<table>
<thead>
<tr>
<th>Title</th>
<th>How to measure competitiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Authors(s)</td>
<td>Durkan, Joe</td>
</tr>
<tr>
<td>Publication date</td>
<td>1989</td>
</tr>
<tr>
<td>Publication info</td>
<td>McAleese, D. (ed.). Competition and industry: the Irish experience</td>
</tr>
<tr>
<td>Publisher</td>
<td>Gill and Macmillan</td>
</tr>
<tr>
<td>Item record</td>
<td><a href="http://hdl.handle.net/10197/2012">http://hdl.handle.net/10197/2012</a></td>
</tr>
</tbody>
</table>
HOW TO MEASURE COMPETITIVENESS

Joe Durkan

Coopers and Lybrand

Competitiveness is a characteristic of firms and economies. A firm is competitive if, at prevailing prices for its products and inputs, it can generate sufficient profits to maintain its existence.

An economy is essentially different. An economy could have all firms competitive in the sense used above, but simultaneously have unemployed resources, given the cost structure that prevails. A competitive economy is one where resources are fully utilised and admits of the possibility that some firms are decaying and others expanding.

While the concept of competitiveness is straightforward both at the firm and economy level, tests of competitiveness are less cut-and-dried. Because of a lack of detailed company information, tests of competitiveness appropriate to the firm have tended to be applied to highly aggregated data, and conclusions have been drawn about the degree of national or economy-wide competitiveness. Strictly one should look at firms, and then apply different criteria to the national economy.

At the level of the firm an assessment of competitiveness involves a discussion of its profitability and the factors that influence profitability. These include products and prices; market share and marketing; operating costs (including labour costs); capital stock; and management. A competitive firm tends to embody unique characteristics and strengths, which differentiate it from its competitors. These competitors may also exhibit unique characteristics. While in a pedagogic sense we abstract differences between firms, the reality in the market is that firms and their products have real or perceived strengths and weaknesses.

It is apparent from this view of the competitiveness of a firm that many factors that influence a firm's competitive position are unquantifiable or qualitative in nature. As a consequence, and particularly when one goes from the firm to the economy in the loose sense referred to earlier, measures of competitiveness are really measures of those things that are easy to get figures for. In effect, when one is looking at national competitiveness using the firm as a basis, this
involves a discussion of prices, costs and market share in an aggregate sense, where these factors are compared with those of other countries. Furthermore, as we rarely have absolute data it is trends over time that are generally considered.

PRICES
At an aggregate level, trends in price competitiveness have to be approached indirectly. There are no price indices for tradable goods and services. Instead it is possible to compare unit values for actually traded goods, or wholesale prices for all goods. Both suffer serious drawbacks, so much so that a comparison of price competitiveness based on both can be misleading. Unit values are not prices. Unit values of exports could be increasing relative to unit values in other countries simply because of an improvement in the quality of products relative to other countries or because of changes in the product mix.

Wholesale prices include the prices of goods that are not traded internationally, and of course include the prices of foodstuffs—much of which are influenced by the CAP, often operating differently between countries (Ireland and the UK being the notable example).

These difficulties should not be underestimated. It is widely believed that if trends in 'true' prices for tradables were available they would indicate no difference between trends in Ireland and elsewhere, because Ireland is simply a price taker.

Over and above these issues, volatility in exchange rates creates unique difficulties for the interpretation of the data. Prices, however measured, have to be compared across countries in common currency terms. A significant portion of a loss or gain in measured price competitiveness in the short term tends to be due to exchange rate changes—yet most firms exporting would be unaffected by this, because of hedging operations in the foreign exchange market. Of course volatility is not the only characteristic of exchange rates. There are also medium-term trends, for example the strength of the dollar up to early 1985 and its weakness since. These trends can be very disruptive. The critical factor for firms is the extent to which gains that are solely due to exchange rate changes are embodied in behaviour, for example in wage rates and investment. To the extent that firms regard an exchange rate change as permanent and behave accordingly, medium-term trends will necessitate major rationalisation once the direction of the exchange rate changes. Where prices are externally determined, of course, measures of price competitiveness will show no change, irrespective of what is happening to profits.

COSTS
As a result of the difficulties of defining precise price variables to examine price competitiveness, and the difficulty with the concept itself in the context of a price-taking model for a country such as Ireland, attention is generally directed to costs.
Unfortunately, we have no information on total production costs on a reasonably current basis. Information is, however, available on wage costs and on the costs of public utilities. Discussion of costs then tends to be a discussion of changes in wage rates, changes in wages per unit of output, and absolute levels of public utility charges, with greatest attention devoted to wages.

In general the focus has been on trends in unit wage costs, i.e. wage costs per unit of output. The logic behind a consideration of unit wage costs is that a rise in measured unit wage costs relative to other countries (in common currency terms) represents a fall in competitiveness.

It is not obvious that this is necessarily the case. First, it is necessary to establish the link between wage costs and total costs, and between total costs and competitiveness. Second, measures of unit wage costs, particularly in Ireland, can be heavily influenced by structural change, start-up firms and sectors being high-wage, while decaying sectors and firms tend to be low-wage. Third, unit wage cost is not a variable in its own right. Unit wage cost is derived by looking at total wages divided by total output, and is equivalent to wages per person divided by output per person. Output is not independent of wage rates, nor are wage rates independent of output. Fourth, the form in which new wage agreements are set can influence unit wage costs. If agreements are front-loaded, unit wage costs tend to increase first and then decline. Fifth, unit wage costs can vary depending on the business cycle. If demand weakens and output falls, measured unit wage costs increase, and vice versa. Sixth, wage costs are not the same as labour costs. For these reasons unit wage cost as a variable by itself must be treated with caution.

Changes in basic rates of pay are often considered a better indicator of changes in cost competitiveness. This gets over some of the difficulties with unit wage costs referred to above, but suffers in turn from the fact that a significant increase in basic rates of pay that simply matched a significant increase in productivity could be seen as a worsening in competitiveness.

Finally on the wages front, in some respects what is important to firms is the absolute level of labour costs relative to competitors. If firms and economies were in equilibrium, differences in wages would reflect different factor endowments of one sort or another. However, the reality is that the world is characterised by no such equilibrium. If wage rates here are significantly higher than, say, in the UK, there is an incentive for firms to relocate just on wage cost grounds, irrespective of recent trends in unit wage costs or trends in wage rates.

In addition to data on wage costs, however defined, some information is available on public utility costs (electricity, gas, communications, transport) in Ireland relative to other countries. These show in general a deterioration in costs to consumers since the mid-1970s relative to other countries.
The principal difficulty with measures of cost competitiveness is that by concentrating on readily available data they ignore the total cost structure of firms. At a more fundamental level we need to know why differences have emerged in costs and how these have impacted on the overall cost structure. If wage rates have risen too rapidly relative to other countries, what has been the pressure point on the demand side and on the supply side? Why have firms been willing to make payments? Have wage increases been heavily influenced by the taxation policy of the Government, and have other non-wage costs been influenced by Government action? How have firms reacted to a reduction in competitiveness: by going under or rationalising?

MARKET SHARE
An alternative approach to evaluating competitiveness is to look at trade performance. The logic behind this is that if a country is increasing its share of world trade, this is evidence that the economy is competitive. This is not necessarily the case. As is well known, Ireland's share of world trade has increased sharply over the past fifteen years. The prime source of this growth was the establishment in Ireland of branches of multinationals producing goods for export, where the main competitive element derives from the tax treatment of profits through export sales relief. It is not a necessary condition for growth in market share that firms be price or cost-competitive once tax-based activities are considered.

Even if tax-based exports are excluded, a country could find that shifts in demand patterns, with no change in costs or prices, could result in an increase in market share, because firms had been established in the right market areas. In effect this would represent an increase in competitiveness.

PRICE COMPETITIVENESS,
COST COMPETITIVENESS AND MARKET SHARE: CONCLUSION
The traditional approaches to the measurement of competitiveness are seriously flawed. To some extent this comes from attempting to apply at the national level concepts that are partial explanations of the performance of companies. At a national level there are no adequate measures of price that would enable one to see if prices domestically of traded goods were moving adversely (never mind the question of the level of those prices). Given a model of price determination that sees tradable goods prices as externally determined, emerging price differences could be seen as evidence of faulty data. Existing measures of cost competitiveness are also defective. They concentrate on a narrow range of costs (labour and utilities) and ignore the total cost structure. Market share analysis is affected by tax-based production and trading.

Having said all this, it is still useful to look at aggregates—but not to expect any one to provide a single, uncomplicated answer to the question of competitiveness. Trends in wage rates, hourly earnings,
exchange-rate-adjusted prices and market shares all provide signals. It is a question of reconciling conflicting signals. In many respects these signals are simply the starting-point for further analysis.

AN ALTERNATIVE APPROACH TO COMPETITIVENESS
It was stated earlier that part of the difficulty with measures of competitiveness is that they represent an attempt to apply at a national level what are really measures appropriate to the individual firm. An alternative approach is to look at the competitive position of firms separately, building that up into a picture of individual sectors, while applying different tests for the economy as a whole.

It is firms that trade, so the natural starting-point is the firm level. The questions relevant to an assessment of the competitiveness of a firm relate to its profitability, and this will be determined by its product mix; the prices of its products; its marketing; the capital stock; the utilisation of that stock; the number and quality of its labour force; wage rates and non-wage labour costs; inputs, their availability and prices; transport, communications and other utility prices; management; and so on. The development of profitability over time can be considered, distinguishing between those factors that are internal to the firm and those that are external. The sector is an amalgam of individual firms. Over time the development of the sector can be explained by reference to competitive factors within the sector and by external influences. This type of analysis would throw up the impact of public policy (such as taxation, exchange rates, public utility pricing) on firms, as well as long-run trends (such as competition from newly industrialising countries).

At the national level the real test of competitiveness is the extent to which the economy maintains internal and external balance in the medium term. Is the economy growing at a reasonable level, given the growth in the labour force and the capital stock? Can the quality of both be improved? Are markets functioning to the extent that, at current wage rates, labour is fully employed? Is there fiscal balance? Is the balance of payments in equilibrium?

The national level adds an extra dimension to firm and sector analysis. It is quite possible for firms and sectors to be in some form of equilibrium and competitive but for the economy to be experiencing unemployment because of labour market rigidities or tax rates that caused a shake-out of labour.

Finally, it is as well to recognise that even in those cases where firms are competitive and the economy is uncompetitive in the sense used here, there may be very little that can be done. The present situation and how it is likely to evolve over the future is a case in point.

The economy is currently adjusting to a restoration of fiscal balance. As a consequence of the reduction in demand associated with this adjustment, the balance of payments is now in surplus, and as the adjustment proceeds a surplus seems likely to remain. The
corporate sector, in general, has adjusted its scale of operations to reflect the new lower level of demand, and those firms that remain in business have restored profitability. Unemployment, however, is very high. The scale of unemployment is greater than might have been expected given the fall in demand that occurred, as firms were also forced to rationalise on foot of a deterioration in the wage/price ratio—a consequence of the tax increases of the early 1980s. Effectively, if firms are in equilibrium and if there is high unemployment in an open economy, that economy is cost-constrained. There is no policy instrument available to the Government to break out of this impasse. To the extent that anything can be done it is in the area of labour market policies, but the effects of these are medium to long-term.

Notes