

How Regulatory Change Affects the Economy

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The costs of regulatory reform – not least job losses and the disappearance of familiar institutions, in both the public and private sectors – are visible and immediate. The benefits – expanding markets, increased entrepreneurial innovation, economic growth, higher standards of living, cheaper goods and services – can take some time to appear and are sometimes difficult to quantify. The OECD has attempted to measure the effects on the economy as a whole from deregulation in individual sectors.¹

Most of us have mixed feelings about official rules and regulations. We object to the intrusions they make on our freedom, but we recognise that freedom also depends on the existence of rules. We resent the flood of new regulations that our tireless legislators pump out every year, but we fear the consequences of abolishing some of those we have learned to live with. We know that reform or abolition of many of the economic regulations – on what goods may be produced, how and by whom, and sometimes where or when we may purchase them, and at what price – has often resulted in lower prices or bigger choice, but we often read that such reform has led to bankruptcies, wage cuts and job losses. The potential benefits of reform seem difficult to measure. And the potential costs appear high for the people directly concerned.

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As part of its contribution to the OECD's project on regulatory reform, the Economics Department was asked to construct a sort of balance-sheet of the macro-economic impact of reforms to economic regulations. Any attempt to measure the benefits and costs of reform has to begin with its impacts on individual sectors. Ideally, it should also be able to say whether reform in one sector has subsequent effects on performance in others, and in which direction: is the net effect of several simultaneous reform programmes more or less than the sum of its parts?

Analytic Methods

Few reliable analytical tools exist to estimate the macro-economic effects of micro-economic change. Perhaps the best known is that which uses so-called 'computable general-equilibrium modelling'. That involves constructing a complex mathematical model of an economy, with a

detailed set of equations describing production and consumption, and calibrating the model by using data for a particular year. The model is then 'solved' to see what would be the result of reducing (or increasing) particular distortions affecting the economy in question.

The advantage of this approach, indeed, is that it allows the analyst to examine the impact on all important aspects of the economy arising from changes in an individual sector. The disadvantage is that it gives little information as to how long it would take the economy to adjust to change, nor how it would behave as it adjusted. Moreover, unless they are unmanageably complex, general-equilibrium models have to be purpose-built to answer particular questions. This involves a certain amount of arbitrary simplification, and hence an uncertain margin of error in the results (a model with sectoral detail would be very complex). It was decided at an early stage that the general-equilibrium approach would have to be ruled out.

The approach adopted instead was a five-stage one. First, we selected a group of countries that had a varied experience of regulatory reform, good data on variables of interest to us (especially data on sectoral productivity) and reliable macro-econometric models. The countries selected were (in descending order of GDP) the United States, Japan, Germany, France and the United Kingdom. Then we chose five sectors,

1. Sveinbjörn Blöndal and Dirk Pilat, 'The Economic Effects of Regulatory Reform', *OECD Economic Studies*, No. 28, OECD Publications, Paris, forthcoming 1997.

2. Dirk Pilat, 'Competition, Productivity and Efficiency', *OECD Economic Studies*, No. 27, OECD Publications, Paris, forthcoming 1997.

3. For example, C. Winston, 'Economic Deregulation: Days of Reckoning for Microeconomists', *Journal of Economic Literature*, Vol. 31, September 1993, and Jens Høj, Toshiyasu Kato and Dirk Pilat, 'Deregulation and Privatisation in the Private Sector', *OECD Economic Studies*, No. 25, OECD Publications, Paris, 1996.

4. Industry Commission, *The Growth and Revenue Implications of Hilmer and Related Reforms: Final Report*, AGPS, Canberra, 1995.

common to all five countries, where again the record of regulatory reform was varied, and where the sectors were either economically important (with a large contribution to GDP or employment), or where the programmes of regulatory reform have been particularly well documented, or both. The sectors were electricity, telecommunications, road transport, airlines and distribution.

Third, we estimated the likely impact of plausible regulatory reform on employment, wages, productivity and profits in each of the sectors in each of the countries. We were much helped by research we had already done to compare productivity in the same sector in different OECD countries,² and by analyses by other economists of the effects of previous reforms in some of these sectors,³ and by estimates of the likely effects of further reforms in some sectors.⁴ When we had such estimates, we used them. From the work already published, we knew broadly what sizes of effects to expect for the countries and sectors where there were no national studies. From our own research, we knew how big productivity differentials are in practice between countries, and thus by how much the gaps might be reduced. We also knew that poor productivity is often associated with lacklustre competition, and that many economic regulations stifle competition, sometimes deliberately.

We did not assume that all of the gap between productivity in the 'best' and 'worst' countries for a given sector were ascribable entirely to bad regulations and could therefore be eliminated by appropriate reforms. There is a host of reasons behind productivity differentials (differences in population densities, land prices and difficult-to-measure differences in the quality of labour, for example). By 'eliminating' only some of the gaps and estimating the impact on demand for the output of these sectors as a result of lower costs (of labour, capital and, in some cases, material inputs), we could estimate sectoral changes in productivity, employment, wages and profits that turned out to be comparable to those recorded in the real world after programmes of regulatory reform. So we are reasonably confident that the piecemeal sectoral effects that we estimated at this stage are indeed plausible esti-



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mates of what could be expected if these sectors were to be reformed in some countries to the same degree as they already have been in others.

At this stage, allowance was made for the 'innovation effect'. Regulatory reform (of, for example, telecommunications) has in the past usually been accompanied by the creation of new

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firms supplying new products to meet new demands. The expansion of the telecommunications market has compensated for the initial labour shake-out, and in some countries it has been argued that employment has actually risen in the sector. The innovation effect is, of course, difficult to model, as it depends on the entrepreneurial environment and the extent to which remaining regulations encourage or discourage it.⁵ But we were convinced that a more accurate picture of the effects of reform can be obtained by making allowance for innovation, however imperfectly, than by ignoring it altogether. Thus, in appropriate cases, we assumed that sectoral employment would fall by less, and that sectoral output would rise by more, than would have been expected on the basis of pre-reform estimates of demand elasticities.

By now, we had a series of estimates, either calculated by us or taken from national studies, of the first-round effects of regulatory reform on productivity, employment, wages and profits in the selected sectors and countries. The fourth step in the exercise was to 'add them up', for each country, by weighting them by the contribution of each sector to GDP or employment. At this stage we also examined the indirect effects of changes in the output prices or input requirements of one sector on all others.

But these calculations are purely static. They do not take into account that, in the real world, changes in labour productivity, employment and profits trigger off dynamic reactions which set the economy moving towards a new equilibrium.

5. See also pp. 19–22.

6. Sam Paltridge, 'How Competition Helps the Internet', *The OECD Observer*, No. 201, August/September 1996; *Telecommunication Infrastructure: The Benefits of Competition*, OECD Publications, Paris, 1995; Sam Paltridge, 'Upwardly Mobile Telephony', *The OECD Observer*, No. 196, October/November 1995.

7. *The OECD Jobs Study: Facts, Analysis, Strategies*, OECD Publications, Paris, 1994; *The OECD Jobs Study: Evidence and Explanations*, OECD Publications, Paris, 1994; *The OECD Jobs Study: Taxation, Employment and Unemployment*, OECD Publications, Paris, 1995; *The OECD Jobs Study: Investment, Productivity and Employment*, OECD Publications, Paris, 1995; *The OECD Jobs Study: Technology, Productivity and Job Creation*, OECD Publications, Paris, 1996; *The OECD Jobs Study: Enhancing the Effectiveness of Active Labour Market Policies*, OECD Publications, Paris, 1996; *The OECD Jobs Study: Pushing Ahead with the Strategy*, OECD Publications, Paris, 1996.

In the short term, while people are changing jobs as old ones are being eliminated and new ones created, higher unemployment temporarily results. This is unsustainable, though, and both employment and real wages adjust to move the labour market to a new equilibrium. Employment returns to broadly its previous volume, with output and real wages higher than before. The speed at which this happens will obviously depend on how good the labour market is at reacting to shocks. Compared with an economy that is able to adapt quickly to changing circumstances, an inflexible one could display higher unemployment for a longer period.

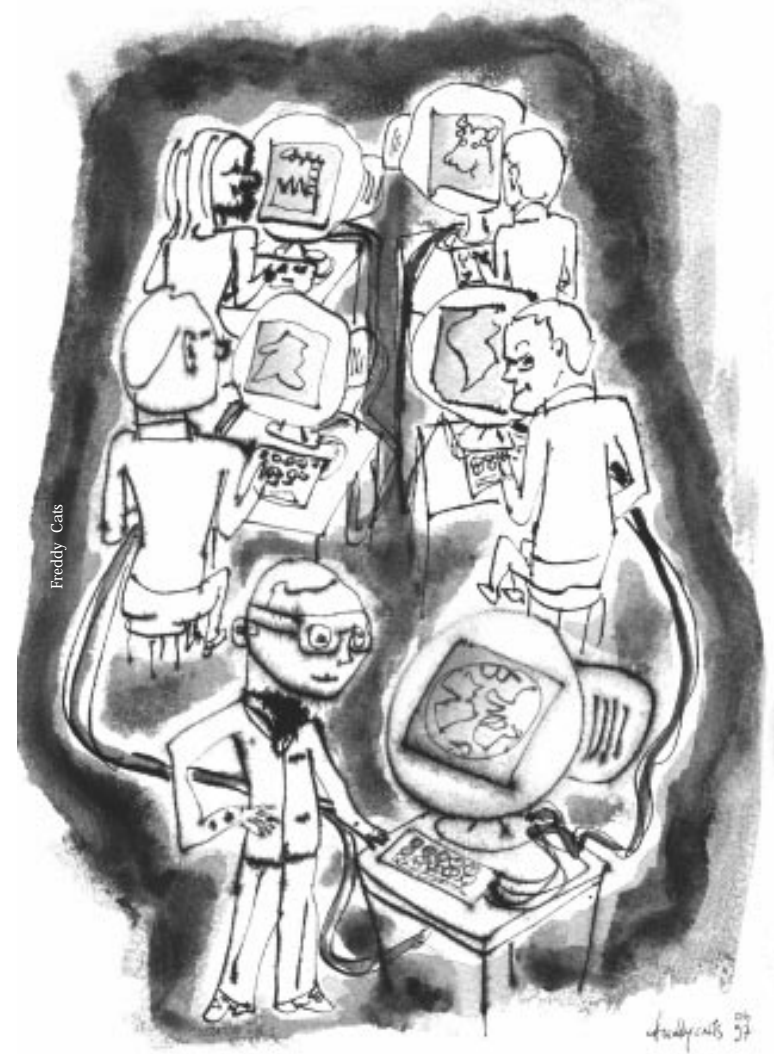
To explore these dynamic effects, a specially built version of the OECD's 'Interlink' model was used. In this fifth step, the initial shocks to productivity, wages, profits and employment were fed into the model over a simulated ten-year period, to mimic the impact of regulatory-reform programmes being carried out over that length of time.

The main results confirmed our expectations and strengthened our confidence in the validity of the approach. We found that wide-ranging programmes of regulatory reform can have a major impact on GDP in some countries, with no adverse effects in the longer term. Employment and unemployment return approximately to their previous positions in all countries. Inflation rates fall steeply at first, then flatten before picking up towards the end of the ten-year period, as the impact of reform on prices wears off. Real GDP rises by as much as 6 percentage points above baseline in the case of Japan, by 4½–5 percentage points in France and Germany, by 3½ percentage points for the United Kingdom, and by less than a percentage point for

the United States, broadly reflecting the actual scope for reform in the five countries.

Growth and Employment

It is often argued that regulatory reforms, especially of economic regulations, will lead to a rise in the long-term growth rate of the economy, faster growth of employment and permanently lower unemployment. These outcomes are possible, and indeed mechanisms exist that could bring them about – in theory. But our analysis does not assume that such mechanisms exist. Indeed, the evidence for a link between long-term growth rates and the prevalence of regulation in particular is weak. The economies of Japan and Europe which, relatively, are highly regulated grew faster than the United States for most of the period after the Second World War, for example, and there is considerable debate as to the extent to which regulations or their absence have helped or hindered growth in some Asian countries. (The reasons for the speeding-up or slowing-down of national growth rates remain obscure to some extent.)



Nor is the picture clear when it comes to the effects on employment and unemployment. Experience shows that, in general, real wages fully adjust to changes in labour productivity. As long as they do so, there is no particular reason that employers should want to employ more workers. Our main analysis assumes that employees succeed in appropriating for themselves all the benefits from higher productivity in the form of higher real wages, as has always been the case in the longer term. Hence employment in our simulations reverts to normal after an initial shake-out: it does not increase in net terms as a result of the reforms.

Arguably, though, a wide-ranging programme of regulatory reform might also affect labour markets in such a way as to increase employment and reduce unemployment in a permanent way. After a shake-out, the remaining employees may well not press for higher wages to completely 'compensate' for their higher productivity. The displaced employees, moreover, are likely to find new jobs that either pay less for the same productivity, or pay the same as before, but for higher productivity. Deregulation of telecommunications, for example, has spawned a host of new enterprises producing high value-added equipment to supply new demands,⁶ and some displaced employees from the former public monopolies may take jobs in those firms. Moreover, if the productivity gains are narrowly concentrated in a few sectors, with higher wages there, there might not be spill-over effects into other sectors. But to the extent that reform lowers prices of goods and services, there must be at least some increase in real wages for that reason alone: cheaper goods mean that real wages are higher throughout the economy even if nominal wages remain the same.

To explore these issues, we also ran a simulation in which an arbitrary three-quarters of the rise in labour productivity was allowed to find its way into higher real wages. As expected, we found that there would be permanent beneficial effects on employment, and lower unemployment. For continental Europe, for example, unemployment rates were lowered by one percentage point from their current positions of around 10%. This result strongly suggests that if

regulatory reform of product markets were to be combined with reforms that made labour markets more flexible, everybody would be a good deal better off: real wages would be higher and unemployment would be lower. Furthermore, public-sector finances would be healthier, as expenditure on income support would fall, and tax receipts would rise.



Our work and that of others, as well as historical experience, all show that credible, transparent and carefully designed programmes of regulatory reform lead to measurably higher living standards, as well as to benefits which are not easily quantifiable but which are nevertheless real. The new-found ability to shop in the evenings and at weekends in some OECD countries is one example, as is the availability of a range of different radio and television programmes and mobile telephony.

There is little doubt that in the initial stages (for example, the privatisation of a previously state-owned and inefficient electricity industry) some people will lose their jobs. But if the privatised industry is forced to become competitive, prices will fall, demand will increase, and new jobs will appear. Cheaper electricity will also encourage higher output in sectors which use electricity in large quantities, creating new jobs there, too. Still, this development will take time, and meanwhile some of the displaced employees will still be searching for a new job. Should regulatory reforms be postponed for that reason?

The costs of reform are similar in kind to the normal types of adjustment costs to which any open economy is always subject. Changes in tastes, in technology and in foreign competition all require the economy to adjust. Jobs disappear in some sectors and are created in others. In most sectors, this process has been happening gradually through the period since the Second World War. When industries are regulated, though particularly when they are regulated unnecessarily or in ways that insulate them from competition, the process of adjustment is hindered and slowed down. When reforms are made, adjustments that could have been spread over several years in the past are concentrated into a short

period as the log jam is cleared. Postponing reforms thus postpones the benefits and magnifies the eventual costs.

A large proportion of the costs is incurred by displaced employees, some of whom may have to search for a job for prolonged periods, particularly if they are older and less highly skilled. A range of studies show, too, that the new jobs are likely to pay substantially less than the previous ones, especially at first. Thus, even if society benefits in net terms, and to a considerable extent, some individuals pay a heavy price. *The OECD Jobs Study*⁷ demonstrated that the burden of adjustment can be mitigated (though not eliminated) by measures which increase the ability of the labour market to adjust – for example, by training people who lose their jobs in new skills and encouraging their mobility. ■



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