, in the US, where child rearing is viewed in exceptionally private terms – parents are largely left to craft market-based solutions to work/family conflicts. For the most part, US parents rely on their employers to voluntarily provide paid family leave and options for reduced-hour work, while turning to consumer markets to obtain child care services.

In this article, we characterize “work/family” policy packages across a group of relatively similar industrialized countries – the United States and nine diverse European welfare states, Belgium, Denmark, Finland, France, Germany, the Netherlands, Norway, Sweden and the United Kingdom. Our goal is to assess the extent to which existing policy packages in these countries support parents' time to care and/or encourage gender-egalitarian divisions of labor.

Policy variation across paid work and care regimes

At least three areas of family policy influence dominant patterns of parental caregiving, the gender



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¹ Portions of this article are excerpted from a recent book and a related book chapter:

Gornick, J. C. and M. K. Meyers (2003a), *Families That Work: Policies for Reconciling Parenthood and Employment*, Russell Sage Foundation, New York.

Gornick, J. C. and M. K. Meyers (2003b), “Welfare Regimes in Relation to Paid Work and Care”, in J. Zollinger Giele and E. Holst, eds., *Changing Life Patterns in Western Industrial Societies*, Elsevier Science Press, The Netherlands.

Families That Work is a detailed study of work/family reconciliation policies in twelve OECD countries. The book covers three policy areas: family leave policy, working time regulations, and early childhood education and care. Twenty policy tables that appear in *Families That Work* are also available on-line through the Luxembourg Income Study (LIS), along with a list of the references on which the tables are based. To access these tables, go to: <http://www.lisproject.org/publications/fampol/fampolaccess.htm>.

division of labor and child well-being. First, *family leave policies* grant parents the right to take time off for caregiving, especially when children are below school-age, and they replace some or all wages during parents' time off. Short-term paid leaves also contribute to gender equality in the labor market by facilitating continuous maternal employment and reducing wage penalties associated with motherhood. Family leave policy designs vary dramatically across countries on at least two core dimensions: the generosity of leave available to new mothers and the degree to which policy designs encourage men's engagement in caregiving.

Second, *working time regulations* can free up parents' caring time – for both fathers and mothers – by limiting normal employment hours to, say, fewer than 40 per week and by guaranteeing a minimum number of days for annual vacations. Some feminist scholars have concluded, furthermore, that shortening working time may be the most promising tool for achieving a gender-egalitarian redistribution of domestic labor.

Third, public provisions for *early childhood education and care* further strengthen maternal employment by providing alternatives to full-time maternal caregiving and high-quality early education and care can also enhance child well-being. Public financing and delivery, rather than a market-based system, alleviates the economic burden of child care costs, especially for low-income families, and raises the wages of the caregiving workforce as well.

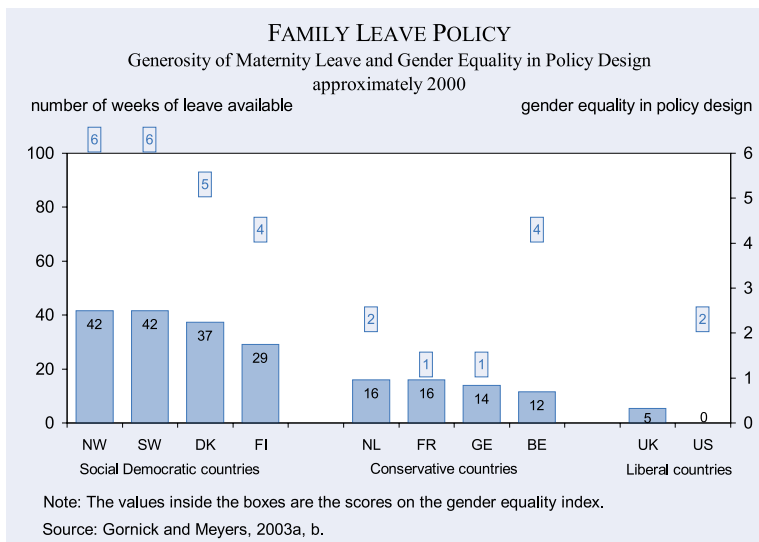
In this article, we present the highlights of contemporary policy variation in these three policy arenas as of approximately 2000, using the well-known welfare state typology of Gosta Esping-Andersen as an organizing framework. Esping-Andersen classified the major welfare states of the industrialized west into three clusters, each characterized by shared principles of social welfare entitlement (with an emphasis on class) and relatively homogeneous outcomes. He characterized social policy in the Nordic countries as generally organized along *Social Democratic* lines, with generous entitlements linked to universal social rights. Social policies in the other countries of the European continent are largely *Conservative*, typically tied to earnings and occupation, with public provisions replicating market-generated distributional out-

comes; in these countries, social policies are often shaped by the principle of subsidiarity as well, which stresses the primacy of family and community in providing dependent care and other social supports. Social benefits in the English-speaking countries are described as *Liberal*, that is, organized to reflect and preserve consumer and employer markets, with most entitlements deriving from need based on limited resources.

In the 1990s, many critics (including us) charged Esping-Andersen with ignoring gender issues in the construction of this typology. His primary dimension of variation, decommodification – the extent to which the state protects waged workers from income insecurity – applied poorly to women as a group. In addition, his underlying policy variables excluded most programs targeted on women, such as family leave and child care. Yet, somewhat surprisingly, subsequent empirical efforts to establish new welfare state typologies that did incorporate gender largely corresponded to Esping-Andersen's classification. This suggests that the welfare state principles underlying these categories are highly correlated with factors that shape family policy. In the Nordic countries, the social democratic principles that guide policy design are generally paired with a commitment to gender equality. In the Conservative countries, the market-replicating principles are often embedded in socially conservative ideas about family and gender roles. In the Liberal countries, the supremacy of the market system generally drives social welfare designs across all policy arenas.

All told, the Esping-Andersen regime-types provide a fruitful starting point for assessing welfare regimes in relation to paid work and care. We make use of them here partly because they push us to think theoretically about social policy and partly because they help us to identify empirical patterns across our comparison countries. By working with these well-known groupings, policy comparativists can also situate our findings within the larger literature on the welfare state. Note that the ten countries in this study fall into these country groups as follows: four Social Democratic countries: Denmark (DK), Finland (FI), Norway (NW) and Sweden (SW); four Conservative countries: Belgium (BE), France (FR), Germany (GE) and the Netherlands (NL); and two Liberal countries: the United Kingdom (UK) and the United States (US).

Figure 1



Family leave policy

Across these ten countries, family leave policies vary markedly, and on two distinct dimensions. First, there is substantial variation in the total number of weeks of full-time wage replacement available to new mothers, assuming that mothers take all of the leave available to them through existing maternity and parental leave schemes. Second, there is variation in the extent to which family leave policy features are egalitarian with respect to gender: countries vary in the generosity of their provisions for fathers and the extent to which policy designs encourage fathers to take up the leave to which they are entitled. In Figure 1 we compare these ten countries on both of these dimensions.

The indicator “weeks of leave” (see the vertical bars) reflects a combination of duration and benefit generosity. In Finland, for example, the 29 weeks reported results from 44 weeks at about two-thirds pay. Note that Figure 1 reports only *earnings-related components* of family leave and assumes earnings below any existing earnings caps. About half of these countries supplement the benefits captured in this figure with additional periods of leave paid at a low flat-rate – most substantially in Finland, France and Germany. We exclude these low-paid benefits from this comparison because, in some cases (Finland and Germany), the benefits are not conditioned on employment, so characterizing them as wage replacement is not fully accurate. In addition, the program in France is payable only for second and subsequent children. Furthermore, take-up is much lower than in the earnings-related programs, so

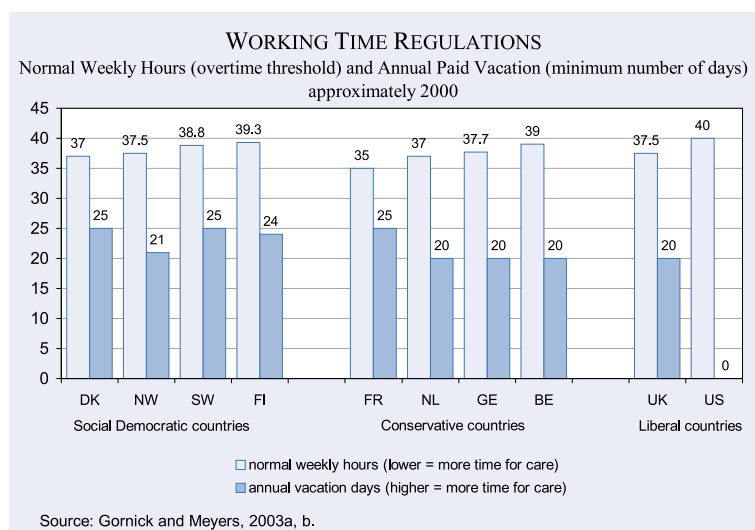
including them distorts the level of provision upward. (Also note that this figure excludes the United States’ Temporary Disability Insurance programs, which offer some maternity pay, because they operate in only five American states.)

Figure 1 also includes our comparison of policy design features that encourage gender equality. Our “gender equality scale” (see the values in the boxes) derives from empirical research findings that indicate that male take-up is encouraged by non-transferable rights (rights that cannot be transferred to female partners) combined with high wage replacement. We assigned countries one point on this gender equality scale if they offer any paid paternity leave, two points if fathers have parental leave rights that are non-transferable and up to three additional points capturing the level of wage replacement (three points if benefits are wage-related and at 80 percent or higher, two points if benefits are wage-related but at less than 80 percent and one point if benefits are paid but at a flat rate).

These results indicate that the most generous and most gender-egalitarian family leave policies are found in the Social Democratic countries, where mothers have access to about 30 to 42 weeks of full-time wage replacement and fathers receive comparatively generous benefits bolstered by incentives for take-up. The Conservative countries provide substantially less generous benefits for mothers – about 12 to 16 weeks of fully-paid leave – and provisions and incentives for fathers are generally weak.

Provisions in the UK are minimal, but the US stands out as exceptional. It is alone among these ten countries (and one of only a handful of countries in the world) with no national policy of paid maternity leave. In addition, gender-egalitarian provisions in the US are weak. Fathers in the US have some incentive to use the unpaid leave granted to them through national law (the Family and Medical Leave Act) because their entitlements, if not used, are lost. At the same time, however, the absence of wage replacement constitutes a substantial disincentive because for most men use of the leave would result in a serious loss of income.

Figure 2



Working time regulations

Working time policies can increase workers' available time at home through at least two mechanisms. Limits on normal weekly employment hours, which are set via direct ceilings on maximum allowable hours or limits on overtime, reduce actual hours worked on a regular basis throughout the year. In addition, guaranteed vacation time grants workers unbroken periods of time that they can spend with their families. Vacation rights also alleviate child care strains during summer months when schools are generally not in session.² In Figure 2 we report normal weekly hours, indicated as the shorter of normal hours set by statute or by standard collective agreements. Vacation time captures the minimum number of days required by national statute.

As of the year 2000, following several years of working time reductions enacted throughout Europe, all of the countries in this study – both Social Democratic and Conservative – set normal employment hours in the range of 35 to 39 per week, with the exception of the US, where the normal work week remains 40 hours. Efforts to reduce working time even further remain active all across Europe. In both Belgium and Finland, for example, collectively agreed upon hours fell between 2000 and 2002, from about 39 into

² Working time regulations can also aim to increase the feasibility of reduced-hour work by raising its quality. The 1997 European Union Directive on Part-Time Work, for example, required member countries to enact measures that prohibit discrimination against part-time workers, thus aiming at parity in pay, benefits and working conditions, relative to comparable full-time workers.

the range of 35 to 38. Many European working time advocates characterize the ongoing changes seen across these countries as indicative of an unfinished transformation, continent-wide, to a 35-hour work week.

In addition, all of the European countries included in this study provide a minimum of twenty days (approximately four weeks) of vacation. France and three Nordic countries – Denmark, Finland, and Sweden – grant most or all of a fifth week. Intra-European

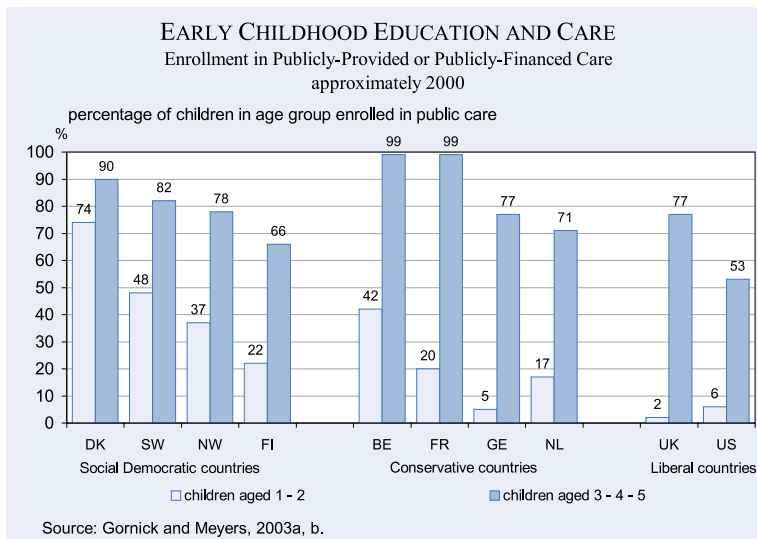
homogeneity is partially explained by the enactment of the 1993 European Union Directive on Working Time, which stipulates that employees be granted not less than four weeks of paid vacation per year, an increase from the three weeks previously in place. In several countries, collective agreements add even more vacation time; agreements in Denmark, Germany and the Netherlands provide the most generous benefits, about 30 days a year. And, as with normal weekly hours, changes continue to unfold; after 2000, collectively-bargained vacation rights increased in about half of these countries.

Again, the US stands out as the exceptional case. It is the only country among these ten where the normal work week remains at 40 hours (with little ongoing activity aimed at lowering that threshold) and the only one without a nationally-mandated vacation policy. In the US, vacation rights and benefits are left to the discretion of employers. In practice, employees at medium and large enterprises are granted an average of about ten days per year during their first five years of service, rising to about 14 days after five years of service and about 17 days after ten years. Workers use about 93 percent of earned days, with slightly higher take-up reported by non-professionals and by women. Not surprisingly, the US has been dubbed “the most vacation-starved country in the industrialized world”.

Early childhood education and care

The ten countries in this study also vary markedly in their provision of publicly-provided and/or pub-

Figure 3



licly-financed child care. While public care is limited everywhere for children in the first 12 months of life, many industrialized countries invest substantial public resources in early education and care for children starting at the first birthday, with more extensive provisions for children aged three through five (see Figure 3).

For the most part, the Social Democratic countries are high providers of public care. The most extensive public provisions are found in Sweden and Denmark, where one-half to three-quarters of children aged one and two are in public care, and about 80 to 90 percent of children aged three and older. In the Conservative countries, care for the “under threes” is less available – and thus, support for continuous maternal employment is more limited – but universal full-day preschool for the “over threes” is the norm in France and Belgium, with increasing preschool enrollments in recent years in Germany and the Netherlands as well.

Publicly-supported child care for one- and two-year-olds is very restricted in both the UK and the US, where government subsidies are limited almost entirely to low-income parents. The US, in particular, is a cross-national laggard, especially with respect to provisions for the “over threes”. In the US, just over one-half (54 percent) of three-, four- and five-year olds are in publicly-subsidized care. Of those in public care, nearly all are five-year-olds in part-day kindergarten programs.

Conclusion

Welfare states vary widely in the ways in which they support parents in their efforts to balance employment and caregiving responsibilities; they also vary in the extent to which they encourage an egalitarian division of labor between women and men in employment and at home. Family leave policies can grant parents time for caring for their young children; and working time regulations can shore up caregiving time throughout the life cycle. Family leave designs can also both grant men generous paid

leave rights and raise the likelihood that they will take them up, while child care policies that ensure available, affordable and high-quality alternatives to maternal care can strengthen women’s employment as well as enhance child well-being. Cash benefits, in addition to paid family leave, can shore up family economic security, although their effects on parental caregiving time and gendered labor patterns are ambiguous.

Overall, the Social Democratic countries have enacted policy packages that are the most generous and gender egalitarian as well. Policies in the Conservative European countries help to secure time for caring and family economic stability, but they do much less to enable or encourage gender equality in paid and unpaid work. Not surprisingly, it is in these countries where inequality in the division of labor between women and men is still most evident.

In the market-based Liberal countries – the UK and especially the US – public policy supports for employed parents are minimal. In these countries, most parents are at the mercy of their employers for paid family leave, reduced-hour options, and vacation time; the vast majority of parents have to turn to private markets to secure care and educational arrangements, especially during the first five years of their children’s lives. Considerable evidence suggests that when states do little to help parents with the costs of childrearing – that is, when provisions are distributed via labor and consumer markets – parents and children suffer, on

average, as does gender equality. Equally compelling evidence indicates that, when supports for families are not provided publicly, distributional results are also highly regressive within countries. In the US, families and workers with the fewest resources have access to the most limited employment-based family leave provisions and the least vacation time; they also spend the largest share of their disposable income on substitute child care while receiving the lowest quality care.

EARLY CHILDHOOD EDUCATION AND CARE (ECEC) IN SELECTED OECD COUNTRIES

SHEILA B. KAMERMAN*

Early Childhood Education and Care (ECEC) programs include preschool or pre-primary schools (kindergartens, pre-kindergartens, compensatory education programs, and nursery schools), child care or day care centers, family-type day care homes, and publicly subsidized care provided within a child's own home. ECEC policies include the whole range of government actions designed to influence the supply of and/or demand for ECEC and the quality of services provided. These government activities include: funding (direct and indirect financial subsidies to private providers), such as grants, contracts, and tax incentives; financial subsidies to parents, such as cash benefits and allowances to pay for the services, tax benefits to offset the costs or cash benefits that permit parents to remain at home (and stop working) without major loss of income; direct delivery of ECEC services; regulations and standard setting.

The manifest purpose of ECEC programs remains a dual one:

- Education (broadly defined to include socialization and school readiness) for the two- or three-year-old to the five- or six-year-old children, with "care" subsumed under the educational goal, remains the primary objective of the pre-primary school programs;
- Care of children while mothers work (in paid employment outside the home), is the dominant goal for younger children (those under age

three), however, there is increasing attention to socialization, development, and cognitive stimulation – education in the broader sense – as key components or supplementary goals in providing care for very young children.

Other goals receiving more attention in recent years include: "early intervention," by which is meant intervention in the early years in order to prevent the development of subsequent problems (Shonkoff and Meisels 2001); compensatory education as in the US Head Start program (Zigler and Styfco 1993); human capital investment (Young 1996); and increasing father involvement in child care and child rearing. Math and Reynaudat (1997) suggest still another purpose for certain ECEC policies, namely that of creating jobs for low-wage/low-skilled female workers, as in-home and out-of-home child care providers.

Major policy dimensions¹

Policy-making varies depending on whether the responsibility is national, as in France (for all the programs) and Italy (for the programs for three to six year olds), or whether a national framework is established but major policy decisions are made at the "state" or "province" level as in countries with a federal government structure such as Australia, Canada, Germany, and the US, or made at the local level, as in Denmark and Sweden.

Administrative auspice is a key dimension affecting program content and philosophy. The major difference has to do with whether the auspice is education, health, or social welfare – or some combination; and where there is a combination, whether the divided responsibility is carried out sequentially (as children get older the programs serving them shift in auspice) or simultaneously. The dominant continental European pattern is one in which the pro-



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¹ This section draws on an extensive paper which I prepared for the OECD thematic review of early childhood education and care programs: "Overview of ECEC Developments in the OECD Countries" in Sheila B. Kamerman, ed. (2001). See also, OECD (2001).

grams serving two- or three-year-old to five- or six-year-old children (whenever compulsory school begins) are under educational auspices while the younger children are cared for under health or social welfare auspices. However, there appears to be an emerging trend in these countries to place administrative responsibility for children under three as well as for the three- to five-year olds under education, as for example, in Spain, England, Scotland, and some regions of Italy. The Nordic pattern is one in which all children under compulsory school age are the responsibility of one agency or ministry, here, too, increasingly, education. The Anglo-American model tends to divide responsibility between education and social welfare for the whole age group but without consistency in assigning responsibility or administering programs.

Historically, eligibility for publicly subsidized ECEC programs was restricted in many countries to poor children with working mothers, or to children with special needs, for example, neglected, handicapped, immigrant children, or those with lone parents. Increasingly, the educational programs for the three- to five-year-olds are universal, available to all children whose parents wish them to participate, regardless of parental employment status or family income. However, the programs for younger children (and in the Nordic countries for those under six years of age) are targeted primarily on children with working mothers, and secondarily, on those with special needs.

Access – the ease with which parents obtain a place in an ECEC program for their children – and coverage – the percent of children enrolled in ECEC programs – are clearly important indicators of a country’s commitment to young children, and follow a fairly consistent pattern. Indeed, some countries now assume that all young children – or almost all – from the age of three to compulsory school entry will be enrolled in these programs, because they are good for children, children would be deprived without the experience, and parents want them to participate. Either by providing full coverage or by making full coverage an explicit goal, countries demonstrate their commitment and assure children (and their parents) of access.

The highest rates of coverage as of the mid-1990s are for children, ages three to six, enrolled in programs under education auspices. Between 95 and 99 percent of this age cohort is enrolled in the universal (voluntary and free) preschool programs in

Belgium, France, and Italy. These programs cover the normal school day, lasting seven or eight hours a day, and have available as well “wrap-around” services that supplement the school day program, before and after school, at lunchtime, and during school holidays (at income-related fees).

Medium high rates of coverage exist in those countries in which ECEC programs are targeted at children with working parents, where there are high rates of female labor force participation and where the programs cover the full work day and year. Countries such as Denmark, Sweden, and Finland have coverage rates of 75 to 85 percent; all three have announced, as a matter of public policy, a guaranty of a place in subsidized care to any child age one and older with working parents, whose parents wish them to participate. And all provide paid and job-protected leaves that permit a working parent to provide infant care themselves, if they wish (see below). Although Germany has about 85 percent of its three- to six-year-olds enrolled in kindergarten, these programs are largely part-day and supplementary services or extended day programs are not usually available.

Medium rates of coverage, about 55 to 80 percent of the cohort, characterize another group of countries with preschool programs for the three- to six-year-olds, such as Austria, Netherlands, New Zealand, Portugal, Spain, the UK and the US. The UK begins compulsory school at five; most four-year-olds are already in primary school or in an ECEC program, and the current goal is to cover all three-year-olds as well. The low coverage countries include Greece, Canada, and Japan.

Coverage rates for children under three, not surprisingly, are far lower, with no country having enough places for all children whose parents would like them enrolled. Thus, for example, the highest proportion of very young children participating in ECEC programs is found in Denmark, where almost 60 percent of the cohort aged six months (when the basic paid parental leave ends) to three years is enrolled. In Finland and Sweden, coverage is about half for the one- and two-year-olds (here, too, infant care is assumed to be covered by parental leaves), and in Belgium and France, about 30 percent of children aged three months to three years.

Most of the European countries that do not yet have full coverage for the three- to six- year-olds view

this as a priority; the goal is access for all. In contrast to those social benefits that are not used by those who qualify, whether because of stigma or preference, in all countries where these programs exist, take-up is 100 percent, and where there are not enough places for all, there are waiting lists. In most countries, they are viewed as essential programs, desired by parents and viewed as good for children.

In most of the OECD countries, delivery patterns for ECEC programs involve public funding and public delivery. The proportion of children enrolled in “private” programs, largely under religious auspices or other types of non-profit sponsors (parent cooperatives; voluntary agencies; trade unions; women’s organizations) ranges widely across countries from being a major component of the delivery systems in the Anglo-American countries, Germany, and the Netherlands to playing an insignificant role in the Nordic countries. However, there has been a significant increase in the number of private (non-profit) providers in some countries which heretofore limited ECEC programs to those delivered by government agencies, for example, Sweden. Nonetheless, for-profit (market) providers remain almost non-existent except in some of the Anglo-American countries such as Canada, the UK and the US.

Even in the Catholic, Mediterranean countries, public programs predominate, especially for the three- to five-year-olds. Most ECEC programs, by far, are delivered in “centers” or special facilities sometimes in or near primary schools. Except for Sweden where center care is still preferred (and Italy and Spain where a formal system of family day care has yet to be developed and in-home caregivers are readily available), very young children, the under three-year-olds, are at least as likely to be cared for in a family day care home as in a center, in particular if it is a publicly supervised and regulated home. Often, this is a matter of parental preference.

By and large, governments expand the supply of ECEC places by funding and operating more such programs or by increasing the subsidies they offer providers. Either local government agencies operate programs, as in the Nordic countries, or greater public subsidies are provided to religious organizations or other voluntary organizations to expand provision as, for example, in France, Italy, Spain, Germany and the US. The US, UK, France and Canada are unusual in the extent to which they use

the tax system to subsidize parents who purchase these services and offset some of the ECEC costs.

Expenditures, financing and parent fees: ECEC programs are funded largely by government, either national, state, or local authorities, depending on the country. Only in the Anglo-American countries do parent fees cover most of the costs. Except for the Nordic countries, data on expenditures for ECEC are neither readily available nor comparable across countries. In the early 1990s (a time for which data from several countries are available), public expenditures for ECEC programs were about 2.4 percent of GDP in Sweden, 2 percent in Denmark, 1.1 percent in Finland, and .6 percent in Norway. Of some interest and quite unusual, spending on ECEC services was about equal to expenditures for child allowances, parenting benefits and child-conditioned tax benefits combined in these countries. These programs are expensive, and clearly these countries are making a very substantial investment in ECEC. Disaggregated data on voluntary sector and market expenditures are not available.

For the most part, preschool programs are free (to parents) for the normal school day and year, with supplementary services available at subsidized and income-related fees. Fees for programs serving the under three-year-olds are usually linked to income and cover about 10 to 25 percent of operating program costs in Europe.

There is no agreed on definition of or standards concerning quality of ECEC programs cross-nationally and little systematic attention to this subject in the literature. US researchers have carried out the most extensive efforts at identifying the variables that account for the most significant differences in program quality – and the consequences for children’s socio-emotional-cognitive development. Current indicators of quality include: staff – child ratios, group size, caregiver qualifications (education and training), staff salaries and turnover rates – among the dimensions of quality that can be counted and regulated, and staff – child interactions and relationships – among those variables that require direct observation (Helbrun et al.1995; Smith 1998).

The research literature on outcomes and impacts of ECEC is enormous and well beyond what can be addressed here. A recent review of the international research may be found in Kamerman et al. (2003).

Preschool for children three to six years of age

The major model of ECEC programs is that of a publicly-funded preschool, administered under ministries of education and delivered under education auspices. The programs are free for the standard school day, which usually covers seven or eight hours, and have supplementary (“wrap-around”) services available before and after school hours, at lunchtime, and during school holidays for parents who have a longer work day and young children in need of care and supervision. Parents pay for the supplementary services at income-related fees. The programs are universal and available to all children regardless of parents’ income or employment status. Although these were initially established as educational programs, stress is increasingly placed on socialization and enhancing child development as well as cognitive stimulation and preparation for primary school. Meeting the needs of working parents is also being emphasized, despite serving children with at-home parents or caregivers as well as those with two – or sole – working parents.

The countries that have opted for this model are moving towards coverage of all children in this age group. France, Belgium and Italy are the exemplars and have the most extensive preschool programs.

ECEC for children under three years of age

Care for children under the age of three is the major child care issue now, in part because the supply is inadequate and in part because of concern about quality and the consequences for children. Increasingly, the ECEC policy involves some combination of maternity, parenting and child-rearing leave policies as well as ECEC services. Almost all the OECD countries now provide paid and job-protected maternity or parenting leaves following childbirth to enable women to recover physically, the family to adapt to a new baby, and to help the baby get a good start in life. Some countries provide more extensive leaves as a form of infant care – and even toddler care. These leaves are an important component of ECEC policy (see below) and their duration has significant implications for the scale of need for infant and toddler care services and for the age at which non-parental care services are needed.

Given the growing trend toward assuming that ECEC in infancy is a task for parents, most pro-

grams target “toddler” aged children (one- and two-year-olds) rather than infants, although infant care is still provided in a few countries. The diversity of services is far greater than that for the three- to six-year-olds. All the programs target the children of employed mothers, and all charge income-related fees. In no country is there coverage for the full cohort as yet, although some countries appear to be coming close to meeting current demand. The major differences are whether the services are delivered through a separate system, in particular the health care system, or as an integral part of the ECEC serving all preschool children as in the Nordic model, whether services are delivered in centers or in family day care homes, and if the latter, whether in informal or formal arrangements.

The infant/toddler group programs do not have consistent or uniform curricula and the family day care programs have even less. Programs usually operate 10–12 hours a day and children attend a full day except when parents work part-time. In some countries there are a few programs that operate irregular hours (for those working non-traditional hours) but such programs seem scarce everywhere.

The dominant program mode for this age group is family day care (child minders) usually because the supply of places in centers is limited but sometimes out of parental preference. In contrast to many other countries, family day care in the Nordic countries, France and Germany is under public sponsorship, with providers often being recruited, trained, supervised, and even paid by local government authorities.

Integrated ECEC Programs

ECEC programs serving all children under compulsory school age, covering the normal work day and year, publicly funded and administered under education or social welfare auspices, constitute the Nordic model. Integrating care and education from the onset, these programs developed initially as a service for the children of working parents. However, since labor force participation rates of Nordic women are the highest in the OECD countries, in the 75 to 90 percent range, these programs are increasingly serving all children. They are designed to meet children’s needs for early education, socialization, and opportunities for enhanced

development as well as care. The programs are universal, heavily subsidized by government, of very high quality and charge income-related fees. The programs are delivered largely through centers but include family day care homes as an important component of the system, especially for children under age three. In addition, universal family allowances are provided, the financial support by a non-custodial parent is guaranteed to children in lone parent families (advanced maintenance), paid sick leave is available for parents to leave work and care for an ill child, and in Sweden, for example, income-tested housing allowances are available to families with children.

Sweden and Denmark are exemplars of this model. The most important feature of these programs is the emphasis on quality: they constitute the highest quality of out-of-home care and education available anywhere. The programs are all heavily subsidized but parents do pay income-related fees, usually equal to less than 10 percent of average wage. The programs are universal and serve all children under age seven, with priority for children with working mothers, lone mothers, from immigrant or low-income families, or who have a disability. Increasingly, the assumption is that all children will have a right to participate regardless of parents' employment status. The governments have announced a policy of guaranteeing a place for any child whose parents wish them enrolled, from the age of one. (All these countries have parental leaves of at least this length.)

Family day care (called "child minding" in much of Europe) is not regarded as secondary to group care programs in Denmark but seen rather as the major public service providing ECEC to toddlers. Family day care providers are trained personnel who receive good salaries and benefits and who are selected, guided, supervised and made ever more qualified by assigned and qualified supervision. They provide the most commonly used resource for children under age three for the many parents who prefer this arrangement. It is used less extensively in Sweden, where the parental preference is still for center care.

Education and child care: two parallel systems – the Anglo-American mode

A third model of ECEC is a dual system of social welfare day care for neglected, abused, deprived

and/or low-income children, and part-day educational nursery school for middle and upper class children. Funding and auspice tend to involve both the public and private sectors. Private providers constitute a large component of the delivery system and include for-profit as well as non-profit providers. Services for three- to six-year-olds tend to be in adequate supply but there are shortages of infant and toddler care and there is a very wide range in quality. Informal family day care (child minding) is a large component of the delivery system as well, especially for the under threes.

This model, best illustrated by Britain, Canada and the US, is now in flux.

Infant care as parent care

Paid, job-protected maternity, parental and child rearing leaves also constitute a significant component of ECEC policy and are a major component of both the continental European and Nordic models. This policy of paid leaves following childbirth (or adoption) has major consequences for infant and toddler ECEC programs. Increasingly, countries are moving towards the establishment of a policy that will facilitate infant care, care by a parent at home. Such leaves range from a minimum of 3 months in the Netherlands, to 6 months in Hungary, the Czech Republic, the Slovak Republic (plus an extended parental leave until the child is age three in Hungary and age four in the Czech Republic), 9 months in Italy, 1 year in Canada, Norway and Finland (plus another 2 years at a lower rate of pay), 15 months in Sweden (plus another 3 months unpaid), 2 years in Austria and under certain circumstances in France, and 2 years paid leave in Germany (and a third that is job-protected but unpaid). These leaves form a key part of ECEC policy.

The Swedish Parent Insurance benefit is the exemplar, providing for up to 18 months of paid and job-protected leave of which at least two months must be taken by the father (or lost). The first year of leave is paid at 80 percent of wages up to a ceiling, another three months at a low flat rate and the final three months are unpaid, but still job-protected. The parental leave can be prorated or shared by mother and father. All eligible mothers take advantage of the leave. More than 75 percent of eligible fathers took some part of the leave in the

mid-1990s, but this amounted to only 11.4 percent of all parental leave taken (and 15 percent now). Nonetheless, on average, fathers were on leave for 44 days (Swedish Information Service, 1996; see also, OECD 2000).

Conclusions

By 1990, the movement toward universal preschool for children from the age of two and a half or three until they enter primary school was largely accomplished in most of Europe, for the most part, funded and delivered by government. Several countries have already achieved full coverage, regardless of parents' employment status or income or problem, and this is clearly the goal in those countries that have not yet achieved it. These programs are viewed as good for children and access is assured, sometimes as a matter of legal right and sometimes out of societal conviction. The key issues for the future are (1) increasing the availability of supplementary services to supplement the school-day, school-year programs and meet the needs of working parents who are employed full-time, (2) expanding the supply of services for the under threes, (3) integrating care and education for all children under compulsory school age, probably under education auspices and (4) attaining and sustaining adequate quality for all.

Infant and toddler care have emerged as the key ECEC issue for the future, with growing consensus regarding infant care and continuing diversity regarding toddler care. The general trend now is to assume that infants should be cared for by a parent who is subsidized for at least one year at home but there is no consensus yet on the length of the leave.

Toddler care (care for the one- to two-year-olds) is in scarce supply in almost all countries, becoming close to adequate only in the Nordic countries. Committed to achieving full coverage, the Nordic countries have announced policies of guaranteeing a place in subsidized care for all children aged one year and older to all parents who wish one. Family day care is increasingly viewed as a valued component of the ECEC system, as long as it is supervised and regulated and providers receive some training. When this is the case, however, and family day care providers receive a salary equal to staff in centers, and receive social (or fringe) benefits as well, family day care can no longer be viewed as

the "cheap" alternative it now is in many countries, but rather as an alternative for those preferring smaller groups, sibling groups, more flexible hours and, perhaps, greater intimacy.

Costs are high for good quality programs but there appears to be growing recognition of their value and its importance. Government subsidies are generous and given to providers, in most countries; and parent fees play a minor role in covering costs. The Nordic countries are close to achieving their goals. There appears to be significant progress in the continental European countries. The Anglo-American countries show some progress, too, but their delivery systems remain fragmented, coverage and quality are still inadequate, costs are often a heavy burden for parents, and programs are not yet fully responsive to the needs of working mothers.

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LABOUR MARKET INSTITUTIONS AND UNEMPLOYMENT IN OECD COUNTRIES

LAWRENCE M. KAHN*

Unemployment in OECD countries has undergone dramatic shifts over the last 30 years. While in the early 1970s, standardised unemployment rates in most European OECD nations were below 3 percent, by the 1990s, unemployment had skyrocketed to an average of roughly 10 percent in OECD Europe. At the same time, unemployment in the United States went from being relatively high in the early 1970s (roughly double that of European OECD countries) to relatively low in the 1990s (roughly half of that in OECD Europe). Both high unemployment in many European countries and the reversal of unemployment fortunes vis à vis the US have motivated a large literature and considerable policy concern about how to increase employment in Western Europe.

In the 1970s American observers pondered the explanation for the persistently higher US unemployment levels at that time. In contrast, by the 1980s and 1990s, it was European observers who searched for explanations for persistently high European unemployment rates. Increasing labour market flexibility – freeing up the forces of supply and demand to determine pay and employment and diminishing the role of union contracts or government regulations – was seen by some as the key to lowering European unemployment (OECD 1994). Others however doubted that greater flexibility would in fact achieve lower unemployment, pointing instead to low levels of demand for labour as the culprit in Europe's higher unemployment (Glyn and Salverda 2000).

In this paper, I review evidence on the impact of labour market institutions on unemployment. We will see that there is considerable evidence that institutions have affected unemployment, although researchers differ on the importance they place on institutions. While unemployment may be a cost of some labour market policies, in drawing policy implications, we must also take into account possible benefits that these policies produce. These may include providing economic security that private, unregulated markets may not be able to provide.

Some facts about unemployment and institutions in the OECD

The table shows the evolution of unemployment across 14 OECD countries for the 1973–2002 period. In 1973, on the eve of the first oil crisis, unemployment averaged 2.7 percent in the non-US countries, with especially low rates in Germany (0.8 percent), Japan (1.3 percent) and Norway (1.5 percent). In contrast, unemployment in the US in 1973 stood at 4.8 percent. By the 1990s, these positions had reversed, with the non-US countries averaging 9.9 percent, compared to a 5.6 percent rate in the US. Since 1995, unemployment has come down dramatically in several countries, including Finland, the Netherlands, Spain, Sweden, and the UK, although it has remained stubbornly high in France, Germany and Italy and is still at high levels in Finland and Spain. OECD data also show dramatic declines in unemployment in Denmark and Ireland over the 1990s.¹ As of 2002, the gap between the US and the EU average was much smaller than in the mid 1990s, and several countries had lower unemployment in 2002 than the US.

Figures 1 to 5 illustrate cross-sectional relationships between some key labour market institutions and 1995 unemployment in the OECD. In each case, there is a positive relationship between the



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¹ For example, between 1993 and 2002, unemployment fell from 15.6 to 4.4 percent in Ireland and from 9.6 to 4.5 percent in Denmark (OECD 2002, p. 303; OECD web site: <http://www.oecd.org/dataoecd/41/13/2752342.pdf>, accessed 5 Aug 2003).

Standardized unemployment rates in selected OECD countries, 1973, 1984, 1995, 2001 and 2002

	1973	1984	1995	2001	2002
Australia	2.3	8.9	8.2	6.7	6.3
Belgium	2.8	12.1	9.7	6.6	7.3
Canada	5.5	7.8	9.4	7.2	7.7
Finland	2.3	5.2	15.2	9.1	9.1
France	2.6	9.7	11.4	8.5	8.7
Germany ^{a)}	0.8	7.1	8.2	7.8	8.6
Italy	6.2	9.9	11.5	9.4	9.0
Japan	1.3	2.7	3.1	5.0	5.4
Netherlands	2.2	11.8	6.6	2.4	2.8
Norway	1.5	3.1	5.0	3.6	3.9
Spain	2.5	20.1	22.7	10.6	11.3
Sweden	2.5	3.1	8.8	4.9	4.9
United Kingdom	3.2	11.7	8.5	5.0	5.1
Non-US average (unweighted)	2.7	8.7	9.9	6.7	6.9
European Union	-	-	10.5	7.4	7.7
United States	4.8	7.4	5.6	4.7	5.8

^{a)} Prior to 1991, data are for West Germany only.

Sources: OECD (1983), p. 23; OECD (1989), p. 19; OECD (2002), p. 303; OECD Web Site: <http://www.oecd.org/dataoecd/41/13/2752342.pdf>

strength of the institution and unemployment in 1995. For example, Figure 1 shows that on average unemployment in 1995 was positively correlated with the percentage of workers covered by collective bargaining contracts. Coverage was very high in several countries, including Belgium, Sweden, Germany, Finland, France and Austria, where it ranged from 89 to 98 percent. In contrast, only 31–36 percent of workers were covered by unions in New Zealand and Canada, 21 percent of Japanese workers had coverage, and 18 percent in the US had union contracts.

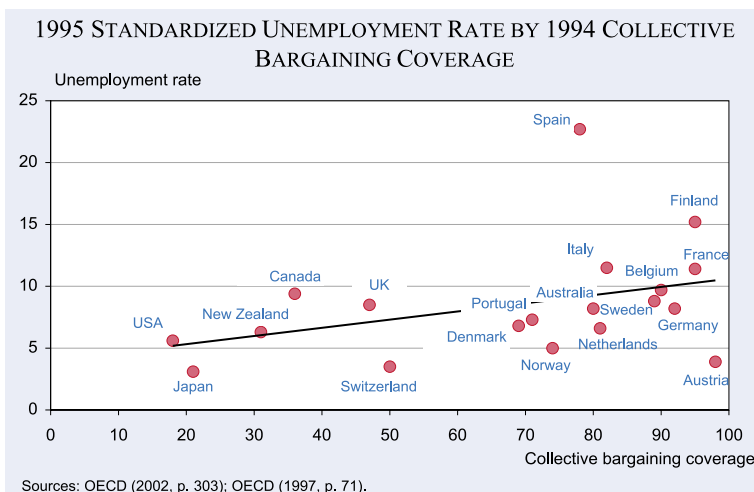
Figure 2 shows a positive relationship between the strength of employment protection mandates and 1995 unemployment. These policies include man-

dated severance pay, as well as limits on the use of temporary workers and are designed to protect the jobs of incumbent employees (Bertola 1999). Countries in Southern Europe such as Italy, Spain and Portugal, as well as France, have especially strong systems of employment protection, while the US has the weakest mandate.

Figure 3 shows that the unemployment insurance (UI) systems vary widely across countries. The Figure shows the maximum duration of UI benefits, which ranged in the 1989–94 period from roughly six months in the US, Italy and Japan, to unlimited duration in Belgium, the UK, Australia, Germany and New Zealand. Again, there was a positively-sloped relationship between UI duration and unemployment in the 1990s.

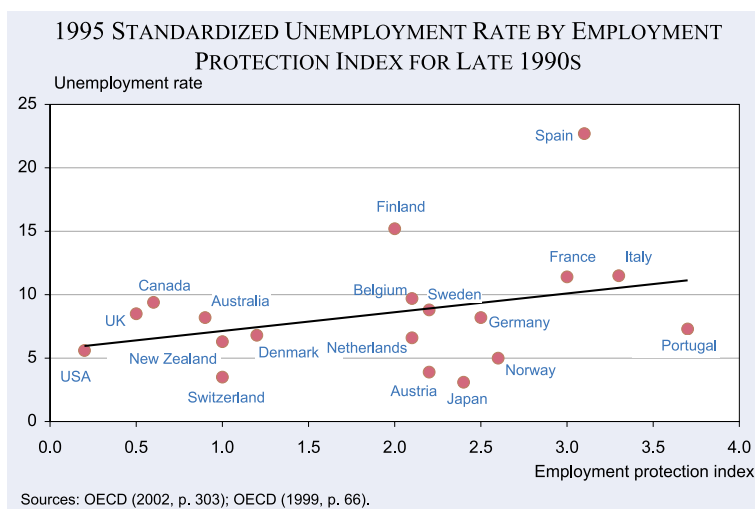
While most studies of the impact of institutions on unemployment focus on labour market institutions, other regulations can affect unemployment as well. Figure 4 shows a positive relationship between the stringency of product market regulation and 1995 unemployment. These policies include formal barriers to entering industries, public ownership, and price controls. Italy, France and Portugal had especially tightly regulated product markets in the 1990s, while the UK, the US, New Zealand and Canada had the least encumbered product markets. The final institution for which I show data is the average labour tax rate, which is the sum of payroll, direct and indirect taxes, whose positive relationship with unemployment can be seen in Figure 5. The high tax countries include Sweden, Italy, France and Finland, while Japan, New Zealand and Switzerland have relatively low labour taxes.

Figure 1



The positively-sloped lines in Figures 1 to 5 suggest that certain institutions may have raised unemployment rates in the 1990s. However, before making such a conclusion, one needs to take account of other influences on unemployment, such as macroeconomic policies and labour force composition, that may be correlated with the presence of particular institutions. For example, prime age workers may be more likely to unionise than youth are (possibly affecting the

Figure 2



overall collective bargaining coverage rate), and they generally have lower unemployment than youth. Thus, Figure 1's positive correlation between collective bargaining coverage and unemployment could mask an even stronger effect. Moreover, high unemployment can affect a country's decision to raise UI benefits or enact stronger employment protection provisions or even workers' desires to be protected by collective bargaining contracts. In these cases, it is possible that the positive relationships in Figures 1 to 5 reflect the impact of unemployment on institutions rather than vice-versa.

Even if some of the relationships shown in Figures 1 to 5 do reflect the impact of institutions on unemployment, it may be difficult to disentangle the impact of specific institutions such as collective bargaining from that of, say, employment protection. This problem arises since in many cases the same countries with high unemployment – such as

France, Italy, Germany or Belgium (as can be seen in Figures 1 to 5) – also have high levels of collective bargaining coverage, employment protection, labour taxes, and so on. It may be difficult to apportion “credit” (or “blame”) to specific institutions in these cases.

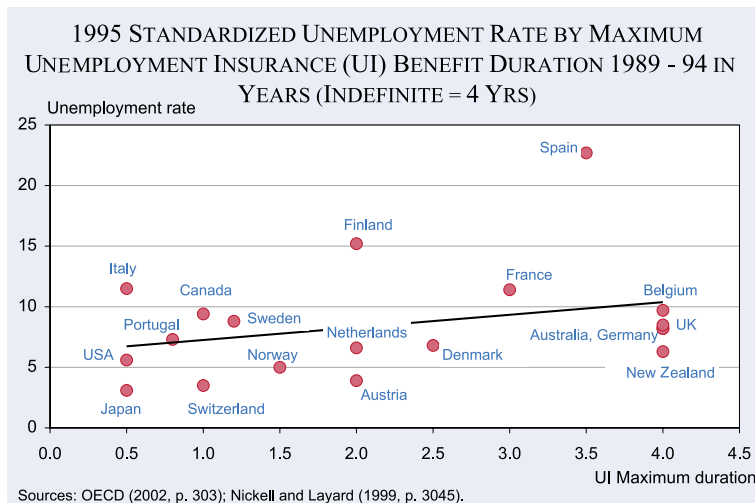
A final point to consider about institutions and unemployment before examining the results of econometric studies of the issue is that in the early 1970s, many of the countries with extensive labour market institutional interventions had low unemployment

rates. Figure 6, for example, shows a strong, negatively sloped relationship between 1970 collective bargaining coverage and 1973 unemployment, the exact opposite relationship to the one for the mid 1990s in Figure 1. This contrast between the early 1970s and the mid 1990s suggests that the impact of institutions on unemployment may differ across time periods. And any study of the role institutions may play must confront this contrast, as well as the reversal of unemployment fortunes between the US and much of OECD-Europe between the 1970s and the 1990s. I now turn to some recent research that attempts to shed light on these issues.

Economic research on the impact of institutions on unemployment

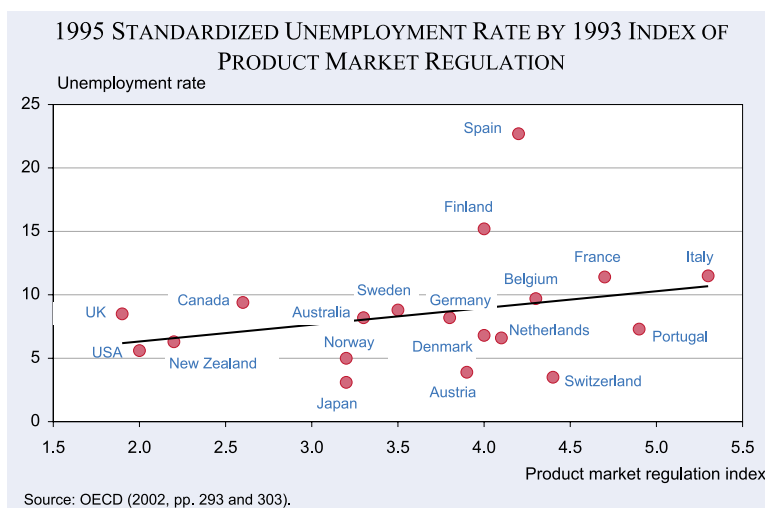
Economic theory predicts that certain institutions should raise unemployment, while for other institutions, theory cannot make strong predictions.² For example, we expect unions to raise wages above competitive levels (that's one reason why workers form unions in the first place), leading to employment reductions if firms are allowed to decide how many workers to hire. Moreover, unions also attempt to take wages out of competition by reducing the impact of market

Figure 3



² This discussion draws on Blanchard and Wolfers (2000), Blau and Kahn (2002), Bertola (1999), Calmfors and Driffill (1988) and Nickell and Layard (1999).

Figure 4



forces on wages. If this happens, then unions may cause shortages and surpluses of labour with respect to particular local markets, perhaps adding to unemployment. It is also widely believed that unions compress wages, especially raising the wages of the young, women and the less educated (Blau and Kahn 1996; Blau and Kahn 2002). We therefore would predict larger unemployment effects on these groups than for prime-age males. Other institutions that raise union power will amplify these effects. These may include UI benefits, employment protection, and product market regulation: workers covered by more generous UI benefits or employment protection mandates and workers in industries protected against the competition of new entrants are likely to be more aggressive in bargaining than otherwise.

The type of union representation also has been hypothesised to affect wage levels and thus unemployment (Calmfors and Driffill 1988). In particular, more coordinated wage-setting, as exemplified by industry-wide or economy-wide bargaining units, on the one hand give workers more power than decentralised units, since there is less scope for non-union competition in the larger units. On the other hand, unions in highly centralised units are more likely to take into account the economy-wide

effects of their wage bargains and thus are expected to act with some restraint. The net effect of these two opposing forces is an empirical question.

Labour market institutions may have direct effects on unemployment apart from their impact on union power. For example, more generous UI benefits raise the duration of unemployment. Labour taxes raise a wedge between labour costs and wages received and thus are expected to lower employment. We might expect labour taxes to be shifted to

workers in the form of lower wages, possibly leading to lower employment levels without raising unemployment (workers may drop out of the labour force and thus not be counted as unemployed). However, the presence of wage floors due to unions or minimum wage laws may prevent this shifting from occurring. Unemployment will then be the likely result (Nickell and Layard 1999). Employment protection has theoretically ambiguous effects: these mandates lower both layoffs and new hiring (Bertola 1999). One might make a similar argument about product market regulations that protect existing firms. In both cases, the impact of these institutions cannot be predicted a priori.

While theory leads us to predict that many of these institutions raise unemployment, and Figures 1 to 5 are consistent with these notions, Figure 6's depic-

Figure 5

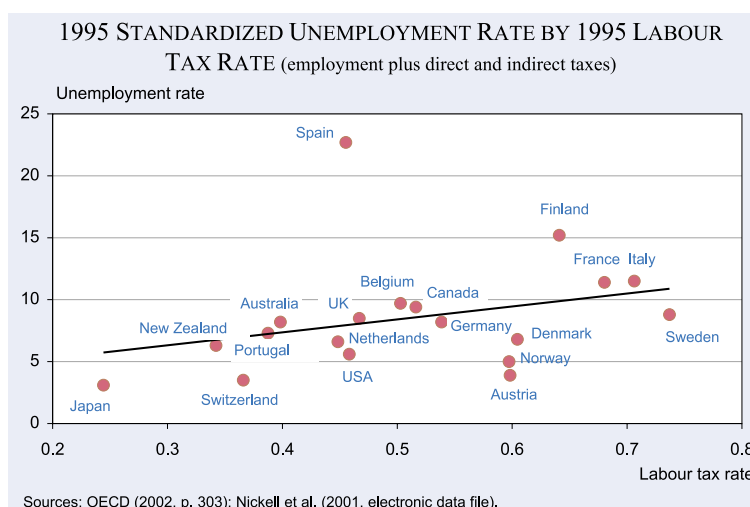
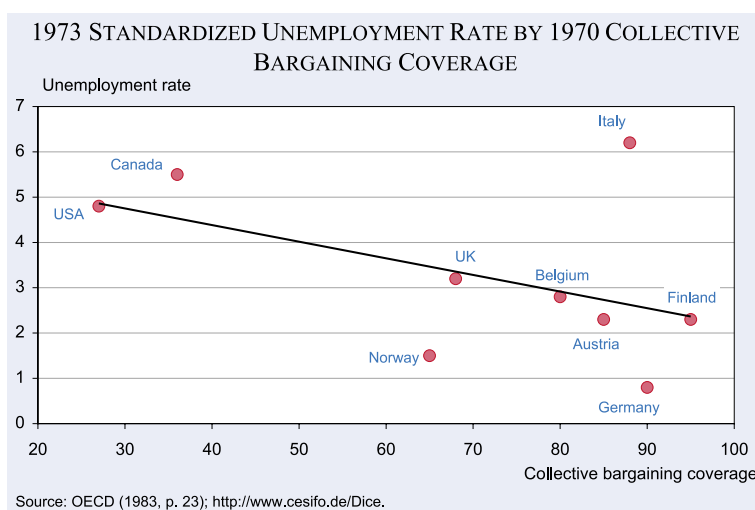


Figure 6



tion of a negative relationship between union coverage and unemployment in the early 1970s should cause us some hesitation. Blanchard and Wolfers (2000) suggest an explanation of both the 1970s and the 1990s patterns shown in the Figures. Specifically, as noted, unions tend to take wages out of competition by reducing the impact of market forces on pay. This means that when the government follows expansionary monetary and fiscal policies, as in the early 1970s, unions in effect restrain wages compared to more market-oriented wage-setting arrangements. This can lead to explosive growth in employment in unionised economies, as wage cost increases fail to keep up with market forces, possibly explaining the low unemployment there in the 1970s. Conversely, when governments follow contractionary policies, such as in the 1990s, unions keep wages rising at their customary pace, leading to high unemployment.

Econometric studies have generally found that institutions do affect unemployment. For example, Nickell and Layard (1999), studying 20 OECD countries over the 1983–1994 period, found in a multiple regression framework that there were significantly positive effects of union density (fraction of workers who are union members), collective bargaining coverage, generous UI systems, and labour taxes on unemployment. At the same, greater government spending on active labour market policy (training, public employment schemes, and the like) and more coordinated wage setting had significantly negative effects on unemployment. The latter finding suggests that the wage restraining effects of coordination outweigh the bargaining power enhancement effects (see above). Notably, employment protection man-

dates did not have a significant effect, perhaps reflecting the theoretical ambiguity associated with this institution which I noted earlier.

This analysis was particularly striking, since the authors were able to control for macroeconomic conditions and since an effect of each of the institutions was estimated while controlling for the other institutions. But as Nickell and Layard (1999) acknowledge, this cross-sectional analysis, while strongly suggesting that institutions affect unem-

ployment, cannot control for country-specific factors that may be correlated with unemployment and institutions (such as the composition effects I mentioned earlier). Nickell et al. (2001), however, were able to construct a longer time series of data on unemployment and institutions and thereby control for country fixed effects and trends. The authors studied unemployment in the OECD from 1961 to 1992, and their analysis also took into account the possibility that the effects of some institutions interact with others. For example, one might expect greater coordination to reduce the effects of taxes (Daveri and Tabellini 2000 make a similar argument). Moreover, the authors took account of macroeconomic shocks as well. Overall, the authors found unambiguous evidence that coordination lowered unemployment and more generous UI systems raised unemployment; however, the effects of labour taxes, union density and employment protection could not be so easily characterised because they depended heavily on the level of coordination. More importantly, the authors found that the combination of institutional changes over the 1961–92 did a very good job of predicting changes in unemployment in most of the countries studied. These findings provide some strong evidence in support of the idea that institutions affect unemployment; however, their interaction models suggest that it may be difficult to disentangle the effects of all of the individual institutions. The OECD (2002) used a similar time-series cross-section design to that of Nickell et al. (2001) and found for 20 countries that over the 1982–98 period, more stringent product market regulation significantly reduced total employment, controlling for other institutions and country fixed effects.

While Nickell et al. (2001) and the OECD (2002) studied the impact of institutions per se on unemployment, Blanchard and Wolfers (2000) examined how institutions interacted with macroeconomic shocks over the 1960-96 period. The authors found that, while international differences in macroeconomic shocks alone could explain only a small portion of the evolution of unemployment across countries during this period, interactions between shocks and labour market institutions such as several of those in Figures 1 to 5 greatly improved the explanatory power of their models. As noted earlier, during the expansionary 1960s and early 1970s, interventionist institutions were associated with low unemployment, keeping wage increases lower than in more free market economies in the face of the expansionary macroeconomic forces of the day; however, by the 1980s and 1990s, these institutions raised unemployment by keeping wage increases higher than otherwise during this period of contractionary macroeconomic forces.³

As noted earlier, to the extent that unions compress wages, we expect them to have especially large unemployment effects on low wage groups. Bertola, Blau and Kahn (2003) investigated this issue over the 1960-96 period by examining separately by gender the effects of labour market institutions on the relative employment and unemployment of younger and older individuals in relation to people aged 25-54, as well as these outcomes for women compared to men. We found that more extensive involvement of unions in wage-setting decreases the employment-population ratio of young and older individuals relative to the prime-aged, and of prime age women relative to prime age men. There was also evidence that unionization raises the unemployment rate of young men and prime age women compared to prime age men. The stronger results for employment than for unemployment for young women and older individuals suggest that union wage-setting policies (or direct reductions in force among older workers) price these groups out of employment and drive some disemployed individuals in these groups to non-labour-force (education, home production or retirement) states. Employment losses are thus con-

³ Bertola, Blau and Kahn (2002) modified Blanchard and Wolfers's (2000) model to include time-varying institutions and the relative size of the youth population as factors that could by themselves affect unemployment. We found that indeed, institutions and demographic factors per se had effects, although they were modest. As with Blanchard and Wolfers (2000), we found that interactions between institutions and the macroeconomic environment were the most important factor.

centrated on groups with best alternative uses of their time and thus may be more socially acceptable in societies with a traditional division of labour in the family than employment losses among prime age males would be. Increasingly in high unemployment countries in the OECD, youth in particular seem to be shut out of the job market. In contrast to these findings on the impact of unions on demographic employment differentials, Nickell and Bell (1995) find little evidence of more pronounced relative unemployment increases for the less-educated in countries with more rigid labour markets.⁴

While many of the studies mentioned above estimate econometric models of the impact of institutions across 15-20 OECD countries, some have examined the effect of reforms on individual countries' experience with unemployment. Nickell and van Ours (2000), for example, studied the remarkable decline in the 1990s of unemployment in the Netherlands and the UK, as shown in Table 1. The authors attributed the largest portion of the Netherlands' decline in unemployment to the agreement by Dutch unions in the early 1980s to practice wage restraint, an agreement whose implementation was facilitated by the Netherlands' centralised wage setting institutions. A smaller role in explaining the falling unemployment rate there was played by a combination of the expansion of active labour market policies, a reduction in UI benefit replacement ratios and a reduction in labour tax rates. For the UK, the authors attributed important portions of this unemployment decline to reductions in union density and union coverage, with smaller contributions from reductions in taxes and in UI benefit replacement rates. An additional factor contributing to lower unemployment in the UK, according to Pissarides (2002), is that during the 1990s the Bank of England began targeting inflation rather than

⁴ Other studies find mixed evidence on the question of changes in relative employment and relative wages across skill groups in countries with differing wage-setting institutions. Card, Kramarz and Lemieux (1999) found that over the 1980s, relative wages were more rigid in France than in Canada, where in turn wages were less flexible than in the US. Yet, relative employment across skill levels changed similarly in all the three countries. Krueger and Pischke (1998) and Blau and Kahn (2000) similarly find that the wages and employment of low-skill German workers both changed more favorably than those in the US over the 1980s. In contrast, a study by Freeman and Schettkat (2000) of the US and Germany from the 1970s to the 1990s found that the relative wages of low-skill men fell in the United States compared to Germany, while their relative employment fell in Germany compared to the US. But these effects were too small to account for much of the rise in the overall German unemployment rate compared to the US. Finally, Kahn (2000) used international microdata to find that overall unionization was associated with lower relative employment of the young but not the less educated.

the exchange rate and also became independent as of 1997. These monetary reforms greatly increased the credibility of the UK's anti-inflation policies and made it possible for unemployment to fall without igniting inflation.

The cases of the UK and the Netherlands provide interesting evidence on the impact of specific reforms. Moreover, Nickell (2002) finds that in general, OECD countries with declining unemployment in the 1990s more often had experienced reforms of their labour market institutions than countries whose unemployment did not decline much. These reforms included reductions in the generosity of UI systems, increased use of active labour market policies, declining union coverage, or increased coordination of wage-setting, all of which we expect to lead to lower unemployment. Thus, the countries with dramatically declining unemployment rates as shown in the table usually got there through reforms that either made labour markets more flexible or through wage restraint.

Conclusions

Most studies find that institutions such as collective bargaining, UI, and labour taxes raise unemployment. We should not underestimate the costs to society of high unemployment levels. In addition to the lost output and income associated with unemployment, there is some evidence that joblessness has adverse psychological effects on the unemployed and adverse effects on the rest of society as well. On the one hand, Sen (1997) and Goldsmith, Veum and Darity (1996) survey a variety of evidence on many of these consequences of unemployment and find them to include social exclusion, loss of morale and motivation, deteriorating physical health (partly caused by the loss of income and partly caused by the mental health problems associated with joblessness) and the deterioration of family relations. On the other hand, Ruhm (2000) finds that mortality increases with aggregate economic activity, due in part to reduced exercise, increased smoking and increased obesity. Thus, findings are mixed on the impact of

unemployment on physical health, with some studies finding negative effects and others positive effects. But workers voluntarily choose to take jobs during economic upturns, suggesting that on net they believe they are better off employed than unemployed. An additional social consequence of unemployment is surveyed by Freeman (1999), who notes that for the United States joblessness contributes to crime. Overall, then, unemployment is something we as a society would like to try to avoid. Moreover, even if the government uses active labour market policies including public employment to counteract the effects of institutions on unemployment, the result may be a less efficient economy than if unemployment had not been high in the first place.⁵

A tempting policy implication is that countries should follow the lead of the UK and the Netherlands and make their labour markets more flexible. But the gains attributable to such policies must always be weighed against the costs of reducing the scope of social insurance programs, as many reforms of the UI or employment protection systems would entail. In an example of such an analysis, Gruber (1997) used consumption data to weigh the insurance value of UI programs in the US against the output lost due to their positive effect on the duration of unemployment. He in fact found that the insurance gained was well worth the direct unemployment costs, although he did not account for the indirect effects on health and crime. But Gruber's (1997) research reminds us that both the costs as well as the benefits of institutional reform should be taken into account by anyone who wishes to reform institutions to lower unemployment.

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⁵ In Kahn (2003) I find evidence consistent with the idea that unionization leads to a shift toward public employment, although studies such as Algan et al. (2002) and Forslund and Krueger (1997) suggest that public employment and active labour market policies can have only small positive and perhaps even negative effects on overall unemployment, in contrast to Nickell and Layard's (1999) results showing a negative effect of active labour market policies on unemployment.

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NATIONAL INSTITUTIONAL SYSTEMS IN GLOBAL COMPETITION AND THE INERTIA OF GERMAN LABOUR MARKET INSTITUTIONS

WOLFGANG OCHEL*

Introduction

In the German Federal Republic a system of labour market institutions has been created that has strongly regulated the labour market. Powerful collective bargaining parties determine wage developments via area-wide collective wage agreements. By means of generally binding declarations, the contents of collective wage agreements are extended to non-union members. 70–80 percent of wages and salaries are thus subject to collective wage agreements. Protection against dismissal is comparably strong. Until recently temporary jobs and temporary agency work were thoroughly regulated. The systems of social protection ensure that wide segments of the population are protected against diverse risks at a high level. They form an important component of redistribution policies.

The system of labour market institutions has contributed to correcting failures of the labour market and producing more social justice than the market provides. On the other hand, it has led to losses in economic efficiency and increased unemployment in Germany. It is made responsible for problems Germany has as an investment location. The negative effects have become especially perceptible in recent years. This has led to demands for thorough reform of labour market institutions. Such reforms have been largely delayed, even though Germany is exposed to intensive global competition that also affects institutional regulations.

Why has global competition (also referred to as systems competition) not led to fundamental labour market reforms? Have the forces of systems competition been too weak? Or has the reform willingness been weakened by effective counter forces?

Reasons for the introduction of labour market institutions

Labour market institutions are created for different reasons. On the one hand they are meant to reduce inefficiencies as a result of market failure. Market failure can result from monopoly power, external effects as well as asymmetric information. If monopoly power is on the side of the employees, efficiency gains can be achieved, depending on circumstances, by means of opt-out clauses in the collective wage agreements or a modification of the so-called principle of advantage. In the case of external effects false incentives can be avoided by an internalisation of regulations. When, for example, enterprises neglect education and further training because skilled workers can be hired from other enterprises, this can be countered by levying a training tax on companies that do not train for the benefit of those that do. If a company does not offer maternity leave because of the danger of adverse selection, the legislator can encounter this by making it obligatory for all enterprises to offer maternity leave (Blau and Kahn 1999, p. 1405).

In addition to regulations that pursue an increase in efficiency, institutions are also created to correct the distribution results of the market and to increase earnings stability. The introduction of central wage bargaining systems is frequently carried out with the aim of reducing the wage gap. Social security systems also aim at guaranteeing secure earnings when serious social difficulties occur.

Finally, institutional arrangements can be the result of the influence of pressure groups. The protection against dismissal can be seen as an example of interest-oriented regulations that those who have jobs (insiders) achieve at the expense of the unemployed (outsiders). The protection against dismissal increases job security for the insiders and enables them to negotiate higher wages without jeopardising their jobs.

For improved efficiency, income redistribution and under the influence of powerful pressure groups, a highly developed system of labour market regulations has been created in Germany. Its most important components are freedom of collective bargaining with industry-wide wage agreements, protection against dismissal and a generous system of social protection.

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The German labour market institutions: Maintaining an internationally high level

The German collective bargaining system has been very stable. Since the 1960s, the collective bargaining coverage has for a long time been about 90 percent. This exceeds that of most OECD countries, and in some countries (Great Britain, USA and New Zealand) this coverage has declined considerably. Wage negotiations are strongly co-ordinated in Germany (Ochel 2003). In this point as well, no change can be seen since the 1960s, in contrast to other countries (Nickell et al. 2001, pp. 28–30). West German labour costs per hour in manufacturing have held top rankings in an international comparison since the early 1980s. Important rivals such as France or Great Britain have labour costs that are under Germany's by more than a quarter (Schröder 2002).

The protection against dismissal in Germany is strong in an international comparison. The OECD carried out the most comprehensive evaluation of the strictness of employment protection for their member states, according to which Germany ranked 14 among 19 countries at the end of the 1980s (rankings increase with the strictness of protection). Employees in the Anglo-Saxon countries enjoyed the lowest protection against dismissal; the highest protection was in Southern European countries. During the 1990s it became somewhat easier to dismiss workers in Germany, but still Germany was ranked 13 among 19 countries for this decade (OECD 1999, p. 66).

The social security systems have been expanded in Germany on a relatively large scale. They burden employee earnings with high social insurance contributions. In the case of a single employee, social insurance contributions as a percentage of average gross wages increased to 30.8 percent in 2002 from 24.8 percent in 1979 (OECD 2003, pp. 396ff.). The marginal tax rate on additional income of the average German employee was 66 percent in 2001. This placed Germany in the top group of OECD countries. Even welfare states such as Sweden or the Netherlands impose a lower burden on the average employee (Sinn 2003a, p. 18).¹

Unemployment assistance and social welfare are granted without time limits in Germany. They pro-

vide the recipient with an above-average net income in an international comparison. The net replacement rates of a married couple with two children with reference to average earnings was 65 percent in Germany in 1999 (OECD 2002, pp. 15, 23–24 & 36). The tax financed unemployment assistance and social welfare are important instruments of redistribution in Germany.

Labour market institutions in systems competition

In an open economy, labour market institutions are exposed to systems competition. Governments must bear in mind that many actors have the choice of cross-border movement. Internationally mobile enterprises and production factors can, with their locational decisions, show how they rate the institutional attractiveness of national sites. To some extent only the announcement of locational changes or the mere reference to more beneficial foreign institutions suffices to influence their own governments.

The functioning of systems competition differs according to whether the labour market institutions influence the position of enterprises in international competition or whether they contain a redistribution between rich and poor within a country. If the locational conditions of a country deteriorate relative to other countries, site-independent enterprises may change sites. Such locational shifts can be triggered by high wages resulting from a high unionisation of employees, the dominance of area-wide collective wage agreements and the extension of wage agreements to non-unionised workers. They can also be the result of strong protection against dismissal that limits the reversibility of hiring decisions and thus reduces, according to new investment theory, the attractiveness of a location for risky investment projects (Pull 2001). If such reactions of the mobile factors occur to a large extent, this can encourage governments to take this into account and to change their institutional regulations.

With regard to redistribution, systems competition works in another way. Take the example of a country with a generous social insurance system. In an open economy, with the right to change the country of residence, people with good risks tend to leave this state, whereas people with bad risks are attracted to it. To reduce factor migration, net con-

¹ The marginal tax rate on additional income consists of the social insurance contributions of the employee and the employer, income taxes of the employee and the value-added tax.

tributors are placed in a better position and net recipients in a worse position by means of benefit cuts. As other countries react the same way, the social insurance systems are eroded. A desirable re-distribution policy from the national point of view, which is the reason for establishing a social insurance system, suffers from this competition (Sinn 2003b).

Such a race to the bottom can occur both with regard to national redistribution systems and also with the labour market institutions related to location competition. An erosion of labour market institutions has not yet occurred in Germany. The question is: "Why not?".

Low intensity of systems competition

The limited effect of systems competition on German labour market institutions might be a result of its low intensity, for which there are different causes.

The agents of production have differing roles in systems competition. They are not all mobile to the same extent. Cross-border portfolio investments and loans are subject to few constraints today. Direct investment to and from Germany has increased strongly, particularly since the mid-1980s. On the other hand, labour mobility – with the exception of the small group of management elite – is quite restricted. Despite a virtually unlimited freedom of movement in the European Union, no appreciable migration of workers has occurred. Movement is restricted by transaction and mobility costs. Also the immigration of non-EU aliens is relatively small. It is administratively restricted. The factor labour has thus made only a small contribution to systems competition.

But also capital has only made a limited contribution to institutional competition despite its high mobility. This is because site decisions are not only based on labour market institutions but depend on many other determinants. For example, proximity to the consumer is the determining investment motive for sales-oriented direct investment. Procurement-oriented direct investment, on the other hand, is motivated by the presence of complementary factors of production, the existence of supplier industries, the strength of the domestic competition, the government's economic policy,

etc. (Porter 1990). The migration of capital, as a rule, does not take place selectively with regard to individual institutional regulations (for example, a relatively strong protection against dismissal), but with regard to a whole complex of institutional regulations, tax laws as well as other determinants. Labour market institutions play only a subordinate role in a company's site decisions. In addition, migration of capital presupposes that the migrating enterprises have (company-related) competitive advantages that enable them to displace foreign enterprises in their own countries.²

Systems competition – political competition

For systems competition to have its effect, the reactions of the mobile factors of production must be relevant for politicians who shape national institutional systems. Politicians also compete, and their utmost goal is re-election. This means that they must take the interests of all voters into consideration and not only those of the mobile factors. The extent to which the interests of the mobile factors of production are respected depends on a number of factors.

The influence of systems competition is higher in a small country with great external economic ties than in a large country. The same applies to an economy in which tradable goods and locationally unbounded firms have a comparably high share in economic output. The share of employees and thus the voters that are exposed to international institutional competition is correspondingly high.

In addition to these objective factors, considering the reactions of the mobile factors of production depends on the ability of the government to identify those institutions in the country that have led to business relocations. This presupposes that the politicians who are exposed to diverse factors in their decision-making are aware of the needs of mobile enterprises and workers. Their interests and the interests of the indirectly affected immobile factors of production must be organised in order to underscore the necessity of reform in the identified institutional areas. The interests are especially regarded when the government is threatened by sanctions in political competition (Streit and Kiwit 1999).

² If this is not the case, they are exposed to the import competition from foreign enterprises (unless the domestic institutions that hinder competitiveness are reformed in time; Dunning 1981).

Such sanctions presuppose that a majority of the voters approve of the reform of labour market institutions, i.e., that they favour a decentralisation of collective bargaining, a weakening of the protection against dismissal and/or a reform of the social insurance systems. But it is questionable whether this approval can be found. Empirical studies have shown that as an economy becomes more open (and with it a potentially greater influence of systems competition on political competition) the security interests of the population increase (Rodrik 1997; Agell 1999). The state is expected to take safeguarding measures to counter the heightened insecurity as a result of globalisation.

Such a voter attitude can be influenced, however, by pointing out the negative economic results of a refusal to reform. Surprisingly, social-democratic governments are better at this than conservative governments, since people tend to believe that they are lowering social benefits out of objective necessity than for ideological motives (Cukierman and Tommasi 1998). This might partially explain the reform backlog that occurred during the Kohl era.

Path dependency and institutional inflexibility

With systems competition that has accompanied globalisation, the pressure has increased to reform the systems of institutional rules with a view to the reactions of the mobile factors of production. But to what extent are national institutional systems changeable? According to the thesis of the path dependency of institutional development, path deviations lead to disruptions of institutional compatibility and are accompanied by considerable costs. The result is a broad-scale institutional inflexibility.

Positive-feedback effects are responsible for the path inflexibility of institutional development. Following David (1994), Ackermann (2001) distinguishes three causes of positive feedback with respect to institutions. They refer to levels at which individuals interact with each other, to the regulation level that structures these interactions and to how the interaction and regulations levels affect each other. On the interaction level co-ordination effects arise from the advantages of the compatibility of standardised behaviour. These can lead to stable regulations. On the regulation level, complementary effects can arise if the interdependent relationships between institutions are complemen-

tary, that is, if compliance with a regulation becomes more attractive through the interdependence with other regulations. Finally, positive-feedback effects from the interaction between the level of social regulations and that of individual behaviour result from the fact that, by means of social communication in a society, the mental models of individuals in the society converge.

According to the concept of path dependency, the feedback effects result in the path of the institutional development strongly limiting the scope for institutional change. For this reason suboptimal institutions are also preserved. A deviation from the path of institutional development does not occur until the actors assess their efficiency losses as higher than the costs for creating new, efficient institutions (North 1992).

A more detailed explanation for the effectiveness of feedback effects is provided by the “theory of comparative institutional advantages”, which looks at the labour market institutions that are relevant to competitiveness. According to this theory, a specialisation of countries with regard to specific products is linked with a specialisation in particular institutional structures. The United States, for example, with its deregulated labour markets and dynamic venture capital markets would provide advantages to those businesses that emphasise “radical innovations” (development of completely new products, implementation of new production methods). In order to implement such innovations, they must be able to employ and dismiss workers quickly, to start up companies easily, etc. Under such general conditions, firms thrive particularly well in the fields of biotechnology, software development, microelectronics, entertainment, etc. In Germany, on the other hand, the theory points out that a system of industrial law has developed providing job security, in-company training, worker participation possibilities, etc. In addition, the German system of corporate governance offers businesses a long-term planning horizon. This and other elements favour incremental innovations (continuous, small improvements of products and processes). Such innovations provide competitive advantages in the production of machines, vehicles, consumer durable goods, etc. (Hall and Soskice 2001). A reform of the labour market institutions is not necessary as long as they allow Germany to specialise on value-added intensive production. On the other hand, the feedback effects also prevent the necessary structural adapta-

tion processes and lead to a conflict between the forces of the status quo and the reactions of the mobile factors of production.

The politics of institutional transfers

In addition to the spontaneous (power-free) institutional development processes that the concept of the path dependency is based on, government power, constraints on political decision-making processes and the influence of pressure groups can be the cause of institutional inflexibility. They can also hinder an international institution transfer initiated by systems competition. Power and interests play a role in the perception and selection of advantageous institutional arrangements and in convincing socially relevant groups of the benefits of these institutions. They are of even greater importance with regard to decisions on the actual introduction and application of the regulations. Political decision-making processes are determined by the monopoly power of the state to determine the design and the sequence of the reform steps as well as by the necessity to attain voter approval for the reforms. If the potential results of the institutional reforms are highly insecure, a revision of the reforms can be very costly, and if many voters feel they are losers of the reforms, their resistance is likely (Roland 2002). If the losers are members of powerful pressure groups, the reforms will be prevented.

Resistances to the adoption of foreign labour market regulations in the wake of systems competition can have different causes:

- The number of losers is greater than the number of winners. For example, with a liberalisation of the dismissal protection laws, the risk of job loss can increase for many insiders, and the chance to find jobs may increase only for relatively few unemployed persons.
- Although the number of losers resulting from a labour market reform is small, the great number of winners consists of heterogeneous groups that pursue different interests apart from the labour market reform and therefore cannot agree on a common reform strategy. In this case the resistance of the losers could be successful.
- Uncertainty regarding the effects of reform is widespread. Many (risk-averse) people affected by the reform cannot foresee whether they will

be among the losers or not, and thus favour a retention of the quo status.

- If the reform is associated with efficiency increases, the losers could be made into winners by way of compensation payments. However, the losers fear that the compensation payments may not be high enough or may be cancelled in future and therefore refuse to approve the reform (Dewatripont and Roland 1995; Saint-Paul 2000).

Outlook for a reform of labour market institutions

Several factors have been mentioned to explain the inertia of German labour market institutions with regard to the forces of systems competition. The extent to which these have contributed to the reform backlog and have prevented the reduction of social benefits could not be examined in this article. It has been demonstrated, however, that the strength of systems competition with regard to German labour market institutions may have been relatively small. This might change in the course of the eastern EU enlargement, however.

With the eastern enlargement the EU will unite about 25 countries in a homogeneous market in which the four basic freedoms of the Rome treaties will apply to a large extent. The number of EU inhabitants will increase by around 106 million or by 28 percent. Joining the EU will be countries whose wages are a tenth to a fifth of western German wages, at least at present exchange rates (on the basis of purchasing power parities the wage gap is smaller). After eastern enlargement German enterprises will examine sites in Eastern Europe even more carefully than now and will contract for new locations. The high wages and the strong dismissal protection in Germany as well as the tax burden and other locational factors will come under close scrutiny.

Eastern EU enlargement will trigger a strong migration to the west. Living conditions in the east will not approximate those in the west for some time. According to estimates of the Ifo Institute, approximately 4 to 5 percent of the inhabitants of the Eastern European accession countries will migrate to Germany (net), resulting in a net migration of about 4 to 5 million persons (Sinn et al. 2001).

Migration will produce wage pressure, especially for the less qualified in the labour market, despite the possible earnings boost for the majority of German residents. If displacement effects in competition for jobs are to be avoided, the adaptability of the German labour markets must be improved. In addition migration will also place pressure on western European social systems. In the choice of their target country, eastern European migrants will be guided among other things by the generosity of the social welfare systems.³ In this situation western European countries will endeavour to reform their social services so as not to exert any unnecessary migration incentives. On the other hand, a number of high earners in Germany, who are strongly burdened by migration in a redistributing social welfare state, will seek out a country with a lower tax burden. The German (and European) welfare state will thus be exposed to erosive forces (Sinn and Ochel 2003).

Conclusion

National institutional systems are frequently characterised by strong inertia. This is also the case for the German system of labour market institutions. Although exposed to systems competition, this seems to have been relatively weak thus far. In addition governments, who are responsible for the reform of labour market institutions, are not only influenced by the needs of the mobile agents of production. They are engaged in political competition and attempt (in democratic societies) to take into account the possibly contrary wishes of the voters. They must also consider that path-based feedback effects can bring about costs of institutional change. Finally it is difficult for them to ignore the interests of powerful groups.

The resistance to reform of labour market institutions, however, is not likely to continue in the previous form. The eastern enlargement of the EU will intensify systems competition which will considerably increase the pressure for reform.

³Typically immigrants work, at least temporarily, in low-skilled jobs and profit from the redistribution from the rich to the poor in western European welfare states. They earn low incomes and pay comparably low taxes and social insurance contributions while at the same time benefiting from the tax financed spending of the state.

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HUMAN CAPITAL FORMATION IN GERMANY: AN UNTAPPED POTENTIAL

HANS-PETER KLÖS*

AXEL PLÜNNECKE**

In the last decade or so, Germany has been losing ground in terms of educational proficiency as well as of human capital formation. IALS, TIMSS, PISA, PIRLS and IGLU are acronyms for a wide-scale underperformance of schooling and education in Germany. Additionally, a recent OECD study (2003) delivered alarming evidence of a huge underinvestment in human capital formation, making Germany the only major OECD country not drawing on human capital formation to increase economic growth.

This is why it is time to shed some light on what the German education “production function” looks like. The approach followed in this article rests on a much broader concept which attempts to meet at least the following criteria¹: 1) It should be based on empirical evidence. 2) It should be comprehensive in the sense that education is path-dependent and covers a long time span, from early childhood to the training of an ageing workforce. 3) It should

be based on an international comparison, using a benchmarking approach to identify the strengths and weaknesses of a country-specific educational system, while bearing in mind the limits of international comparability. 4) Education is looked at from an explicitly economic viewpoint, understanding education rather in terms of investment and returns on investment than as a mere societal issue.

This article addresses some of the major questions relating to human capital formation from a specific German perspective: What is the relation between investment in human capital and economic growth? What are the driving factors of educational achievement? What is the relative position of higher education in Germany? What role does vocational training play in Germany? And what are the main lessons to be learned from international educational benchmarking?

The role of skills and internal rates of investment in human capital

There is a lot of cross-country evidence showing a positive relation between investment in human capital and economic growth (Barro and Sala-i-Martin 1995). Countries with a higher number of years of schooling on average tend to grow faster and have a higher productivity. Germany has a weak growth performance caused by decreasing working hours and no growth of human capital. The average investment of individuals in their own education did not increase in the last decade (Table 1).

Instead, hourly GDP per efficient unit of labour grew rapidly, showing that Germany increased productivity through more work per hour of work-

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¹ This article draws heavily on “Bildungsbenchmarking Deutschland”, a broad comparative survey of the IW Cologne for 20 OECD countries, covering pre-school, elementary and primary schools, secondary and tertiary education and vocational as well as on the job-training (cf. Klös and Weiß 2003).

Table 1

Sources of GDP per capita growth, 1990–2000

	Growth of GDP per capita	Average annual percentage change of				
		Working-age population / total population	Employment/ working-age population	Hours worked	Hourly GDP per efficient unit of labour	Human capital
USA	2.26	0.06	0.38	0.27	1.20	0.35
United Kingdom	2.05	0.01	0.22	-0.21	1.18	0.85
Finland	2.12	-0.04	-0.71	-0.06	2.47	0.46
Canada	1.73	0.16	0.18	0.00	1.09	0.30
France	1.54	-0.10	0.28	-0.36	1.22	0.50
Italy	1.50	-0.13	-0.10	-0.15	1.30	0.58
Sweden	1.49	0.00	-0.91	0.58	1.51	0.31
Germany	1.20	-0.11	-0.10	-0.43	1.83	0.01

Source: OECD (2003).

Table 2
Human capital accumulation of young versus older individuals, 2001

	Ratio of shares of young people (25–34) to older (55–64) with higher education	
	persons in	
	Tertiary A-programmes	Tertiary B-programmes
Portugal	3.67	1.50
Spain	3.00	6.00
Denmark	2.75	1.13
Ireland	2.50	2.15
New Zealand	2.43	0.71
Japan	2.40	4.60
France	2.25	2.83
Belgium	2.13	2.11
Australia	2.00	1.11
Austria	1.75	1.60
United Kingdom	1.75	1.29
Norway	1.68	1.50
Canada	1.67	1.67
Finland	1.64	1.67
Netherlands	1.60	1.00
Germany	1.40	0.80
Sweden	1.33	1.70
USA	1.30	1.29
Switzerland	1.23	1.25

Source: OECD (2002).

force with unchanged average schooling levels and less worktime. In contrast countries like United Kingdom, USA, Italy and Sweden had higher labour productivity growth, although their hourly GDP growth per efficient unit of labour is much lower. In these countries average schooling levels of the working-age population grew much faster and the worktime has decreased at a lower rate.²

The story behind these data is that growth in Germany could be fuelled by intensifying human capital formation. But the outlook is bleak, since due to future demographic trends a lack of highly educated persons

² The OECD study presents evidence that growth in output per person is attributable to increases in the ratio of persons of working age (15–64 years) to the total population, increases in the ratio of employed persons to the working-age population, and labour productivity growth. The labour productivity growth itself is based on an increase in human capital, increase in hours worked, and an increase in hourly GDP per efficient unit of labor. Human capital is measured by summing up workers with different levels of formal education, each weighted by their relative wage as a proxy for their relative productivity.

in the workforce is to be expected in Germany. Plünnecke and Seyda (2004) calculate the effects of demographic change which project current stagnation in tertiary school attainment of men and only slow increases in women’s attainment. Taking together both effects, the share of highly educated persons of working age in the total population will increase from 13 percent to nearly 14 percent until 2020, but then decrease again to less than 13 percent in 2050. Seen from that perspective, it seems that Germany will make no progress in terms of tertiary education over the next half century.

Moreover, international comparisons reveal unfavourable cohort effects for Germany not only in the years to come, but already at present. At the turn of the century in Germany there were just 1.4 young persons between 25 and 34 years of age with a university degree for every person between 55 and 64 years with the same education, compared to three or more persons in Southern Europe (Table 2). Looking at so called tertiary B-programmes (less academic, more practical higher degrees), the picture is even more uncomfortable since the ratio in Germany is just 0.8. In contrast, other countries have many more young academics who can replace the older ones, thereby easing the demographic challenges of greying and shrinking populations in most of the advanced OECD countries.

Consequently, more accumulation of human capital is needed to handle demographic change and to stimulate economic growth. There are mainly two factors which account for poor investment in human capital: the low skills of German students

Figure 1

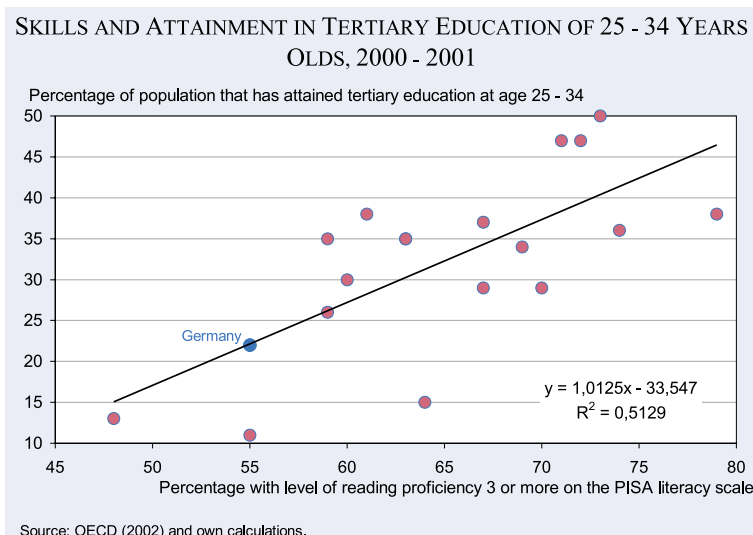
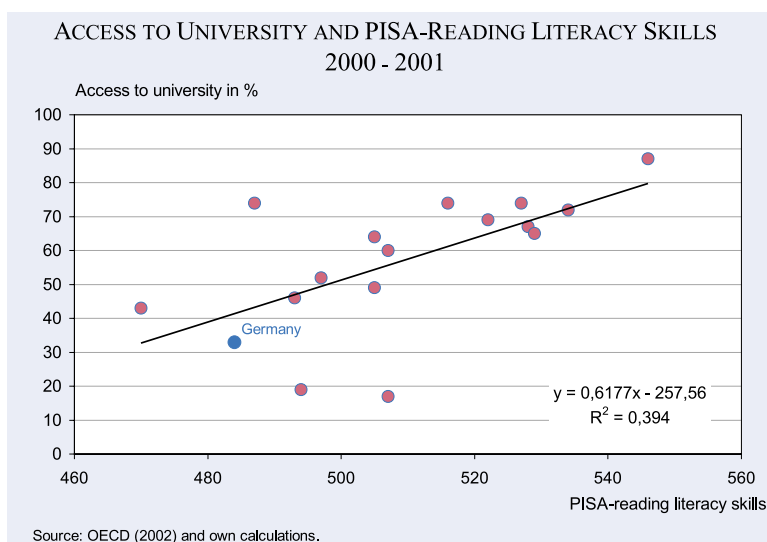


Figure 2



link to educational achievement comes through private investment at home and through public investment. Haveman and Wolfe (1995) show that there is a statistically significant positive relation between human capital of parents and educational achievement, with the education of mothers relatively more important. The family income has a relatively small impact on education. The link from human capital to the education of children is via family genes (Plug and Vijverberg 2003) and family input of time and education quality.

and low private rates of investment in education. If market forces played a more dominant role, private rates of investment would converge. In this case international differences in skills play an important role and cause differences in investment in higher education. The impact of skills on investment in schooling has been subject to many academic articles (Grawe and Mulligan 2002). Figure 1 illustrates this argument by showing the correlation between investment in higher education and reading literacy skills in OECD countries. A similar relation between skills and further investment can be found if the mean of skills in the PISA countries and the share of students who have access to tertiary university education is compared (Figure 2).

Following the regression profile in Figure 2, access to university in Germany could increase to round about 40 percent. To have sustainable higher access, the skills in Germany should also be improved. To foster economic growth the German education system has to improve the skills of pupils and to increase the private rates of investment in education by more efficiency in universities and apprenticeship training.

Skills and competences

The determinants of educational attainment are widely discussed in the literature. The theoretical

The effects of public investments are controversial. Hanushek (2003) finds no consistent relationship between school input and student performance when reviewing regression studies in literature. However, Krueger (2003) argues that there are social returns with reduced class size and criticizes the equal weight of the cited studies in Hanushek (1997). Additionally, there is a problem in regression analysis if the variables are not unrelated. Lazear (2001) shows in a model that from a school's point of view the optimal class size is larger for groups of students who are well behaved, so that empirically observed regression coefficients of class size could be downward biased.

The right question to obtain the non-ceteris-paribus-effect is: What would be the total effect of an exogenous change in class size on students

Figure 3

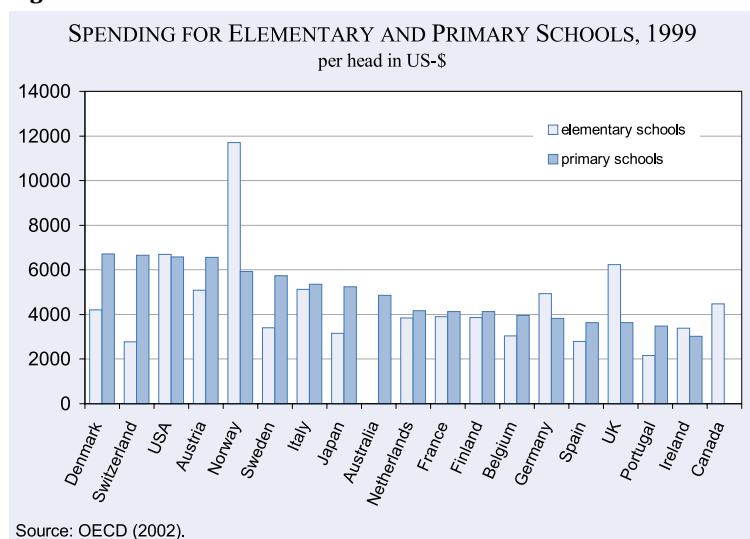


Table 3
IGLU results and teacher resources, 2001

	IGLU reading	IGLU science	IGLU maths	Pupil-teacher ratio	Teacher's salary
Sweden	561			13	26,000
Netherlands	554	557	577	17	29,000
United Kingdom	553	551	513	21	-
Canada	544	549	532	18	-
USA	542	565	545	16	40,000
Italy	541			11	25,000
Germany	539	560	545	20	38,000
France	525			20	27,000
Norway	499	530	502	12	27,000

Source: IEA (2003).

a strong relationship between kindergarten attendance and educational outcome if parents have low education or are immigrants (Spiess, Büchel and Wagner 2003). Nevertheless, there is comparatively little aggregate spending in early childhood programmes and primary schools in Germany. Figure 3 shows spending per head for elementary schools and primary schools in US\$, indicating that spending for primary schools in Germany is remarkably low.

skills? This can be more readily discerned from experiments than from regressions (Todd and Wolpin 2003). For example, in the STAR experiment there is a reduction of class size in primary schools from about 22 to about 15 students per teacher which causes an increase in mathematics and reading test scores of about 0.2 standard deviations (Krueger 2003, p. 57).

Taken both effects together, cognitive achievement of children is based on cumulative process depending on innate ability, the education of family and school input (Todd and Wolpin 2003). In the US, test scores did not improve between 1960 and 1990, although the input of schooling was increased. One controversial explanation brought forward for this stagnation is that there is less parental input due to rising female labour force participation. On the other hand, there are rising parental education levels which could compensate this effect.

In Germany there is no increase in parental education levels. In the last few decades the fertility rate of highly educated women has decreased to a very low level of 115 children per 100 women. Poorly educated women have more children with 175 per 100 women. In the last decade fertility rates of women with high levels of education have decreased even further by more than 20 percent, while fertility rates of other women have not changed (Grünheid 2003). To deal with this problem either family policy has to be changed in a pronatalistic direction or more and better infrastructure in pre-schools and schools is needed in order to reconcile family and work.

The investment in schools has disproportionately positive effects in early stages. In Germany there is

According to IGLU, there is no international relationship between resources, like class size or teacher wages, and reading literacy skills, since German pupils exhibit average performance, their teachers receive high wages and the class size is a bit larger than average (Table 3). However, even if there are no strong direct effects of teacher's wages on international test scores, Vignoles et al. (2000) find that teacher-salary incentive schemes like bonus payments and teacher's experience as well as class size have a significantly positive effect. Reliable methods to control quality and autonomy of schools might be other important key factors for increasing quality in classroom teaching.

According to PISA, educational achievement in reading and mathematics is very low in Germany at the age of 15. Pupils' skills have an important impact on further schooling. Standard economic textbooks suggest that students choose to continue schooling in order to maximize the present value of lifetime earnings. If they have low skills at the age of 15, they have lower returns from further schooling and they invest less in formal education. For secondary schools Plünnecke (2003) shows that better-educated parents, longer schooldays, a better equipped infrastructure as well as greater autonomy for schools and more competition can increase children's skills.

Higher education

To teach more students, universities in Germany will probably need more money. The expenditure on tertiary education from public and private sources increased by around 4 percent in real terms between 1995 and 1999. Nevertheless, entire ter-

Table 4
Private rates of return on investment in human capital, 1999–2000

	Return based on net earnings and lengths of studies	Impact of unemployment risk	Public support / fees	Total
United Kingdom	15.1	1.4	0.8	17.3
USA	16.7	1.2	– 3.0	14.9
France	11.1	3.6	0.2	14.9
Sweden	7.3	1.4	2.4	11.1
Canada	8.7	1.2	– 0.5	9.4
Japan	7.7	0.7	– 0.9	7.5
Italy	8.0	0.3	– 0.8	7.5
Germany	5.5	0.9	2.4	8.8

Source: Blöndal et. al (2002).

tiary spending accounts for only 1.1 percent of GDP compared to about 2.3 percent of GDP in the US. The gap is mainly due to differences in private spending, which accounts for only 0.1 percent of GDP in Germany compared to 1.2 percent in USA (OECD 2002), a direct consequence of free-riding in German tertiary education.

The introduction of tuition fees would have positive effects in terms of educational efficiency. On the one hand, fees would increase the money spent by universities on teaching staff and material, so the quality of teaching could be improved. On the other hand, students would have a better position in the allocation process in universities. Third, fees would provide an incentive to increase the speed of studying, which has a strong effect on internal rates of investment in higher education.

In Germany the rate of return on investment in university education is low compared with other countries. This is caused by a flat income distribution and a high number of years spent at university, which in turn increases the opportunity costs of education. The private internal rate in Germany is increased by a huge public student support, crowding out the market driven internal rate due to disincentives for the student to work harder. Taken together, the private internal rate of returns on education is markedly different in OECD countries (Table 4).

In countries like the United Kingdom, United States and France students need much less time to finish their university degree. One important reason behind this is the introduction of master and bachelor degrees. With bachelor and master degrees the investor faces important options (Brealy and Myers 1996, p. 589): 1) the option to proceed with follow-up

investments (master's degree) if the immediate investment project (bachelor's degree) succeeds, 2) the option to abandon the investment process after achieving a bachelor's degree, 3) the option to wait and learn (after the bachelor's and practical experience) before investing in a master's degree, and 4) the option to vary the specific human capital accumulation after achieving a bachelor's degree.

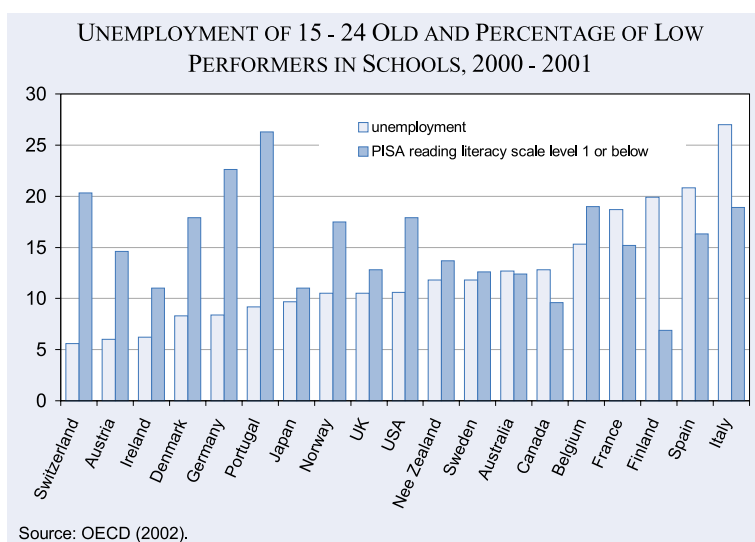
With these options the investor has 1) a positive option value even if he invests in negative net present-value projects (bachelor), 2) a partial insurance against failure, 3) an attractive possibility to invest efficiently in specific human capital needed for work and 4) an effective possibility to react to new labour market signals. With these real options the investor can add value to his investment in human capital. With the introduction of bachelor's and master's degrees it is possible to increase average internal rates of return in human capital and lower the risk for the investor, resulting in better incentives to invest in higher education.

Apprenticeship training

Like Austria, Switzerland and Denmark, the German vocational training system values the apprenticeship system ("duales System"). Public opinion holds that this system is the best way to integrate young people into the labour market and to improve the school to work transition, thus keeping youth unemployment under control. With the apprenticeship model, the employer has a flexible way of finding out about the productivity of the young worker and to teach practical knowledge and foster the accumulation of implicit knowledge and experience so that the transition from school to work might be easier.

However, there is a high percentage of young people with low skills in Germany. Roughly a quarter of 15-year-olds are not capable of basic reading tasks, which is defined as a level 1 of PISA proficiency or below. They cannot locate straightforward information or make low-level inferences of various types. This group "may not acquire the necessary literacy skills to sufficiently benefit from edu-

Figure 4



ational opportunities” (OECD 2002, p. 67). Germany has one of the highest percentages of young persons with low reading skills, which is in marked contrast to a very low unemployment rate similar to other countries with apprenticeship systems (Figure 4).

The German apprenticeship system is thus obviously successful in reducing youth unemployment. Nevertheless, this system is having increasing difficulties in generating enough vocational training opportunities. One important reason for this is structural change. Jobs with high percentages of apprenticeship training in comparison to total employment have experienced reduced employment in the last decade while jobs with low percentages have increased. As a result of structural change, levels of required skills are more polarized (Gross 1998). This means that the German apprenticeship system has to become more flexible with short programmes in stages and better possibilities for up-skilling, thereby facilitating the transition from school to work for young people with low-level skills and the investment in more human capital for those with better skills.

What can be done?

International educational benchmarking should focus on the accumulation process of educational achievement in different stages of educational production. The main lesson on an aggregate level is that reforms to improve young people’s skills must start in primary school or in early childhood pro-

grammes. One main reform would involve concentrating on the output of educational processes rather than input. Quality can be improved by encouraging more competition between schools and other educational institutions as a result of increased autonomy and reliable quality standards.

There is evidence that family backgrounds and incentives for quality in schools play an important role in the accumulation process of skills. Salary incentive schemes for teachers, longer schooldays for children

and family policies to increase the number of children of better educated mothers are options that policymakers can choose to increase skills in early childhood. To facilitate better access to private schools, which have more autonomy and could improve mean skills of all pupils as a result of peer effects and competition pressure, a voucher system for low income students should be implemented. With higher skills the investment in higher education might increase and promote economic growth in Germany.

The financing of educational processes should be increased through private money and the allocation linked more to demand. The introduction of fees and bachelor’s and master’s degrees at universities are important means for improving efficiency in the educational system and for increasing the internal rate of investment in higher education. In this way, economic growth may be improved by increased investing in human capital and by better utilization of the current stock of human capital through longer working hours.

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CENTRAL EXAMS AS THE “CURRENCY” OF SCHOOL SYSTEMS: INTERNATIONAL EVIDENCE ON THE COMPLEMENTARITY OF SCHOOL AUTONOMY AND CENTRAL EXAMS†

LUDGER WÖBMANN*

Just as currencies serve as a unit of value in the economic system, central exams can act as a measure of value in education systems, thereby mitigating informational asymmetries and preventing opportunistic behaviour in decentralised decision-making. Central exams are thus a precondition for decentralised education systems to achieve high student performance. This article first outlines this complementarity between central exams and school autonomy in a principal-agent model of educational provision, and then tests it empirically using the TIMSS international student achievement tests as a basis for a cross-country institutional comparison of education systems. Micro-econometric estimations reveal large positive effects of central exams on student performance. In education systems without central exams, school autonomy often has a negative impact on student performance. Central exams remove these negative effects of autonomy and convert them into positive effects in the case of school autonomy in salary decisions. Efficient education policies would thus combine central exams with school autonomy, setting and testing standards externally but leaving it up to schools how to pursue them.

Introduction

A high quality of the education learnt in schools leads to higher productivity and a more balanced income distribution of an economy (Wößmann 2003a, 2003b; Grundlach, Navarro de Pablo and

Weisert 2003). It is thus critical (not only) from an economic perspective to determine how the quality of educational performance may be improved. Extensive empirical evidence suggests that this cannot be done merely by spending more on education. In most cases, additional resources do not seem to improve student performance either over time or in a cross-sectional comparison (Grundlach, Wößmann and Gmelin 2001; Hanushek 2002, 2003; Wößmann and West 2002). In contrast, an institutional structure of the education system which sets appropriate incentives is associated with better student performance (Wößmann 2003c).

Central or external exams have been identified as such a performance-promoting institution (Bishop 1997; Wößmann 2003c). Instead of leaving the organization, implementation and marking of the examination of educational performance to individual teachers or schools, central exams are run by an external agency. The comparable information on student performance generated in this way changes the information status in the education system. Central exams thus change the incentives affecting all those involved in the educational process: the performance achieved by students, teachers and schools becomes objectified, thus providing the basis for appropriate consequences. The result is the creation of performance-promoting incentives for everyone concerned (Bishop and Wößmann 2004). It is not crucial whether the “central” exams are run by a national authority, regional authorities or in a standardised way by private service providers; the important thing is that they are organized “externally” with respect to the individual school.

This article examines the impact of the incentives created by central exams on the relative effectiveness of decentralised school systems. Its core message is that central exams – despite their apparent implication of a centralisation – need by no means be part of a centrally regulated education system. Indeed, they are really a precondition for the efficient functioning of otherwise decentralised school systems. This is because the education system often creates strong incentives for opportunistic behaviour due to its unbalanced information distribution and the divergent interests of its principals and agents. As long as local decision-makers cannot be held accountable for their behaviour in these cases because no information on performance is available, a school’s local decision-making autonomy

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will have a negative impact on student performance. However, as soon as central exams correct this information imbalance and reveal opportunistic behaviour so that decentralised schools are accountable for their performance, the negative effects of autonomy can be transformed into positive ones as the benefits of superior local knowledge come into play.

In this sense, therefore, school autonomy and central exams are complementary to each other: school autonomy leads to better educational performance only thanks to the performance-promoting incentives created by central exams. Conversely, central exams can contribute to assuring particularly good educational performance by exploiting the benefits of local knowledge made possible by this autonomy. This also means that the frequently urged decentralisation of the school system (for instance Weiß 1998; World Bank 1999, pp. 49–50) can enhance performance only if it is ensured, for instance by central exams, that the local decision-makers have incentives to act in a manner which promotes performance.¹

To this extent, central exams can perform a role in the school system similar to that played by currencies (which are also centrally supplied) in the economic system: just as money plays the role of a “unit of calculation” in the economic system (see any textbook on the theory of money, for example Issing 1998), standardised performance tests can assume the function of a “unit of calculation” in the education system. By acting as a unit of calculation or “measure of value”, money allows estimates of the practical value of an object to be precisely quantified and thus to be compared with its alternatives (for instance Schumpeter 1970, pp. 25–35). Such quantitative measures of performance and evaluation are “obviously of the very greatest importance for the rationalisation of behaviour, of similar importance to language and writing” (Schumpeter 1970, p. 27).² In a similar way, central exams can play a decisive role as a measure of performance and evaluation in the education system.

Beyond this, the monetary theory of Brunner and Meltzer (1971) stresses the role played by a cur-

rency in helping to overcome information imbalances in a barter economy. In such economies, information on market prices and commodity values is not available free of charge. Money reduces the costs of gaining information, and “it is the uneven distribution of information ... that induces individuals to search for, and social groups to accept, alternatives to barter” – namely money (Brunner and Meltzer 1971, p. 786). Just as it is a critical function of money to reduce transaction costs in the case of an uneven distribution of information, central exams can help to overcome information imbalances between the supply and demand side by acting as a standardised unit of measure in the education system. Like the central money supply in the economic system, central exams are the precondition for the effective functioning of a decentralised education system of autonomous agents.³

This article will examine the function of central exams as the “currency unit of the education system” first theoretically and then empirically. The theoretical analysis maps central exams as a monitoring tool in a principal-agent theory of the education system. The framework of the principal-agent model considers the dangers of local opportunistic behaviour in addition to the advantages of superior local knowledge. The effects of local autonomy thus depend on the relevant scope for opportunistic behaviour. When decisions are made on questions of budgets or salaries in which diverging interests create strong incentives for opportunistic behaviour, central exams become critical. This is because they make local decision-makers accountable for their behaviour thanks to the information they provide. Depending on whether the education system uses central exams or not, the positive performance effects of school autonomy created by the exploitation of local knowledge will either exceed the negative effects of local opportunistic behaviour or will fail to do so.

The following empirical analysis confirms this complementary relationship between school autonomy and central exams empirically on the basis of the international micro-database of the TIMSS and TIMSS-Repeat student performance

¹ In this light, it is also hardly surprising that Summers and Johnson (1996), in their overview of decentralizing reforms in the United States, found that decentralization does not always have a positive impact.

² Author's translation.

³ However, the parallels between central exams in the education system and currencies in the economic system should not be taken too far: currencies also perform other functions in the economic system, for instance by acting as a medium of exchange and payment and as a means for storing value, and the measure of value produced by central exams can only to a limited degree be viewed as an *exchange value*.

tests. These cover almost half a million students in the middle school years from 54 countries. Interaction effects between school autonomy and central exams are introduced into estimates of international education production functions for this purpose. For instance, it is found that school autonomy in setting salaries has a statistically significant negative effect on student performance in the absence of central exams, but this is converted into a statistically significant positive effect where central exams do exist. Thus the international evidence in various decision-making areas reveals a complementarity between central exams and local decision-making. In general, those education systems do best which combine central exams with school autonomy, i.e. which specify standards and monitor their attainment but simultaneously leave it up to the individual schools *how* the externally set standards should be reached.

Opportunism, local knowledge, central exams and school autonomy

A principal-agent approach to educational production

From a theoretical viewpoint, education provision can be understood as a network of principal-agent relationships in which a principal (e.g. the parents) commissions an agent (e.g. a school director) to perform a service (the education of the child) on behalf of the principal. Laffont and Martimort (2002, p. 2) describe decentralised information and a constellation of opposing interests as the two essential components of incentive effects which make such principal-agent relationships a problem: "Delegation of a task to an agent who has different objectives than the principal who delegates this task is problematic when information about the agent is imperfect." For if the agent's interests diverge from those of the principal and if the information on the agent's real performance is asymmetrical, then the agent may pursue his own interests instead of those of the principal, without the latter becoming aware of this behaviour and thus being able to sanction it.

Central exams can help to resolve the problem of incomplete monitoring of the actions of the agents in the education system by supplying information about the performance of individual students relative to the national (or regional) student popula-

tion. By mitigating the monitoring problems inherent in principal-agent relationships, they harmonise the incentives of the agents more strongly with the interests of the principal and thus with the objectives of the education system (Wößmann 2002b). They make the performance status of the students visible and comparable for parents, teachers, potential employers and advanced educational institutions, so that better performance can be rewarded. They also prevent that entire areas of knowledge can be omitted in individual classes without any consequences for marking, and they reveal to parents and school directors whether the teachers are effective in passing knowledge on to their students.

School autonomy with and without monitoring

School autonomy or the decentralisation of decision-making power can be understood as such delegation of a task by a principal who wishes to implement the provision of knowledge in the education system, to agents, namely the schools. This need not always be a "problem": as long as no divergent interests or asymmetrical information exist, the agents can be expected to behave in conformity with the objectives. Only where both are present, do incentives and possibilities exist for the agents to act in an opportunistic way without incurring the risk that such behaviour will be noticed and sanctioned.

The danger of opportunism by decentralised decision-makers is thus limited to those decision areas in which their interests diverge from the objective to enhance the students' knowledge. This is, for instance, imaginable whenever the decision concerns the financial position or the workload to be fulfilled by the schools: in such cases it is rational for the school decision-makers to favour their own interests over promotion of student performance as long as possible monitoring agencies such as the school governors or the parents have no information about the actual behaviour of the schools. In view of the decentralised character of educational provision, there is almost always a high degree of information asymmetry about school behaviour. Nevertheless, it can be at least partially overcome by central exams which supply information about actual performance. Thus central exams have a considerable impact on the efficiency of educational provision whenever divergent interests in a decision-making situation make opportunistic behaviour probable.

In considering school autonomy in the education system, another important point must be added: in many decision-making areas, local decision-makers know much better than a central agency ever could how education services can be most efficiently provided. Thus teachers usually have a local knowledge lead as regards the best way of teaching their specific students a specific subject. This is only one example of the widespread “knowledge of the particular circumstances of time and place” (Hayek 1945, p. 522) which can make provision by a local agent much more efficient than by a central planning authority. But the decisive factor is whether these decision-makers also have the incentive to exploit their local knowledge lead in providing educational services. This will be the case only when others become aware of whether they have made the effort to utilise their local knowledge – i.e. only when information asymmetries are bridged, for instance by central exams.

Figure 1 represents the corresponding effects on performance by school autonomy for various decision-making areas which may be characterized by the presence or absence of incentives for opportunistic behaviour and of local knowledge leads. In those areas where no incentives for opportunistic behaviour exist because the interests of agents and principal do not diverge, the effects of school autonomy on performance may be very simply determined: if local decision-makers have a knowledge lead in such areas, then school autonomy has a positive effect on educational performance. This is because the advantages of local decision-making (local knowledge lead) exist, while the disadvantages

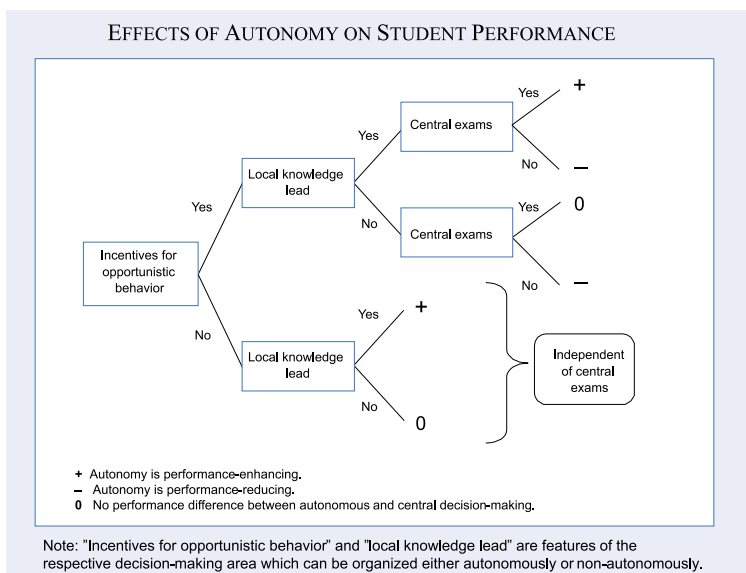
(opportunistic behaviour) do not. If local decision-makers have no knowledge lead in these areas, there will be no difference between decentralised and centralised decision-making. In both cases, it makes no difference on the effect of school autonomy on student performance whether the education system uses central exams or not: there is by definition no risk of any opportunistic behaviour which would have to be averted.

Central exams are of importance for the effect of school autonomy on performance only in decision-making areas offering incentives for opportunistic behaviour due to the diverging interests of the agents and the principal. Let us first consider those areas without a local knowledge lead and consequently with no benefits of decentralised decision-making. If the education system has no central exams, then school autonomy has a negative impact on student performance in these areas because decentralised decision-making – unlike centralised decision-making – leads to opportunistic behaviour. But if central exams do exist, the risks of local opportunistic behaviour and thus of negative performance effects are averted even in the case of decentralised decision-making. There are consequently no differences in performance between autonomous and central decision-making.

Finally, if a decision-making area contains both incentives for opportunistic behaviour and benefits of superior local knowledge, then the performance effects of decentralised decisions again depend on the existence of central exams. If such exams do

exist, then the disadvantages of opportunistic behaviour are averted, so that the local knowledge lead is likely to produce an overall positive effect of school autonomy on performance. Without such exams, however, the advantage of superior local knowledge must be weighed against the disadvantages of opportunistic behaviour, and the overall effect of school autonomy depends on the relative size of these two partial effects. So it is not obvious whether these decision-making areas yield a slightly positive effect, no effect or an overall negative effect of school

Figure 1



autonomy. On the basis of the empirical results reported in the next section, in which the negative effect of opportunism generally appears to outweigh the positive effect of superior knowledge, an overall negative effect is shown in Figure 1. In this case, central exams turn an originally negative effect of school autonomy on performance completely round to become a positive effect.

The international evidence

The TIMSS datasets

In order to test these theoretically derived hypotheses empirically, I use the data of the two international comparative tests of student performance of the Third International Mathematics and Science Study (TIMSS). The TIMS study was initially carried out in 1995 (“TIMSS-95”) and repeated in 1999 (“TIMSS-Repeat”). Whereas TIMSS-95 has internationally comparable data for 266,545 students from 6,107 schools in 39 countries, TIMSS-Repeat covers 180,544 students from 6,068 schools in 38 countries. The pooled database thus contains a total of 447,089 student and 77 country observations, and as only 23 countries took part in both tests, the pooled database contains 54 different countries.⁴

Both TIMS studies were carried out by the International Association for the Evaluation of Educational Achievement (IEA). In the middle-school years, TIMSS-95 tested the two grades with the largest proportion of thirteen-year-olds, which correspond in most countries to seventh and eighth grades, whereas TIMSS-Repeat tested only the upper of these two grades. A representative random sample of around 150 schools was taken within each country, and one (randomly selected) eighth class as well as – in TIMSS-95 – one seventh class were completely tested in each school.

This article uses the individual student data of the pooled database, so that as many different education systems with and without central exams as possible can be considered, as well as local differences in the degree of school autonomy within these systems. In addition to the performance data

on math and science of the individual students, the TIMSS database contains extensive background information obtained via various questionnaires. Thus data from student questionnaires allow the control of extensive influences resulting from the personal and family background of the students. Teacher questionnaires contain data on both teacher characteristics and class resources as well as on the influence of teachers in various decision-making areas. Finally, questionnaires of school directors in particular provide information about the degree of school autonomy in various decision-making areas.

In addition to this TIMSS data, the database used here contains information about whether central exit exams are held at the end of secondary schooling in the countries concerned (or in regions within these countries). All forms of “curriculum-based external exit exam systems” (Bishop 1997) are considered here, but not university entrance exams which are not taken by all students and thus do not represent an integral part of the education system. The information about central exams is taken from comparative educational studies, educational encyclopaedias, interviews with representatives of the various national education systems, government documents and background documentation. In cases in which central exams are taken in only some regions of a country, the data used specifies the proportion of students who take them.

Central exams and student performance

Before examining the difference between autonomy effects in education systems with and without central exams in the next section, the general impact of central exams on student performance will initially be estimated by means of an international comparison of student performance in systems with and without central exams. The effect α of central exams E is estimated with the aid of the following equation:

(1)

$$T_{ilsc} = \alpha E_c + A_{lsc}\beta + C_{ilsc}\gamma + \mu_c + \eta_{il} + \nu_j + \varepsilon_{ij}$$

where E_c is the proportion of students in country c who take part in central exams.⁵ T_{ilsc} is the test

⁴ For more information on these two TIMS studies, see for instance Gonzalez and Smith (1997) and Gonzalez and Miles (2001). Wößmann (2003c, 2002b) contains more detailed information and notes on the specific database used in this paper.

⁵ As these involve national central-exam systems in most cases, E is usually assigned the dummy values 0 or 1.

score of student i in class l in school s in country c . The TIMSS test scores are scaled so that each discipline has an international mean of 500 and an international standard deviation of 100. In addition to twelve indicators of school autonomy A in various decision-making areas, the estimate also controls for an extensive control-variable vector C , which contains 17 variables for the student's personal and family background, 13 variables for school resources and teacher characteristics and six variables for other institutional features of the education system such as the centralisation of curricula and textbooks.⁶ The error term has several components at various levels: μ is a country-specific, η a school-specific, ν a class-specific and ε a student-specific component.⁷

The estimation results reported in Table 1 for the effect of central exams confirm that students in schools with such exams show a statistically significant better performance than those in schools without them. This applies both to math and science, and both for TIMSS and TIMSS-Repeat. In the pooled database, the effect of central exams is equal to 42.7 percent of an international standard deviation in math and 35.9 percent in science. This corresponds approximately to the difference in performance between students of the seventh and eighth classes, i.e. the knowledge learnt in an entire school year. The results of TIMSS-Repeat thus corroborate previous results obtained exclusively on the basis of TIMSS (Bishop 1997; Wößmann 2002a), namely that students perform better in education systems with central exams. Moreover, the magnitude of the effect estimated for TIMSS-Repeat is not statistically significantly different from that estimated for TIMSS-95.

In principle, it is conceivable that these least-squares esti-

mates of the effect of central exams are biased by endogeneity problems (for instance Jürges et al. 2003). Thus, there may be omitted variables at the country level which are correlated with the existence of central-exam systems and which cause the correlation with student performance. Four areas of possibly distorting country characteristics are particularly conceivable: firstly other institutional circumstances of the education system; secondly the general level of centralisation of a country; thirdly the homogeneity of the population; and fourthly cultural differences between countries. Because the use of central exams is not randomly distributed between countries but occurs most often in centralised or homogeneous countries or is associated with other institutions or cultural characteristics, and because these other country characteristics lead to differences in student performance, a simple least-squares estimate of the effect of central exams would be biased by such effects.

In the first three cases, it should be possible to eliminate at least most of this distortion by considering additional corresponding control variables. Thus the reported specification already contains a large number of institutional control variables (including the centralisation of the curriculum and of textbook approval), and tests show that their inclusion has no significant impact on the estimated effect of central exams. To control for the general centralisation of the education system and the homogeneity of the population, the share of the educational budget controlled by the central government as well as a measure of ethno-linguistic fractionalisation of the population were additionally included in the specification as control variables, without significantly changing the estimated effect of central exams.

Table 1
The effect of central exams on student performance

Estimates of the coefficient on central exams. – Dependent variable: TIMSS test score. – Control variables: 48 student, family, resource, teacher and institutional characteristics. – Clustering-robust standard errors (at country level) in parentheses.

	Math	Science	Students	Countries
TIMSS-95	40.9* (13.5)	39.7* (9.9)	266,545	39
TIMSS-Repeat	47.0* (13.5)	35.9* (12.9)	180,544	38
Both	42.7* (9.8)	35.9* (8.3)	447,089	77
Both, with regional dummies	28.6† (13.2)	41.7* (10.8)	447,089	77
Significance level (based on clustering-robust standard errors): * 1 percent; † 5 percent.				
Source: Wößmann (2003d).				

⁶ The individual control variables are reported in Table A1 in Wößmann (2002b).

⁷ The error components are implemented by clustering-robust linear regression (CRLR). In calculating the effect of central exams, CRLR considers possible interdependences of the error terms for students within a country – and, below, in calculating the effects of autonomy, within individual schools – in the calculation of the standard errors (Moulton 1986; Deaton 1997, pp. 74-78). The stratified random sampling in TIMSS is taken into account by weighting the observation of each student within his country with his survey probability (DuMouchel and Duncan 1983; Wooldridge 2001); at the same time all countries are weighted equally.

Finally, in order to test whether the effect of central exams captures other cultural differences between countries, regional (continental) dummies may be added as additional control variables. As a result, the effect of central exams is estimated exclusively on the basis of inter-regional variation. Thus inter-regional cultural differences such as those prevailing between Asian and European value systems no longer affect the estimate of central exams. As shown in Table 1, the estimations yield statistically significant effects of central exams even if all variations between the nine regions of Western Europe, Eastern Europe, North America, South America, Oceania, Asia, Middle East, North Africa and South Africa are ignored. Consequently, the estimated effect of central exams does not appear to be affected either by other institutional differences, nor by the general degree of a country's centralisation or homogeneity, nor by cultural differences, but to reflect the effect of external exams on student performance.

School autonomy and student performance with and without central exams

In order to examine whether – as derived above – the existence of central exams impacts the effect of school autonomy on student performance, additional interaction terms will be added between central exams E and the indicators of school autonomy A in equation (1):

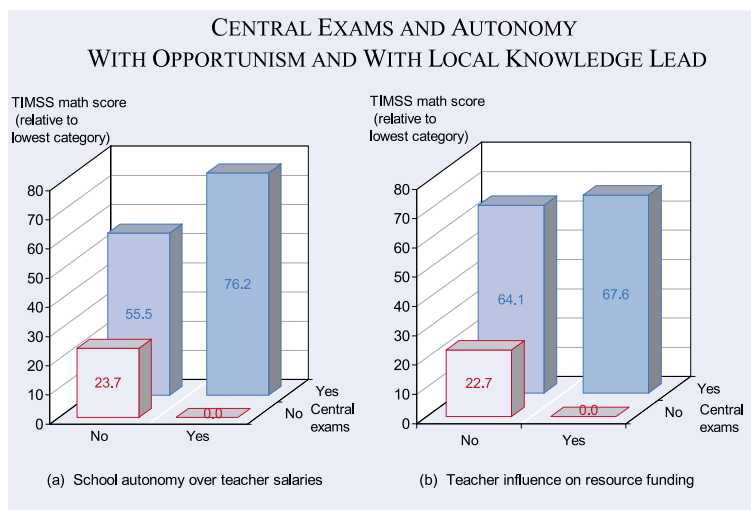
$$(2)$$

$$T_{itc} = \alpha E_c + A_{itc} \beta_1 + (E_c A_{itc}) \beta_2 + C_{itc} \gamma + \mu_c + \eta_{it} + \nu_j + \varepsilon_{it}$$

The estimated interaction effects show whether the effect of school autonomy in various decision-making areas differs between education systems with and without central exams. The complete results for the estimated effects of autonomy and interaction terms are listed in Table A1 in the appendix.⁸ The most striking findings will be discussed individually below on the basis of several diagrams.

⁸ The results reported here refer to math performance; similar results were found for science performance (Wößmann 2002b).

Figure 2



The following diagrams represent student performance under the four conditions resulting from the presence and absence of school autonomy and central exams for each of the various decision-making areas: the performance of students in schools without autonomy in systems without central exams; with autonomy but without central exams; without autonomy but with central exams; and with both autonomy and central exams. In each diagram, student performance is shown relative to the condition with the lowest performance.⁹

Figure 2a shows the case of whether schools are responsible for deciding on teacher salaries. In systems without central exams, school autonomy regarding teacher salaries has a *negative* effect on student performance. In systems with central exams, student performance is – as found before – generally higher than in systems without central exams, both in cases with and without school autonomy. In addition, however, it is striking that the effect of school autonomy on student performance in systems with central exams is turned completely around: salary autonomy of schools has *positive* effects on student performance in central-exam systems.¹⁰

Decisions on teacher salaries thus appear to involve both incentives for opportunistic behav-

⁹ The estimates on which these diagrams are based control for all the control variables of family, resources and institutions of equation (2), but – unlike the results reported in Table A1 – not for further interaction effects between central exams and family/institution variables. Otherwise, the specific effect of central exams would be estimated quite imprecisely and the bars for the effects in central-exam systems would consequently be based on imprecise estimates (Wößmann 2002b).

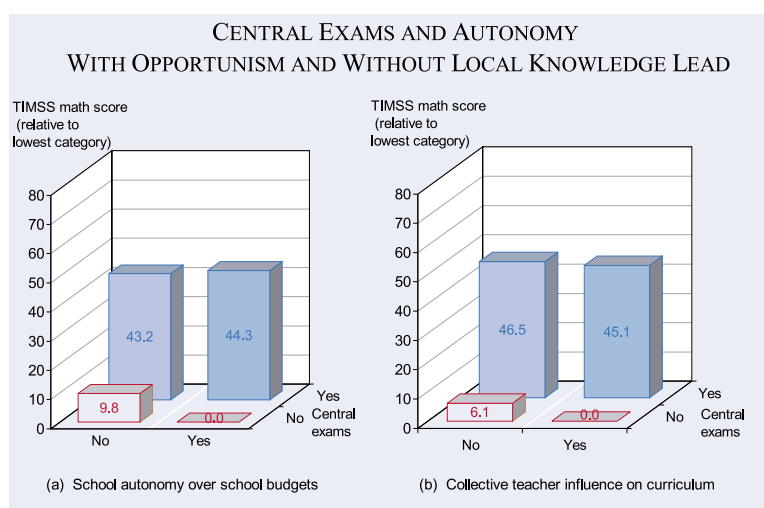
¹⁰ Unless otherwise reported, all the effects shown in Figures 2–4 are statistically significant.

ior and local knowledge leads (cf. Figure 1): without central exams, the negative performance effects of opportunistic decisions taken by the schools dominate, as this local opportunistic behaviour cannot be externally observed and thus cannot be sanctioned. Hence school decision-makers do not feel obliged to set teacher salaries so as to contribute to enhancing student performance, but can use their decision-making autonomy to promote other interests. In contrast, central exams provide information about whether the schools perform well or not, so that supervisory authorities and parents can draw possible consequences from that type of school behaviour which weakens performance. This creates incentives for the decision-makers in the schools not to exploit their autonomy in setting teacher salaries in an opportunistic way, but to use it in order to effectively promote student performance. The benefits of superior local knowledge then come into effect, as school decision-makers ought to know better than any central authority which teachers deserve to be rewarded for good work.

The case is similar when decisions on school resources are decentralised in such a way that teachers have a say in the funds available for resources (Figure 2b). In this decision-making area too, decentralised decision-making autonomy has a negative effect on student performance in systems without central exams, whereas it has a positive effect in systems with central exams. However, the difference between schools with and without teacher influence on resource funding in systems with central exams is not statistically significant. This could be due either to the fact that opportunistic behaviour is not entirely prevented by central exams in such cases and consequently weakens the positive effects of local knowledge, or to the fact that no significant local knowledge lead exists here.

The same appears to be the case to an enhanced degree in the decision-making areas shown in Figure 3. In systems without central exams, school autonomy in budgeting has a negative impact on student performance (Figure 3a), which may be

Figure 3



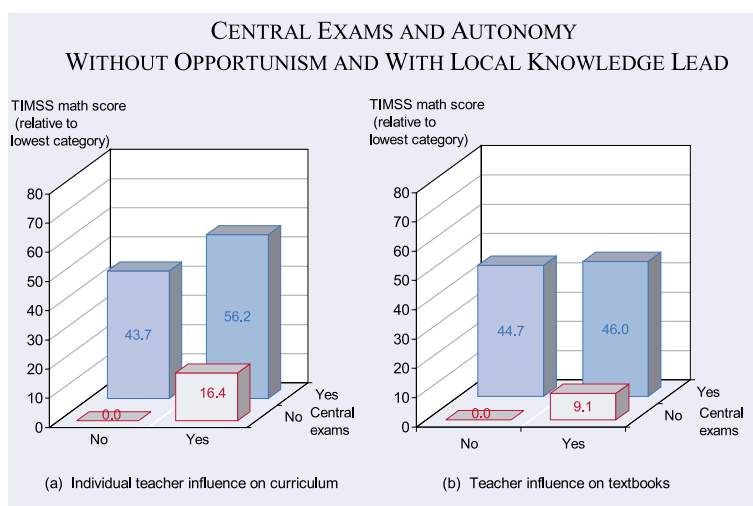
due to incentives for opportunistic behaviour in funding. In systems with central exams, this negative effect of school autonomy disappears, although without turning into a significant positive effect. This could be due to the fact that external agencies need by no means have a knowledge disadvantage in budget questions compared to individual schools which often lack the required specialist staff.

We see the same picture when we ask whether the teachers of a school collectively have a say in the curriculum to be taught (Figure 3b). Without monitoring by central exams, such collective teacher influence has a negative impact on student performance, which may be due to opportunistic interests of the teachers as regards the workload to be fulfilled. If a central-exam system does exist, then this negative performance effect is attenuated into an insignificant effect of teacher autonomy. This can be rationalised within the framework of the above model by assuming attenuated opportunistic behaviour with the simultaneous absence of local knowledge leads where decisions are taken collectively by the teachers.¹¹

Things look different when individual teachers rather than the teachers' collective can influence the curriculum (Figure 4a). In this case, a positive effect of teacher autonomy on student performance is observed in systems with and without central exams, showing no statistically significant difference between the two systems. In the model

¹¹ It should be noted that the underlying estimate controls for the influence of individual teachers on the curriculum, so that the individual knowledge benefits of the teachers are kept constant.

Figure 4



framework considered here, this would mean that the individual teachers are unable to push through opportunistic forms of behaviour in addition to their collective influence, but that they possess local knowledge advantages as individuals.

Finally, Figure 4b depicts a decision-making area in which the presence of central exams attenuates a positive autonomy effect: if individual teachers in systems without central exams have a say in the textbooks used, this has a positive effect on student performance. This is likely to be due to local knowledge leads which are not counteracted by opportunistic interests, as the teachers would do themselves a disservice if they were to select unsuitable books. This positive effect of teacher autonomy is smaller and statistically insignificant in systems with central exams. In contrast to the simplified presentation of Figure 1, therefore, a local knowledge lead can result in a difference in the autonomy effect on student performance between systems with and without central exams despite a lack of incentives for opportunistic behaviour. This weakening of the autonomy effect may be due to central exams inhibiting local decision-makers from fully exploiting their local knowledge. However, it should be noted that in this case too the overall performance of students in central-exam systems is still far superior to that in systems without central exams.

The last case illustrated in Figure 1, which contains neither incentives for opportunistic behaviour nor local knowledge leads, is of relatively little interest for a consideration of autonomy effects. This is because autonomy then has no influence on stu-

dent performance either with or without central exams. This could be the case for math in the decision-making area of teacher autonomy in decisions on the type of equipment, as reported in Table A1, where no significant autonomy effects are detected. However, in science there is a small but statistically significant positive autonomy effect which is slightly attenuated in central-exam systems, which would indicate the presence of local knowledge leads without opportunism. Table A1 reports the

same scheme for school autonomy in purchasing supplies. In contrast, teacher autonomy in the selection of subject areas is another example of a decision-making area offering incentives for opportunism but without a local knowledge lead: here, a negative autonomy effect in systems without central exams is largely eliminated by central exams.¹²

Concluding remarks

By overcoming information imbalances in the education system, central exams help otherwise decentralised school systems to benefit from local knowledge leads without suffering from local opportunistic behaviour. Thus central exams can act like a "currency" of the education system: as a centrally supplied measure of performance and evaluation, they reduce the transaction costs caused by incomplete contracts in the case of asymmetric information between principals and agents. They thus prove to be complementary to school autonomy: by reducing the opportunistic behaviour of local decision-makers, they become a precondition for the efficient operation of decentralised education systems.

Consequently, central-exam systems do not only change the behaviour of students but indeed of all agents involved in the education process. They re-

¹² The results for the case of school autonomy in teacher selection shown in Table A1 are hard to rationalize. They are restricted to the case of math; in science, systems without central exams do not produce an autonomy effect, and this is converted into a positive effect with central exams. This is the only case in which the science results diverge fundamentally from those in math. For a discussion of further institutional interaction effects with central exams, see Wößmann (2002b).

orient the incentives towards a promotion of scholastic performance. The change in the behaviour of the decision-makers in the schools will also affect the impact of schools' autonomy. This will consequently act as a mechanism via which central exams lead to improved student performance. An efficient education policy would consequently combine central exams with school autonomy, i.e. it would specify standards and monitor their attainment, but simultaneously leave it up to the schools as to how these standards should be realized.

In examining the role played by a currency, it has often been noted that the poorer sections of society tend to suffer disproportionately when the function of money as a measure of value is depleted – for instance as a result of inflation. In a similar way, one may ask whether central exams also show such distorted distribution effects. More detailed estimates which consider the interactions between central exams and indicators of a student's family background show that the impact of central exams really does differ considerably for students from various family backgrounds (Wößmann 2002b). Thus the effect of the level of parental education on children's performance in systems without central exams is far greater than in systems with such exams. This difference between the two systems is statistically highly significant, especially in math. The weaker scholastic performance of immigrant children of the first and second generations is also far less pronounced in systems with central exams than in systems without them. These findings suggest that central exams contribute to fairer educational opportunities for students from diverse family backgrounds – or in other words: the lack of the “currency” of central exams has negative distribution effects also in the education system.

Central exams need not eliminate all types of distinctions between schools. The performance effects examined here refer to the basic skills which should be possessed by all thirteen-year-old students in math. Supporters of homogeneous and differentiated school systems respectively ought to be able to agree that the acquisition of such basic skills should be a central objective of every school system. In this respect, it is of importance that the TIMSS test results used in the reported analyses are not based on the respective central exam of each country but on an independent test which has been accepted by all participating countries as corresponding to their respective math and science

curricula. Hence, central exams do not lead to a situation where teachers merely get their students to learn for the possible questions coming up in the respective central exams by heart and the students then “cram” for the test in question – for this would not affect their performance in the TIMSS tests. Instead, the reported estimates suggest that central exams really do lead to students acquiring a better basic knowledge in math and science. Beyond this, it should also be noted that in the case of external exams too, performance requirements can be differentiated and schools' focal interests can be reflected.

Beyond the reported empirical results relating to central exit exams at the end of secondary education, the theory presented here suggests that more regular central exams in the course of primary and secondary education could well yield further positive effects. Such regular external exams in various grades would improve the information status in the education system still further. Thanks to their early availability, in the case of unsatisfactory performance they would also allow countermeasures to be taken far ahead of the end of secondary education.

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Appendix

Table A1

Interaction effects of central exams and school autonomy

Estimates of the respective autonomy coefficient and of the interaction coefficient with central exams. – Dependent variable: TIMSS math test score. – Control variables: 36 student, family, resource, teacher and institutional characteristics as well as 17 interaction effects of student, family and institutional characteristics with central exams. – Clustering-robust standard errors (at school level) in parentheses.

	In systems without central exams ^a	Change in systems with central exams ^b
<i>School autonomy</i>		
School budget	- 6.9 [†] (2.8)	7.7 [†] (3.5)
Purchase of supplies	7.1 [†] (3.2)	- 5.7 (5.0)
Selection of teachers	21.6* (2.6)	- 20.2* (3.1)
Teacher salaries	- 28.3* (3.6)	50.2* (4.1)
<i>Teacher influence</i>		
Funds for resources	- 24.7* (5.1)	29.1* (6.3)
Type of resources	3.0 (2.8)	- 3.5 (3.8)
Subject areas	- 12.3* (2.3)	8.7* (2.8)
Textbooks	11.6* (3.1)	- 11.7* (3.6)
Curriculum		
Individual teachers	14.6* (2.1)	- 3.9 (2.7)
Subject teachers collectively	- 5.0 [†] (2.4)	2.8 (3.1)
School teachers collectively	- 14.7* (2.1)	6.5 [†] (2.8)
Teacher unions	- 8.5 (5.4)	- 29.5* (8.7)
Students (unit of observation)	447,089	
Schools (primary sampling unit)	12,175	
Countries	77	
R ²	0.296	
Significance level (based on clustering-robust standard errors): * 1 percent; † 5 percent.		
^a Coefficient of the respective autonomy variable (β_1 in equation [2]).		
^b Coefficient of the interaction term between central exams and the respective autonomy variable (β_2 in equation [2]).		
Source: Wößmann (2002b).		

WHAT NEXT FOR SCHOOL VOUCHERS?

PAUL E. PETERSON*

Introduction

For many years, fears that school vouchers were unconstitutional slowed their adoption in the United States. But in 2002, the Supreme Court found, in the case of *Zelman v. Simmons-Harris*, that a small voucher program in Cleveland was constitutional. The Court declared that the program did not violate the Establishment of Religion Clause of the US Constitution, as plaintiffs had argued, because it allowed parents a choice among both religious and secular schools. There was no discrimination either in favor or against religion. Now that school vouchers have passed this crucial constitutional test, many state legislators and other state officials are giving more thought to the voucher concept. In addition to Cleveland, experiments are underway in Milwaukee, Florida and Colorado and under active consideration in many other states. This essay seeks to answer some of the questions that are frequently raised.

What are school vouchers?

Simply defined, a voucher is a coupon for the purchase of a particular good or service. Unlike a ten dollar bill, it cannot be used for any purpose whatsoever. Its use is limited to the terms designated by the voucher. But like a ten dollar bill, vouchers typically offer recipients a choice. For this reason, distant relatives find coupons popular birthday presents for family members whose tastes are unknown. The birthday child can be given a toy store coupon, without dictating the exact game or puzzle.

It is not only in the business world that vouchers or coupons are used. Food stamps, housing allowances for the poor and federal grants for needy students are all voucher-like programs that fund services while giving recipients a range of choice. Now, the idea is being advanced as a way of enhancing

school choice as well. If parents are given a school voucher, the money will certainly be spent on education. But instead of requiring attendance at the neighborhood school, no matter how deficient, families are given a choice among public and private schools in their communities.

In other words, a school voucher is something like a scholarship to be used at one's choice of school. Indeed, there are in the United States numerous privately funded scholarship programs that operate much like school voucher programs. They allow the parent to select the private school of their choice but they pay approximately half the tuition for more than 60,000 students in New York City, Washington, DC, Dayton, Ohio, and many other cities across the country.

Although these private programs have generated valuable information about school vouchers, as discussed later in this essay, more important are the publicly funded ones enrolling over 25,000 students in Milwaukee, Cleveland and Florida. Colorado's newly enacted voucher program is to begin in the fall of 2004. All of the programs are restricted to low-income or otherwise disadvantaged children.

The oldest program, established in Milwaukee in 1990 at the urging of local black leaders and Governor Tommy Thompson, was originally restricted to secular private schools and to fewer than 1,000 students. Then, in 1998, the Wisconsin supreme court ruled constitutional a much larger program that allowed students to attend religious schools as well. In 2002–03, over 11,000 students, more than 15 percent of the eligible population, were receiving vouchers up to \$5,783, making it the country's largest and most firmly established voucher program.

The Cleveland program, enacted in 1996, was of less significance until the Supreme Court made it famous. Before the decision ruling it constitutional, vouchers amounted to no more than \$2,250 and were limited to approximately 4,000 students. After the Supreme Court decision, the number of students increased to over 5,000 and the amount of the voucher in autumn 2003 could go as high as \$2,700.

The Florida program, established in 1999 after Governor Jeb Bush had campaigned on the issue, initially had less than 100 students but is poised to become somewhat larger. Here, vouchers are offered

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to low-income students attending failing public schools. Initially, only two schools in Pensacola were said to be failing; but in 2002, ten more joined their ranks. A second Florida program, which offers vouchers to students eligible for special education services, has received less attention but is perhaps more significant. In 2002–03, over 8,000 of Florida’s special education students were enrolled in nearly 500 private schools.

In other words, a variety of privately and publicly funded voucher programs are in operation. Much can be learned from taking a closer look at how they operate in practice.

A focus on low-income, minority families

Most voucher programs are focused on low-income or otherwise disadvantaged families, because their children are the ones least well served by traditional public schools. Voucher proponents point out that middle income whites can select their school by moving into a desired neighborhood or using a private school, while low-income blacks cannot easily do so. As voucher proponents love to point out, school choice is already part and parcel of the American educational system. Every time parents identify a neighborhood to live in, they select a school for their child – often self-consciously. According to a recent survey, 45 percent of whites (as compared with 22 percent of African-Americans) consider “the quality of the public schools” when deciding where to live.

Since African Americans have the least amount of choice among public schools, they benefit the most when choice is expanded. In evaluations of private voucher programs in New York City, Washington, DC, and Dayton, Ohio, my colleagues and I found that African-American students, when given a choice of private school, scored significantly higher on standardized tests than comparable students remaining in public school. In New York, where estimates are most precise, African-American students who switched from public to private schools tested, after three years, roughly 8 percentage points higher than African-Americans in public schools – nearly a two grade level improvement.

These test-score gains were accomplished at religious and other private schools that had much less

money than that available to New York’s public schools. Data available from the state of New York reveals that New York City’s public schools have twice as much money per pupil as Catholic schools do – even after deducting amounts spent on the food lunch program, special education, transportation-related expenditures and the cost of the city’s massive public-school bureaucracy. With so little money, these schools did not have fancy buildings and playgrounds. Indeed, private-school parents reported fewer facilities and programs at their child’s school than public school parents did.

Yet private-school parents also reported much higher levels of school satisfaction than their public-school peers. Private-school parents also were more likely to report that their child had smaller schools, smaller classes and an educational-friendly environment (less fighting, cheating, property destruction, truancy, tardiness and racial conflict). Their children had more homework and the schools were more likely to communicate with the family. Nor were the private schools any more segregated than the public ones.

There was no evidence that vouchers improved the test scores of students from other ethnic groups, however. Vouchers did not have a significant impact, positive or negative, on the test scores of either whites in Dayton or Latinos in New York City.

These findings are all the more important, because they come from randomized field trials similar to the pill-placebo trials conducted in medical research, generally regarded as the gold standard of scientific research. Yet the results from these randomized field trials do not so much break new ground as confirm findings from other studies. In a review of the broad range of research, Jeffrey Grogger and Derek Neal, economists from the University of Wisconsin and University of Chicago, find that “urban minorities in Catholic schools fare much better than similar students in public schools,” but the effects for urban whites and suburban students generally are “at best mixed”.

No child left behind

But if students who attend private schools seem to benefit thereby, how about those students left behind in traditional public schools? To answer this

question, one needs to consider the students in the voucher program, the academic impact on public schools, and the financial impact on public schools.

Do vouchers attract the best and the brightest?

My own research has looked at this question in two different ways. In one study, my colleagues and I compared a cross-section of all those who applied for a voucher offered nationwide by the Children's Scholarship Fund with a comparable group of those eligible to apply. African-American students were twice as likely to apply as others. Specifically, 49 percent of the applicants were African-American, even though they constituted just 26 percent of the eligible population. Other results reveal little sign that the interest in vouchers is limited to only the most talented. On the contrary, voucher applicants were just as likely to have a child who had a learning disability as non-applicants. And participants were only slightly better educated than non-applicants.

In New York, Washington, D. C., and Dayton, my colleagues and I found no evidence that private schools' admission policies discriminated on the basis of a young student's test score performance. Only among older students (grades 6–8) in Washington, DC, did we see some signs that private schools expected students to meet a minimum educational standard prior to admission.

Other researchers find much the same pattern. In Milwaukee, the Wisconsin Legislative Audit Bureau found that the ethnic composition of the participants in Milwaukee's voucher program during the 1998–99 school year did not differ materially from that of students remaining in public schools. Also in Cleveland, Indiana University analysts said that voucher "students, like their families, are very similar to their public-school counterparts."

Families are more likely to want to opt out of a school if their child is doing badly than if that child is doing well. A number of families, moreover, select a private school because they like the religious education it provides, or because it is safe, or because they like the discipline. When all these factors operate simultaneously, the type of student who takes a voucher usually looks little different from those who pass up the opportunity, except for the fact that those within a specific religious tra-

dition are more likely to choose schools of their own faith.

Public-school performance

If vouchers do not simply pick off the top students within the public schools but instead attract a broad range of students, then there is no obvious educational reason why public schools should suffer as a result of the initiative. On the contrary, public schools, confronted by the possibility that they could lose substantial numbers of students to competing schools within the community, might well pull up their socks and reach out more effectively to those they are serving. Interestingly enough, there is already some evidence that public schools do exactly that.

Harvard economist Caroline Minter Hoxby has shown, for example, that since the Milwaukee voucher program was established on a larger scale in 1998, it has had a positive impact on public school test scores. The public schools in the low-income neighborhoods most intensely impacted by the voucher program increased their performance by a larger amount than schools in areas of Milwaukee and elsewhere in Wisconsin not affected by the voucher program.

Even the threat of a voucher can have a positive effect on test scores. Research by Manhattan Institute scholar Jay Greene shows that when public schools were in danger of failing twice on the statewide Florida exam, making their students eligible for vouchers, these public schools made special efforts to avoid failure.

Fiscal impacts on public school children

To see how school vouchers affect the fiscal resources available to public school children, the structure of public-school financing needs to be briefly considered. Although the financial arrangements vary from one state to the next, on average across the nation 49 percent of the revenue for public elementary and secondary schools comes from state governments, while 44 percent is collected from local sources, the balance received in grants from the federal government. Most of the revenue school districts receive from state governments is distributed on a "follow the child" princi-

ple. The more students in a district, the more money it receives from the state. If a child moves to another district, the state money follows the child. Local revenue, most of which comes from the local property tax, stays at home, no matter where the child goes. As a result, the amount of money the district has per pupil actually increases, if a district suffers a net loss of students, simply because local revenues can now be spread over fewer pupils.

The voucher programs in Milwaukee, Cleveland and Florida have been designed along similar lines. The state money follows the child, but the local revenue stays behind in local public schools, which means that more money is available per pupil. In Milwaukee, per pupil expenditures for public-school children increased by 22 percent between 1990 and 1999, rising from \$7,559 to \$9,036. Not all of the increase was a direct result of the voucher program, but the example shows that public schools do not necessarily suffer financially when voucher programs are put into effect.

Balkanization: myth, not reality

Whatever the advantages of vouchers, some may feel that they would prove divisive in a pluralist society with multiple religious traditions. In his dissent from the majority opinion in *Zelman*, Justice Stephen Breyer saw the decision as risking a “struggle of sect against sect.” And Justice John Stevens said he had reached his decision by reflecting on the “decisions of neighbors in the Balkans, Northern Ireland, and the Middle East to mistrust one another. . . . [With this decision] we increase the risk of religious strife and weaken the foundation of our democracy.”

These dissents echo the concerns of many distressed by the world-wide rise in fundamentalist religious conviction, worries that have intensified since 11 September 2001. But though the concerns are genuine enough, it is hardly clear that government-controlled indoctrination of young people is the best tool for conquering intolerance. On the contrary, this strategy proved counterproductive in many parts of the former Soviet Union. Historically, the United States has achieved religious peace not by imposing a common culture but by ensuring that all creeds, even those judged as dangerous by the enlightened, have equal access to democratic processes.

Of course, religious conflict is part and parcel of American political history. In the late 19th century, many objected to the establishment of Catholic schools. Indeed, anti-immigrant sentiment was so strong that amendments to state constitutions were enacted that seemed to forbid aid to religious schools. Many of these provisions are so-called “Blaine” amendments, dating to the 19th century, when James Blaine, a senator from Maine and a Republican presidential candidate, sought to win the anti-immigrant vote by campaigning to deny public funds to Catholic schools.

Blaine-like clauses in state constitutions are being invoked by those seeking to forestall voucher initiatives. In a number of cases, state courts, have interpreted these clauses to mean nothing more than what the Supreme Court defines as the meaning of the establishment clause of the First Amendment. If this view prevails in state courts, then vouchers do not violate these state constitutional clauses now that they have been found constitutional by the US Supreme Court. But not every state judge necessarily shares this view. Such language has proven to be a hurdle for the voucher program in Florida, for example, where a trial court has found the law in violation of the state constitution. Depending on what happens to the appeal of this trial court decision, the US Supreme Court may eventually be asked to decide whether, on account of their nativist and anti-Catholic origins, the Blaine amendments – and their derivatives – are themselves unconstitutional.

The controversies over religion seem more heated in the political and legal world than in the classroom, however. While exceptional cases can always be identified, there is little evidence that religious schools typically teach intolerance. Indeed, careful studies have shown that students educated in Catholic schools are both more engaged in political and community life and more tolerant of others than public school students. After enduring harsh criticism from critics in a Protestant-dominated America, Catholic schools took special pains to teach democratic values. The more recently established Christian, Orthodox Jewish and Muslim schools can be expected to make similar attempts to prove they, too, can create good citizens.

As Justice Sandra Day O’Connor pointed out in her concurring opinion, if Breyer’s and Steven’s

fears were real, we would be aware of the fact already. She showed that taxpayer dollars flow to religious institutions in multiple ways – through Pell Grants to sectarian colleges and universities; via child care programs in which churches, synagogues and other religious institutions may participate and through direct aid to parochial schools for computers and other instructional materials. If thriving religious institutions create a Balkanized country, she seems to say, this would already have happened.

THE OECD INDICATOR OF WORK/FAMILIES RECONCILIATION POLICIES

Employment rates of young women and fertility rates are determined to a large extent by work/ family reconciliation policies. In order to make an international comparison of these policies possible, the OECD has developed an indicator of reconciliation between family and work. It takes into account policies for child-care and for maternity leave as well as family-friendly arrangements in firms. The influence of tax-benefits policies for families, however, is excluded.

The OECD summary indicator is based on the following indicators:

- the proportion of children aged under age 3 using formal child-care arrangements,
- the duration of maternity leave and the earnings replacement rate,
- the proportion of women employees with a child under 15 in the family who reported that extra-statutory family leave was available in the companies where they worked,
- the percentage of employees reporting that they work flexi-time and
- the percentage of women in employment working part-time on a voluntary basis.

Table 1 and table 2 provide information on these indicators.

Table 1
Indicators of formal child-care coverage and maternity leave (about 2000)

	Proportion of children aged under 3 using formal child-care arrangements ^{a)}	Duration of maternity leave (weeks)	Maternity benefits (% of average wages)
Austria	4	16	100
Belgium	30	15	77
Denmark	64	30	100
Finland	22	52	70
France	29	16	100
Germany	10	14	100
Greece	3	16	50
Ireland	38	14	70
Italy	6	21.5	80
Netherlands	6	16	100
Portugal	12	24.3	100
Spain	5	16	100
Sweden	48	64	63
United Kingdom	34	18	44
Australia	15	0	0
Canada	45	15	55
Japan	13	14	60
United States	54	0	0

^{a)} The data include both private and public provision.
Source: OECD Employment Outlook 2001, Paris, p. 144.

Table 2
Indicators of family-friendly and relevant working arrangements in enterprises, 1995 to 1996

	Percentage of women employees with children under 15 in household reporting extra-statutory arrangements for			Percentage of employee reporting that they work flexi-time	Percentage of women in employment working part-time on a voluntary basis
	Sick child leave	Maternity leave	Parental leave		
Austria	74	85	87	22	21
Belgium	62	65	43	26	21
Denmark	38	40	38	25	18
Finland	37	36	34	22	6
France	47	58	51	26	15
Germany ^{a)}	65	92	87	33	27
Greece	65	81	69	23	2
Ireland	24	68	22	19	17
Italy	72	81	69	19	11
Netherlands	40	75	53	36	45
Portugal	48	49	43	19	5
Spain	63	69	55	20	8
Sweden	6	7	7	32	20
United Kingdom	41	61	28	32	30
Australia	>58	>34	..	50	26
Canada	23	17
Japan	8-15	10	..	19	37
United States	50	50	..	45	10

^{a)} West Germany for the first 4 columns.
Source: OECD Employment Outlook 2001, Paris, p. 149.

The OECD composite index, (table 3, column (6)) is calculated as the sum of the indicators in

Table 3

Summary indicator of work/families reconciliation policies^{a)}

	Child-care coverage for under -3 s	Maternity pay entitlement ^{b)}	Voluntary family leave in firms ^{c)}	Flexi-time working	Voluntary part-time working	Composite index ^{d)}
	(1)	(2)	(3)	(4)	(5)	(6)
Austria	-1.1	0.0	1.5	-0.6	0.3	-0.6
Belgium	0.3	-0.4	0.4	-0.1	0.2	0.2
Denmark	2.1	1.3	-0.4	-0.3	-0.1	2.9
Finland	-0.1	1.9	-0.6	-0.6	-1.2	-0.3
France	0.3	0.0	0.2	-0.2	-0.3	-0.1
Germany	-0.8	-0.1	1.5	0.7	0.8	1.3
Greece	-1.1	-0.7	1.1	-0.5	-1.6	-3.4
Ireland	0.7	-0.5	-0.5	-0.9	-0.2	-1.1
Italy	-1.0	0.2	1.2	-0.9	-0.7	-1.9
Netherlands	-1.0	0.0	0.3	1.0	2.5	2.7
Portugal	-0.7	0.8	-0.1	-0.9	-1.3	-2.2
Spain	-1.0	0.0	0.6	-0.8	-1.0	-2.5
Sweden	1.3	2.3	-1.9	0.6	0.2	3.3
United Kingdom	0.5	-0.7	-0.2	0.5	1.1	1.3
Australia	-0.5	-1.4	-0.1	2.6	1.3	1.9
Canada	1.1	-0.7	..	-0.5	0.2	0.2
Japan	-0.6	-0.7	-2.1	-0.9	0.3	-2.9
United States	1.6	-1.4	-0.8	2.0	-0.5	1.2

^{a)} All indicators scaled so as to have mean zero and standard deviation unity, across the countries included. A value of zero implies that the country concerned is at the average value for the countries in the table. - ^{b)} Calculated as the product of the duration of maternity leave and the earnings replacement rate. - ^{c)} Average of data for the three kinds of leave shown in table 2. - ^{d)} Calculated as the sum of the indicators in columns (1), (2), (4) and (5), plus half of that in column (3).

Source: OECD, Employment Outlook 2001, Paris, p. 152.

columns (1), (2), (4) and (5), plus half of that in column (3). The indicators in table 3 are based on the indicators in table 1 and table 2. The latter ones are scaled to have mean zero and standard deviation unity, in order to equalise the degree of variation and put them on a common scale. A value of zero implies that the country concerned is at the average value for the countries in the table.

Sweden, Denmark, the Netherlands and Australia have relatively high values of the composite index. Whereas the former ones have high scores for child-care coverage and maternity leave, the latter ones have high scores for flexible hours working. The lowest values of the composite index are found in the Southern European countries and Japan. They are lacking favourable child-care arrangements as well as flexible working conditions.

The indicators developed by the OECD have been used for comparative research which has lead to a number of findings of policy relevance:

In countries with relatively well-developed systems of work/family reconciliation policies, women tend to have higher employment rates in their thirties (when employment is most likely to be affected by

child-rearing and child-care). Both formal child-care coverage of young children and paid maternity leave policies appear important from this perspective.

Historically, employment of women and child-bearing appeared to be substitutes. However, the current experience of a number of OECD countries, particularly the United States and Nordic countries, shows that high levels of female employment rates need not to be incompatible with relatively high fertility rates – paradoxically, there is currently a positive correlation between female employment rates and fertility rates across OECD countries.

The contribution to the work/family reconciliation made by firms is crucial. Firms, too, can reap benefits by paying more attention to the work/family balance of their employees, particularly in the areas of reduction of stress, improvement of morale, better retention of women employees and stronger employee commitment to the organisation.

Source: OECD, Employment Outlook, 2001, Paris, Chapter 4.

W. O.

CO-PAYMENTS FOR HEALTH CARE

Co-payments as an instrument for influencing the demand for health care services and thus for curbing cost expansion have played an important role in the literature on health economics ever since the famous empirical RAND Health Insurance Experiment in the mid-1980s confirmed this effect for the USA in a comprehensive way. (On the supply side, a similar cost-curbing effect is also ascribed to waiting lists for elective surgical operations as well as to the system of managed care.) This article focuses on co-payments.

Co-payments are understood as the additional payments that insured persons must remit in addition to their insurance premiums when making use of health-care services. This system involves health-care services that are reimbursed by health insurance plans but always with the deduction of a co-payment. Payments for health goods or services not covered by health insurance plans are not considered co-payments but as self-medication. In the extensive health-policy database of the OECD, the OECD Health Data, no distinction is made between actual co-payments and payments for self-medication; both are grouped together as “out-of-pocket payments”.

The graph shows, firstly, that out-of-pocket payments (used in the following synonymously with co-payments) in most western industrialised countries were around 10 to 20 percent of total health-care expenditures for 2000. With co-payment rates of such a moderate order of magnitude, a demand

dampening effect of 5 to 10 percent can be expected (in comparison to co-payments of zero percent). If we (could) deduct spending for self-medication, the “genuine” co-payments would be even smaller. For some countries, turnover in the self-medication market is known (and in part considerable), but in most countries it is unknown.

There are, however, countries with much higher co-payment rates. Among the western industrialised countries these are Switzerland (33.3 percent), Spain (24.0 percent) and Italy (22.9 percent), in particular. Comparably high co-payment rates are also found in South Korea (41.0 percent) and Mexico (52.7 percent).

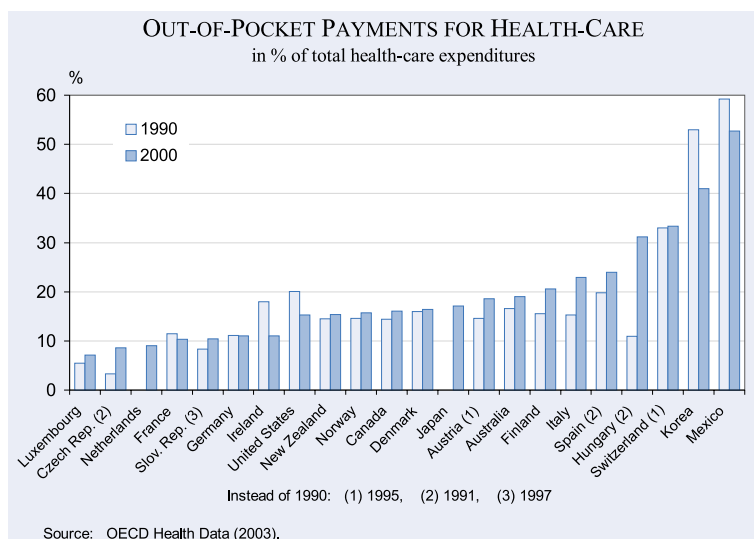
The development of co-payments over time from 1990 to 2000 is also informative. In most of the countries listed in the OECD Health Data, co-payments have increased, for example, in Norway, Canada, Australia, Austria, Italy, Finland, Spain, New Zealand, as well as in all EU accession countries. In Hungary co-payments have doubled since 1991. Small changes were recorded in Switzerland (from a very high level) and in Germany (from a comparatively low level). On the other hand, co-payments decreased in the USA (from 20.1 percent to 15.3 percent) as well as in Korea (clear decrease) and Mexico (slight decrease).

In general, co-payments – as a portion of overall health-care expenditures – are relatively low but with an increasing trend, which has been moderate in most cases, however.

Co-payments reduce the insurance premiums and tax payments for health-care services to an equal extent. Moreover, a cost-dampening effect occurs

due to a reduced demand for health-care services, which leads to a further lowering in contributions or tax payments. This latter effect is probably not exhausted in most countries due to the generally still moderate levels of co-payments. However, if co-payments are increased, consideration must always be given to the redistribution effects as well as to the effects on the healing process. This can be done with an intelligent design of the co-payment system.

R.O.



LIFE-LONG LEARNING

Life-long learning includes all learning activities aimed at improving knowledge, skills and competencies in a personal, social and career-related context. The importance of life-long learning for the improvement of workplace quality and productivity, and as a factor to promote labour force participation and social integration, has been widely recognized. The possibilities of life-long learning vary considerably, however, from country to country, depending on the age of employees and their education.

According to the European Labour Force Survey conducted in the Spring of 2001, 8 percent of employees working in the EU-15 reported that in the four weeks before the survey they had taken part in general and professional education measures. The highest participation level (16 to 22 percent) was achieved in the northern countries, the Netherlands and Great Britain. In Greece, Portugal and France (with reference to a different time factor, however) practically no further education programs were offered. In Germany fewer people were involved in further educational programs than on average for the European Union (see Figure 1).

In all EU countries the degree of participation in training measures decreases with increasing age: from 14 percent for people between the ages of 25 and 34 to 3 percent for those between 55 and 64. In some countries the percentage of

Figure 1

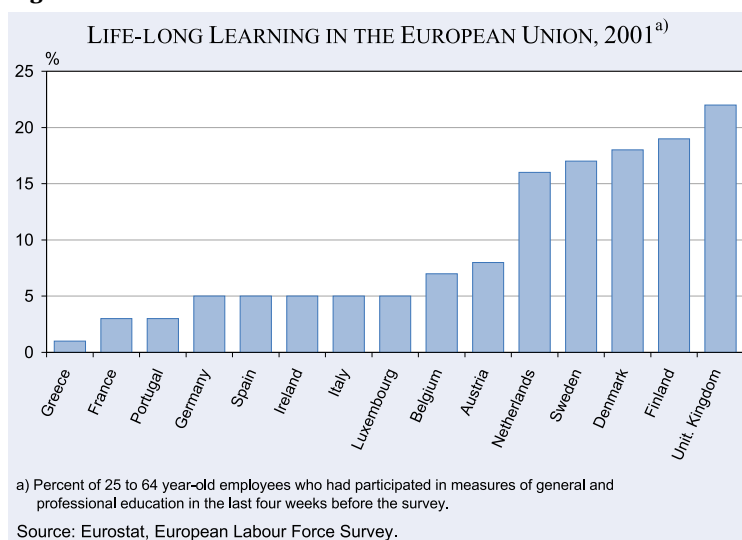
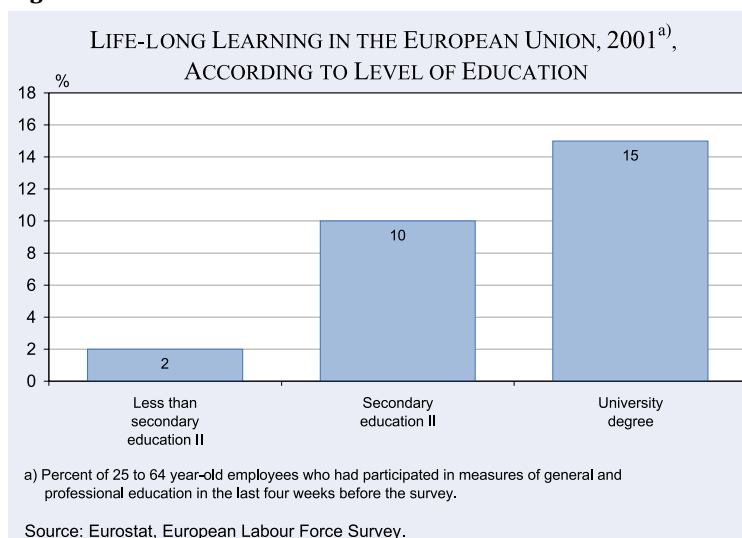


Figure 2



Life-long learning in the European Union, 2001^{a)}, according to age group

Age	25-34	35-44	45-54	55-64	25-64
Austria	14	8	7	2	8
Belgium	12	8	5	2	7
Denmark	27	19	14	8	18
Finland	28	21	18	8	19
France	6	2	1	0	3
Germany	13	5	3	1	5
Greece	4	1	0	0	1
Ireland	9	5	3	1	5
Italy	12	3	2	1	5
Luxembourg	9	6	3	1	5
Netherlands	25	18	13	7	16
Portugal	8	2	1	0	3
Sweden	25	18	15	10	17
Spain	11	3	2	1	5
United Kingdom	26	24	20	13	22
EU 15	14	8	6	3	8

a) Percent of 25 to 64 year-old employees who had participated in measures of general and professional education in the last four weeks before the survey.

Source: Eurostat, European Labour Force Survey.

people in older age groups who benefited from further training was relatively high: between 7 percent and 13 percent of the 55 to 64 year-old employees in the Netherlands, Denmark, Finland, Sweden and Great Britain. In contrast, in several countries, including Germany, senior staff seldom take part in further educational measures. In these countries the performance of older staff is considered low, and in view of the ageing society, the necessity to use these people to a greater degree is not seen (see Table).

In addition to age, the level of education has an impact on the chances for participating in “life-long learning”: in 2001 15 percent of university graduates in the EU-15 took part in further education courses in comparison to only 2 percent of those with the lowest education (see Figure 2).

W. O.

CHANGE IN PUBLIC SECTOR SHARE AND ECONOMIC GROWTH

In an earlier article in this journal (DICE Report 1/2003, p. 46–7), the development of the public sector share in percent of GDP from 1960 until 2001 was examined for 21 OECD countries. These countries, it was shown, can be easily classified as “early” and “late” reformers. All of them, with the exception of Japan, reduced their public sector share after a peak had been reached. This turning point occurred either in the early 1980s (early reformers) or in the middle of the 1990s (late reformers).

A comparison of the development of the public sector share of the same group of countries for the same period to that of the GDP growth rate can also be made. The question – important for economic policy-making – of whether a causal link exists between reducing the public sector share and higher (or perhaps lower) economic growth (or a higher public sector share and lower – or perhaps higher – growth) is not addressed here. Instead, we only look for coincidences.

As in the previous article, averages over three-years periods (not moving) are used in order to smooth the annual fluctuations. On the basis of this, a very simple method is employed. For each group of successive (three-years) periods it is noted a) in which direction the public share has changed and b) in which direction the GDP growth rate has changed. The changes of the two variables might be either in the same direction or in opposite directions. (A third case occurs when there is practically no change in both variables or when data are missing.) If the former is the case, a higher (lower) public share coincides with a higher (lower) GDP growth rate. If the latter is the case, a higher (lower) public share coincides with lower (higher) growth. If the latter pattern occurs – or even prevails – it might be worthwhile to look for evidence for the existence of a causal link (as several authors have already done).

The table contains the rather straightforward results of the exercise: In more than two thirds of all cases public share and growth rate develop in opposite directions. With two exceptions (United

Public sector share and economic growth

	Number of 3-years periods between 1960 and 2001 for which the change of public sector share and the change of GDP growth rate go into:		
	opposite directions	the same direction	undecided, no data
Australia	7	7	0
Austria	12	1	1
Belgium	8	3	3
Canada	11	3	0
Denmark	6	5	3
Finland	9	5	0
France	11	2	1
Germany	11	3	0
Greece	7	4	3
Ireland	8	3	3
Italy	9	5	0
Japan	11	3	0
Luxembourg	6	4	4
Netherlands	8	3	3
Norway	9	5	0
Portugal	9	2	3
Spain	5	4	5
Sweden	11	3	0
Switzerland	5	1	8
United Kingdom	4	7	3
United States	9	5	0
Sum	176	78	
Average	8.4	3.7	
Percentage of all cases	69.3 %	30.7 %	

Source: OECD Macroeconomic Data, 2002, own calculations.

Kingdom, Australia), the number of “opposite developments” is larger in each country than the number of “same directions developments”. In Austria, Canada, France, Germany and Japan, the number of “opposite developments” is even considerably larger than the number of “same directions developments”.

If one performs the exercise separately for early and late reformers (not shown in the table), one sees that – interestingly – the number of “opposite developments” is especially pronounced in the group of late reformers.

R.O.

BENEFIT DEPENDENCY

Whereas relatively complete data for social protection expenditure are available from 1980 on, there are no equally comprehensive data sets relating to the number of beneficiaries of social protection spending. The NEI Labour and Social Policy in Rotterdam on behalf of the Dutch Ministry of Social Affairs and Employment has recently estimated the full-time

equivalent number of working-age recipients of earnings and income replacement benefits from 1980 to 1999 (Arents, Cluitmans and van der Ende 2000; Moore, Vossen and Arents 2002). The OECD has presented a revised version of the Dutch estimates for their member countries (OECD 2003).

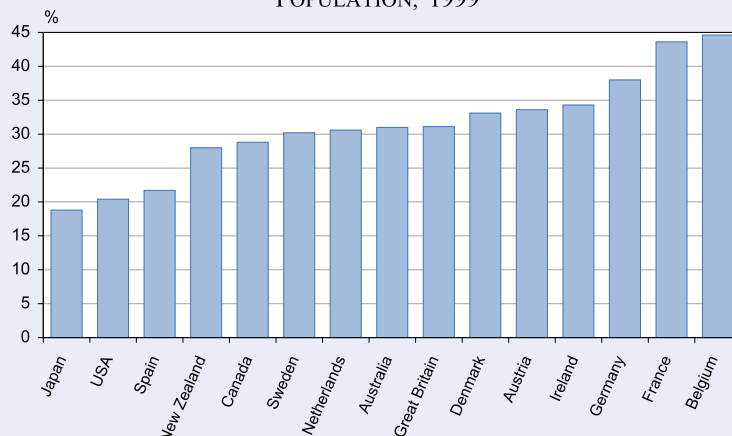
The OECD used the same principles as the Dutch studies:

- The number of persons dependent on some kind of social benefit was expressed in full-time equivalents, referred to as benefit years;

- Double counts were eliminated. In principle one person counts for no more than one full-time equivalent benefit dependent;
- Payments to couples have been individualised. Both partners are counted as beneficiaries;
- Only periodic benefits that are paid in the event of loss of earnings are included. Lump sum cash benefits that are paid for the purchase of specific goods and services are not included.

The OECD figures make it possible to examine patterns in the dependency rate, i.e. the proportion of the working-age population that receives a public income replacement benefit. As shown in Table

BENEFIT DEPENDENCY/EMPLOYMENT RATIO IN THE WORKING AGE POPULATION, 1999



Source: Employment Outlook 2003, p. 175; CESifo calculations.

Table 1

Employment rates and benefit dependency rates in the working-age population^{a)}, 1980 to 1999

Percentages

	Employment rates (full-time equivalent) ^{b)}			Benefit dependency rates			No benefit, no work		
	1980	1990	1999	1980	1990	1999	1980	1990	1999
Australia	57.5	57.9	56.4	13.0	13.7	17.5	29.5	28.4	26.1
Austria	60.2	61.8	64.0	15.5	18.0	21.5	24.3	20.2	14.5
Belgium	53.8	50.7	52.9	17.4	24.4	23.6	28.8	24.9	23.5
Canada	60.2	63.2	62.6	13.4	19.9	18.0	26.4	16.9	19.3
Denmark	65.7	67.3	69.7	20.1	23.2	23.1	14.1	9.5	7.2
France	60.8	56.3	55.5	13.9	20.2	24.2	25.3	23.5	20.4
Germany	59.7	59.5	58.9	15.2	18.1	22.4	25.0	22.4	18.8
Ireland	52.4	49.3	56.3	12.4	18.9	19.3	35.2	31.8	24.4
Japan	61.6	62.0	60.6	8.8	10.0	11.4	29.6	28.0	28.0
Netherlands	48.5	51.1	58.2	15.9	19.9	17.8	35.6	29.0	24.0
New Zealand	57.9	58.9	59.9	6.6	15.6	16.8	35.5	25.4	23.2
Spain	49.4	48.5	51.7	8.3	12.3	11.2	42.3	39.2	37.1
Sweden	68.7	72.0	66.2	16.1	17.0	20.0	15.2	11.0	13.8
United Kingdom	62.2	62.4	60.7	15.2	18.5	18.9	22.7	19.1	20.4
United States	60.0	65.2	67.0	16.8	15.6	13.7	23.2	19.2	19.3
Average	58.6	59.1	60.0	13.9	17.7	18.6	27.5	23.2	21.3

^{a)} Population aged 15 to 64. – ^{b)} Employment is measured in full-time equivalents. The distribution of hours worked for all employed persons is used to estimate the ratio of the average weekly hours of part-time workers, defined as those working less than 30 usual hours per week, and full-time workers. This ratio is applied to convert part-time employment to a full-time equivalent basis.

Source: OECD, Employment Outlook 2003, p. 175.

Table 2

Reciprocity rates by type of benefit in the working-age population, 1999

Percentages

	Old age	Sickness	Disability	Unemployment	Social assistance	Other	Total
Australia	1.87	1.44	4.90	5.56	3.17	0.60	17.54
Austria	7.41	1.99	3.46	3.79	0.80	4.12	21.57
Belgium	7.21	1.06	3.58	6.94	2.37	2.29	23.45
Canada	3.14	0.20	4.91	5.76	1.88	2.13	18.02
Denmark	4.00	4.61	6.70	4.35	1.62	1.63	22.91
France	7.03	1.82	4.79	4.70	3.04	2.27	23.65
Germany	4.63	2.51	4.08	6.64	2.24	1.86	21.96
Ireland	0.49	1.86	3.88	6.72	4.17	2.19	19.31
Japan	5.14	1.24	1.94	1.07	0.32	1.73	11.44
Netherlands	0.76	3.39	7.21	4.10	1.22	1.01	17.69
New Zealand	1.44	1.46	2.31	6.61	4.42	0.37	16.61
Slovak Republic	9.35	3.07	5.63	3.55	11.07	5.49	38.16
Spain	1.07	0.36	3.86	3.91	0.26	1.80	11.26
Sweden	0.42	5.76	6.46	3.96	1.14	2.37	20.11
United Kingdom	3.38	0.84	6.38	2.88	2.80	2.11	18.39
United States	1.76	2.13	6.30	1.25	1.68	0.58	13.70
Mean	3.60	2.02	4.63	4.07	2.36	2.34	19.02

Source: OECD Employment Outlook 2003, pp. 224–26.

1, there is considerable cross-country variation in benefit dependency rates among the working-age population across the 15 countries for which the estimates were made. In 1999, this benefit dependency rate ranged from 11 percent in Spain and Japan to about 24 percent in Belgium and France.

There was a nearly universal rise in the aggregate benefit dependency rate among the working-age population between 1980 and 1999, with the United States being the only exception. This rise took place mainly in the 1980s. In the 1990s some countries were able to reduce the benefit dependency rate. The increase in the benefit dependency rate was accompanied by a decrease in the number of unemployed receiving no benefit, whereas the employment rate remained rather stable, the main exceptions being the Netherlands and the United States (Table 1).

The aggregate benefit dependency rates may be compared with the rates of employment, also measured on a full-time equivalent basis. This ratio shows how many benefit recipients are supported by 100 employed persons. Benefit dependency among people of working age is about 20 percent in Japan, the United States and Spain but at about 40 percent in Germany, France and Belgium (see Figure).

Table 2 shows the breakdown of the reciprocity rates by benefit category. The largest categories in 1999 were disability (4.6 percent of the population of working age), unemployment (4.1 percent) and

old age (3.6 percent, referring to benefits paid to people aged under 65). The population share relying on the different types of benefits varies considerably from one country to another:

- Disability benefit reciprocity is higher in the Netherlands (7.2 percent), Denmark (6.7 percent), Sweden (6.5 percent), the United Kingdom (6.4 percent) and in the United States (6.3 percent), whereas the reciprocity rate in Japan was below 2.0 percent.
- More than six percent of the working-age population in Belgium, Ireland, Germany and New Zealand received unemployment benefits in 1999.
- Early retirement is wide spread in Austria (7.4 percent), Belgium (7.2 percent) and France (7.0 percent).
- In Sweden, Denmark and the Netherlands many employees receive sick pay from employers.
- Reciprocity rates for social assistance are relatively high in New Zealand and Ireland.

W. O.

References

Arents, M., M. Cluitmans and M. van der Ende (2002), *Benefit Dependency Ratios: An Analysis of Nine European Countries, Japan and the US*: Final Report, SZW (Dutch Ministry of Social Affairs), no. 16/153/2000.

Moor, I., I. Vossen and M. Arents (2002), *Benefit Dependency Ratios by Gender: An International Comparison*: Final Report, SZW (Dutch Ministry of Social Affairs) no. 16/317/02.

OECD, *Employment Outlook* 2003, Paris, chapter 4.

LIBERALISATION OF CAPITAL MARKETS AND FINANCIAL (IN-)STABILITY

The financial crises of the 1990s have spurred the research interest in the question of whether and how liberalised financial markets might lead to or mitigate erratic national and international capital markets. Economists are divided on this question more than ever. Some, such as Krugman, Rodrik, Stiglitz or Soros, tend to argue – in light of the experiences of the 1990s – in favour of a not-too-quick and not-too-complete liberalisation of financial markets, i.e. in favour of – at least some – capital controls. Others, however, like Obstfeld, Stulz or Mishkin, continue to emphasise the traditional views, namely that liberalised capital markets improve allocation, mainly by channelling resources to the best users, by promoting trans-

parency and accountability, and by disciplining policy makers.

A recent work of Kaminsky and Schmukler might contribute to reconciling the diverging views. They have provided a systematic historical assessment of how financial liberalisation (episodes of de-liberalisation included) factually developed in 28 countries (14 industrialised and 14 emerging economies). “Financial liberalisation” is differentiated in three ways: into liberalisation achievements of the capital account, of the domestic financial sector and of the stock market. The overview on dates of liberalisation is reproduced in the two tables. Moreover, the authors develop a measure for the degree of liberalisation achieved and for the severity of financial market cycles, and booms and busts in stock markets (not shown in the tables).

One result of the authors’ analysis is (see the attached tables) that the process of liberalising the

Table 1

Financial Markets, Liberalisation Dates, 2003: Mature Economies

	Capital account	Domestic financial sector	Stock market	Full liberalisation
G-7				
Canada	Pre 73p/Mar75 –	Pre 73 –	Pre 73 –	Jan 73 –
France	Jun 85p/Jan 90 –	Jan 85 –	Pre 73 –	Jun 85 –
Germany	Pre 73p/Mar 81 –	Pre 73 –	Pre 73 –	Jan 73 –
Italy	May 87p/Jan 92 –	Jan 74 – Dec 74 Jan 81 –	Pre 73 –	May 87 –
Japan	Jan 79p/Jul 80 –	Jan 79p/Dec 91 –	Jan 85 –	Jan 85 –
United Kingdom	Oct 73p/Oct 79 –	Jan 81 –	Pre 73 –	Jan 81 –
United States	Jul 73 –	Pre 73p/Jan 82 –	Pre 73 –	Jul 73 –
Small European Countries				
Denmark	Oct 88 –	Jan 73p – Jan 75 Mar 79p/Jan 81 –	Pre 73 –	Oct 88 –
Finland	Jan 87p/Jan 89 –	Jan 86p/Jan 90 –	Pre 73/Jan 90 –	Jan 90 –
Ireland	Jan 79p/Jan 92 –	May 85p/Feb 86 –	Pre 73p/Jan 92 –	Jan 92 –
Norway	Jan 80p – Dec 81 Jan 85p/Jan 88 –	Jan 79 – Dec 79 Sep 85p/Jan 88 –	Jan 84p/Jan 89 –	Jan 88 –
Portugal	Sep 89p/Aug 92 –	Jan 84p/Mar 90 –	Pre 73 – Dec 75 Jan 86 –	Mar 90 –
Spain	Jan 75p/Jan 80/ Jun 88p/Dec 92 –	Jan 74p/Jan 81 –	Pre 73 –	Jan 80 –
Sweden	Jan 84p/Jan 89 –	Jan 78p/Jan 85 –	Pre 73p/Jan 80 –	Jan 85 –
<p>Note: This table reports the dates of partial and full liberalisation of financial markets. The first three columns provide information by sector: capital account, domestic financial sector, and the stock market. The last column provides information on an integral measure of financial liberalisation. A country is considered to be fully liberalised when at least two sectors are fully liberalised and the third one is partially liberalised. “–” followed by a blank means that it covers the period until June 1999. Pre 73 means that the sector is already fully liberalised at that time, with no significant measures taken at that date.</p>				
<p>Source: Kaminsky, G.L., Schmukler, S.L., Short-run Pain, Long-run Gain: The Effects of Financial Liberalization, NBER Working paper 9787, June 2003, table 1.</p>				

Table 2

Financial Markets, Liberalisation Dates, 2003: Emerging Economies

	Capital account	Domestic financial sector	Stock market	Full liberalisation
Asia				
Hong Kong	Jan 73 –	Aug 94p/May 00 –	Pre 73 –	Aug 94 –
Indonesia	Jan 78p/Jan 88 – Feb 91	Jan 78p/Jan 83 –	Dec 88p/Aug 89 –	Dec 88 – Feb 91
Korea	Jan 93p/Jan 96 –	Jan 88p/Jan 95 –	Jan 91p/May 98 –	Jan 96 –
Malaysia	Jun 79p – Dec 93 Sep 94 – Aug 98	Oct 78p – Sep 85 Feb 91 –	Jul 73/Jan 75p/ 84 – Dec 97	Feb 91 – Dec 93 Sep 94 – Dec 97
Philippines	Jan 76p – Dec 82 Jan 94p –	Jul 81p/Dec 82 –	Mar 86p/Jan 94 –	Jan 94 –
Taiwan	Jan 87p/Jan 97 –	Sep 84p/Jul 89 –	Jan 87p/Apr 98 –	Jan 97 –
Thailand	Jan 79p – Dec 81 Jan 92/Aug 95p – Apr 97 Jan 73 –	Jun 89p/Jan 92 –	Jan 88p/Jan 90 –	Jan 92 – Apr 97 Jan 98 –
Latin America				
Argentina	Apr 76p/Dec 78 – Mar 82	Jan 77 – Jun 82 Oct 87 –	Jan 77p – Jun 82 Jan 89 –	Dec 78 – Mar 82 Dec 89 –
Brazil	Jan 90p – Dec 93 Mar 95p	Jan 76 – Dec 78 Jan 86p/Jan 89 –	Pre 73p/Jan 91 –	Jun 91 – Dec 93 Mar 95 –
Chile	Jun 79p – Dec 82 Apr 90/Jan 91p/Sep 98 –	Jan 74p/May 75–Nov 82 Jan 84p/Jan 85 –	Jan 87p/Jan 92 –	Apr 90 – May 91 Jan 92 –
Colombia	Jan 91p/Sep 98 –	Aug 74p/Sep 80–Dec 85 Jul 86 –	Jan 91p –	Sep 98 –
Mexico	Pre 73 – Jul 82 Nov 91 –	Jan 74p – Aug 82 Oct 88p/Apr 89 –	Jan 89p/Jan 91 –	Nov 91 –
Peru	Pre 73p – Dec 86 Jan 91 –	Pre 73p – Dec 81 Jan 91 –	Jan 92 –	Jan 92 –
Venezuela	Pre 73 – Jan 83 Mar 89 – Dec 93 Apr 96 –	Aug 81 – Jan 84 Jan 89 – Aug 94 Apr 96 –	Jan 77 – Dec 87 Jan 90 – Jun 93 Jun 95 –	Aug 81 – Jan 83 Jan 90 – Jun 93 Apr 96 –
Note and source: See table 1.				

financial markets has often been reversed in emerging economies, while it has developed more or less uni-directional in rich countries. In all types of countries the beginning of liberalisation reforms occurred already in the 1970s. There is also a difference in the sequencing of reforms. Industrial countries started mainly with their stock markets, while developing countries opened up the reform path in their domestic financial sectors.

The main question of the authors is, of course, what the nature of the connection is between the degree of financial liberalisation achieved and the severity of financial instability. Their answer is straightforward: In the long-run they could not find evidence that financial instability increased after capital market liberalisation. In the short-run, however, there *is* such an effect. This effect is more pronounced in emerging than in mature economies.

Finally, the authors ask what the reason for the difference between long- and short-run behaviour might be. They found that the quality of institutions matters. Often, primarily in emerging economies, institutional improvements have been implemented not before – as economists recommend – but only after liberalisation.

R.O.

Reference:

Kaminsky, G.L., S.L. Schmukler, "Short-Run Pain, Long-Run Gain: The Effects of Financial Liberalization", *NBER Working Paper* 9787, June 2003.

RECENT NEW ENTRIES TO THE DICE DATABASE

In September, October and November 2003, the DICE Database received about 80 new or updated tables and charts. The main topics have been the following:

- Taxation of labour, wage subsidies
- Public debt
- Corporate finance
- Employment
- Labour force participation
- Unemployment.

TAXING FAMILIES

The OECD Report "Taxing Wages 2001-2002" offers a Special Feature describing the methods used by governments to provide special fiscal treatment to families. There are three major ways in which policy makers take into account family status: by application of a tax schedule that varies according to family-status, by providing tax credits and allowances related to marital status and the presence of dependent children and by supplying cash transfers to families with children, or providing benefits linked to marital status. Generally, these policies imply that the effective tax rates faced by married couples and tax payers with children are lower than those faced by single individuals.

CONFERENCES

CESifo Area Conference on Global Economy

From 30/Jan/2004 to 31/Jan/2004

On 30-31 Jan 2004 CESifo will organise an initial working group meeting for the new Global Economy group. The focus of this group will be to explore how the gains from globalisation differ from the gains from trade (accelerated technical progress, global tournaments, increased speed of transactions), the effects of marginalisation and how it operates, the role of culture and local identity, new forms of global institutions and arrangements, and other matters under the globalisation rubric. The scientific organiser is John Whalley.

Fiscal Federalism

From 20/May/2004 to 22/May/2004

CESifo jointly with the National Bureau of Economic Research will sponsor the next Trans-Atlantic Public Economics Seminar, which will focus on the implications of differences in tax and expenditure programs across jurisdictions for the location of real and financial activity, as well as the implications of such migration/mobility for government behaviour. The scientific organisers are Hans-Werner Sinn and Roger Gordon.

EMPLOYMENT IN EUROPE 2003

According to the European Commission's report *Employment in Europe 2003*, an adaptable skilled workforce, with access to training, career development, job mobility, flexible work organisation, and a sense of job security is key to increasing productivity within Europe and encouraging job creation and higher employment rates. Changes in the European labour market since the late 1990s – rising female and youth participation, increasing education levels and greater range and use of flexible working methods – have allowed it to be more resilient in the face of economic slowdown than in the last recession in the early 1990s. Active labour market policies, such as unemployment insurance systems and investment in human capital, can help compensate for increasing employment instability and encourage further labour market flexibility.

THE WORLD BANK GROUP DOING BUSINESS

Doing Business provides objective measures of business regulations and their enforcement. The Doing Business indicators are comparable across more than 130 economies and will soon be comparable over time. They indicate the regulatory costs of business and can be used to analyse specific regulations that enhance or constrain investment, productivity and growth. The topics are:

- Starting a Business
- Hiring & Firing Workers
- Enforcing Contracts
- Getting Credit and
- Closing a Business.

See:

<http://rru.worldbank.org/Doing Business/default.aspx>.

DICE
Database for Institutional Comparisons in Europe
www.cesifo.de/DICE

The database DICE was created to stimulate the political and academic discussion on institutional and economic policy reforms. For this purpose, DICE provides country-comparative information on institutions, regulations and the conduct of economic policy.

To date, the following main topics are covered: Labour Market, Public Finances, Social Policy, Pensions, Health, Business Environment, Capital Market and Education. Information about Basic Macro Indicators is added for the convenience of the user.

The information provided comes mainly in the form of tables – with countries as the first column –, but DICE contains also several graphs and short reports.

In most tables all 15 EU and some important non-EU countries are covered. Many topics already contain information on the EU accession countries.

DICE consists mainly of information which is – in principle – also available elsewhere. But we think that the access we provide is very convenient for the user, the presentation is systematic and the main focus is truly on institutions, regulations and economic policy conduct. However, some tables are based on empirical institutional research by ifo and CESifo colleagues as well as the DICE staff.

DICE is a free access database.

Critical remarks and recommendations are always welcome.
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