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# **Making the New Economy Work**

**Findings from the OECD growth study**

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## **Making the New Economy Work**

Findings from the OECD growth study<sup>1</sup>

### **Summary**

This paper examines how the new economy can be made to work. It first examines the facts about growth in OECD countries. It shows that beyond established factors, such as labour utilisation and capital accumulation, investment in ICT and human capital, together with more innovative ways of producing goods and services, are essential to explaining OECD growth patterns. It next explores which policies are needed in the new economy. It examines policies to enhance the diffusion of ICT and argues that policies on innovation are key in ensuring that new technologies continue to evolve. The paper stresses the role of education and training policies in meeting today's skill requirements. It also focuses on the role of new firms in the growth process and identifies policies that are conducive to business creation. The paper finally warns that getting the fundamentals right is vital for growth.

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<sup>1</sup> This paper draws heavily on "The New Economy: Beyond the Hype" (OECD, 2001*a*), which was prepared for the 2001 OECD Ministerial Meeting and published in August 2001. The report is available on the OECD Internet site at <http://www.oecd.org/pdf/M00018000/M00018622.pdf>. The paper does not necessarily reflect the views of the OECD or its Member countries.

## **1. Introduction**

Talk of the “new economy” has wined down following the slowdown of growth in the United States and Europe. However, while the hype is over, it has become clear that some new factors have indeed taken hold in the growth of OECD economies. The most evident of these is information and communications technology (ICT). Due to rapidly falling prices, hardware and software investment surged in many OECD countries over the 1990s. The investment in ICT has added to the productive capital stock, but also seems to have brought other economic benefits, like lower transaction costs and more choice for consumers.

But ICT is not the only factor that has taken on a different role. There are also signs that the pace of innovation has become more rapid. Moreover, the emergence of new technological opportunities has led to many start-up firms, and has renewed interest in the role of entrepreneurship. Finally, new technologies have increased the demands on workers to change their skills and adapt to structural change. Adjusting to these factors, capturing their benefits and making this "new economy" work is important to all countries.

This paper first examines the recent evidence on growth patterns across the OECD area, to gain insights in the recent growth experience. Next, it explores some of these aspects in more detail, by looking in turn at the role of ICT, innovation, human capital, new firms and fundamentals. Finally, it draws some conclusions for policy.

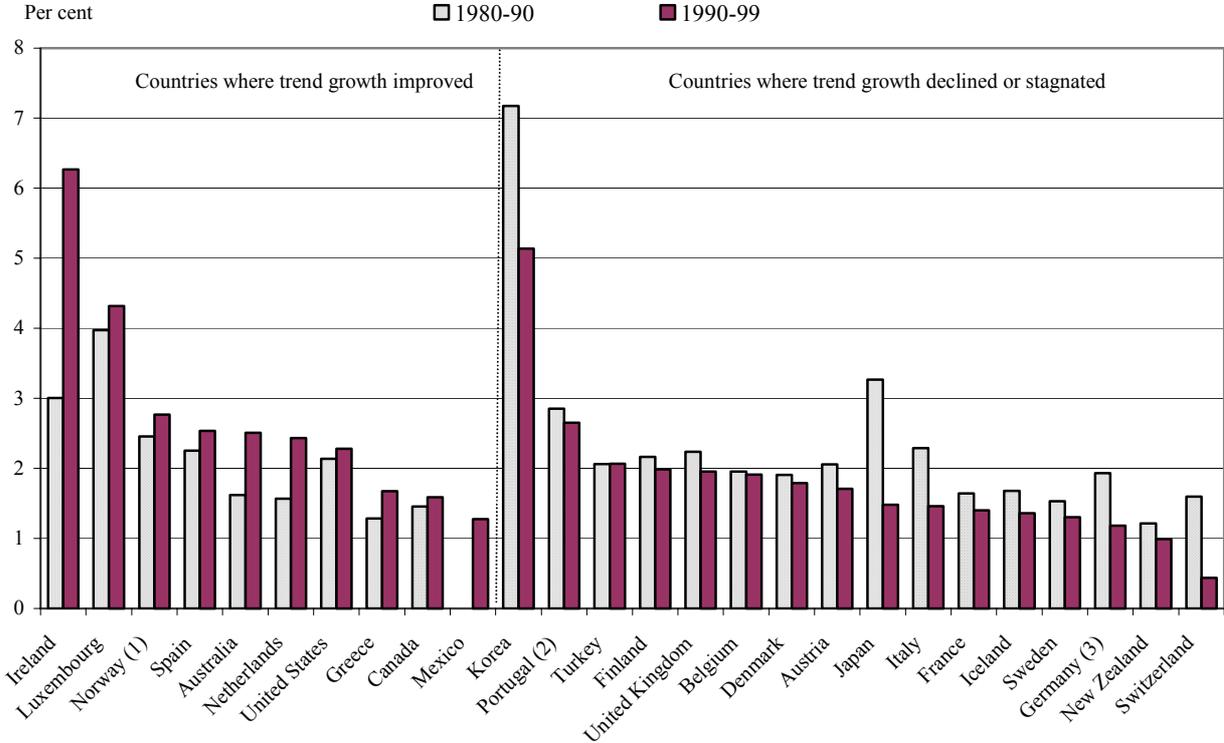
## **2. Recent growth patterns**

Over the 1990s, a few OECD countries, including the United States, experienced an acceleration in growth of GDP per capita. On the other hand, some of the other major economies lagged. This becomes clearer when comparing *trend* growth, *i.e.* growth rates adjusted for the business cycle (Scarpetta, *et al.*, 2000). Three OECD countries -- Australia, Ireland and the Netherlands -- registered markedly stronger growth of GDP per capita over the past decade compared with the 1980s (Figure 1). Several other countries also experienced some improvement. In contrast, the increase in GDP per capita in many other OECD countries, including Japan and much of Europe, slowed, in some cases quite markedly so. In several countries, such as Finland, Canada, Greece, Iceland and Sweden, a pick-up in trend growth of GDP per capita became only apparent in the second half of the 1990s.

The growth divergence is not simply a reflection of different measurement techniques used in different OECD countries (Schreyer, 2001). Rather, part of the OECD area's diverging growth patterns of the 1990s can be explained by the differences in labour

productivity growth and labour utilisation (OECD, 2001a). The United States, together with a few other countries, improved its labour productivity and labour utilisation at the same time -- *i.e.* more people worked more productively. In contrast, some European countries had strong productivity growth, but low employment growth, particularly in the first half of the 1990s. Their higher productivity growth may have partly been achieved by a greater use of capital or by dismissing (or not employing) low-productivity workers.

Figure 1. **Uneven trend growth of GDP per capita**  
Total economy, percentage change at annual rate



1. Total Norway; 2. 1990-98; 3. West Germany for 1980-90; Germany for 1991-99.

Source: OECD (2001a); see Scarpetta, et al. (2000) for methodological details.

Labour productivity, meanwhile, can be lifted in several ways: by improving the quality of labour used in the production process, increasing the use of capital and improving its quality, and attaining greater overall efficiency in how these factors of production are used together, *i.e.* multi-factor productivity (MFP).

The quality of labour, or human capital, is the first factor that plays a fundamental role in labour productivity growth. The rise in the educational attainment of workers across the OECD area is only one sign of this role; increases in the level of post-educational skills may be even more important, although few hard measures are available. Improvements in the

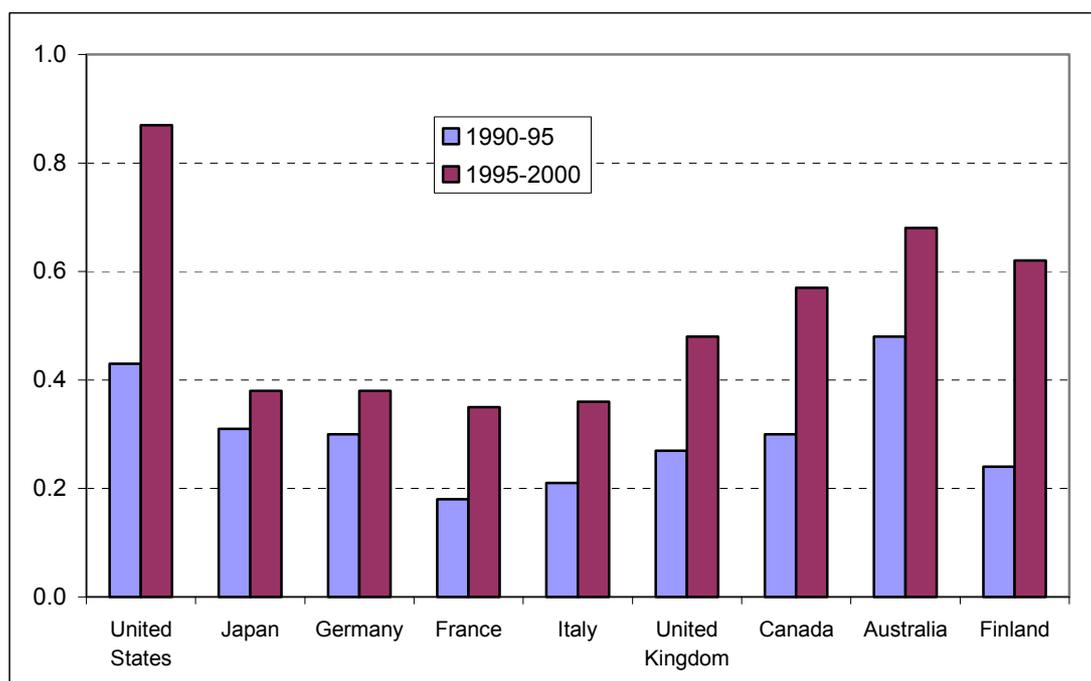
quality of labour have directly contributed to growth in virtually all OECD countries (Scarpetta *et al.*, 2000).

Investment in physical capital is the second factor that plays an important role. It expands and renews the existing capital stock and enables new technologies to enter the production process. While some countries have experienced an overall increase in the contribution of capital to growth over the past decade, ICT has typically been the most dynamic area of investment. This reflects rapid technological progress and strong competitive pressure in the production of ICT goods and services and a consequent steep decline in prices. This fall, together with the growing scope for application of ICT, has encouraged investment in ICT, at times shifting investment away from other assets.

While ICT investment accelerated in most OECD countries, the pace of that investment and its impact on growth differed widely (Figure 2). For the countries for which data are available, ICT investment accounted for between 0.3 and 0.9 percentage points of growth in GDP per capita over the 1995-2000 period. The United States, Australia and Finland received the largest boost; Japan, Germany, France and Italy the smallest. Software accounted for up to a third of the overall contribution of ICT investment to GDP growth in OECD countries. The shift in investment towards ICT has also led to a change in the composition of the capital stock in OECD countries towards assets with higher “marginal” productivity, *i.e.* an improvement in the overall quality of the capital stock (Scarpetta *et al.*, 2000).

Figure 2. ICT capital has boosted GDP growth

Percentage points contribution to annual average GDP growth, business sector



Note: The graph compares the contribution of ICT capital to GDP growth for nine countries. The estimates are based on a harmonised deflator for ICT investment, adjusting for cross-country differences in methods. They are not adjusted for the business cycle, however.

Source: Colecchia and Schreyer (2001).

The final factor that accounts for some of the pick-up in labour productivity growth is a faster increase in trend multi-factor productivity growth in the 1990s.<sup>2</sup> MFP growth rose particularly in Australia, Canada, Denmark, Finland, Ireland and Sweden, but also in Norway, the United States and New Zealand (Figure 3). In the second half of the 1990s, the trend in MFP improved further in several countries. There are many possible reasons for this. Better skills and better technology may have caused the blend of labour and capital to produce more efficiently, organisational and managerial changes may have helped to improve operations, and innovation may have led to more valuable output being produced with a given combination of capital and labour. MFP growth is measured as a residual, however, and it is difficult to provide hard evidence on all of these factors. Some is available, though.

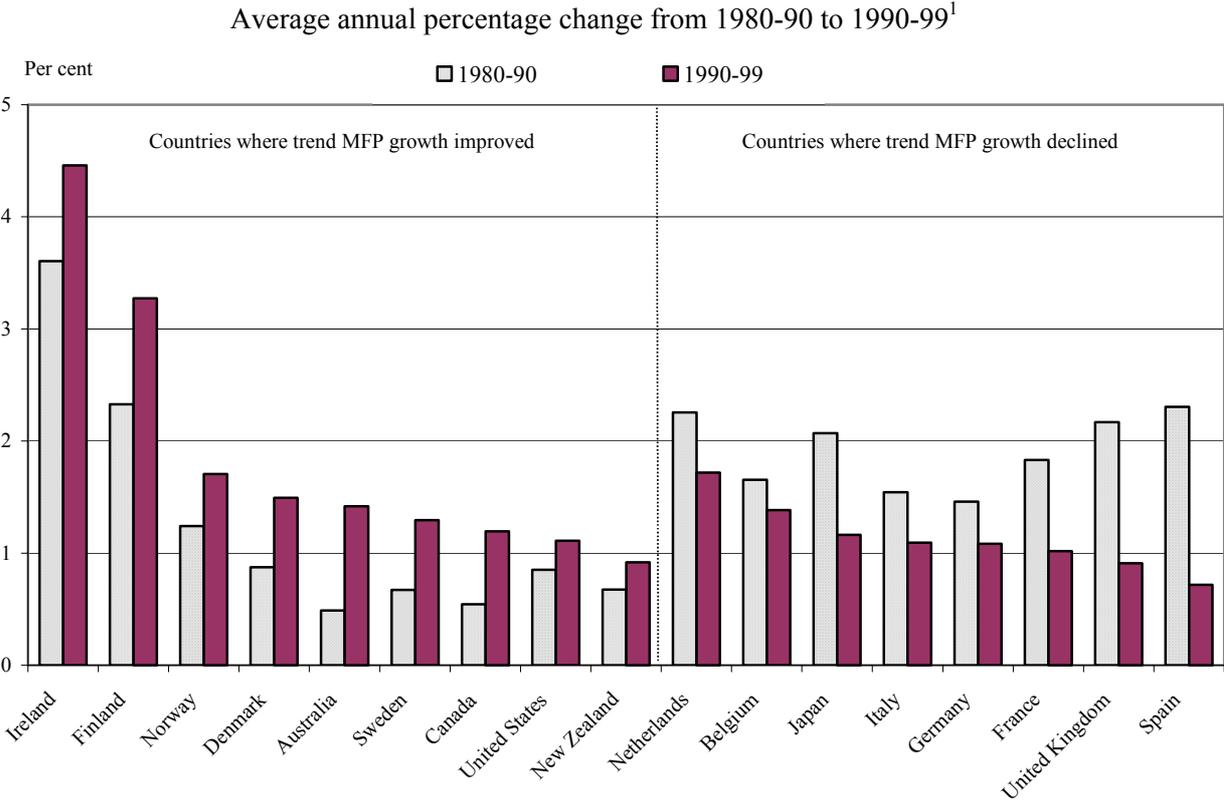
First, in some OECD countries, MFP reflects rapid technological progress in the production of ICT. While the ICT sector is relatively small in most OECD countries (OECD,

2. The MFP estimates in this paper are not adjusted for changes in the quality of labour and the quality of capital stock, since insufficient data are available across OECD countries.

2001b), it can make a large contribution to growth if it expands much more rapidly than other sectors. In the United States, for instance, MFP growth in the ICT-producing sector explains about 0.2-0.3 per cent of the overall pick-up in MFP growth since 1995 (US Council of Economic Advisors, 2001). Some other OECD countries, such as Finland, have also benefited from rapid MFP growth in the ICT-producing sector (Pilat and Lee, 2001).

MFP also reflects competition. Analysis of productivity growth shows that the effects of competition, such as the entry and exit of firms and changes in market shares are important drivers of productivity growth (OECD, 2001c). New firms typically use a more efficient mix of labour, capital and technology than existing firms, which in the long term has a positive effect on MFP growth. This is particularly true of emerging industries, where new firms play an important role. In contrast, growth in mature industries is typically driven by productivity growth within existing firms or by the exit of obsolete firms.

Figure 3. Trend multi-factor productivity growth increased in many countries



Note: The estimates are adjusted for hours worked and are based on trend series.

1. Series start in 1983 for Belgium, Denmark, Ireland and 1987 for New Zealand; they end in 1997 for Austria, Belgium, Italy and New Zealand. 1998 for Australia, Denmark, France, Ireland, Japan, Netherlands and United Kingdom. Data for Germany for 1990-99 start in 1991.

Source: OECD (2001a); see Scarpetta, et al. (2000) for methodological details.

Third, R&D and technological change are important drivers of MFP growth (Guellec and Van Pottelsberghe, 2001). Foreign R&D is particularly important for most OECD countries, since the bulk of innovation and technological change in small countries is based on R&D that is performed abroad. But domestic R&D, *i.e.* business, government and university research, is also an important driver of MFP growth. It is also key in tapping into foreign knowledge; countries that invest in their own R&D appear to benefit most from foreign R&D.

The fourth driver of MFP that can be identified, albeit still with less accuracy, is the use of ICT in the production process. In recent years more evidence has emerged on this factor. First, certain ICT-using services, such as wholesale and retail trade, have experienced an above-average pick-up in MFP growth in recent years, *e.g.* in the United States, Australia and Finland (Stiroh, 2001; Productivity Commission, 1999; Pilat and Lee, 2001). Second, there is evidence at the firm level and from case studies that ICT can help to improve the overall efficiency of capital and labour (Brynjolfsson and Hitt, 2000). Third, countries that experienced a more rapid diffusion of ICT in the 1990s typically experienced a more rapid pick-up in MFP growth in the 1990s than countries where ICT diffusion was slower (OECD, 2001a).

Clearly, the causes of more rapid growth are several. In several countries with strong growth in the 1990s, ICT investment has been important. This has led to a rapid diffusion of ICT, which has also affected overall efficiency. Innovation and technology diffusion are also important, as a possible way to higher MFP and to future technological breakthroughs. Education and skills have also gained new significance, partly due to the diffusion of new technologies. In addition, MFP growth in new industries has been accompanied by the creation of start-up firms. Finally, it appears that many of the countries that improved growth in the 1990s did so because they had been able to get the fundamentals right; they had created an environment that could take advantage of the new technologies and opportunities when they emerged. Moreover, strong fundamentals allowed these countries to improve productivity while simultaneously drawing more people into productive employment. The next section discusses these factors in turn.

### **3. Drivers of growth**

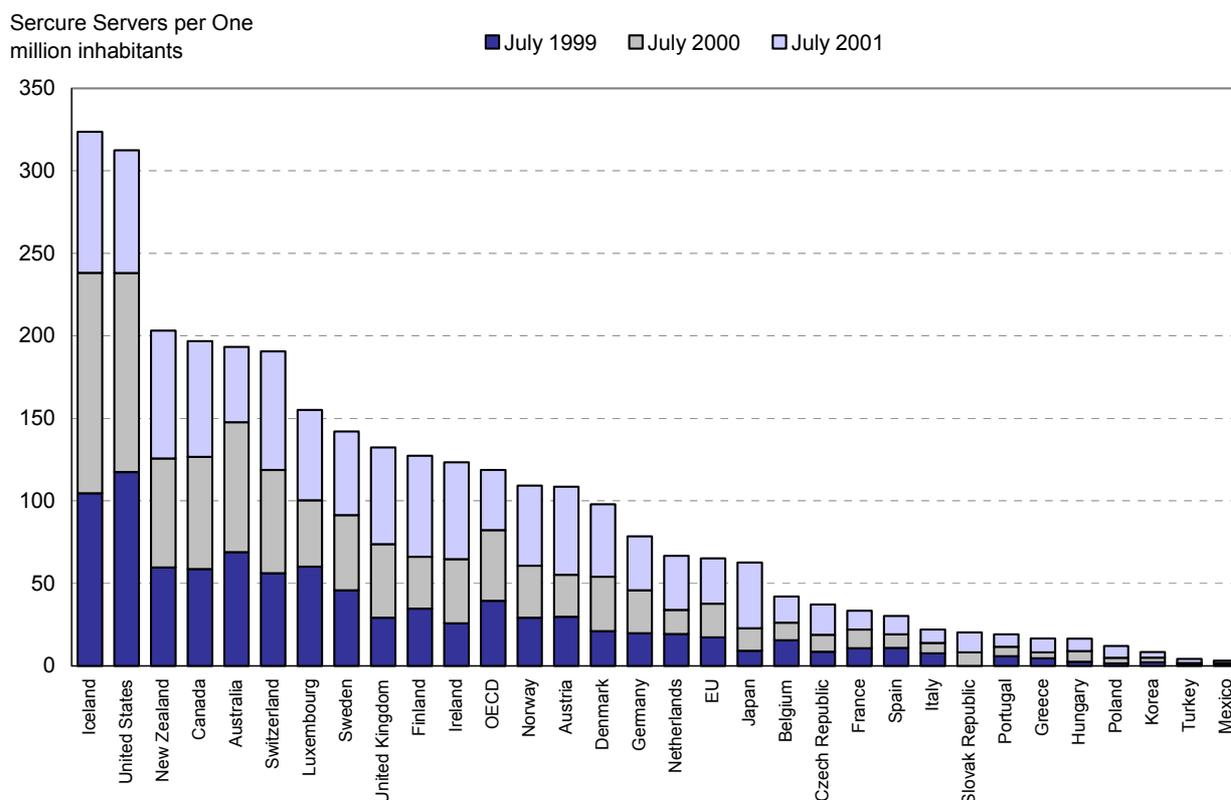
#### ***3.1 The role of information and communications technology***

There is growing evidence that ICT has been a catalyst of change in business, improving work organisations, helping firms to reduce routine transaction costs and rationalise their

supply chains. Some of these effects are associated with a new range of ICT applications, such as the World Wide Web and the browser, which spread rapidly throughout the economy over the 1990s and continued to spread into 2001 (Figure 4). These Internet-based technologies have contributed to increased demand for ICT and led to the growth of many new applications and certain new lines of business. It is too early to say how important ICT will be compared with previous new technologies. What is important is that ICT appears to be a technology that can help to enhance efficiency. This makes it important for governments; they should ensure that the policies are in place to seize the benefits of ICT, as well as limit any negative effects.

Despite the emerging benefits of ICT, diffusion in some OECD countries has been slow (Figure 4). There are several reasons for this, a lack of ICT skills, limited capacity to adjust the production process to ICT technologies, or poor access to finance, being just three typical ones. Insufficient competition may be another factor, because this can harm efficiency, keep prices high and slow the adoption of new techniques. Indeed, the United States may have benefited first from ICT investment ahead of other OECD countries, as it already had a high level of competition in the 1980s. Firms in the United States and Canada have enjoyed considerably lower costs of ICT investment goods in the 1990s than firms in European countries and Japan (OECD, 2001a). Barriers to trade, in particular non-tariff barriers related to standards, import licensing and government procurement, may partly explain the cost differentials. In time, international trade and competition should erode these cross-country price differences. Policy could help to accelerate this trend, by implementing a more active competition policy and measures to promote market openness.

Figure 4. **Internet commerce as measured by the number of secure Web servers, 1999-2001**



Source: OECD, *Communications Outlook 2001*; Netcraft ([www.netcraft.com](http://www.netcraft.com)), December 2001

The investment and diffusion of ICT do not just depend on the cost of the investment goods themselves, but also on the associated costs of communication and use once the hardware is linked to a network. Increased competition in the telecommunications industry, thanks to extensive regulatory reform, has been of particular importance in driving down these costs. Countries that moved early to liberalise their telecommunications industry now have much lower communications costs and a wider diffusion of ICT than those that followed later on.

By the beginning of 2001, only three OECD countries still had monopolies in the provision of fixed network services. In the wireless sector, the last monopoly was already eliminated in 1998. This does not imply that effective competition will immediately take hold. In several OECD countries, the incumbent firm still held on to more than 80 per cent of the market in 1999. The next step is to introduce competition at local level. In 1999, new entrants had only a very small share of local markets in virtually all OECD countries (OECD, 2001c). More competition in the local loop would surely drive prices down further and would help to change the pricing structure of the Internet. Another important policy challenge is to promote

greater competition between different networks, *e.g.* fixed networks, cable television networks, satellites and wireless networks. This should also help in stimulating the development of high-speed access options, *e.g.* broadband. Clearly, there is more to be done before competition in telecommunications markets takes hold in many OECD countries.

Policies to increase competition will not on their own boost the diffusion of ICT or the use of e-commerce. An appropriate regulatory and legal environment is required too, particularly in the areas of privacy, security and consumer protection. Progress is being made, but concerns remain, for example, over divulging sensitive private information, such as customer databases, over the Internet, or ensuring that transactions across the Internet are safe from fraud, malicious hacking and other criminal acts. If e-commerce is to be an important way of doing business in the future, it will have to be reliable, secure and safe to use under all conditions. Some of the slowness to do business via the Internet is to do with attitudes. Tendering public services, collecting taxes or procuring goods and services online can help increase government efficiency while having the additional benefit of building public confidence.

Some OECD countries that have a large ICT-producing sector, such as Ireland and Finland, have benefited from rapid technological progress in this sector (OECD, 2001*a*). But having an ICT sector may not be a prerequisite for growth. First, proximity to hardware producers may not be as important for ICT users as proximity to software producers and service providers, which are useful to firms needing skills and advice to implement ICT-related changes. Second, much of the production of ICT hardware is highly concentrated, because of its large economies of scale and high entry costs. Third, several countries characterised by high ICT investment and use, as well as high MFP growth, do not have a large ICT sector. Australia is the clearest example. And one or two other countries that do have a large ICT sector, *e.g.* Japan, have not been among the high growth countries of the 1990s.

### **3.2 *Fostering a more innovative economy***

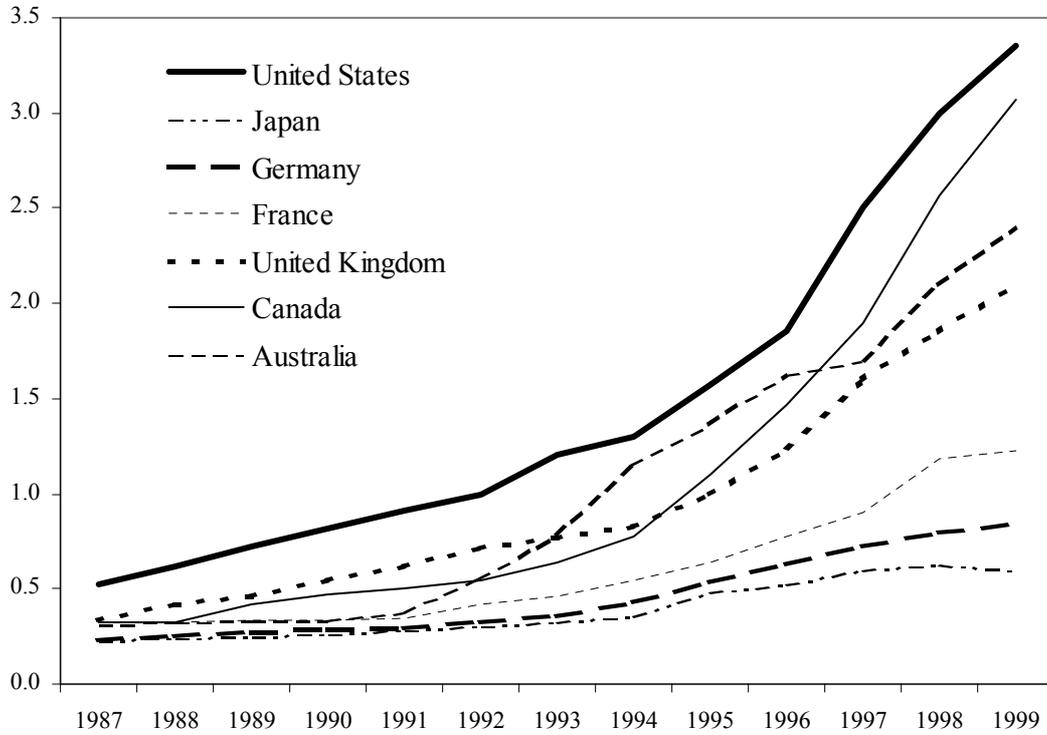
Innovation and technological change are important determinants of economic growth, as demonstrated in a wide range of empirical studies. Firms invest in innovation because they want to gain market share, reduce costs, increase profits and stay ahead of competition. Innovation spending has become more demand-driven and research results are now more likely to be used to generate new products and processes. However, despite globalisation, growing competition and the diffusion of ICT, the degree of innovation differs considerably

across countries (OECD, 2001a). Policy plays an important role in this respect. Not all governments have been able to establish an environment that is both conducive to innovation and adaptable to future technological breakthroughs. Apart from broader framework conditions, including attention for skills and finance, several areas are important.

The first challenge for governments is to enable the generation of basic knowledge, as this is the seed for future innovation. Markets can be beneficial for this, but the growing market orientation of innovation could paradoxically limit investment in fundamental research. Business-funded R&D has gained in importance relative to government-funded R&D over the past years, and even publicly funded research carried out in universities and public laboratories has become more commercially oriented. This may be good for innovation in the short term, but could compromise fundamental research and long-term innovation. In practice, the bulk of such research must still be funded by governments. Without public funding, future innovation will be jeopardised. Funding for such research should be allocated by competitive procedures, with scientific excellence and merit as the main conditions. Countries also need their own R&D to understand and absorb knowledge developed abroad, to become part of innovation networks, and to develop their own skills. Moreover, R&D can give first-mover advantages. Government funding typically goes beyond fundamental research. In practice, a large share of government funded R&D aims to meet public goals, such as improved health, national security and a clean environment. Although achieving economic benefits is not the prime aim of such funding, it may have large indirect impacts on growth. For instance, US funding for the National Institutes of Health has been an important driver of the current boom in biotechnology. And R&D funding from the US Department of Defense has contributed to many important innovations in ICT, including the Internet and artificial intelligence. In principle, government support for innovation should focus on areas with high social and economic benefits that push out the technological frontier. Partnerships between the public and private sector, competitive funding mechanisms, and regular evaluation of support are some ways to make such funding more effective and help focus it on the right areas. Governments should be vigilant against serving vested interest, however, and should not crowd out new sources of private finance, such as venture capital.

Figure 5. **Science-innovation links have developed rapidly in some OECD countries**

Average number of scientific papers cited in patents taken in the United States, by country of origin



*Note: Patents increasingly cite the findings of scientific research. Differences in patent specialisation do not explain the cross-country differences. Language is also not the explanation; innovation in non-English speaking countries such as Finland, the Netherlands and Sweden also draws increasingly on scientific research carried out inside the country.*

*Source: CHI Research, <http://www.chiresearch.com>; see also OECD (2001a).*

Interaction within the innovation system, notably between science and industry, has grown in recent years. This is due to a growing interest of the business sector in scientific research and the researchers, technologies, methods and instruments that come with it. Nevertheless, there are considerable differences among OECD countries in the extent to which innovation draws on science. The growth in science-industry links over the 1990s, as measured by patent citations has been much more rapid in the United States, Canada, the United Kingdom and Australia than in France, Germany or Japan (Figure 5). In many countries, barriers impede the flow of knowledge between science and industry. Low mobility of researchers between these sectors is one key problem. Faculty promotion practices are also problematic in many countries, as they tend to emphasise seniority and publishing prowess, rather

than innovation. Policy makers should also be aware of the risks; too much commercialisation may reduce the quality of scientific research and education.

### **3.3 *A renewed emphasis on human capital***

The role of human capital as a central pillar of the growth process is not new. Empirical studies have found that human capital is a significant determinant of economic growth (Bassanini and Scarpetta, 2001). There is, however, renewed interest in the productivity-enhancing role of human capital. One reason is its complementarity with new technology: for ICT or other technologies to be developed and used effectively, the right skills and competencies must be in place. One of the factors behind the good growth record of some countries has been the availability of a large pool of qualified personnel. Increasingly, some OECD countries use foreign labour to fill in shortages of qualified personnel. For example, in the United States, foreign workers filled more than a quarter of qualified ICT-jobs created during 1996-1998. The result of these trends is that the demand for "knowledge-intensive" employment has risen considerably (OECD, 2001a). Wages have followed a similar pattern.

To take advantage of the growth potential of new technology, it is therefore important to upgrade human capital. Policies have to ensure that formal education systems respond to changing requirements in a cost-effective way. But education policies, important as they are, need to be supplemented with action in the area of adult learning. This requires, first, laying a solid foundation in basic education, including early childhood education and care. It also requires policies to raise completion rates in upper secondary schools; in many countries, more than a fifth of every youth cohort are underqualified when they leave the formal education system. Such measures are often cost-effective, as they may reduce the need for more expensive intervention later on. Moreover, many OECD countries need to address the growing shortage of qualified teachers, which in many cases will inevitably mean making pay more competitive.

Greater attention should also be paid to the school-to-work transition. As the experience of Austria, Denmark, Germany and Switzerland shows, "dual" apprenticeship systems can be successful in integrating young cohorts into employment. But other systems can also be effective: for example, Australia and Sweden have strengthened the workplace component of schooling. To make the programmes work, it is essential to spread responsibilities between schools, trainees and employers. In particular, systems of co-financing need to be put in place, with trainees being paid below adult wages and employers being subjected to quality control. Higher education links with the labour market must also be strengthened. This can be achieved through a wider provision of short-cycle courses with a stronger occupational orientation. Making higher education institutions

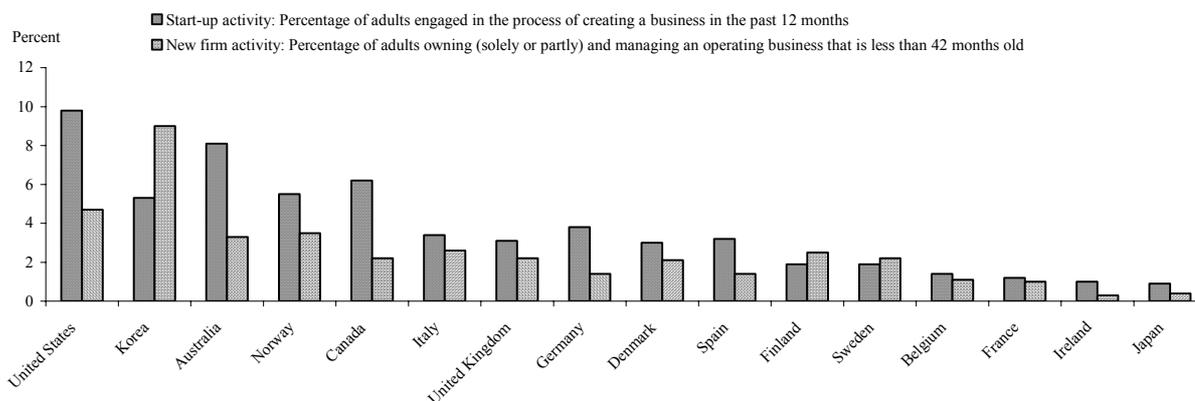
more accessible to adult workers who need to update their skills would also help. And stronger financial incentives based on the performance of education institutions would improve cost-efficiency.

Improving skills is not enough – human capital needs to be used efficiently and its interactions with new technology enhanced. To enhance the benefits of new technology and realise the potential of human capital, it is essential to reorganise work within firms. There is a marked association between ICT use and new work practices such as teamworking, employee involvement and flatter management structures (OECD, 2001a). Moreover, during the 1990s, labour productivity in US firms which implemented ICT and reorganised work grew very rapidly while it practically stagnated in firms which implemented new technology but did not reorganise work (OECD, 2001a). It is essential here to give workers greater voice in the process of change and institutions of labour-management co-operation should be strengthened in certain countries. This calls for modernisation of traditional systems of collective bargaining and wage formation. In addition, regulations should provide for more flexibility in working hours, allowing new forms of work to flourish.

#### ***3.4 Start-up firms have gained in importance as sources of growth and innovation***

Every period of technological change is a period of opportunity. Indeed, risk-taking and entrepreneurial activity feed on change, but also drive it. The pace of business formation has increased in several countries over the past decade, thanks largely to ICT, but also other new technologies, such as biotechnology. Newly created firms have spurred innovation in many areas. The jobs they have created have tended to be knowledge intensive and highly skilled. Their working organisations have tended to be more flexible too, in terms of training, internal job mobility and reward. Given the special role played by innovative start-ups in the 1990s, it is important to identify policies that help foster new firm creation and development.

**Figure 6. The level of entrepreneurial activity differs across OECD countries**



*Note: The proportion of the adult population engaged in nascent and new firms varies significantly across countries. Survey results show that in the United States, one in every 10 adults was starting a business in 2000, compared with one in 100 in Japan. The number of adults engaged in new firms ranges from one in 11 in Korea to less than one in 200 in Japan.*

*Source: Reynolds et al. (2000).*

At the same time, business failure among start-ups has also been marked. Not all entrepreneurs succeed, but far from being a sign of economic weakness, this dynamism in firm turnover reflects the ability of countries to expand the boundaries of economic activity, shift resources and adjust the structure of production to meet consumers' changing needs. Indeed, this "creative destruction" has been a boon for productivity growth. While new innovative firms are present in all OECD countries, the level of new firm creation has differed widely. The scarce evidence that is available suggests that start-up activity has been much higher in North America than in Europe or in Japan (Reynolds *et al.*, 2000; Figure 6). There is a wide range of reasons for this, covering financial support, regulatory and administrative environments, education and training, and cultural and social issues.

One impediment to entry for new innovative firms is the lack of financing. Innovative start-ups are less likely to flourish in countries without a broad venture capital culture. Many OECD countries have yet to remove the rules that prevent or discourage certain types of investors, such as pension funds and insurance companies, from engaging in venture capital investment. In addition, regulations that hinder the development of equity markets, including new markets that allow entrepreneurs and investors in early-stage risky projects to be compensated for their efforts, should also be eliminated.

Excessive, unnecessarily complicated or drawn-out regulations for registering new businesses discourage the entry of new firms in a number of countries (OECD, 2001a). Moreover, firms in their start-up phase may also be disproportionately burdened by tax and other administrative compliance procedures. Some reforms to reduce these barriers have recently been introduced, or are in the pipeline, but much remains to be done. Would-be entrepreneurs can be put off entering business by the costs and difficulties – both administrative and cultural – they face in case of failure. Excessive bankruptcy and insolvency costs, in particular, are a problem in several countries, as they reduce the possibility of entrepreneurs' getting a second chance. Reviewing legislation in these areas should be considered as a priority in many OECD countries.

Better policies are a necessary but insufficient condition of entrepreneurship. Opportunities also need a sufficient pool of entrepreneurs. Surveys conducted in a number of countries show that only a limited share of the working-age population between 25 and 44 is engaged in firm start-up activity. Moreover, there are more men entrepreneurs than women, although countries with the highest level of entrepreneurial activity are also those where women are most engaged. Nevertheless, much remains to be done in many countries to promote a pro-entrepreneurial culture. Education and training systems have a role to play in creating positive attitudes towards entrepreneurship and in providing adequate managerial skills.

### **3.5 *The role of fundamentals***

Policies on ICT, human capital, innovation and firm creation rely on fundamental economic and social stability to succeed. All of the above policy areas are interlinked and depend on each other for new growth opportunities to be realised. But those countries that have managed to lift their growth potential have been able to take advantage of the new economic environment because they had been getting their fundamentals right (OECD, 2001a). They owed their economic success to sound macroeconomic policies, well-functioning institutions and markets, and an orientation to build a more open and competitive economic environment. By contrast, in those countries whose growth performances appeared to lag, some of the fundamentals were perhaps missing or were at best so weak as to make it difficult to harness the new dynamism, such as not having the right institutional set-up for new business creation.

Stable macroeconomic policies have a critical role to play in this respect. Fiscal discipline and low inflation rates over the 1990s have helped to boost national savings, reducing uncertainty and enhancing the efficiency of the price mechanisms in allocating resources.

Clearly, these sound policies have to be maintained. At the same time, public spending in high-return physical and human capital investments should not be neglected, and budgets may have to be readjusted accordingly. However, excessive tax pressure to support government spending should be avoided as it can undermine growth.

Well-functioning product, financial and labour markets and institutions are essential in periods of technological change and also contribute to macroeconomic stability. Yet:

- State controls over prices and market entry still interfere widely with competition in several countries, retarding productivity growth and slowing down the adoption of new technologies.
- Financial markets and institutions in many countries have to adapt so that they are not solely geared towards the accumulation of physical assets in large, stable firms and well-established industries. Creating a mix of greater transparency on firms' information and performance and investors' protection would channel more financial capital towards innovative undertakings.
- Labour market institutions are key in ensuring that workers affected by structural change are given the support and the incentives they need to find new jobs and to retrain. In many countries, much remains to be done to reform the institutions and regulations that hinder the mobility of workers.

The benefits of growth should be shared among the entire population. One of the best ways to achieve this is to boost participation in the labour market. More effective active labour market programmes, such as job-search and counselling schemes, would help. Likewise, making work pay policies, such as the working families tax credit in the United Kingdom, can encourage would-be workers to join the labour market and contribute to productivity and growth. Moreover, well-designed social protection would not only tackle inequalities but also contribute to growth.

#### **4. Concluding remarks**

There is always a risk of exaggerating the potential of new technologies, and the recent boom in ICT investment was accompanied by some hype. The recent slowdown has instilled realism in the debate, and put an end to some exuberant economic behaviour. But it would be wrong to conclude that there was nothing particularly exceptional about the recent US experience. Some of the arguments posited by sceptics are of course true: the effect of ICT

may be smaller or no greater than other important inventions of the past, like electricity generation and the internal combustion engine. Moreover, greater productivity surges were recorded in previous decades. And the business cycle is certainly not dead, as some argued.

However, the evidence suggests that governments today are faced with a different economic environment. ICT has emerged as a key technology with the potential to transform economic and social activity and has contributed to more rapid growth in some OECD countries. While it is too early to say how important ICT's transformations will be compared with those of previous innovations, governments should nonetheless take action to manage adjustment and keep the social costs low. All governments can do more to exploit ICT further, by accelerating its diffusion, providing the right skills and building confidence.

But ICT is not the only factor explaining growth disparities in the OECD area and policies to bolster these technologies will not on their own steer countries on to a higher growth path. Governments must also create the right conditions for future change and innovation. This depends more than ever on improving the quality of human capital and responding to the changing demands of the workplace and society more broadly. It also means providing more scope for risk-takers to explore the new business opportunities that come with economic change. At the same time, the importance of some fundamentals has not lessened, and if anything, the pivotal role of sound macroeconomic management and institutions has increased.

The key policy requirements arising from the OECD work on growth are summarised below. Policymakers have to be prepared to invest time and political capital in meeting these challenges. Many of the countries that achieved higher growth rates in the 1990s reaped the fruits of earlier efforts, notably their macroeconomic and structural reforms of the 1980s. In other words, while innovation may be rapid, it can take several years to create the kind of environment in which it might take place, let alone see the results.

<p style="text-align: center;"><b>Key policy recommendations from <i>The New Economy: Beyond the Hype</i></b></p> <p>While specific policy priorities may differ across countries, this report encourages governments to adopt a comprehensive growth strategy based on a combination of actions in order to:</p> <ol style="list-style-type: none"><li>1. <b><i>Strengthen economic and social fundamentals</i></b>, by ensuring macroeconomic stability, encouraging openness, improving the functioning of markets and institutions, and addressing the distributive consequences of change.</li></ol>
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2. ***Facilitate the diffusion of ICT***, by increasing competition in telecommunications and technology, improving skills, building confidence and making electronic government a priority.
3. ***Foster innovation***, by giving greater priority to fundamental research, improving the effectiveness of public R&D funding, and promoting the flow of knowledge between science and industry.
4. ***Invest in human capital***, by strengthening education and training, making the teaching profession more attractive, improving the links between education and the labour market and adapting labour market institutions to the changing nature of work.
5. ***Stimulate firm creation***, by improving access to high-risk finance, reducing burdensome administrative regulations and instilling positive attitudes towards entrepreneurship.

*Source: OECD (2001a).*

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