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OECD Economic Surveys: Spain

Chapter 3

Raising productivity growth, while maintaining strong job creation

Since the mid-1990s, employment has expanded at a remarkable pace, while the unemployment rate declined from its peak in the early 1990s to about 10.5% at the end of 2004, although this is still one of the highest rates in the OECD. Several interrelated factors have underpinned strong job creation, including very favourable monetary conditions and the arrival of a large number of immigrants, who have mostly taken jobs in a few low productivity sectors. Labour market reforms have also played a role, especially those implemented in 1997 that lowered severance payments and social security contributions for some workers. But labour market institutions, including employment protection legislation, active labour market policies and unemployment benefits, still require comprehensive reforms to push unemployment down further, while fostering a better productivity performance. Reforms of the education system and firm training, and the promotion of business R&D activities through better framework conditions are also essential to improve the productivity record.

The need for further labour market reforms

The duality of the labour market is very pronounced

In many respects the Spanish labour market was an extreme case within the OECD. Spain not only suffered from one of the highest unemployment rates for many years, but also had one of the highest effective levels of severance payments for permanent workers. Not surprisingly, reducing firing costs has been one of the recurrent recommendations of national and international organisations, although in practice reforms had only limited scope. Indeed, employment protection of permanent workers continues to be one of the highest in the OECD. Temporary contracts, liberalised in 1984, have been increasingly used since the early 1990s and account currently for about a third of all employees, as compared to an OECD average of 13%. Severance payments introduce a high and uncertain cost and deter the creation of permanent jobs, while temporary contracts are not subject to such costs. Although these should only be used for a limited duration (they can be renewed at most three times to a maximum of two years), they are widely used beyond the legal limit. They have thus lowered labour costs significantly at the margin, reducing labour hoarding and increasing the volatility of employment over the business cycle. In fact, job destruction was very high during the early 1990s recession, while job creation has been rapid since the mid-1990s and has allowed entry of many new workers, the long-term unemployed, low-skilled and young workers, and women without work experience. Temporary contracts are so favourable in terms of labour cost that they continue to be widespread even after the 1997 reform that introduced financial incentives and lower firing costs for permanent contracts for certain groups of workers (Box 3.1). As a result, their share in total

Box 3.1. **The 1997 reform of permanent contracts**

In 1997 the government approved a reform of permanent contracts that was previously agreed with social partners. Its main goal was to reduce the share of temporary work and to promote the use of permanent contracts for some types of workers. A new type of permanent contract was created that carried lower severance payments in case of "unjustified" individual dismissal (which in practice corresponds to most dismissals, as it is difficult to justify them under current legislation). Specifically, firms have to pay 33 days of salary per year of work in the firm, instead of the prevalent 45 days for normal contracts. These contracts only apply to some types of workers: those under age 29 or over 49, workers with a temporary contract, women in sectors where they are underrepresented and disabled workers. The reform did not touch severance payments of existing contracts. In addition, the government decided to reduce social security payments for these workers during the first two years of work. The reduction varies according to the target group, and has evolved over time, but it can reach up to 60% of contributions. The budgetary cost of this measure is about 0.4% of GDP. These measures, which in principle were set to be only temporary, were made permanent in 2001, although they continue to apply only to target groups.

employment has barely changed, although the private sector share has decreased, while the public sector share has risen, mostly due to a greater use of temporary work by sub-national governments.

While boosting employment, the duality of the labour market generates significant costs. It has created an unequal treatment of different groups of workers and has contributed to the poor labour productivity performance. Indeed, workers with a permanent contract enjoy job stability beyond the protection given by firing costs, since temporary workers are the subject of employment adjustments at the margin and act as a "buffer" when jobs are being scaled back. This has reinforced the traditional insider-outsider mechanism associated with strict employment protection legislation (EPL) by adding a third group of workers (temporary workers) to the groups of unemployed and permanent workers, which raises the effective protection of permanent workers: wage inflation can thus be high, despite high unemployment (Bentolila and Dolado, 1994). Apart from unstable jobs and frequent transitions between unemployment and short term jobs, temporary workers also seem to be paid less, although it is not clear whether this is due to lower skills (Davia and Hernanz, 2000) or to wage discrimination (Dolado *et al.*, 2003). However, temporary workers suffer from worse working conditions and have a higher risk of suffering from work accidents (Hernanz and Toharia, 2004).

The effects of the dual labour market on labour productivity growth are difficult to disentangle, but likely to be negative overall (Dolado *et al.*, 2003). Workers with fixed-term contracts may increase their work effort if they know they have a chance to stay in the firm, but they may have the opposite incentive if it is clear that their contract will not be renewed. Many contracts are for one month or even shorter, suggesting that attachment to a firm is quite low. A stronger influence on productivity works through training and human capital formation: temporary workers and companies will not invest in job-specific training if attachment is low. Even from the perspective of permanent workers, too much job protection may hinder human capital formation, as they do not risk losing their job if skills do not improve. Indeed, human capital formation within firms is very low in Spain (Table 1.4). A third channel works through sectoral shifts: those sectors where temporary work is traditionally prevalent are low productivity sectors, so encouraging temporary work may bias investment towards them, reducing aggregate productivity. This third effect, however, can not be avoided completely if there is a large number of unskilled unemployed workers that seek employment.

In sum, the lack of job creation that was prevalent during the early 1980s was addressed through the liberalisation of temporary contracts, but this was a second-best solution. The capacity of firms to create employment has been enhanced, and indeed the elasticity of employment to GDP has increased substantially as many new workers have entered the labour market when demand conditions were favourable, but the excessive reliance on temporary work has damaged productivity growth. The core problem of high EPL for permanent workers remains, despite the 1997 reform, and the EPL indicator is still among the highest in the OECD (Table 3.1). The comparison with other countries is most striking when looking only at the key indicator, *i.e.* the level of severance payments for permanent workers, which is very high as most firings are considered as non-justified by the tribunals.

Table 3.1. **Overall EPL indicator and severance payments for workers with permanent contracts**

Compensation in months of salary, 2003

	Unfair dismissal, compensation at 20 years of tenure	No-fault individual dismissal, compensation at 20 years of tenure	Overall strictness of protection[1] (index)
Spain[2]	**22**	**12**	**2.9**
Australia	6	1	1.5
Austria	6	0	2.4
Belgium	14	0	1.7
Canada	. .	2.1	1.3
Czech Republic	8	1	3.3
Denmark	9	1.5	1.5
Finland	14	0	2.2
France	16	4	2.5
Germany	18	0	2.7
Greece	12	5.9	2.4
Hungary	10	5	1.9
Ireland	24	1.89	1.6
Italy	15	0	1.8
Japan	9	2.9	2.4
Korea	6	0	2.4
Mexico	16	3	2.3
Netherlands	18	9	3.1
New Zealand	. .	0	1.7
Norway	12	0	2.3
Poland	3	0	2.2
Portugal	20	20	4.2
Slovak Republic	10	1	3.5
Sweden	32	0	2.9
Switzerland	6	2.5	1.2
Turkey	26	20	2.6
United Kingdom	8	2.4	1.1
United States	. .	0	0.2

1. The overall indicator takes into account other variables, like procedural barriers, notice period for dismissals and difficulty of dismissals. Scores can range from 0 to 6 with higher values representing stricter legislation.
2. In Spain close to 90% of dismissals are considered as unfair dismissals by tribunals.

Source: OECD (2004), *Employment Outlook* and OECD (2005), "Assessing the OECD Jobs Strategy: Past Developments and Reforms", *Economics Department Working Paper*, forthcoming.

Other labour market features have an important impact on productivity growth

Although employment protection legislation has been at the centre of the reform debate, other labour market institutions also influence productivity performance. The current wage bargaining system (Chapter 2), for instance, also has a negative impact on productivity growth since it tends to reduce wage differentiation across firms with different performance.

Active labour market policies (ALMPs) may have a direct impact on productivity by improving workers' skills, as well as influencing the employability of the jobless. Spending on ALMPs is low in international comparison, especially considering that half of it (0.45% of GDP, the second highest ratio in the OECD) subsidises employment, mostly permanent contracts with lower severance payments. But these subsidies have a very large deadweight loss, and are typically considered as the least cost-effective active measure.

Apart from phasing out these subsidies and devoting resources to better targeted measures, there is wide scope for improving ALMPs in other respects:

- ALMPs covering the unemployed are not evaluated on a regular basis. The evaluations that have been carried out point to a negligible increase in the long-term employability of the unemployed who follow training programmes (European Commission, 2002a). These evaluations do not provide clear guidance on what measures work better for different groups of workers. Such evaluations have been carried out in other OECD countries, such as Australia, France, Switzerland and the United Kingdom, and are used to improve ALMP measures. The distribution of spending across different active measures does not seem optimal. International experience suggests that the most effective measures for helping the unemployed are counselling and job search assistance (Martin and Grubb, 2001), ahead of training measures and far ahead of employment subsidies or public work programmes. However, counselling and job search assistance seem to be underdeveloped in Spain despite the recent increase in resources for these purposes,[1] as many officials of the public employment service (INEM) spend their time registering the enormous amount of temporary, short-duration contracts. Indeed, the INEM is involved in less than 20% of job placements. Well-targeted training courses would also be effective, but in Spain the spending per unemployed is low and the number of participants high, which suggests that training is provided in small quantities to many unemployed workers, resulting in a negligible effect on employability.
- There is no close co-ordination between ALMPs and passive measures, as those who receive unemployment benefits are not effectively required to participate in active measures. The 2002 reform of the unemployment benefit system aimed at reinforcing conditionality, and also hardened the requirements for rejecting a job offer, while receiving benefits. However, conditionality criteria are very loosely applied, or not at all.

Training of employed workers also has a direct impact on productivity growth. Although workers' training is low, public support for training programmes is equivalent to 0.1% of GDP in Spain, which is relatively high as compared to other countries. It is financed to a large extent by the European Social Fund and social contributions and channeled through a public foundation (*Fundación Tripartita*, former FORCEM) managed by the social partners and since 2004 also by the government. The FORCEM was reformed in 2003 after several cases of fraud and malfunctioning. Under the new system, which is transitional and will be re-evaluated by the new government, subsidies are provided in the form of lower social security contributions rather than grants, while the *Fundación Tripartita* will encourage training in small firms, which have so far been underrepresented. However, the new system still does not require co-financing of training projects, which would ensure that public aid for training goes to projects that firms consider worth pursuing.

Labour market reforms should be comprehensive

Reducing unemployment and the duality of the labour market are declared goals of the Spanish authorities, but they require the reform of several labour market institutions. Decentralising wage bargaining and lowering EPL for permanent workers should be the priority, but other areas should also be addressed. These reforms should be undertaken at the same time, and the white paper currently being elaborated by an expert group provides an opportunity to do so. There are two reasons for a comprehensive strategy. *First*, there are complementarities among different reforms. Such complementarities are obvious, for instance, between ALMPs and the management of unemployment benefits. Enforcing

conditionality for receiving unemployment benefits would help to shorten unemployment spells, but it requires better ALMPs, especially better employment services, to improve employability. Reducing the current abuse of temporary contracts through job inspections would help to lower their share in total employment, but the attractiveness to the employer of permanent workers also needs to be improved through lower EPL because otherwise employment may suffer. Lowering EPL would free resources currently used as subsidies for permanent contracts that could be used for alternative policies like increasing funds for better targeted ALMPs. *Second,* political economy reasons would also argue for complementary reforms. Many of these reforms are opposed by trade unions or employers' associations, and hence are very difficult to pursue in isolation.

Perhaps the best example of complementarities can be found between EPL and unemployment benefits. Both partly fulfill the same roles. In the current framework, severance payments have two objectives: *i*) they provide revenue to laid-off workers, and *ii*) they raise the cost of dismissals, which lowers employment volatility. Both goals are justified to some extent by social preferences and efficiency considerations. The latter recognise that excessive employment volatility may undermine economic performance (Blanchard and Tirole, 2004) and that job search requires some time to match a worker's skills with job requirements. However, high and uncertain costs of dismissals also create a strong disincentive to grant permanent jobs, as has been the case in Spain for many years. The first objective of severance payments is also addressed by unemployment benefits, whereas the second objective can be targeted by alternative instruments, such as a bonus-malus system (experience-rating) for firms that increases with the number of dismissals, penalising those companies that lay-off often. Therefore, a system that provides adequate benefits for the unemployed and a bonus-malus system would fulfill both objectives without undermining employment creation. Alternatively, the EPL system could be overhauled in a similar way as in Austria: there, employers pay a contribution to individual accounts of workers that are given to the worker in the case of dismissal or at retirement if the worker is never laid off. This would eliminate the uncertainty element in the current Spanish system. All these proposals are perhaps too radical to gather wide support immediately, but show that it is worth looking at alternative solutions that fulfill the role of providing revenue for the unemployed and reducing excessive employment volatility, but with a less negative impact on employment creation.

Improving human capital investment

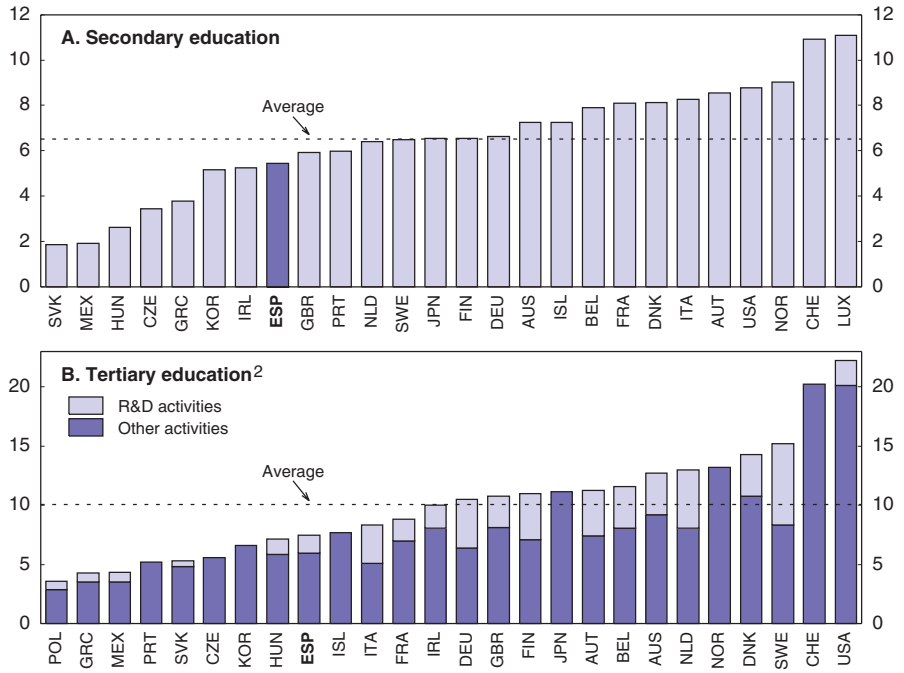
Enhancing education quality is a priority for the authorities

A good education system fulfills a number of social goals. It also affects economic performance by raising human capital. More education not only raises the stock of knowledge, raising labour productivity levels, but also provides the means to acquire new skills, raising future productivity growth. Education is a reform priority for the Spanish authorities, and initiatives to improve education quality have mushroomed, touching all levels of education from pre-primary school to university. The previous government initiated reforms in early childhood education (extending free education to ages 3-6), in compulsory education (introducing, among other things, more intermediate tests and separating students into groups by ability at earlier ages than was previously the case) and in tertiary education. Many of the changes introduced by these reforms have not been implemented yet and are not supported by the new government, which has opened a public debate on education reforms and may reverse some of the approved measures.

Spending is below the OECD average at all levels of education. The gap is small for primary and secondary education but much wider for university education (Figure 3.1) and the new government has promised to raise spending. There is a long-standing debate on whether "money matters" for education outcomes, which has not arrived at clear-cut conclusions. Although few empirical studies have found a significant relationship between more spending and improved results (Hanushek, 1997), a recent reassessment seems to find some evidence that additional resources may have a positive impact on performance (Krueger, 2002). Across OECD countries, results of the PISA report on education outcomes of 15 year-old students do not show a significant correlation with spending per student. What seems uncontroversial, however, is that socio-economic variables that fall outside policy control, like the income level or the education background of parents, have by far the largest impact on children's performance (Mancebón Torrubia and Muñiz Pérez, 2003). More resources may be necessary in some areas to improve quality, or in favour of some disadvantaged groups to increase participation, but it is more important to carefully design reforms, so that the right incentives help maximise results from available resources.

Figure 3.1. **Education expenditure per student**

By level of education, in thousand $, 2001[1]



1. Converted using purchasing power parities and based on full-time equivalents. Public institutions only for Hungary, Italy, Poland, Switzerland and Turkey. Public and private independent institutions for the United States.
2. Includes post-secondary non-tertiary education for Denmark, Japan and the United States. Public institutions only for Norway.

Source: OECD (2004), *Education at a Glance*.

Child care facilities should be expanded

Participation in formal education of children aged 3-6 is almost universal, but that of children aged 0-3 is well below the OECD average. This poses problems for female labour market participation and probably reduces the fertility rate, both of which are well below

the OECD average (Jaumotte, 2003). To the extent that female work is constrained by the lack of child care facilities, improving child care provision would probably imply large productivity gains, as the ratio of adults per children is much lower in the education system than at home. In principle, this is internalised in the participation decision of women, who may find it convenient to work and use part of their salary to pay for formal child care. However, there is also a rationale of public provision of early child care, as education at early stages has a positive externality linked to the socialisation of young children, health screening and readiness for school. A second positive externality stems from the role of early childhood education in integrating immigrants' children, which is a pressing need because of the rapid inflow of immigrants. A third externality is linked to the taxes paid by the additional workers. In Spain, public provision is almost non-existent, although some autonomous communities have recently approved some tax breaks for spending on child care institutions and formal childcare is VAT-exempt and enjoys tax advantages on the corporate income tax. More public funding, for example through more generous tax breaks, seems to be justified. These should be designed at the national level, as it is the level at which tax externalities accrue.

The Education Quality Law (LOCE), passed in 2003 but not yet implemented, provided for lower skill requirements for workers in child care institutions to underpin the rapid expansion of such facilities. In particular, it stated that a degree at vocational training level, rather than a three year university degree, would suffice. This measure has been contested with the argument that child care has also an important education content and therefore requires highly qualified personnel. Best practice in other countries would seem to validate this argument. To limit costs, however, and to allow the expansion of supply, which is currently limited, the relevant authorities may wish to consider a mix of personnel in services. For example, a certain percentage of tertiary trained staff could be aided by child assistants trained to upper-secondary vocational level. As the system matures, the percentage of the more highly trained staff should then be increased.

Quality in education would benefit from greater school autonomy

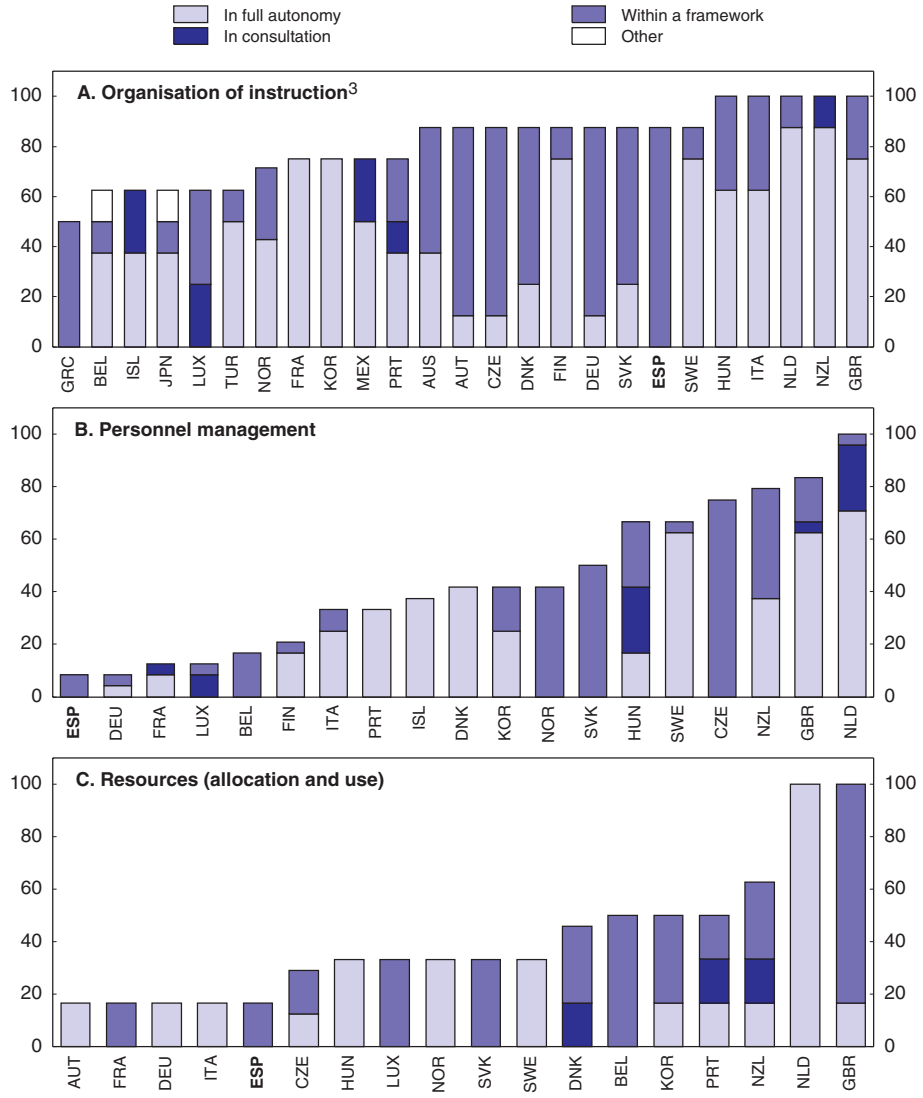
In compulsory schooling, one of the main problems is education quality, which was addressed by the LOCE. The law attempts to improve quality by encouraging responsibility of students and especially helping the best of them to perform better. Indeed, results from the PISA study demonstrate that the average Spanish student performs below the OECD average in core subjects, but also that the dispersion of results is relatively low, implying that there are not many outstanding students. However, experience in other OECD countries shows that those countries that score better in PISA tests are also those with low dispersion, since they are those which pay more attention to not leaving under-performing students behind. This suggests that high average performance is compatible with maintaining good results for most students.

Education quality would benefit from developing more effective evaluation mechanisms, and from greater autonomy of schools, since this would give them flexibility to adapt to local conditions and to students' backgrounds. This is relevant in the current context of strong immigration, which is creating serious integration problems in some areas and poses one of the main challenges for education policy. More decentralisation of decision-making may also increase efficiency by reducing bureaucracy, and allow more initiative at the school level (OECD, 2004a). Spanish schools have little autonomy, especially on allocating resources and on personnel management, although there is greater

autonomy in the organisation of schooling (which includes admission policy and instruction time) (Figure 3.2). The LOCE provides for more autonomy by reinforcing the role of the school head, although this does not extend to personnel management, such as hiring policies and wage determination. Wages per hour are higher than the OECD average in secondary education despite a decrease in real terms between 1995 and 2003, although in primary education they are much lower. Wage scales are rigid and narrow, as they only evolve slowly with seniority. The gap between the starting salary and that after 15 years of experience, for example, is one of the smallest in the OECD. Moreover, there is no effective linkage of wages to performance, which suggests that incentives to raise teaching quality

Figure 3.2. **Measures of autonomy in school management**[1]

Public sector lower secondary education, per cent, 2003[2]



1. The modes of decision making are the following: full autonomy, after consultation with bodies located at another level within the education system, independently but within a framework set by a higher authority, other bodies within the education system.
2. Limited data coverage for the United Kingdom (England only) and for Belgium (French speaking part only).
3. For Turkey, data refer to primary education only.

Source: OECD (2004), *Education at a Glance*.

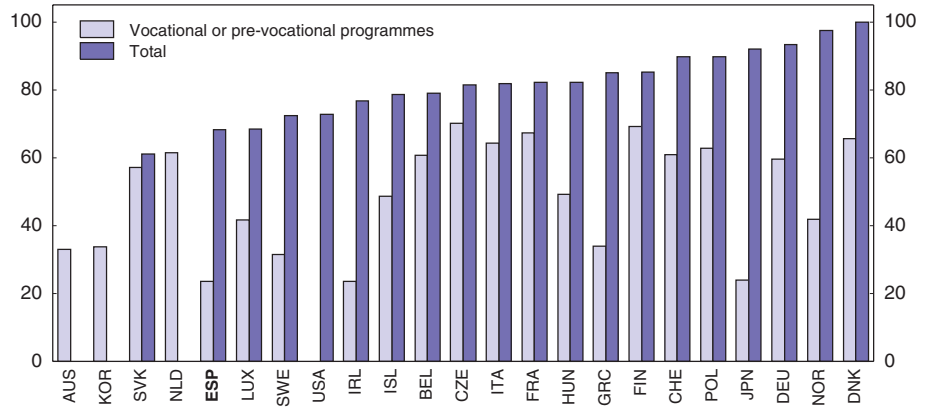
and to attend training are very low. Reforms introducing greater pay flexibility could follow the example of a number of OECD countries where teacher excellence is evaluated through performance results and rewarded (OECD, 2004a).

The LOCE also provides for separation of students earlier than before, at age 13, on the premise that grouping them together by previous performance will allow the best students to progress more rapidly and to provide special help to less able students. Although there is some logic to this argument, it can also be argued that the best students contribute to more dynamic classrooms and early separation may increase dispersion of performance. PISA tests suggest that those countries where separation is implemented at early ages (like Austria, Germany or Italy) do not perform above the OECD average. The new government will probably reverse this measure, although it may keep separation in some core subjects like mathematics or language courses.

Participation in upper secondary education and vocational training is low

Compulsory education is crucial in providing basic skills and forming citizens. Post-compulsory education (after age 16) has a more direct link with work skills, so it is important to properly match education with economic skill requirements. Post-compulsory education suffers from similar organisational constraints as compulsory schooling. In addition, participation in post-compulsory education is low. Compulsory education was extended to age 16 in 1990 when the previous schooling law (LOGSE) was implemented, which raised participation closer to OECD levels. However, the share of the population with upper secondary education is one of the lowest in the OECD. Only 41% of the adult population has attained upper secondary school or higher, while the OECD country mean is 67%, although the attainment ratio for the generation aged between 25 and 34 is much higher than for older generations. Even so, the current graduation rate is still far below the OECD average (Figure 3.3). At the same time, vocational training is under-developed. Most students of upper secondary school train for joining university (where enrolment is higher than the OECD average), whereas in many other OECD countries most go to professional training. This is despite the fact that wages and employment

Figure 3.3. **Participation in post-compulsory education and vocational training**
Graduation rate in per cent of population at the typical age of graduation, 2002[1]



1. In both public and private institutions. 2001 data for Denmark, Finland, France and Italy. For Spain, a significant proportion of the youth cohort is missing.

Source: OECD (2004), *Education at a Glance*.

perspectives for those with vocational training are better than for those with university training early in their working life.

All this points to a skill mismatch. Many young workers with university degrees have problems to find adequate vacancies for their qualifications and perform jobs which are below their educational attainment. According to Collard *et al.*, (2002), the proportion of low-skill jobs filled by highly-skilled workers was 15% in 1996, and others have found evidence that firms prefer to hire university graduates rather than training lower skilled workers (García-Serrano and Malo-Ocaña, 1996; Beneito *et al.*, 1996). As a result, those with only secondary education have high unemployment rates. It has been argued that this "ladder effect" is a sign of over-education of some tertiary level graduates (Dolado *et al.*, 2000; Lassibille *et al.*, 2001).

Increasing participation in upper secondary education is not easy, as participation may be driven by the opportunity cost *vis-à-vis* alternatives (work) and ultimately may be related to economic development, although the gap in participation with respect to most other EU countries seems to be larger than differences in per capita GDP. Part of it may also reflect credit constraints of poorer families, especially in less developed regions where low participation is much more prevalent (de la Fuente *et al.*, 2003). In this respect, it may be advisable to further develop grant or guaranteed loan programmes for less well-off students, especially in the poorest regions, as human capital investment is probably more productive than other types of investment for achieving regional convergence (Chapter 4). Another option is to improve the attractiveness of vocational training, or to expand the availability of university degrees of short duration, which are much less common than in other OECD countries.

Vocational training (*Formación Profesional*) has traditionally suffered from a lack of prestige as it was compulsory for some students when it was introduced in the 1970s. For a long time, it was considered as the option for those not attending university. After the 1990 reform enrolment has risen, especially for the second cycle of vocational training (which is classified as tertiary education), and the paths to access university from vocational training have been improved. Recently, the catalogue of activities or "professions" has been expanded and redefined to take service sector requirements better into account. Business organisations have participated in the process, and revisions of the catalogue will take place every five years. The catalogue has also been merged with that of professional training (workers) and occupational training (unemployed), to facilitate life-long adult learning, as recommended by the OECD. This is positive, but may not be enough. One area where there is wide scope for improvement is the availability of apprenticeships in firms, which are much less developed than in other EU countries (OECD, 2003a). For that, the institutional framework, with participation of business associations, needs to be developed further. Another option is to develop non-university tertiary institutions, as was done in Finland, Austria and Switzerland.

Ultimately, a powerful way to solve the possible mismatch between education and skill requirements is to design adequate financial incentives to different education options. In this respect, it could be necessary to improve incentives for participation in upper secondary education and vocational training, while raising fees for universities. Fees for university education are very low, covering only a small percentage of the cost (10%). This implies a large subsidy to university students, even though they earn much higher lifetime wages and will have low unemployment rates. Generous public funding for secondary

education is prevalent throughout the OECD and is justified by large externalities to school education. Such externalities also exist for university education, but to a lesser extent as the high rates of return attached to university education accrue mostly to the individual, rather than to society in general (Blondal *et al.*, 2002). Raising fees would reduce incentives to enter university for those students that in the end do not profit much from it, which are many as demonstrated by the high dropout rates in the first university years, and improve incentives to enter alternative education paths. Higher fees would also help to improve university financing, and to expand a programme of subsidised loans or loans subject to income-contingent repayments for those students who are subject to liquidity constraints.

Improving quality in university education requires linking their financing to performance

Quality concerns have also been raised for the university system. Although there are no international comparisons in the form of test results, universities provide education to a large number of students in large classrooms, with a low rate of teachers per student in many disciplines, although this is less so now as the number of courses has expanded and the number of students has diminished thanks to demographic dynamics. Survey information shows that teaching of Spanish graduates does not correspond well to labour market needs, with a low weight on practical skills such as use of computers, oral communication and planning skills, ability to solve practical problems and ability to work under pressure (COTEC, 2004). In research, Spain has a relatively high number of publications in scientific journals per researcher, but the share of highly cited publications is only 0.47% of the total number of publications, compared to 1.64% in the United States, 1.10% in the United Kingdom, 0.88% in France and 0.73% in Italy (European Commission, 2002b). Student mobility across universities in Spain is very low, in part because many universities exist but also because specialisation across them is limited. Almost every town with more than 50 000 inhabitants has a university, offering often a broad range of subjects. In addition, the external control of the selection system for professors should be improved in order to reduce the excessive number of jobs that go to internal candidates (endogamy). This selection system has been recently modified by implementing a national pre-selection exam before vacancies are filled by university departments. However, this system has resulted in some cases in a drop in the number of vacancies, as university departments are afraid that their own candidates do not pass the pre-selection process. A more open selection process is needed, based on objective criteria and probably with participation of renowned international experts to ensure independence.

Raising university fees would provide resources for higher education spending

More importantly, the financing system of university departments should be linked to performance. This, more than anything, would reduce endogamy and would push universities to devote all their efforts to improve teaching and research quality, which would in turn increase student mobility. Currently, universities are financed by the regions and funding does not follow transparent or uniform criteria. Among the tools to develop a performance-based financing system is the national agency for evaluating universities created by the university reform, which will base evaluation on a wide range of quantitative indicators. These indicators should be used not only to inform the public on which are the best universities, but also to redirect resources. In addition, the financing system of research activities in universities and public centres should also be based on the

evaluation of their results, as it is the case for instance in the United Kingdom or New Zealand. Combining this performance-based financing with higher fees for students would not only be more progressive, but also increase competition among universities and would provide incentives for students to get the maximum out of their years in education.

Boosting research and development and the adoption of new technologies

Business R&D spending is well below the OECD average

Despite improvements in recent years, Spain is still close to the bottom of R&D rankings with a spending-to-GDP ratio of 1.1%, against an EU average of 2% and 2.8% in the United States. New EU member states, which have much lower per capita GDP than Spain, are close to Spain at 0.84%. Almost half of spending (48%) is carried out by the public sector (universities and government institutions), while about 65% is private in many EU countries and 70% in the United States. The authorities' goal is to reach the 3% Lisbon target by 2010, and to raise the share of private spending to two-thirds. This objective is a policy priority of the current government. It has promised to double public support for R&D in the next four years and has already started with a 25% increase in the 2005 budget.[2] Public policy for R&D is carried out by both the central government and autonomous communities. These not only control universities, but also have their own R&D policies, which vary widely across regions.

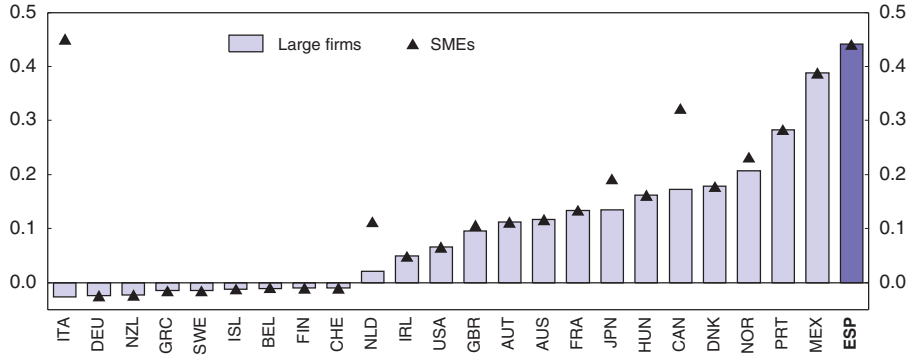
Providing public funds for R&D purposes has a clear rationale, as most studies show that positive externalities of R&D are large, especially in basic science, which is almost a pure public good that usually generates very low private but high social returns. Spillovers from R&D also include spin-off applications for other firms, while human capital externalities (network effects) also exist. Public incentives for R&D are also justified by the fact that protection of intellectual property rights is limited in time and scope. As a result, they cannot fully appropriate the consumer surplus generated by new products, reducing incentives for innovation below the optimal level (Jones, 1998; OECD, 2004b). Moreover, the OECD Growth Study has found that R&D is an important driver of productivity growth, especially when it comes from private sources (OECD, 2003a). This makes policies that promote R&D and innovation all the more important. However, to raise private R&D spending, the strategy should focus on improving framework conditions.

Public support for business R&D activities has to be carefully designed and evaluated

Choosing the right tool to channel support to the private sector is important, although there are no clear-cut advantages of either tax credits or subsidies. On the one hand, tax credits do not interfere with the choice over different R&D projects and are more market-neutral than subsidies, which are of a more discretionary nature; they are also easier to manage for firms. On the other hand, tax credits are less transparent and carry a higher deadweight loss than subsidies, as they also finance projects that would have been undertaken anyway (van den Noord, 2005). The discretionary nature of subsidies can also be an advantage when R&D policies are able to discriminate in favour of those projects that generate larger externalities (Atkinson and Stiglitz, 1980).

Spain has the most generous R&D tax break in the OECD (Figure 3.4), including a full write off for R&D-related investment in fixed assets, deductions for R&D-related spending (30%), deductions on incremental spending (50% of spending above the average of the previous two years), and an additional 20% on researchers' wages. However, these

Figure 3.4. **Tax breaks for R&D activities**
Percentage ratio of tax subsidies for $1 of R&D, 2004



Source: OECD (2004), *OECD Science, Technology and Industry Outlook*.

incentives are not much used. Only 15% of companies which innovate benefit from the tax breaks (COTEC, 2004). The authorities attribute the lack of use to bureaucratic problems, as the Ministry of Economy and Finance, responsible for implementing the deduction, has not the required technical expertise to evaluate the projects and select those qualifying for the deduction. The system has been improved by the introduction of an optional certificate to be issued by the Ministry of Industry, Tourism and Trade, whose content is binding for the tax administration. In the authorities' view this should increase their use.

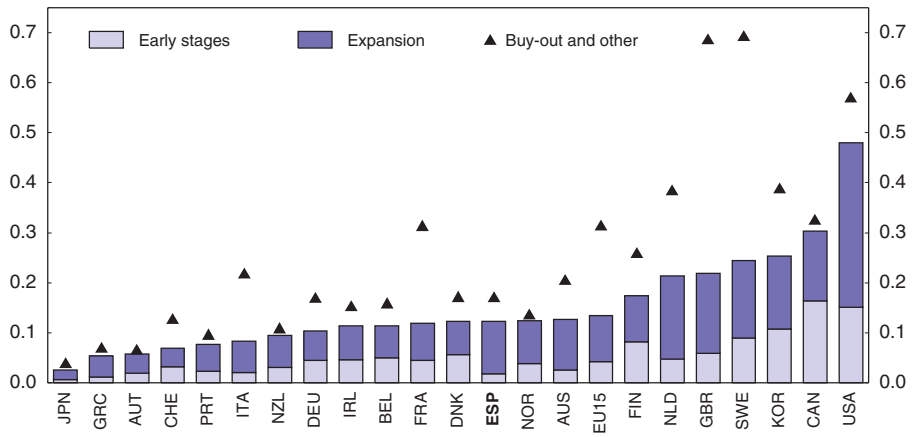
Subsidies are provided in the form of grants and loans with no interest payments, the latter being more prevalent. Conditional soft loans have the advantage of being cheaper and eliminate risks, as they are not reimbursable if the project does not succeed. They also imply a large private contribution to the project in case of success. In other cases, however, the incentive provided by subsidisation of interest payments may not be high enough to attract firms to projects that generate large external effects. In Spain, loan subsidies are provided conditional on strong guarantees by firms, which add a considerable cost for firms. Direct funding for R&D projects is provided, among other institutions, by a public agency (CDTI), but this agency has only provided funding on very low risk projects. In general, R&D and innovation policy has focused on deciding which are the priority areas for investment, without paying enough attention to the adequacy of economic instruments (tax incentives, grants and soft loans) to channel public aid to different types of projects and without evaluating the costs and benefits of different projects. From an institutional point of view, the defunct Ministry for Science and Technology, created in 2000, concentrated all R&D related policies in a single department, which should have made it easier to carry out such evaluations in a comprehensive way. However, since 2004 R&D responsibilities have been split among different ministries, making coordination more difficult. As in other areas related to public spending, it would be useful if systematic evaluation of the efficiency of all R&D policies were carried out with objective criteria. In this sense, the National Plan for Research, Development and Innovation includes a follow-up mechanism which has not been implemented yet, but any rigorous evaluation will need detailed quantitative objectives in the current programmes. An independent evaluation of the main subsidy programme (PROFIT) revealed a loose link between projects and R&D activities. In addition, it is important to address other problems that are holding back R&D

spending in businesses, such as information and human capital barriers, lack of entrepreneurship or a risk-averse financial and management culture.

Framework conditions for business R&D spending and entrepreneurship are important

As in many EU countries, business R&D is mostly carried out by large firms, but this has not raised innovation activities to the level of other OECD countries. The largest Spanish firms are relatively small in international comparison, so that R&D activities that require scale are limited. Moreover, the number of small but rapidly expanding technology firms, which have played an important role in some OECD countries for "new economy" sectors, is negligible. Liquidity constraints are in many countries behind the lack of start-ups, as credit market failures impede the flow of capital to risky technology projects. To cope with these failures, venture capital markets can provide favourable conditions for such investments. In Spain, venture capital regulations were merged in a single law in 1999, defining venture capital activities and providing an adequate framework for venture capital institutions. Fiscal incentives were also provided in the form of full tax deduction of capital gains and dividends of start-up companies (if the investment is maintained for between 2 and 15 years). Even if the start-up company is floated in the stock-market, which normally would eliminate the possibility of any tax advantage on capital gains, these special tax breaks can be maintained for one year. Despite some expansion, venture capital investments have not yet taken off, as they account for only 0.12% of GDP. In addition, venture capital for start-up companies is particularly low, since most institutions prefer to invest in the expansion phase of already existing companies and in traditional sectors rather than high-tech firms (Figure 3.5). The reasons for this bias are difficult to identify, but they are probably related to the prevalence of a highly risk-averse financial culture. Lack of experience of venture capital managers is also a problem, but could be overcome by co-operation with international venture capital funds which have already entered the Spanish market, or more directly through the implementation of small public equity programmes that invest public funds in start-up firms through

Figure 3.5. **Venture capital by type of investment**
In per cent of GDP, 2000-03[1]

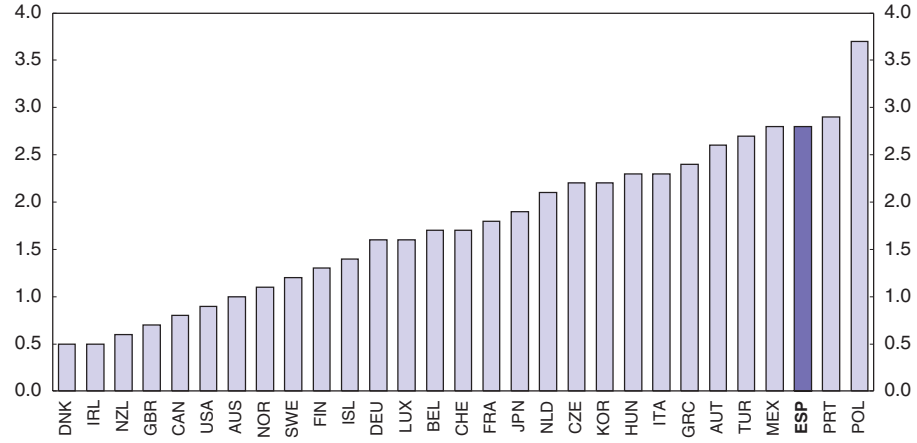


1. 1999-2002 for the United States;1998-2001 for Australia, Japan, Korea and New Zealand.
Source: OECD Venture Capital database, January 2005.

professional management companies (OECD, 2003b).[3] Tax breaks for venture capital investment should also be extended to individuals and firms (which at present pay the normal rates of 15% and 35%, respectively, for capital gains) to allow the emergence of "business angels".

Developing a dynamic venture capital sector is not the only road to promote R&D activities through the creation of new small high-tech firms. Other factors, such as developing entrepreneurship and reducing administrative barriers to create new firms would also help. Bankruptcy regulations have not traditionally promoted an entrepreneurial spirit as they seemed to put a stigma on economic failure, rather than considering it one of the possible outcomes of risky economic activity (European Commission, 2003). The new bankruptcy law (*Ley Concursal*), approved in 2003, has modernised insolvency procedures and has made easier the resumption of business activities by the debtor after the insolvency procedure (unless the procedure is classified as fraudulent). This should help to remove barriers to entrepreneurship. Administrative burdens to create new businesses also seem high as compared to the OECD average. According to the OECD summary indicator, Spain has the highest burden for business start-ups, despite some progress in recent years (Figure 3.6). Addressing these issues would have a sizeable effect on start-ups for business R&D and high-tech sectors; indeed, the Spanish authorities recognize these problems and are ready to implement a plan to promote entrepreneurship in 2005.

Figure 3.6. **Administrative burdens for startups**
Indicators of strictness of legislation, 2003[1]



1. Scores can range from 0 to 6 with higher values representing stricter legislation.

Source: OECD, *Product Market Regulation Indicators*, October 2004.

Framework conditions are also affected by human capital resource issues. As highlighted above, the number of university graduates has grown substantially. The share of science and technology graduates is now slightly below the EU average, but the graduation rate at PhD level, which is a key factor for R&D activities, is one of the lowest in the OECD. Spain ranks fifth in the European Union in the relative number of researchers per thousand employed, but most are in the public higher education sector. The number of researchers per thousand employed in industry is only 1.6, as compared with 5.4 in France, 5.7 in Germany or 2.2 in the United States. This is partly due to the low level of business

R&D, but may also reflect labour market rigidities that result in low wages for researchers. Although no data exist on wage levels with respect to similarly skilled workers, researchers in universities and public institutions are mostly civil servants and wage compression is higher than in the private sector. Work conditions for young researchers during and after their post-graduate studies are far from optimal, as salaries are low and sometimes they have no access to some social security benefits. Researchers trained abroad often have difficulties in finding a job in Spain as the selection process of personnel in some universities suffers from endogamy, although there exist special programmes that facilitate their return. The civil service nature of the jobs undermines job mobility towards the private sector. In this respect, linkages between public research institutions and private business, which are another sign of a dynamic business R&D environment, are still low, in part because of a managerial culture in Spanish firms that is reluctant to embark on R&D projects. In this respect, programmes that foster the participation of public researchers in private firms are useful to increase the absorption of R&D and new technologies by firms, but their budget allocation is small. Business-funded research in universities and public R&D centres is rare, and only 36% of Spanish companies consider cooperation as part of their innovative strategy, against 48% in the European Union. Lack of co-operation with universities is considered by experts as one of the major bottlenecks (OECD, 2004c). Addressing these issues should be a priority for innovation policy.

Promoting clusters would encourage innovation by small firms

One of the sources of returns to scale within a firm is the amount of knowledge and experience that can be shared among its employees. Small firms do not enjoy this advantage, but they may be able to co-operate in some areas and share knowledge if they are close to their clients and to each other by exploiting spatial externalities in clusters. In Spain there are clusters of technology firms in some technology centres, which group together firms that carry out innovation services, usually formed by small firms that cannot carry out innovation activities on their own. Technology centres are usually privately managed by client companies. The Spanish authorities want to expand their role, creating new ones after consultation with employers' associations and connecting them in networks to increase their potential external effects. The promotion of such centres seems an efficient way of fostering R&D activities of small firms and of introducing new processes and products, even in sectors which are not high-tech or less innovative. International experience shows, however, that the government should not be the main architect of such centres but should leave the initiative to the private sector. Some public role may be useful, however, to reduce information barriers by providing viability studies and identifying innovation bottlenecks, and to provide administrative and management support (OECD, 2002).

Notes

1. Public employment services (PES) appear to be understaffed compared other OECD countries. In 1999, the annual flows of job seekers per PES staff member exceeded 1 000 in Spain whereas it reached 246 for the United States, 439 for Japan, 97 for Germany, 137 for France and 351 for Italy. The budget for the INEM, the public employment service, has increased by 13% in 2004.
2. The previous National R&D Plan had a target of 1.29% for 2003 which was not achieved. The current Plan (2004-07) includes an intermediate target of 1.22% for 2005.
3. Some regions, like Cataluña, and universities, have programmes for the promotion of start-ups through venture capital.

Bibliography

Atkinson. A. and J. Stiglitz (1980), *Lectures in Public Economics*, McGraw Hill, York.

Bentolila. S. and J.J. Dolado (1994), "Labour Flexibility and Wages: Lessons from Spain", *Economic Policy*, Vol. 18.

Blanchard, O. and J. Tirole (2004), "The Optimal Design of Unemployment Insurance and Employment Protection. A First Pass", *Working Papers*, No. 04-15, MIT Department of Economics,Cambridge, MA, April, *http://papers.ssrn.com/sol3/papers.cfm?abstract_id=527882*.

Blondal, S., S. Field and N. Girouard (2002), "Investment in Human Capital Through Post-Compulsory Education and Training: Selected Efficiency and Equity Aspects", *Economics Department Working Papers*, No. 333, OECD, Paris, *www.oecd.org/eco/working_papers*.

Beneito, P. *et al*. (1996), "Desajuste educativo y formacion laboral especializada: efectos sobre los rendimientos salariales", *Working Papers*, No. 9611, Instituto Valenciano de Investigaciones Económicas, Valencia.

Collard, F., R. Fonseca and R. Muñoz (2002), "Spanish Unemployment Persistence and the Ladder Effect", *Discussion Papers*, Centre for Economic Performance, London School of Economics and Political Science, July, *http://cep.lse.ac.uk/pubs/download/dp0538.pdf*.

COTEC (2004), *El sistema español de innovación: situación en 2004*, Libro Blanco, Fundación Cotec para la Innovación Tecnológica, Madrid, *www.cotec.org/publica/informes/LibroBlanco2004.html*.

Davia, M.A. and V. Hernanz (2000), "Fixed-term Employment Contracts and Segmentation in the Spanish (Youth) Labour Market", Paper presented at the 3rd IZA European Summer School in Labor Economics, Institute for the Study of Labor, Bonn, *www.iza.org/en/papers/summerschool/3_davia_hernanz.pdf*.

Dolado, J.J., F. Felgueroso and J.F. Jimeno (2000), "Youth Labour Markets in Spain: Education, Training and Crowding-Out", *European Economic Review*, Vol. 44, Issues 4-6, Elsevier, May.

Dolado, J.J., C. García-Serrano and J.F. Jimeno (2003), "Drawing Lessons from the Boom of Temporary Jobs in Spain", *The Economic Journal*, Vol. 112, Issue 480, Blackwell Publishers, June, *www.blackwellpublishing.com/journal.asp?ref=0013-0133&site=1*.

European Commission (2002a), "Assessment of the European Employment Stategy: Spain", Employment and Social Affairs, *http://europa.eu.int/comm/employment_social/employment_strategy/eval/eval_es.pdf*.

European Commission (2002b), *European Competitiveness Report 2002*, Office for Official Publications of the European Communities, Luxembourg, *http://europa.eu.int/comm/enterprise/enterprise_policy/competitiveness/doc/competitiveness_report_2001/index.htm*.

European Commission (2003), "Bankruptcy and a Fresh Start: Stigma on Failure and Legal Consequences of Bankruptcy. National Report Spain", Brussels, *http://europa.eu.int/comm/enterprise/entrepreneurship/support_measures/failure_bankruptcy/stigma_study/report_spain.pdf*.

de la Fuente, A., R. Domenech and J.F. Jimeno (2003), "Human Capital as a Factor of Growth and Employment at the Regional Level. The Case of Spain", *Working Papers*, No. 610-04, Instituto d'Análisis Económico, Universitat Autònoma de Barcelona, *http://pareto.uab.es/wp/2004/61004.pdf*.

García-Serrano, C. and M.A. Malo-Ocaña (1996), "Educational Mismatch and Internal Labour Markets: Is There Any Relationship", *Working Papers*, No. 1996-16, Institute for Social and Economic Research, University of Essex, *http://ideas.repec.org/s/ese/iserwp.html*.

Martin, J. and D. Grubb (2001), "What Works and for Whom: A Review of OECD Countries' Experiences with Active Labour Market Policies", *Swedish Economic Policy Review*, Vol. 8, *www.ekradet.konj.se/sepr/Martin.pdf*.

Hanushek, E.A. (1997), "Assessing the Effects of School Resources on Student Performance: An Update", Educational Evaluation and Policy Analysis, 19(2), American Educational Research Association, Summer.

Hernanz, V. and L. Toharia (2004), "Do Temporary Contracts Increase Work Accidents? A Microeconometric Comparison Between Italy and Spain", *Documento de Trabajo* 2004-02, Fundación de Estudios de Economía Aplicada, Madrid, April, *www.fedea.es/hojas/publicaciones.html#Documentos de Trabajo*.

Jaumotte, F. (2003), "Female Labour Force Participation: Past Trends and Main Determinants in OECD Countries", *Economics Department Working Papers*, No. 376, OECD, Paris, *www.oecd.org/eco/working_papers*.

Jones, C.I. (1998), *Introduction to Economic Growth*, W.W. Norton, New York.

Krueger, A.B. (2002), "Economic Considerations and Class Size", *Working Papers*, No. 447, Princeton University, Princeton NJ, September, *www.irs.princeton.edu/krueger/working_papers.html*.

Lassibille, G. *et al*. (2001), "Youth Transition from School to Work in Spain", *Economics of Education Review*, Vol. 20, Issue 2, Elsevier, April.

Mancebón Torrubia, M.J. and M.A. Muñiz Pérez (2003), "Aspectos clave de la evaluación de la eficiencia productiva en la educación secundaria", *Papeles de Economía Española*, No. 95, Fundación de las Cajas de Ahorros, Madrid, April, *www.funcas.ceca.es/Publicaciones/Papeles_Economia_Espanola.asp*.

van den Noord, P. (2005), "Challenges for Tax Policy in Europe", paper presented at a conference on "Les finances publiques: défis à moyen et long termes" held in Mons, February, *www.cifop.be/ceblfcongres16.html*.

OECD (2002), *Dynamising National Innovation Systems*, OECD, Paris.

OECD (2003a), *The Sources of Economic Growth in OECD Countries*, OECD, Paris.

OECD (2003b), "Venture Capital: Country Note: Spain", *STI Working Papers*, No. 2003/18, Directorate for Science Technology and Industry, OECD, Paris, *www.oecd.org/sti/working-papers*.

OECD (2004a), *Education at a Glance*, OECD, Paris, *www.oecd.org/edu/eag2004*.

OECD (2004b), *OECD Economic Surveys: Germany*, Vol. 2004/12, OECD, Paris, *www.oecd.org/eco/surveys/germany*.

OECD (2004c), "Public-Private Partnerships for Research and Innovation in Spain: Background and Issues for Discussion", Directorate for Science, Technology and Industry, internal working document, OECD, Paris.

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GLOSSARY

$	United States dollar
€	Euro
ADSL	Asymmetric digital subscriber line
ALMPs	Active labour market policies
BBVA	Banco Bilbao Vizcaya Argentaria
CES	*Consejo Económico y Social* (Economic and Social Council)
CMT	*Comisión del Mercado de la Telecomunicaciones* (Telecommunication commission)
CNE	*Comisión Nacional de Energía* (National energy commission)
CNMV	*Comisión Nacional del Mercado de Valores* (National stock market commission)
CPFF	Council for Fiscal and Financial Policy
CPI	Consumer price index
ECB	European Central Bank
EPA	*Encuesta de población activa* (Labour force survey)
EPL	Employment protection legislation
EU	European Union
EU15	European Union, first 15 member states
FORCEM	*Fundación para la Formación Continua* (Foundation for professional training)
FSL	Fiscal stability law
GDP	Gross domestic product
GW	Gigawatt
IAE	*Impuesto sobre actividades económicas* (Local business tax)
ICT	Information and communication technology
IMF	International Monetary Fund
INE	*Instituto Nacional de Estadística* (National Institute of Statistics)
INEM	*Instituto Nacional de Empleo* (Public employment service)
LOCE	*Ley de calidad de la educación* (Education quality law)
MWh	Megawatt hour
PES	Public employment services
PISA	Programme for International Student Assessment
PPP	Purchasing power parity
R&D	Research and development
UMTS	Universal mobile telecommunications system
US	United States
VAT	Value added tax

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BASIC STATISTICS OF SPAIN (2003)

THE LAND

Area (1 000 km^2)		Major cities (thousand inhabitants)	
Total	506.0	Madrid	3 093
Cultivated (1999)	183.0	Barcelona	1 583
		Valencia	781
		Seville	710

THE PEOPLE

In thousands		Employment (thousands)	16 695
Population	42 345	Employment by sector (% of total)	
Net natural increase	56	Agriculture	5.6
Net migration (2002)	470	Industry	18.7
Number of inhabitants per km^2	83.7	Construction	11.9
		Services	63.8

PRODUCTION

Gross domestic product (GDP)		Gross fixed capital investment	
Billion €	745	% of GDP	25.6
Per head in $	19 896	Per head in $	5 087

THE GOVERNMENT

		Composition of Parliament (seats in	
% of GDP		March 2004)	350
Consumption	17.9	Spanish Labour Socialist Party (PSOE)	164
Revenue	39.2	Popular Party (PP)	148
Surplus	0.4	Convergence and Union (CIU)	10
Fixed investment		Republican Left of Cataluña (ERC)	8
(% of gross fixed capital formation)	13.6	Basque Nationalist Party (PNV)	7
		United Left (IU)	5
		Other	8
		Next general elections: March 2008	

FOREIGN TRADE

Exports of goods and services (% of GDP)	27.8	Imports of goods and services (% of GDP)	29.4
Exports as a % of total goods exports		Imports as a % of total goods imports	
Foodstuffs	12.6	Foodstuffs	6.8
Other consumer goods	28.6	Other consumer goods	21.5
Energy	2.7	Energy	10.3
Other intermediate goods	43.7	Other intermediate goods	45.4
Capital goods	12.3	Capital goods	16.0

THE CURRENCY

Monetary unit: Euro		Currency units per $, average of daily figures	
		Year 2004	0.805
		December 2004	0.745