CHAPTER 5

PUBLIC SECTOR PRODUCTIVITY MEASUREMENT: AN IMPOSSIBLE TASK?[1]

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ABSTRACT

The productivity of the public sector is as important to the economic performance of a country as the productivity of the private sector. But public sector productivity is notoriously difficult to measure, not only in Ireland, but also internationally. Assessing the productivity of policy-oriented organisations has also proved particularly challenging. In this chapter, an examination of international experience in assessing public service productivity is presented. Lessons learned from this international experience that might be applied in Ireland are also discussed.

1. Much of this chapter is abstracted from the original research undertaken at the Institute of Public Administration for the Committee for Public Management Research (Boyle, 2006).
2. The views expressed in this paper are solely those of the author and do not necessarily reflect those of any other person or organisation.

5.1 Why Research Public Sector Productivity?

The pay awards recommended by the Public Service Benchmarking Body and implemented as part of the social partnership arrangements have generated significant public discussion about the productivity gains realised in return for pay increases in the public sector. Getting productivity increases in return for pay awards is vital for the long-term health of the economy. But many commentators are concerned that increases in public funding are not being matched by more efficient use of resources. Afonso, Schuknecht and Tanzi (2006) note the nature of the potential problem:

> Health, education and similar activities absorb a large share of the government payroll and the personnel who work for government… If mostly higher salaries absorb additional resources allocated to these activities and the higher salaries are not accompanied by higher productivity of the public employees, the higher public spending can be unproductive and produce little additional benefits to the students or patients.

The productivity of the public sector is as important to the economic performance of a country as the productivity of the private sector. Thornhill (2006) identifies three main reasons why public sector productivity is important. First, the public sector is a major employer. Second, the public sector is a major provider of services in the economy, particularly business services (affecting costs of inputs) and social services (affecting labour quality). Third, the public sector is a consumer of tax resources. Changes in public sector productivity can have significant implications for the economy.

But public sector productivity is notoriously difficult to measure, not only in Ireland, but also internationally. Much productivity data for the public sector is of questionable validity and/or reliability. Assessing the productivity of policy-oriented organisations has proved particularly challenging. In these circumstances, it is legitimate to ask if public sector productivity can ever be measured in a meaningful way, or will it always be subject to debate with opposing sides arguing their case in an environment devoid of meaningful evidence?

In recent years, a number of international studies have been carried out that address the issue of public sector productivity measurement. There are also initiatives underway at present that have the potential to further the examination of public sector productivity. In this chapter, an examination of international experience in assessing public service productivity is presented. Lessons learned from this international experience that might be applied in Ireland are drawn together at the end of the chapter.

5.2 Some Definitions and Challenges

Productivity is generally defined as a measure of the amount of output generated per unit of input. In many countries, including Ireland, public sector productivity has been assumed to be zero in the national accounts. The output of the government sector has been measured as of value equal to the total value of inputs. This output=input convention in the national accounts has increasingly come under scrutiny in recent years. The challenge is to make alternative estimates based on output measurement in a public sector context where there is the provision of collective services, and where there is no market transaction in services provided to individuals in most instances.

However, this definition of productivity as being concerned with the relationship between outputs and inputs does not cover issues that many people have in mind when they talk about public sector productivity. A more general interpretation of productivity encompasses broader concerns about the outcomes achieved by the public sector. In common parlance, when many people talk about public sector productivity, they have in mind the general question of what value they are receiving from public services in return for the application of public funds.

Putnam (1993) rejects the idea of including outcomes in productivity measurement. His argument is that to focus on outcomes (changes in health rather than patients treated; changes in educational status rather than numbers of lessons taught) includes changes over which the government has no control:

To include social outcomes in an assessment of government performance is to commit the "Massachusetts Miracle Fallacy": only a modest part of the praise for the affluence of New England in the 1980s (and a similarly modest portion of the blame for the subsequent recession) was realistically attributable to state government, despite 1988 presidential campaign rhetoric to the contrary.

Notwithstanding the problems with assessing productivity using an outcomes focus as indicated above, in this chapter, both the output/input measurement and broader assessments of public sector productivity including a focus on outcomes are included in the discussion on productivity. It is accepted that for national accounts purposes and when attributing changes in productivity to the public sector, strict definitions of an output/input nature are needed. But the broader interpretation of productivity as including a concern with outcomes, while having statistical and measurement limitations, nevertheless has resonance with the general public and may raise interesting questions even if it does not provide definitive answers.

A further challenge with regard to output measurement for productivity purposes is how to incorporate changes in the quality of outputs. The importance of this point is illustrated by Pritchard (2002a), of the Office of National Statistics in the UK, who states that: "…the measurement process must reflect the fact that 100 units of good quality this year represent more output than 100 units of a lesser quality last year".

Yet another challenge with regard to measurement relates to possible time lags between the inputs and outputs. Money spent on public sector inputs may not have an impact in terms of improved outputs for some time (in some cases years) after the initial expenditure.

In summary, there are considerable technical and other challenges associated with measuring public sector productivity, however defined. This makes comparability of trends, over time and across sectors and countries, particularly problematic. In any discussion on measuring public sector productivity, these challenges must be borne in mind and factored into interpretations of findings.

5.3 Lessons from Cross-National Comparisons

A small number of studies have been carried out that compare administrative efficiency and performance internationally at the aggregate level (Van de Walle, 2005). These studies aim to give some idea about the productivity and efficiency of the public sector in a comparative context. The studies are briefly summarised below, along with some of the main findings emerging and limitations of the studies outlined.

5.3.1 European Central Bank

Afonso, Schuknecht and Tanzi (2003) examine the performance and efficiency of the public sectors of 23 industrialised OECD countries. They develop measures of both public sector performance (which they define as the outcome of public sector activities) and efficiency (which they define as the outcome relative to the resources employed).

The study finds that the difference in public sector performance overall is moderate across the sample countries. Countries with small public sectors (public spending less than 40 per cent of GDP) on average report the highest scores, especially for administrative and economic performance. Countries with large public sectors (public spending over 50 per cent Of GDP) show more equal income distribution. Regarding public sector efficiency, countries with small public sectors display considerably higher indicators of efficiency than countries with medium-sized or big public sectors. However, the authors caution that the results must be seen as indicative and need to be interpreted with great care.

This latter point about caution is well made. Taking the indicator of administrative performance as an illustration, Van de Walle (2005) notes that contrasting this indicator with government goods and services expenditure to develop a measure of efficiency fails to recognise that the goods and services category in the national accounts is a crude approximation of what is spent on the public administration and judiciary. It is not possible to put too much weight on the European Central Bank findings.

5.3.2 Netherlands Social, Cultural and Planning Office

As part of the Dutch presidency of the European Union in the second half of 2004, the Dutch Ministry of the Interior and Kingdom Relations asked the Social and Cultural Planning Office of the Netherlands to investigate public performance in the EU member states and four major non-EU Anglo-Saxon countries (Social, Cultural and Planning Office, 2004). The report covers four main areas: education, health care, law and order, and public administration. It also assesses the overall performance of the public sector.

The scores on various government functions are combined in one overall index of public sector performance. The combined score represents four main dimensions of performance: stabilisation and growth of the economy, distribution of welfare, allocation of public services, and quality of public administration. Roughly speaking, the study finds little connection between public sector performance and the level of public and private spending. But using a global efficiency measure, Kuhry, Pommer and de Kam (2006) find:

> By this measure, Finland is the most efficient in producing public services of high quality at moderately high costs, while - in terms of efficient production – Ireland scores slightly above average at low costs. Just behind these leaders we find Sweden, Denmark, Austria, Luxembourg and the Netherlands; the first three countries post relatively high spending levels, while the last two have fairly average spending. Australia, Canada, Spain and the Czech Republic combine an average performance score with fairly low government spending, while others (particularly Germany, Belgium and France) occupy fairly average positions in both respects. The US and the United Kingdom perform fairly poorly at relatively low spending levels.

Like the European Central Bank study, the authors urge caution with regard to the interpretation of the results.

As part of ongoing work in the productivity area, an updating of some of this work of the Social, Cultural and Planning Office (SCP) has been carried out, highlighting Ireland's comparative ranking (Boyle, forthcoming) with regard to public administration. Figure 5.1, taken from this study, shows a quality of public administration composite indicator and contrasts this with expenditure per capita on general public services (this was the expenditure indicator used by the SCP). As with the SCP experience, a weak relationship between expenditure and business perception of quality of public administration is shown. Ireland comes relatively well out of this picture, achieving a relatively high score for quality of public administration with a relatively low level of expenditure.

5.3.3 World Bank Governance Indicators

Since 1996, the World Bank has been developing governance indicators as part of its work in promoting good governance. Governance indicators are produced for just over 200 countries every two years. Kaufmann, Kraay and Mastruzzi (2005) note that the governance indicators used measure six dimensions of governance: voice and accountability; political instability and violence; government effectiveness; regulatory quality; rule of law; and control of corruption.

Most relevant from the perspective of this study is the government effectiveness indicator. It aims to measure the competence of the bureaucracy and the quality of public service delivery. For 2004, the latest date for which the indicators are produced, Ireland ranked ninth of the EU25 countries against the government effectiveness indicator.

A significant concern with regard to the World Bank governance indicators is that a recent OECD study has questioned their statistical legitimacy for comparing country scores and lack of comparability over time (Arndt and Oman, 2006).

5.3.4 OECD Management in Government

The Public Governance Committee of the OECD has mandated the Public Governance and Territorial Development Directorate to assess the feasibility of developing comparable data and indicators of good government and efficient public services. This project, entitled *Management in Government: Comparative Country Data*, aims to provide good empirical data and indicators of good government. The intention is to move, on a phased basis, to the production of a publication provisionally entitled *Government at a Glance*, which will mirror the OECD's *Education at a Glance* publication and show comparative cross-national data on an annual basis.

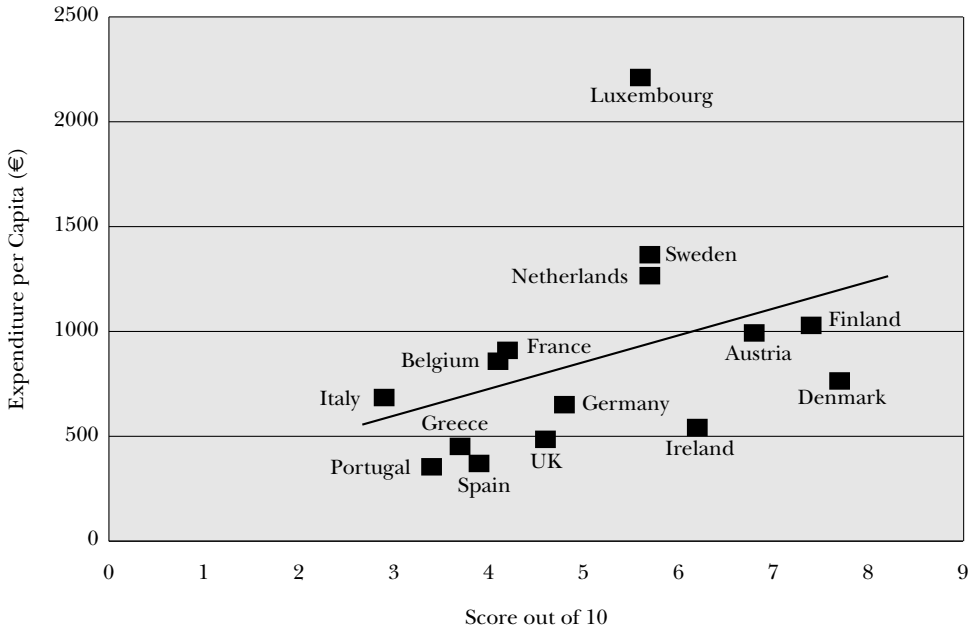
An initial assessment of available data has been undertaken, alongside a detailed literature review (OECD, 2005). The focus is on several types of measures: inputs, processes, outputs, outcomes and antecedents or constraints that put government efficiency in context. The intention is to produce a first working paper towards the end of 2006, mostly concerned with inputs and processes, as these are the most readily available data. Data concerning outputs and outcomes are seen as more difficult to gather, but the intention is to gradually improve coverage in these areas.

5.3.5 Conclusions

There has been a growth in recent years in international comparative studies of public sector performance. Some of these explicitly include productivity measurements; others focus more generally on broad performance issues. These international studies provide scope for a comparative assessment of how Ireland is performing, particularly if studies are repeated over time, allowing trends to be established.

However, the studies themselves warn of the danger of putting too much faith in drawing comparisons, given qualifications about the type and reliability of data used to generate the indicators used in the studies. It is clear that findings are of a tentative nature, and that improvements are needed if such studies are to provide a sound evidence base.

Figure 5.1: Quality of Public Administration (2006) and Expenditure per Capita on General Public Services (2003)



Source: Eurostat and IMD, 2006

Note: Excluding debt interest payments (classified as property income consolidated) and foreign transfers (classified as other current transfers consolidated).

5.4 Lessons from National and Sectoral Productivity Measurement Initiatives

In terms of getting a picture on public sector productivity, national level initiatives may offer more concrete evidence than international comparative studies. In recent years, various countries at both national and sectoral level have engaged in productivity measurement initiatives. In this section, steps taken by the UK are briefly reviewed, as the UK is seen as leading the work on public service productivity measurement internationally. This is followed by illustrative examples of productivity measurement in three sectors: health, education and local government.

5.4.1 Measuring Public Sector Productivity in the UK

Since 1988, the Office for National Statistics has been progressively moving away from the output=input approach to productivity, and incorporating direct measures of the volume of government output in the national accounts. By 2005, these direct output estimates accounted for two-thirds of general government final consumption. In the context of this focus on output measurement, the UK government commissioned Sir Tony Atkinson to undertake a review of the measurement of government output in the national accounts. This review (Atkinson, 2005) provides a comprehensive overview of developments and recommendations for future progress.

The Atkinson review outlines a number of principles covering the measurement of outputs, inputs and productivity. One particularly significant point is that the review strongly recommends that, in principle, measures of output growth should take account of quality change. Also, and specifically with regard to productivity, the review states:

> Outputs divided by inputs provides a measure of productivity change. However, the move from the (output=input) convention to direct measurement of government output should be carefully interpreted. It is a definite advance in the sense that government output is no longer simply assumed to equal measured inputs, but the move should not be seen as solving at a stroke the complex problem of measuring government productivity. The statistic obtained by dividing outputs by inputs may no longer be equal to 1 by definition, but no single number, however carefully constructed, can fully capture the performance of complex public services with multiple objectives. Productivity change should be interpreted in the light of a range of other information – the triangulation principle.

The UK government accepted the findings and recommendations of the Atkinson review, and the Office for National Statistics is taking the lead role in taking forward the recommendations.

5.4.2 Health Sector Productivity Measurement

The UK Office for National Statistics (2006) has published a major review of health service productivity. Using available data, the Office for National Statistics produced three different estimates of NHS productivity. The first estimate is based on current national accounts estimates of output. Using this measure, NHS productivity is estimated to have fallen during the period 1995 to 2004 by an average of between 0.6 and 1.3 per cent per year. The second estimate is based on the principle outlined in the Atkinson Review (Atkinson, 2005) that output should be adjusted to take into account quality change. On this basis, productivity is estimated to have either increased by an average of 0.2 per cent per year, or has fallen by an average of 0.5 per cent per year depending on how quality is measured. The third estimate is also based on a recommendation outlined in the Atkinson review, that the value of NHS output should be adjusted by rising real earnings in the economy to reflect the fact that health becomes increasingly valuable in a growing and increasingly productive economy. On this basis, NHS productivity is estimated to have increased by an average of between 0.9 and 1.6 per cent per year. These estimates of productivity are further tested against wider corroborative evidence:

> …since 1991/92 the average length of stay in hospital has been falling steadily (apart from a small rise between 1999/00 and 2000/01); and there has been a steady increase in the rate for elective day case treatments. This suggests a shift towards more cost effective treatment and would be consistent with a productivity increase from NHS resources. At the same time, emergency re-admission rates have increased very slightly over the period. If this requires additional NHS resources, this could dampen down productivity (Office for National Statistics, 2006).

This process of checking productivity estimates against other corroborative evidence is known as triangulation. It is important in a context where "It is unlikely that a single number for productivity will ever capture all the costs and benefits of the NHS" (Office for National Statistics, 2006).

5.4.3 Education Sector Productivity Measurement

Education is one of the services measured by a review of government services in Australia. A framework model is used to develop a set of performance indicators for schools. Equity indicators measure how special needs groups compare in terms of participation and retention rates. Effectiveness is measured in terms of learning outcomes with regard to reading, writing and numeracy. Efficiency is measured in terms of government expenditure per student, staff expenditure per student, and student to staff ratios (Banks, 2005).

Different states are compared and contrasted in terms of performance against the agreed indicators. Comparing the unit costs of providing a particular service across jurisdictions is seen as a way of helping states to identify if they have scope for improvements in their efficiency.

5.4.4 Local Government Productivity Measurement

In the UK, changes in local government performance are assessed using a sample of 63 indicators including 'Best Value' performance indicators, indicators from the Social Services Performance Assessment Framework, and indicators from the Department for Education and Skills (Martin and Bovaird, 2005). This grouping of indicators is used by the Office of the Deputy Prime Minister as a 'basket' of indicators showing the cost-effectiveness of local authorities. The indicators are arranged by service area. The basket of indicators suggests that overall performance has improved by 12.5 per cent between 2000/01 and 2003/04. There are significant variations between authorities. There are also large variations between services, with particularly large improvements in waste management and culture.

When similar services are provided by entities such as local authorities, there is also scope for comparative productivity analysis. For example, Haubrich, Gutierrez and McLean (2006) are using an econometric analysis technique called panel data analysis to try to identify relatively efficient and inefficient authorities.

5.4.5 Conclusions

The evidence from national and sectoral studies of public sector productivity measurement is that productivity measurement is still in its early stages. Despite efforts going back to the 1980s, the productivity measures being produced need to be interpreted cautiously. The findings from the UK health sector productivity studies, which represent the state-of-the-art, yet still show widely varying estimates of productivity depending on which factors are included or excluded, illustrate some of the problems. There is also the danger that over simplistic use of the measures could lead to perverse consequences. For example, the number of vehicle kilometres is an output measure sometimes used for public roads. Using this measure, it is possible to increase productivity by increasing vehicle kilometres, but this is likely to run counter to transport policy aimed at moving people from cars to public transport and cutting down on unnecessary travel: the policy goal may be to reduce vehicle kilometres.

It is clear that no single productivity figure can be used for public sector activities, unless there is clear and widespread agreement that it is an appropriate measure. The Atkinson (2005) recommendation that a range of supporting information – the triangulation principle – should evidence productivity change is one that should be applied generally.

5.5 Lessons from 'Bottom Up' Productivity Measurement

So far, the productivity measures examined have been sectoral or national in nature, and often driven from a 'top down' perspective. It is important to note that, at a more micro level, productivity measurement in the public sector can also take place at the level of the organisation and from a 'bottom up' or service user perspective.

The World Bank has adopted this approach with regard to assessing some aspects of the effects of regulation with the development of their *Doing Business* database (www.doingbusiness.org). Three indicators from this *Doing Business* database are particularly relevant to the assessment of public administration quality and productivity:

1. **Paying Taxes:** This topic addresses the taxes that a medium-sized company must pay or withhold in a given year, and the administrative burden associated with paying taxes.
2. **Dealing with Licenses:** This topic records all procedures required for a business in the construction industry to build a standardised warehouse. These include obtaining all necessary licenses and permits, completing all required notifications and inspections and submitting the relevant documents to the authorities. Procedures for obtaining utility connections are also recorded. A survey divides the process of building a warehouse into distinct procedures and calculates the time and cost of completing each procedure under normal circumstances.
3. **Starting a Business:** This topic identifies the steps an entrepreneur must take to incorporate and register a new firm. It examines the procedures, time and cost involved in launching a commercial or industrial firm with up to 50 employees and start-up capital of ten times the economy's per capita gross national income.

Taking the last indicator, starting a business, the steps and costs associated with starting a business are assessed and the results compared over time and across countries. Local incorporation lawyers and government officials complete and verify the data. The key indicators used to assess performance are the number of procedures the applicant is required to go through, the number of days each procedure takes, and the cost of start up (The World Bank Group, 2006). The results for Ireland for 2005 are given in Table 5.1. This information can be compared with results achieved in other countries, and changes from year to year. Boyle (forthcoming) presents some initial findings for Ireland in a comparative context against these three indicators.

Table 5.1: Starting a Business in Ireland

Nature of Procedure (2005)	Procedure	Duration (days)	US$ Cost
The founder swears before a Commissioner for Oaths	1	1	5.63
File application with register	2	15	1,781.52
Make a company seal	3	1	22.82
Register for taxes and employment payments	4	7	0.00
Totals:	**4**	**24**	**$1,809.97**

Source: The World Bank Group (2006).

Another example of this bottom up approach to productivity measurement is a study of the institutional performance of regional governments in Italy undertaken by Putnam (1993). In this study, one of the indicators used to assess institutional performance, and the most relevant from the point of view of productivity, is bureaucratic responsiveness. Bureaucracies in each region were approached with mail requests for information about three specific (but fictitious) problems:

1. The health department was asked about reimbursement procedures for a medical bill incurred while the inquirer was on vacation abroad;
2. The vocational education department was asked about job training facilities for a 'brother' just finishing junior high school; and
3. The agriculture department was asked, on behalf of a 'farmer friend', for information about loans and subsidies for experimental crops.

Replies were evaluated for promptness, clarity and comprehensiveness. If no reply was received, follow up telephone calls and subsequent personal visits were made. Information was brought together in a composite index of the responsiveness of the three agencies examined, comparable across twenty regions.

Similarly, the Department of Enterprise, Trade and Employment, as part of its work on customer care research, has conducted mystery shopping surveys where queries on aspects of the department's work are put over the phone to the relevant division. Examples of the kind of question asked are 'what are the maximum hours that people under eighteen are permitted to work?' and 'how are annual holidays calculated?' Both the timeliness and quality of reply to these and other scenarios are assessed. It would be possible to repeat such surveys and track changes over time.

5.5.1 Conclusions

The bottom up/service user measurements examined here are not productivity measurements in the strict sense, as they are focused on the outputs and outcomes of public sector organisations rather than linking this data to inputs in a direct manner. However, such measures do help provide a picture of what value is being delivered by public services in return for the expenditure supports provided. As such, they have a potentially important role to play in productivity measurement in its broad sense. Bottom up measures can also be a helpful source of information to provide triangulation data for more conventional productivity studies. In many ways, such productivity measures relate more to people's perceptions about what public sector productivity is or should be about, and as such provide evidence that people can relate to in a realistic manner.

5.6 Implications for Policy in Ireland

So what are the implications of this review of public sector productivity measurement for policy makers in Ireland? What lessons can be learned and what steps might be taken to improve public sector productivity measurement? First, it should be noted that information on public sector productivity in Ireland is currently very limited. In order to improve the evidence

base, Boyle (2006) provides a framework for the development of productivity measurement, outlined in Table 5.2. This framework proposes that action is taken at a number of levels – cross national, national and sectoral, and organisation-based and bottom up – and by a number of organisations to develop information on public sector productivity in Ireland. In this way, a diversity of approaches to productivity measurement can be used to provide a broad picture of productivity developments. The framework draws from lessons learned from international experience.

Table 5.2: A Framework for the Development of Public Sector Productivity Measurement in Ireland

Productivity Initiative	**Action Required**
Cross-National Comparative Studies	• Track Ireland's comparative performance in periodic studies of public sector performance and efficiency such as the World Bank and European Central Bank studies. • Actively participate in and encourage the OECD *Management in Government Comparative Country Data* initiative.
National and Sectoral Initiatives	• The Central Statistics Office should take a lead role in the development of the measurement of government output and subsequent productivity studies. • Annual output statements being developed by government departments should inform productivity studies. • The health and education sectors should be priorities for productivity studies. • Relevant state bodies and academic institutions should be encouraged to undertake research into public sector productivity measurement. • Benchmarking of comparable organisations should take place.
Organisation-Based and Bottom Up Initiatives	• Organisation-based measures of productivity should be developed, using annual output statements as a basis for this work. • Central agencies should sponsor a number of service user based studies of the efficiency of public service provision across a range of sectors, repeated periodically. • Benchmarking with comparable organisations should be encouraged.

5.6.1 Cross-National Comparative Studies

There are a small number of cross-national studies of public sector efficiency and performance. These studies have methodological limitations, but nevertheless provide some basis for discussion on productivity. Ireland is included in these studies, which provide an opportunity for contrasting Irish experience with that of other countries. It is suggested that:

1. Ireland's comparative performance is tracked in studies such as the World Bank, European Central Bank and Netherlands Social and Cultural Planning Office studies. Examination of common trends and differences across the studies may highlight issues for further attention. Boyle (forthcoming) begins to address this issue; and
2. The Irish government should actively participate in and encourage the OECD *Management in Government: Comparative Country Data* project. This project provides an opportunity to develop performance and productivity measures which can be tracked over time and across all OECD countries.

5.6.2 National and Sectoral Initiatives

Cross-national comparative studies, while of interest, are likely to be restricted in the amount of information they provide on productivity. High levels of aggregation, and differences in national practices and definitions mean that they are of limited value. National and sectoral trends over time provide a more robust foundation for productivity measurement. It is suggested that:

1. The Central Statistics Office takes a lead role in the measurement of government output and subsequent productivity studies. The Eurostat directive (Eurostat, 2001) suggests a key role for national statistics offices in public sector output measurement. Productivity studies are a natural follow on once output measures are in place;
2. Annual output statements being developed by government departments should inform productivity studies. In Budget 2006, the Minister for Finance announced that from 2007, individual ministers must produce an annual statement on the outputs and objectives of their departments, and from 2008 the actual outturns, for presentation to the relevant Oireachtas committee. In this context, the Taoiseach has indicated that he wishes to see aggregate indicators developed that show the impact of total public spending (Ahern, 2006);
3. The health and education sectors should be priorities for productivity studies. Health and education are major components of public expenditure. There are also several studies of productivity in the health and education sectors in other countries to draw on;
4. Relevant state bodies and academic institutions should be encouraged to undertake research into public sector productivity. In particular, adjusting output figures to reflect quality changes is an important topic for detailed consideration. Bodies such as the Economic and Social Research Institute and Forfás with a track record in productivity and performance issues are well placed to undertake or coordinate such work; and
5. Where institutions provide similar services (local government, hospitals etc.), benchmarking of performance should be encouraged. This is in line with a call to improve productivity in the public sector by de Buitléir (2006).

5.6.3 Organisation-Based and Bottom Up Initiatives

Sectoral, national and cross-national studies of productivity are important in providing a macro-level overview. But it is also important that public sector productivity is assessed at an organisational level. Moreover, getting a service user perspective of public sector efficiency at the micro level can further our understanding of productivity in its broader sense. It is suggested that:

1. Organisation-based measures of productivity should be developed. For government departments, such organisation level measures should link in with and make use of the output statements to be produced from 2007 as part of the reforms of the budgetary process outlined in *Budget 2006* (Department of Finance, 2005);
2. Central agencies should sponsor a number of service user-based studies of the efficiency of public service provision across a range of sectors. These studies should be repeated periodically to assess change over time; and
3. As at the national and sectoral level, benchmarking of performance with comparable organisations has a role to play. Organisations should be encouraged to identify appropriate benchmark organisations when assessing their efficiency. The Taoiseach (Ahern, 2006) has indicated that he wishes to examine how Irish public services perform relative to their international peers, identifying how we compare with those who are recognised as representing good practice.

5.7 Conclusion

Measuring public sector productivity presents major challenges. Until recently, the convention in national accounts was to assume that outputs equalled inputs, and that therefore, year-on-year there was no productivity change taking place in the public sector. Clearly this is not the case, and attempts are now being made in several countries to develop productivity measures based on government output data. This chapter has examined some of the main initiatives in public sector productivity measurement that are taking place internationally. On the basis of these developments, proposals are made to improve productivity measurement in the Irish public sector. There is a strong case for devoting more attention and resources to improving the measurement of public sector productivity.

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