The efficiency and effectiveness of public spending

1. Improving the efficiency of public spending is becoming a more urgent policy challenge

The efficiency of public spending is becoming a more pressing policy challenge for several reasons. Public spending represents a large share of GDP and therefore has a major impact on the productivity of the whole economy. First, Member States have to deal with increased pressures on their budgets resulting partly from globalisation and increasingly from ageing. These pressures are being felt both on the revenue and the expenditure side. Second, citizens expect to see benefits in return for their tax contributions. As taxes create distortions in the allocation of resources and thus constrain economic growth, it is essential that public expenditures are used to improve efficiency while ensuring the sustainability of public finances. Finally, improved efficiency and effectiveness of public spending not only helps sustain the fiscal discipline requested by the Stability and Growth Pact but is also instrumental in promoting the Lisbon structural reform agenda. It alleviates budget constraints as it allows achieving the same results at lower levels of spending or increases value for money by achieving better outcomes at the same level of spending.

Such considerations have led the Ecofin Council in its conclusions of January 2006 to stress the importance of further improving efficiency and effectiveness as a way to enhance the quality of public finances (together with an increased reliance on fiscal rules and greater attention being given to the composition of public expenditures).

A comparison of EU Member States' budgets shows large country differences in terms of the level and development of public expenditures. Therefore, cross-country comparisons in terms of efficiency and effectiveness of public spending can be very enlightening. They can provide important insights into the policy challenges that countries face. Nevertheless, policy makers should be well aware that data limitations and the methodology applied can significantly affect the results. In particular, cross-country comparisons can be complicated by factors beyond the control of decision makers which may lead to measurement bias. Consequently, cross-country comparisons must be viewed with due caution and be complemented with countries' experiences in order to obtain more complete and accurate information on efficiency drivers. Besides international comparisons, efficiency analyses within Member States have proved to be useful.
This note as an example examines existing data on the efficiency and effectiveness of public spending on education and R&D. Overall, spending in these areas is important for economic growth and public spending represents an important share of GDP (around 6%). The efficiency of public spending on education and R&D is currently subject to debate among policy-makers of EU countries. In education, there are questions about the ability of the school system to maximise the potential of students and to respond effectively to changes in the demand for education. In R&D, there are some doubts regarding the strength of the leverage effect of public spending on innovation.

2. **Measurement of efficiency and effectiveness has to be developed further**

There are various ways for measuring public sector efficiency and effectiveness. Conceptually, efficiency is about the relation between input and output, with the objective of maximising output for a given amount of inputs; or of minimising inputs for a given output. Effectiveness relates the input to the final political objective (the outcome), such as welfare, growth or other priorities of the national governments. The measurement of effectiveness therefore to some extent reflects political choices and there are no inherently "growth-enhancing" public expenditures.

It is not straightforward to measure inputs, because it is difficult to cover all the costs of public sector activities, including in particular the opportunity costs of using government-owned assets, like school buildings and hospitals. The measurement of outputs and outcomes poses additional problems. The OECD PISA study, for example, presents a well-known measure of the performance of 15-year-old pupils. While this education output indicator has certainly contributed to initiate discussions on educational reform, it can not be considered an outcome indicator as the final objective of policy makers would more likely be to improve the employability of school leavers. In view of such difficulties, the note refrains from further analysing effectiveness issues and focuses on questions related to the efficiency of public spending.

The choice of appropriate indicators for efficiency measurement and assessment is often constrained by data availability and comparability across countries. Against this background the development of comprehensive and comparable data on inputs, outputs and outcomes should be a priority for EU Member States. As the method used to measure efficiency of public spending seriously affects the results, one should be careful about drawing too prescriptive general conclusions from the efficiency measurements. A priority would therefore be to reach a common understanding on sound principles and methods for efficiency measurement.

3. **Focusing on individual spending areas appears most promising to increase value for money**

Government wide evaluations of efficiency are often based on complex composite indicators. These indicators are useful to get a broad overview of efficiency gains achieved. However, in order to arrive at concrete policy recommendations, it is more promising to investigate the efficiency of public expenditure in individual spending areas. Growth enhancing expenditures, such as R&D and education and to some extent infrastructure, as well as expenditures affected by the ageing of population, such as health care, are first candidates for such investigations.
Public spending on education varies greatly in EU-countries and so do education outputs as reflected in Figure 1 for one indicator of education output (i.e. Pisa score reading). This can be related to a number of different factors, and caution needs to be exercised in the interpretation of such a table. However, recent work suggests that, in a number of countries, reforms could visibly reduce expenditure while maintaining education outcomes. This is especially important since traditionally the European education systems are mainly financed by public means. However, the performance of pupils as measured by the PISA index does not clearly reflect the money spent on education. The Netherlands and Ireland, for example, score relatively well in the PISA test and spend in comparison little money on education as a percentage of GDP. Austria, Portugal and Finland spend similar amounts on education as a percentage of GDP, but the performance of their pupils is quite different.

However, cross-country differences in efficiency can also be explained by country-specific institutional arrangements and structural characteristics which complicates comparisons. Recent investigations on efficiency of education spending suggest that factors such as parents' education or greater decision making autonomy at school-level (more competition between schools) affect the efficiency of money spent on education. Also, relative per capita GDP plays a role in some countries. In addition, studies indicate that the social return on investment in education is highest when spending on pre-school education, which would suggest redirecting public spending on education to this specific area. On the other hand, more technologically advanced countries appear to get a higher value for money from tertiary education.

Source: Eurostat, OECD

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2 OECD (2007), "Linkage between performance and institutions in the primary and secondary education sector”
3 Heckman J.A. (1999), "Policies to foster human capital" (NBER 7288)
Most studies on the efficiency and effectiveness of public R&D spending aim to evaluate the benefits of individual public R&D projects and programmes at the national and international level. Some other studies investigate the leverage effect of public R&D spending on private R&D\(^5\). High levels of government funding for R&D may go hand in hand with a good innovative performance, even if no clear causal relationship can be established. For example, the level of government funded R&D as a percentage of GDP is large in countries such as Sweden and Finland and these countries enjoy a high level of business funded R&D as well (see Figure 2). Again, cross-country and definitional differences may complicate making comparisons.

4. **There are several ways to enhance public sector efficiency in a medium-term approach**

Two kinds of factors can contribute to explaining the efficiency performance of public spending: institutional factors, such as the management of public institutions; and structural factors, like the educational achievement of the older generation, the degree of competition, the level of technological development, or the use of ICT in public administration.

**Structural factors**

Structural reforms could help increase the efficiency of public spending. For example, the leverage effect of public R&D on private investment in R&D and innovation could be amplified in a more competitive and business friendly environment. Most Member States have already taken steps in this direction. Similarly, the role of public procurement as a complementary tool to public R&D could be more exploited to foster investment in innovation. A better identification of structural determinants of efficiency and a better understanding of their interactions could help to shape a more consistent policy agenda.

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**Institutional factors**

Diverse approaches have been adopted by Member States to reforming institutional arrangements. These approaches concentrate primarily on changing budget procedures, and introducing results oriented approaches to budgeting. Countries are at different stages of introducing performance information (i.e. performance measures and evaluations) into their budget processes. The UK, the Netherlands and the Nordic countries, for example, have been working on these initiatives for over ten years. France has deeply reformed its budget system in that direction. Others are still developing their reforms: Poland will introduce PI into their budget process in 2008 and Portugal in 2009. The Netherlands, on the other hand, in light of its experience focuses on quantifiable objectives only where possible and sensible and puts more emphasis on qualitative ex post evaluation.

OECD work\(^6\) illustrates the potential benefits of applying performance information (PI) in decision-making. PI generates a sharper focus on results within the government and provides more and better information on government goals and priorities. Moreover, the use of PI in decision making encourages a greater emphasis on planning and acts as a signalling device that provides key actors with details on what is, and what is not, working. Overall, it improves transparency by providing more information on public sector performance to the public and the legislature and it has the potential to improve management and efficiency. OECD countries, however, continue to face a number of challenges with these reforms. These include improving the measurement of activities and the quality of PI and getting politicians to use it in decision making. The challenge is to create good-quality and relevant information that takes account of the timing and capacity constraints under which political decision makers operate.

The OECD has created general guidelines to help countries develop and improve the use of PI in budgeting processes.\(^7\) Some important factors to consider in this respect are:

- There is no one size fits all model of performance budgeting and countries need to adapt their approach to their political and institutional context.
- It is important to develop a government wide planning and reporting framework. Countries are encouraged to integrate PI into the budget process and give budgetary decision makers the opportunity to take PI into consideration.
- A long term approach is needed and reform should be adapted to evolving circumstances. The commitment of political and administrative leaders is vital for the implementation of these reforms. The staff and resource capacity of the ministry of finance and spending ministries is critical. It is important to develop incentives to motivate civil servants and politicians to change their behaviour and to use PI in decision making.
- Meaningful and accountable PI requires reliable output and outcome data that is continuously updated. Timely and straightforward assessments of performance information should be carried out independently of the spending ministries and supported by external expertise.

5. **Next steps**

Good value for money is essential because of the increased pressure on public expenditures and the difficulties in measuring outputs and outcomes. Therefore,

\(^6\) OECD (2007), "Improving public sector: Challenges and Opportunities"

\(^7\) For more details on these guidelines please see Curristine, T., Lonti, Z., Joumard, I. (2007) "Improving Public sector efficiency: Challenges and Opportunities"
improvements in the measurement of public spending efficiency and a better understanding of its determinants are crucial policy agendas. An analysis by individual spending areas seems to be promising in order to be able to derive concrete policy recommendations. This paper has focused on R&D and education but the efficiency of other important categories of public spending such as health care, public infrastructures, as well as public procurement could also be investigated. Efficiency and effectiveness considerations could also be increasingly taken into account when reviewing the EU budget.

In these areas, an exchange of information and case studies based on countries' experiences could help to identify key drivers of efficiency and effectiveness and could lead to a better understanding of sound principles and methods for efficiency improvements. It has, however, to be kept in mind that the impact of different factors depends on the specific situation in the different countries. Therefore, best practices can not necessarily be exported to other countries. From a policy perspective, improving efficiency and effectiveness could be part of the Lisbon National Reform Programmes once a robust methodology and measurement framework has been established. Such considerations could also be introduced in the evaluation of the budgetary situation in the Member States.