The Irish Economic Boom: What Can We Learn?

Pierre Fortin*
Université du Québec à Montréal and
Canadian Institute for Advanced Research

Since 1993, the economic performance of the Irish Republic has been truly exceptional. As measured by real GDP per head (real GDP divided by the total population), the per-capita income generated by the Irish economy increased by 97 per cent between 1989 and 2000, almost doubling in 11 years. Over that period, Ireland had by far the best performance of all OECD countries. Ireland's increase in standards of living propelled it from 19th place to seventh in that group of countries. Ireland's domestic real income per capita increased to 76 per cent of the U.S. level in 1999 from 50 per cent in 1989. The Irish standard of living has now outstripped the British level and the European average.[1]

This article will first review the key facts and patterns that characterize the Irish economic boom. It will then propose a structured interpretation of its causes. Finally, it will suggest practical lessons that policymakers from other countries, in particular Canada, can draw from the Irish experience.

Facts

Chart 1 traces the evolution of Irish real GDP per working-age adult (real GDP divided by the population aged 15 to 64) relative to the United States back to 1976. Initially, through ups and downs, Ireland managed to increase its real income per adult from 50 per cent of the leader in 1976 to 60 per cent in 1994. Then, from 1994 onward, its relative performance literally took off. It has risen by 18 points over the past six years, now reaching 78 per cent of the U.S. level.

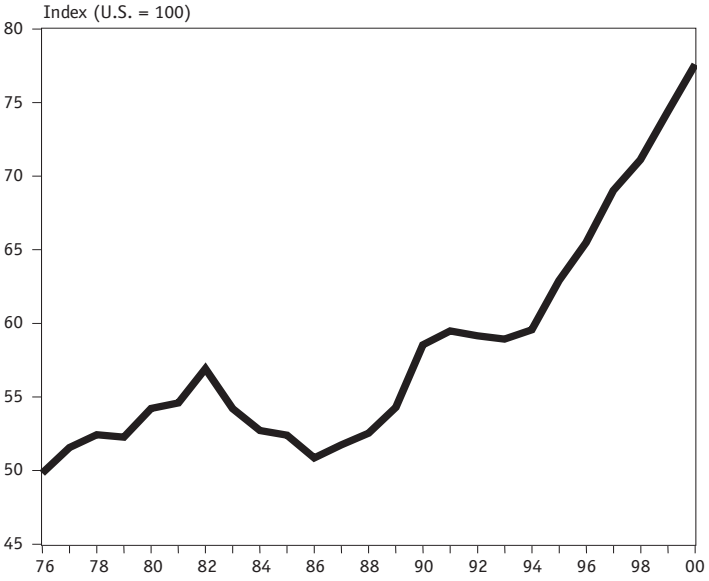
As an indicator of the rise in standards of living, real GDP growth gives too coarse a picture of wealth generation. This is particularly true when considering the recent Irish boom. More income per adult can be created in two basic ways: (1) by increasing real output per employed worker (with better technologies, better education and training, better public infrastructures, more and higher-quality machinery and equipment, better social relations, or more hours worked per worker); and (2) by putting a larger fraction of the adult population to work. The first channel, increasing real output per worker, means increasing productivity. The second channel, putting more people to work, means increasing the employment rate. The growth rate of real GDP per adult is just the sum of the increases in productivity and the employment rate.

Accordingly, Charts 2 and 3 break down the trend in Irish relative real GDP per working-age

Chart 1

Real GDP per Working-Age Adult in Ireland, 1976-2000

Percentage of the United States

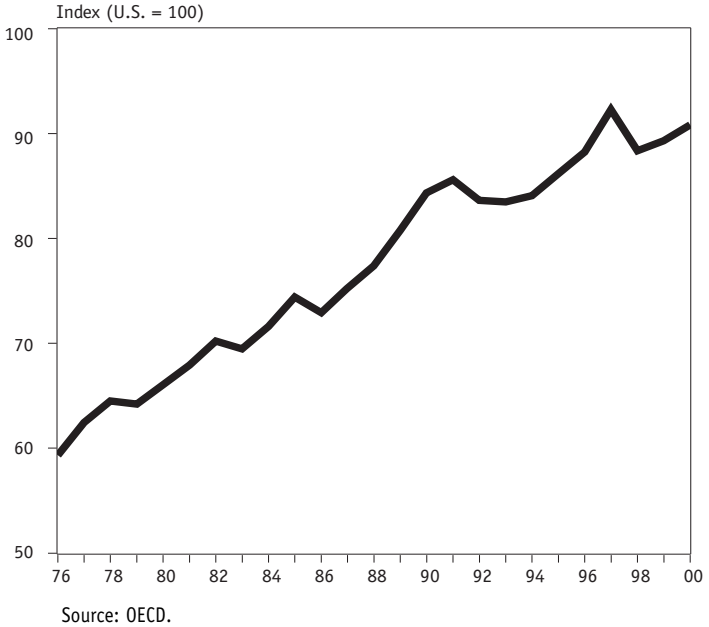


Source: OECD.

Chart 2

Labour Productivity in Ireland (Real GDP per Worker), 1976-2000

Percentage of the United States



Source: OECD.

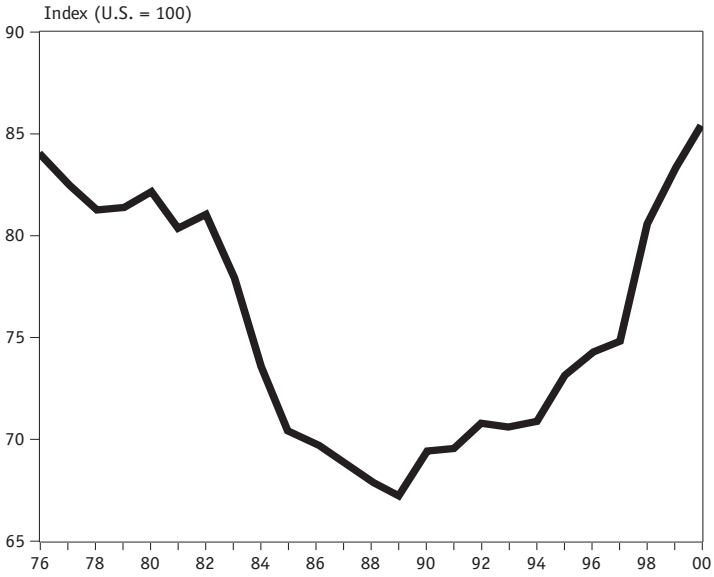
adult pictured in Chart 1 into its productivity and employment-rate components, respectively. Chart 2 brings out a startling fact. The growth in Irish productivity has been very rapid, not just over the past few years, but for the entire period 1976-2000. It has averaged 3.3 per cent a year. Productivity growth rates of 3 per cent or higher sustained over such an extended period have been a rare occurrence in the postwar period among OECD member countries, particularly over the last quarter century. In fact, since 1975, only South Korea has experienced faster productivity growth than Ireland in this group of countries. Remarkably, Irish output per worker now exceeds that of most other industrial countries, and is beginning to challenge U.S. productivity levels.

Two implications follow. First, a fundamental characteristic of the Irish economy over the last 25 years is that it has experienced a long-term productivity boom, not just a short-term one. Second, the short-term boom of the last seven years is not at all due to some acceleration of productivity. In fact, over the recent period 1989-2000 Irish productivity has grown somewhat more slowly (2.9 per cent a year) than over the previous 13-year period 1976-89 (3.6 per cent a year). Of course, as I will argue below, one cannot dismiss a priori the possibility that the observed slowdown in Irish productivity growth would have been more pronounced in the absence of the recent boom.

The tendency for Irish productivity to decelerate relative to U.S. productivity in the 1990s, which is apparent in Chart 2, should not be too surprising. Productivity usually grows more slowly once convergence to the world technology frontier has been achieved than in the previous catch-up phase. Although no one can pretend to know the future with certainty, a further deceleration of Irish productivity toward the growth rate of U.S. productivity would seem likely in coming years. This would translate into a further flattening of the time path of Ireland's relative productivity in Chart 2. This kind of slowdown in the growth of productivity is exactly what has happened to European countries that have already caught up with the level of U.S. output per hour.

If the Irish boom of 1994-2000 was not due to some acceleration of productivity (more output per worker), it must logically be attributed to the other source of growth in real GDP per adult, namely an exceptionally strong increase in the employment rate (a larger fraction of adults put to work). This fact receives confirmation in Chart 3. Like many EU member countries, but in contrast with North America, Ireland suffered a major employment setback between the mid-1970s and the mid-1990s, which largely overshadowed its bright productivity performance. In that period, Ireland was able to close part of its standard-of-living gap with the United States, as we saw in Chart 1, but the process was slow. Since the 1994 turnaround, the burst of employment in Ireland has not only erased previous job losses, but it has pushed the country's employment rate above the European average.

Chart 3
Employment Rate in Ireland (Employment-to-Population Ratio), 1976-2000
Percentage of the United States



Source: OECD.

Chart 3 suggests a natural interpretation of the Irish employment boom of recent years as a return of the employment rate to its normal long-term growth path after the long labour market slump of 1976-93. The chart shows that the Irish employment rate was 85 per cent of the U.S. employment rate in 2000, which was only slightly better than the 84 per cent relative rate observed in 1976. This means that, so far as it goes, the post-1993 employment boom can be viewed simply as a recovery from the 1976-93 employment slump.

In sum, the extraordinary income growth performance of Ireland in recent years stems from a dramatic turnaround in employment that has finally combined with the country's continuing long-term productivity boom to bring it back to where it should have been without the long employment slump of 1976-93.

The astounding Irish employment boom has had no parallel in postwar Europe. Some European countries have seen their unemployment rates fall appreciably over the past decade. Examples are Austria, Denmark, the Netherlands, Norway, Portugal, and the United Kingdom, whose current unemployment rates are all less than 6 per cent. What is exceptional about Ireland is four special characteristics of the employment surge. First, the Irish unemployment rate has dropped from a much higher initial level than in these other countries (from 16 per cent in 1993 to less than 4 per cent today). Second, the employment rate increase was able to draw on a very large pool of women who had never been in the labour force before. The number of Irish women in the labour force has increased by 65 per cent since 1993. Third, the rate of job creation has absorbed a very large flow of immigrants who were attracted (or attracted back) to Ireland by the boom. And fourth, all these developments have taken place with lightning speed.

Causes

I now turn to interpretations of the Irish productivity-employment boom. Specifically, how can the rapid pace of Irish long-term productivi-

ty growth over 1976-2000 and the short-term employment boom of 1994-2000 be explained?

Long-term productivity performance

Since 1976, the growth rate of productivity (output per employed worker) has averaged 3.3 per cent a year in Ireland. This is a very fast pace by international standards. An important influence to note behind this steady increase in productivity has been the continued shift of economic activity and employment from the primary sector to the secondary and tertiary sectors. The Irish primary sector was still employing 40 per cent of Irish workers in 1960; this is down to 9 per cent today. It goes without saying that such a development could not be replicated by most advanced industrial countries, where the transition from the primary sector had been largely completed by the end of the 1960s.

Beyond this general shift in resource allocation, it must be emphasized that Irish policy over the past 40 years has been very active in promoting economic growth. The Irish strategy has had four main components: 1) commercial policy, 2) industrial policy, 3) tax policy, and 4) education policy.

First, from the 1950s onward Irish commercial policy became an ardent and consistent promoter of free trade and monetary integration. Ireland is on a small island, and its current population (3.8 million) is slightly larger than that of Greater Montreal, which itself ranks 15th in population among North American metropolitan areas. Ireland understood early that the only way for its small and very open economy to expand and prosper was to obtain wide access to external markets and to make its domestic economy competitive by exposing it to import competition. This early abandonment of protectionist policies led Ireland into the European Union in 1973, the European Monetary System in 1979, the Single European Market in 1993, and the European Monetary Union in 1999. Nowadays, Ireland's export-to-GDP ratio exceeds 85 per cent, the corresponding number for Canada, say, being only half as large. The importance of the outward attitude of the Irish is underlined by the international evidence showing that openness to trade and foreign investment has a catalytic effect on technological diffusion and innovation, which is mostly where long-run productivity growth comes from (Coe and Helpman 1995).

Second, Irish industrial policy has been an early supporter of the free movement of international investment. Beginning with the repeal of the Control of Manufactures Act in 1958, Ireland switched gradually from a protectionist industrial policy to a very liberal regime toward foreign direct investment by the early 1970s. This evolution included a very welcoming attitude toward foreign investment, greater administrative efficiency to respond to the queries and needs of multinational corporations, a generous system of capital grants, various tax-related incentives, the end of restrictions on multinational corporations to remit profits abroad, the relaxation of incentives to locate in peripheral regions, improvements in international transport and communications infrastructures, and general reliance on stable and transparent legal and administrative rules. As Walsh (2000) puts it, by the early 1970s few other countries exercised as liberal a regime towards foreign direct investment. Natural factors have also operated to make Ireland particularly attractive to U.S. multinational corporations as a place to invest, such as the compatibility of the Irish legal and regulatory framework, and strong linguistic and cultural ties.

Third, Irish tax policy has been strongly supportive of business investment for several decades. The 1950s saw the introduction of a preferential rate of corporate taxation on profits from exports and manufacturing activity. Following pressure from the European Union,

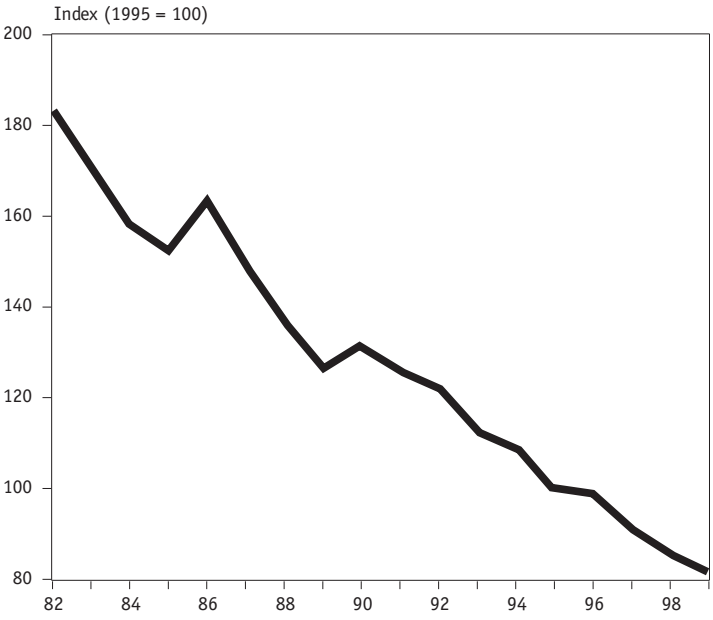
this was replaced in the 1980s by the current 10 per cent corporate tax rate on profits from manufacturing and internationally traded services, and from activities located in the International Financial Services Centre in Dublin. Again following European pressure, Ireland is now set to apply a single corporate profits tax of 12.5 per cent to the entire corporate sector by 2003. Just as in the case of industrial policy, support for business investment by Irish tax policy is not recent, but has been strong, reliable, transparent and consistent over many decades. It is a major mistake to attribute the spurt of foreign direct investment flows to Ireland in the second half of the 1990s to some recent reorientation of Irish industrial or corporate tax policies. The support to foreign direct investment from tax policy is real and important, but it has been there since the 1950s. By itself, it cannot explain the timing of the recent foreign investment boom.

Fourth and finally, from the 1960s onward Irish education policy has been to encourage free secondary and post-secondary education. Interacting with a late baby boom, this policy has made available a plentiful supply of well-educated young workers. The performance of Irish students in international comparisons of proficiency in mathematics and science is respectable and close to that of Canadian students. A recent United Nations survey of literacy and numeracy indicates young Irish score significantly above average. Irish education generally supports shorter, more applied courses than Continental education. These developments have been very instrumental in making Irish domestic firms more productive and in attracting multinational corporations to Ireland. In the more depressed period before the 1990s, one negative consequence of rising levels of education was emigration of highly-skilled young Irish. But as soon as employment prospects brightened, the investment in secondary and post-secondary education provided solid support for continued productivity growth.

Chart 4

Ireland's International Cost Competitiveness, 1982-1999

Manufacturing unit labour costs relative to its major trading partners



Source: OECD.

Short-term employment performance

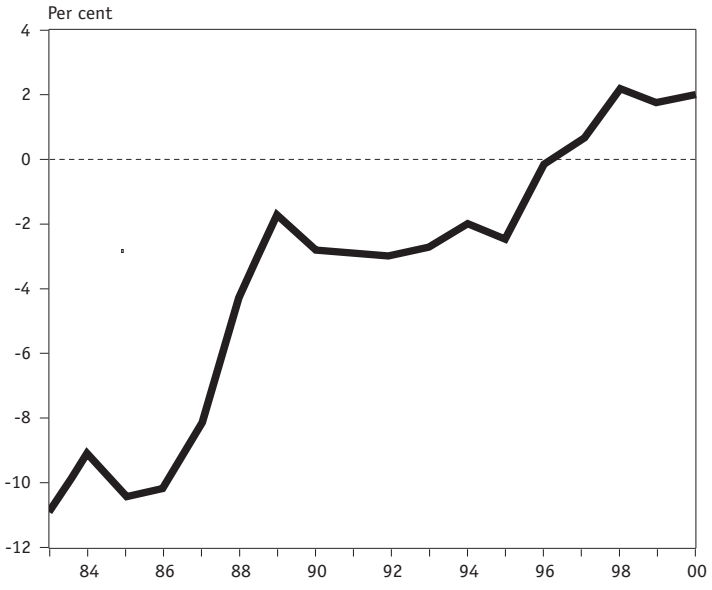
I now turn to the set of factors explaining the Irish short-term employment boom of 1994-2000, which has led to employment rates now exceeding the levels of the mid-1970s. In this most recent episode, Ireland has been blessed by an extraordinarily favourable set of circumstances in terms of both aggregate demand and aggregate supply. On the demand side, several mutually reinforcing influences have propelled spending to unprecedented heights: fast-growing foreign trade partners, stable fiscal policy, low real interest rates, and rising international competitiveness. On the supply side, plenty of new resources have accommodated the expansion in demand without generating inflation prematurely. In labour markets, these have been the previously-unemployed, women and immigrants; in capital markets, inbound foreign direct investment has been massive.

The first demand-side influence has been the solid economic recovery of Ireland's trade partners since 1993. The United States, the United

Chart 5

Ireland's Public Sector Fiscal Balance, 1983-2000

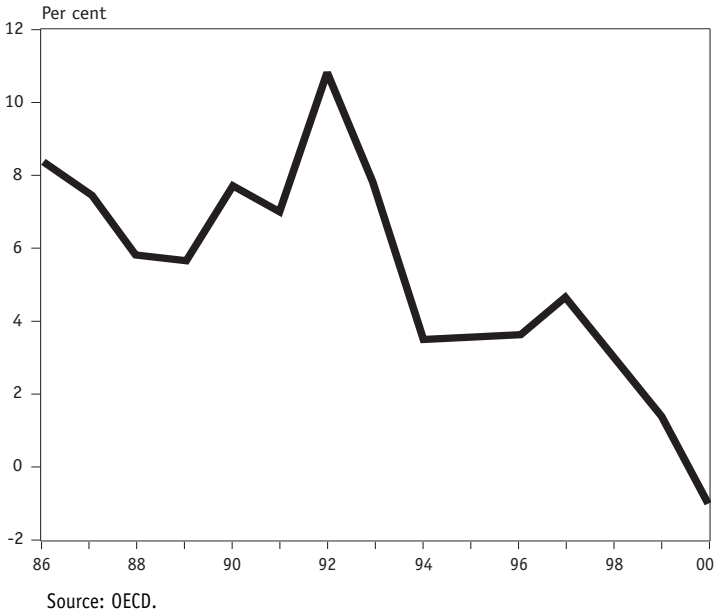
Percentage of GDP



Source: OECD.

Chart 6

Irish Real Short-term Interest Rate, 1986-2000



Source: OECD.

Kingdom and the rest of the European Union have all been experiencing strong output and income growth. Since Ireland's export-to-GDP ratio was already 70 per cent in 1994, the country immediately benefited from this foreign expansion. In the first two years of the boom, the annual growth rate of Irish real exports shot up to 20 per cent.

The second demand-side influence has been the extraordinary improvement in Irish international cost competitiveness since the mid-1980s. Chart 4 illustrates the evolution of Ireland's manufacturing unit labour costs relative to its main trading partners. On a 1995 = 100 basis, this relative cost index dropped from 160 in 1986 to 80 in 1999. This means that during this period Irish unit labour costs (measured in U.S. dollars) fell by half relative to unit labour costs among competitors (also measured in U.S. dollars).

The international cost competitiveness of a country can be improved by slower wage growth and faster productivity growth than elsewhere, or by depreciation of the domestic currency. It is mainly the first two factors, Irish wage moderation and sustained rapid productivity growth, that initially formed the basis for the country's rising competitiveness. Concerning the exchange rate, the Irish punt first appreciated (with ups and downs) by 9 per cent relative to currencies of trading partners from 1986 to 1992. Since then, a two-step depreciation of the trade-weighted nominal exchange rate, 5 per cent in 1993 and 8 per cent in 1999-2000, has contributed to increased international competitiveness. The exchange rate of the Irish punt is now fixed relative to the currencies of its euro partners, but remains flexible relative to other currencies such as the British pound and the U.S. dollar.

Ireland's sharply rising international competitiveness has had three effects. First, it has boosted its share of international export markets much beyond what was warranted by the general expansion of foreign economies. Between 1993 and 1999, real exports increased more than twice as quickly as real GDP. Second, the market position of Irish firms against import competition within the domestic economy has been reinforced. Third, the country has become an extremely profitable place to do business relative to other industrialized countries. This goes a

long way in explaining the extraordinary movement of foreign direct investment to Ireland.

The third demand-side influence has been Ireland's newly-recovered fiscal stability. During the second half of the 1980s, Irish fiscal policy had to fight ballooning debt and deficits and was sharply restrictive. But once the fiscal consolidation job was done at the turn of the 1990s, fiscal waters became much calmer.

During the 1970s and the first half of the 1980s, Ireland's public finances fell into a black hole of debt and deficits. As Chart 5 indicates, until the mid-1980s the Irish fiscal deficit was around 10 per cent of GDP. The public sector debt amounted to 110 per cent of a year's GDP. Just as Canada later did in 1995, Ireland then went through severe fiscal restraint. Government spending fell from 49 per cent of GDP in the mid-1980s to 39 per cent in the early 1990s. Chart 5 shows that, at the beginning of the new expansion in 1994, the fiscal deficit had melted down to 2 per cent of GDP. The debt-to-GDP ratio was declining rapidly. The worst of fiscal consolidation was finally behind. Since then, public spending has continued to fall as a fraction of GDP, but so has the overall tax burden. This has produced a moderate fiscal surplus, which can be seen in Chart 5, and only a small net effect on aggregate demand. The much-discussed equalization payments in the form of structural funds received from the European Union helped Ireland balance its fiscal budget in the first half of the 1990s. Those transfers were useful as short-term stabilizers and as a source of funds for investment in infrastructures, but they did not play a major role in the 1994-2000 boom.

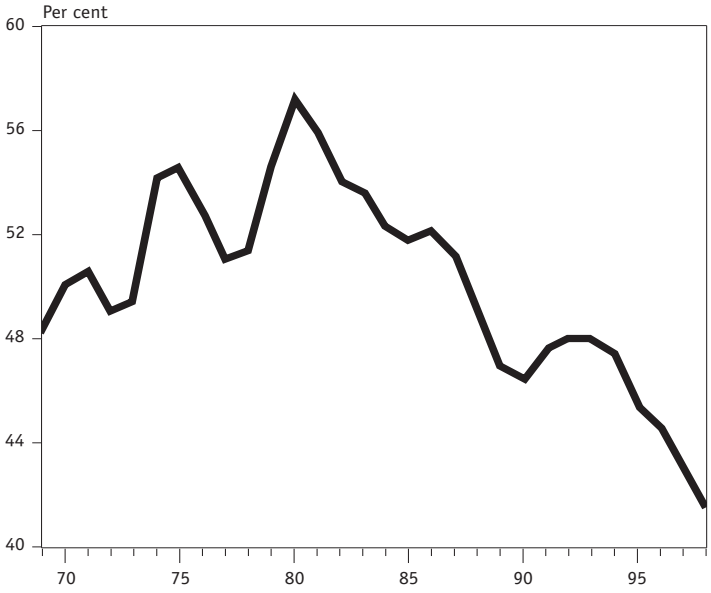
The fourth demand-side influence has been the advent of very low real interest rates in Ireland. Chart 6 shows that real interest rates remained in the 7-to-8 per cent range throughout the 1986-93 period, but then came down and stayed in the 2-to-3 per cent range. In the past year, they have even turned negative as inflation has come to exceed 6 per cent. The dramatic fall in Irish real interest rates resulted from two major developments. First, until it became clear Ireland had dealt decisively with its fiscal debt and deficit problems at the turn of the 1990s, markets were imposing a risk premium on Irish medium- to long-term bond issues. Following the fiscal consolidation, the premium all but disappeared. Second, the Maastricht Agreement, eventually confirmed by the entry of Ireland in the European Monetary Union, put an end to exchange risk for the Irish punt relative to the German mark. This naturally brought Irish interest rates to converge to low German levels.

From 1994 onward, low Irish real interest rates sustained an investment boom. Fixed investment has since increased twice as fast as GDP. It is also important to recall that membership in the Monetary Union means that nominal interest rates are now set in Frankfurt, not in Dublin. Interest rates will therefore remain low in Ireland even if inflation increases significantly for as long as the European Cental Bank determines that interest rate hikes are not required in the euro area as a whole. Macroeconomic adjustment to country-specific disturbances in a monetary union does not come from interest rate management by the local central bank (which no longer exists), but from active fiscal policy and the loss of competitiveness generated by the increase in domestic inflation relative to the rest of the currency area.

Between 1993 and 2000, all these aggregate demand factors sustained exceptionally strong increases of 83 per cent in Irish real GDP and 44 per cent in Irish employment. Even more startling has been the response of aggregate supply in labour and real capital markets. This response has allowed the national unemployment rate to fall from 16 per cent in 1993 to 5 per cent at the end of 1999 before inflationary pressures began to appear.

How can this prolonged non-inflationary response on the supply side be explained? Mainly

Chart 7
Share of Wages in Irish Gross Domestic Income, 1969-1998



Source: OECD.

by two major developments. The first supply-side development occurred in the labour market. From 1986 onward, Ireland experienced an unexpected degree of continued wage moderation, accompanied by peaceful industrial relations. Over the last 15 years or so, the purchasing power of the average wage has increased more slowly than productivity, so that the share of wages in gross domestic income has declined sharply, and the share of capital income has risen to an unprecedented level. This evolution is clear from Chart 7, which shows that the share of labour income in GDP fell to 42 per cent in 1998 from 52 per cent in 1986, after a rising trend from 1970 to 1986. The dramatic moderation of Irish wages has boosted business profitability and created a powerful incentive for domestic and foreign firms to locate, do business and create jobs in Ireland. A similar phenomenon of long-term wage moderation has also been observed in the Netherlands since the tripartite agreement of 1982, with similar effects on profitability and employment (Blanchard, 2000). Wage moderation is also probably an important source of slowdown in the growth rate of Irish labour productivity in the 1990s (Chart 2). Lower wages relative to the cost of capital created a strong incentive for substituting labour for capital in production processes, leading to a decline in capital-labour intensity and therefore in labour productivity.

Wage moderation in Ireland has been the result of periodic consensus-based National Wage Agreements that have been negotiated centrally since 1987. Moderate wage growth has often been encouraged as a quid pro quo for personal tax cuts granted by the Irish government. The Agreements have allowed the growing supply of labour from the previouly-unemployed, the new labour force participants (mainly women), and the large flow of immigrants to Ireland from the United Kingdom and elsewhere to fully exert its moderating pressure on the pace of Irish wage growth. There is no question that a limit must be reached on the extent of feasible decline in the share of labour in gross domestic income. The most recent National Wage Agreement, reached in early 2000, projects wage growth at the rate of 5.5 per cent a year until 2002, but it is already clear that rising inflation and fierce competition among firms for increasingly scarce labour will produce average wage growth in excess of this baseline rate of increase.

The second supply-side development has occurred in real capital markets. The rate of fixed capital formation has been boosted by massive flows of inbound foreign direct investment, particularly from the United States. As explained above in the review of causes of the Irish long-term productivity boom, many policies had previously set the appropriate long-run context, or preconditions, for an expansion of foreign direct investment in Ireland. Commercial, industrial, tax and education policies all worked together to support inbound foreign direct investment. It needs to be repeated that the low corporate tax rate in Ireland (10 per cent in manufacturing and international financial services) has been in place since the 1950s. Although the low tax rate has clearly helped, it cannot be the cause of the sudden explosion of foreign direct investment in Ireland after 1993.

It is the timing and magnitude of the response of multinational corporations in the 1990s that needs to be explained. The fragmentary data available (OECD, 1999) indicate that the flow of net foreign direct investment in Ireland averaged about $100 million U.S. a year over 1986-90, but was ten times more ($1.1 billion U.S. a year) over 1991-97. The stock of U.S. direct investment installed in Ireland, which accounts for two-thirds of the total, increased by $1 billion U.S. in 1995, $2 billion U.S. in 1996 and $4 billion U.S. in 1997. Further, these official figures likely understate reality by a significant amount because they omit investment projects financed by the retained earnings of multinational corporations. The foreign direct investment inflow is known to have accelerated further since. The largest share of that investment has gone to the chemical (including pharmaceuticals), electronics and financial services sectors. Foreign companies in Ireland now account for approximately 25 per cent of GDP, 50 per cent of manufacturing employment, 75 per cent of manufacturing output, and 85 per cent of merchandise exports.

A particularly favourable set of short-term factors have combined with the long-run factors to produce the foreign direct investment boom of the 1990s. First, as prospects for the Single European Market brightened in the early 1990s, Euro-optimism began to replace the Euro-pessimism of the second half of the 1980s. This led multinational corporations to look for bases from which to penetrate the new European Market. Second, the U.S. boom of 1993-2000 came just in time to supply very large flows of new foreign direct investment to Europe. Third, many of the demand- and supply-side influences specific to Ireland that have already been mentioned, namely recovered fiscal discipline, low real interest rates, improving international cost competitiveness, and persistent wage moderation, gave an extraordinary boost to business expectations and profitability in Irish locations. Walsh (2000) reports that in recent years the return on capital from U.S. direct investment in Ireland has been in excess of 30 per cent, compared to around 10 per cent in the rest of Europe. Given all the favourable long-term preconditions and the short-term advantages of investing in Ireland, over the last seven years the country has caught the lion's share (20 per cent) of rising U.S. direct capital flows to Europe.

Naturally, to appreciate the impact of foreign direct investment on the Irish economy, it is important to bear in mind the small size of Ireland relative to the rest of the industrialized world. The U.S. economy, in particular, is 70 times the size of the Irish economy. So, even if only a very small piece of the very large U.S. pool of funds shifts to Ireland from elsewhere, it can have a very large impact on the very small Irish economic space.

The resulting acceleration in business fixed investment, particularly by foreign companies, has combined with wage moderation in labour markets to extend the non-inflationary phase of the employment boom until the end of 1999. A more rapid pace of fixed investment works against inflation by increasing labour productivity, and hence the ratio of wages to prices, faster than would otherwise have occurred. This has contributed to keep price inflation low for an extended period in Ireland even if nominal wages were picking up speed. A similar development has been observed in the United States in the wake of the 1996-2000 acceleration of productivity growth. There too, price inflation has remained low despite accelerating nominal wages. In Ireland, inflationary pressures did not emerge before the national unemployment rate declined to around 5 per cent. In the United States, there was little evidence of any fundamental increase in inflation even when the national unemployment rate was under 4.5 per cent during the 1998-2000 period.

Lessons

What can other countries learn from Irish actions to enhance long-term productivity and promote high employment? There are four main lessons to be learned, I would think: (1) support free international trade and investment; (2) develop business-friendly industrial and tax policies; (3) stick to free or low-cost secondary and post-secondary education; and (4) make sure aggregate supply can accommodate non-inflationary aggregate demand expansion. A fifth overall lesson is: be determined, consistent, and patient. The horizon over which the right policies pay off definitely exceeds that of a single electoral mandate.

The first lesson is that small open countries such as Canada must be active and consistent supporters of free international trade and investment. Contemporary research has established beyond doubt that a determined outward orientation accelerates technological innovation and diffusion in the domestic economy, allows specialization to take place by procuring the relevant economies of scale, guarantees access to international markets, and strenghtens the competitiveness of domestic firms by subjecting them to stimulating international competition. Examples of steps Canada could take are to promote freer trade with Latin America and Asia, adopt a more welcoming attitude toward incoming foreign direct investment, and work with other countries to find definitive, internationally-acceptable ground rules for foreign direct investment.

The second lesson is that business activity works better in a rules-based, transparent and friendly environment that makes it more profitable than in a discretionary, arbitrary and inimical environment that makes it less profitable. For over forty years Irish industrial and tax policies have been a learning-by-doing experience of the first type of approach. Those policies have included a generally positive attitude toward business, administrative efficiency to respond to queries and needs, a low corporate income tax rate (initially for exporters and manufacturers, and now for all sectors), a generous system of capital grants, the early removal of restrictions on choice of business locations and disposal of profits, the provision of adequate international transport and communications infrastructures, and stable and transparent rules.

The third lesson to be learned from Irish growth-promoting policies pertains to the central role played by investment in secondary and post-secondary education. In this respect, the comparison between Canada and the United States presented in Chart 8 is instructive. Until recently there was a large Canada-US gap in school enrollment. The gap reached a maximum in 1979, with 48 per cent of the young population (15-24) attending school in the United States and only 42 per cent in Canada. Then, throughout the 1980s, the aggregate enrollment rate rose sharply in Canada, but increased much more slowly in the United States, so that the gap was entirely closed by 1991. The enrollment rates in the two countries were both 62 per cent in 1997. There is now solid evidence on the favourable impact of the level of education on labour quality and productivity, and on both individual and aggregate wages (see, for example, Acemoglu and Angrist, 2000). Skilled workers play a key role in the development and implementation of new technologies. Education could also constitute a weapon against rising inequality in the knowledge-intensive economy (Murphy, Riddell and Romer 1998).

The fourth lesson pertains to the appropriate mix of aggregate demand and supply policies. A sharp employment turnaround has been the main driving force behind the Irish economic boom of 1994-2000. The Irish economic boom of 1994-2000 confirms that two requirements must be met for a non-inflationary expansion of output and employment to take place. First, aggregate

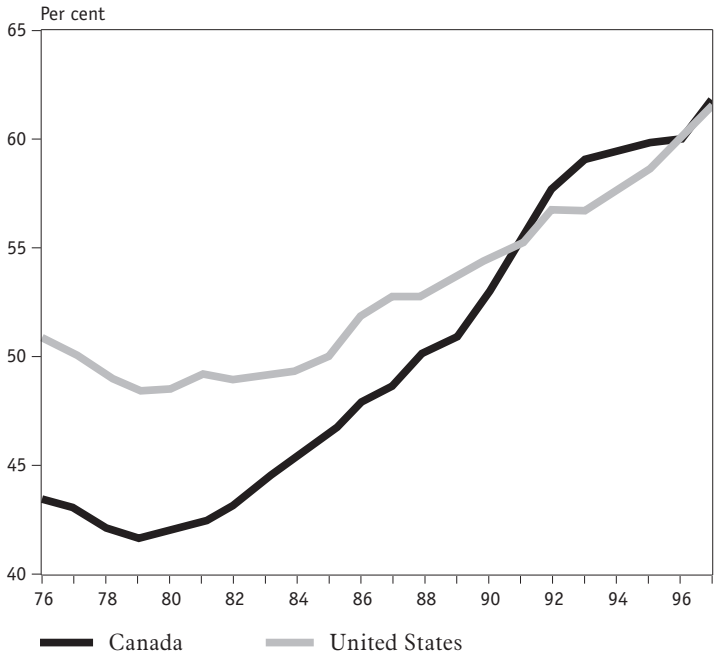
demand for goods and services must be propped up through some mechanism. Second, the additional productive labour and capital needed to sustain the growth in output must be supplied without generating higher inflation.

In small open economies, the growth of aggregate demand often results from international influences that largely escape control by domestic economic policy. In the Irish case since 1993, these external influences have been the simultaneous economic expansions in the United States, the United Kingdom and the rest of Europe, and the depreciation of the punt and the euro since 1996. In the Canadian case since 1996, the international influences have been the U.S. expansion and the previous depreciation of the Canadian dollar. A mitigating factor has been the ups and downs of world prices for Canada's natural resource exports.

But various components of Irish domestic policy, not only international influences, have been supportive of both the demand expansion and the non-inflationary labour and capital supply response. The three most important, singled out above, are fiscal discipline, consensus-based wage moderation, and participation in the Single European Market and the European Monetary Union. Can other countries such as Canada emulate Ireland along these lines? The answer is clearly yes in the case of fiscal discipline and free trade. Fiscal responsibility has returned to Canada after the federal and provincial fiscal consolidation programs of 1995-98. Further, Canada has enjoyed free trade with the United States since 1989, and with Mexico since 1993. In these cases, the lessons have already been learned.

Other components of Irish policy, such as centralized national wage agreements and participation in a continental monetary union, are specific to the European continent, and are not easily transplanted to other areas. Canadian wage-setting institutions are very different from their

Chart 8
School Enrollment Rate of Population Aged 15 to 24, 1976-97
Canada and the United States



Source: OECD.

Irish counterparts. Private-sector wage bargaining is fully decentralized, even for the 20 per cent of private-sector employees who are union members. Because history, tradition and culture play an important role in wage bargaining, Canadian institutions could not easily be shifted toward the kind of consensus-based corporatist structure that Ireland has adopted. This does not mean wage growth cannot be moderate in Canada. In fact, this has clearly been the case in recent years. The share of wages in Canada's gross domestic income has hovered around 56 per cent since 1995, which is down from the 60 per cent level of the mid-1970s and early 1990s. Similarly, Canada's international cost competitiveness since 1995 has been stronger than at any time in the last thirty years — except in 1986.

The economic merits of Canada's participation in an eventual North American or Pan-American Monetary Union with the United States, and perhaps Mexico and other Latin

American countries, are hotly debated (Courchene and Harris 1999; Murray 2000). Among the benefits would be the elimination of business risk arising from exchange rate volatility and longer-lasting currency misalignment, and assured convergence of Canadian interest rates to U.S. levels. Among the costs would be the loss of monetary independence to deal with macroeconomic disturbances specific to Canada. There is a wide consensus that, for a very small country like Ireland, monetary integration into a wider currency area is the best course to follow. The end of foreign exchange risk and the convergence of Irish interest rates to German levels have been important factors behind the Irish economic success of the 1990s. I share with many others the view that this is also the optimal economic solution for intermediate-size countries like Canada, but that a North American Monetary Union is not politically feasible for now, because of lack of interest in the the United States and lack of political legitimacy in Canada (Buiter, 1999; Mundell, 2000; and Fortin, 2000).

What more can a country such as Canada do to minimize unemployment without allowing inflation to get out of control? The recent expansions in the United States and Ireland suggest two directions. First, as the ultimate regulator of aggregate demand through its control of short-term interest rates, the Bank of Canada should allow recoveries to run their courses, and therefore the national unemployment rate to continue to decline, until there is tangible evidence that a wage-price acceleration is about to occur. In this respect, perhaps the Bank should allow inflation to drift into the 2-to-3 per cent range, as the Federal Reserve has done in the last decade, instead of keeping it between 1 and 2 per cent as it has done since 1991. This would be a prudent move, given recent macroeconomic evidence (see, for example, Akerlof, Dickens and Perry, 2000) suggesting that, when the inflation rate is already very low, the slightest half-percentage-point variation in inflation could have important consequences for the level of non-inflationary unemployment a country can achieve.

Second, the Irish experience indicates that reducing the non-inflationary unemployment rate could be made easier by supply-friendly tax, expenditure and regulatory policies. Personal income tax cuts in Ireland seem to have encouraged moderate wage growth and low inflation. This could be widened to all kinds of policies (regulatory or other) that would retard the growth of unit labour costs. Canadian tax and expenditure policies must also turn resolutely toward fostering higher rates of saving and investment — an aspect of tax reform that has perhaps not received enough attention in recent Canadian discussions. This could be achieved by accelerating infrastructure investment, by paying down the public debt, by increasing the income-tax deductibility of personal savings, and by reducing the statutory and effective tax rates on business investment.

Conclusion

Between 1989 and 2000, real domestic income per head in Ireland has doubled, with most of the increase taking place in the last seven years. The Irish economic boom has two dimensions: (1) a continuing rapid long-term increase in productivity (output per worker) at the average annual rate of nearly 3 per cent a year; and (2) a short-term employment boom that has seen the number of jobs expand by 44 per cent since 1993, the employment rate of the working-age population return to, and then exceed, its level of the mid-1970s, and the unemployment rate decline from double digits to less than 5 per cent.

Irish commercial, industrial, tax and education policies have been very supportive of the rapid pace of long-term productivity growth.

This strong and consistent support is not recent, but began to develop in the 1950s and matured in the 1970s. There is much for other countries to learn and emulate in these areas, in terms of both content and perseverance.

The short-term employment boom has followed developments in both aggregate demand and aggregate supply. The aggregate-demand push has been spurred by a solid recovery, and the aggregate-supply response kept inflation in check until the end of 1999, thanks to persistent wage moderation in labour markets and massive flows of inbound foreign direct investment in real capital markets. Policywise, fiscal discipline, centralized wage bargaining, and Ireland's participation in the Single European Market and the European Monetary Union have been key factors contributing to the growth of aggregate demand and to the non-inflationary aggregate-supply response. Other countries can emulate the Irish success to some extent. Fiscal discipline, and support for free trade and free international investment are policies every country can embrace. Other Irish policies have been very specific to the European context and would be hard to imitate in different institutional circumstances.

Notes

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1 An important caveat is that in recent years a rising portion of the growth in Irish domestic income (earned on Irish territory) has been due to the rising activity of multinational corporations. Net payments of interests and dividends to foreigners have increased sharply, and so have not contributed to raise Irish national income (earned by Irish nationals). In 1999, these net foreign payments represented 12.5 per cent of GDP.

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