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**Article — Published Version**

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Intereconomics

*Suggested Citation:* Pasterniak, Angelika (2007) : The Lisbon strategy and the quality of public finances: The role of structural and fiscal indicators in EU policy assessment, Intereconomics, ISSN 0020-5346, Springer, Heidelberg, Vol. 42, Iss. 6, pp. 322-334, <https://doi.org/10.1007/s10272-007-0233-8>

This Version is available at:

<https://hdl.handle.net/10419/41971>

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Angelika Pasterniak\*

# The Lisbon Strategy and the Quality of Public Finances

## The Role of Structural and Fiscal Indicators in EU Policy Assessment

*In the mid-term review of the Lisbon strategy only moderate progress towards the European Union's becoming the most competitive and dynamic knowledge-based economy in the world by 2010 could be observed. The EU Commission had emphasised the impact of fiscal policy on the structural reforms necessary to achieve the Lisbon objectives. This paper examines the empirical relationship between fiscal policy and progress towards the Lisbon goals and offers a critical assessment of the indicators available.*

Against the background of a long-lasting economic upswing and the observation that the European Union (EU) was falling behind Northern American countries with respect to many economic indicators, the European Council decided in Lisbon in the year 2000 to adopt a new policy agenda. This agenda defines the strategic goals until the year 2010: "to make the European Union the world's most dynamic and competitive area, based on innovation and knowledge, able to boost economic growth levels with more and better jobs and greater social cohesion".<sup>1</sup>

In order to meet these goals, the European Council has identified both a stable macroeconomic framework and investment in innovation and knowledge as decisive sources of sustainable growth and job creation.<sup>2</sup> In particular, the Lisbon strategy bundles existing policy processes, i.e. "the Cologne process on macroeconomic policies, the Cardiff process on structural policies and reforms and the Luxembourg process on employment policies".<sup>3</sup> Furthermore, it adds new dimensions in certain areas such as "preparing for an innovation and knowledge-based economy, combating social exclusion and modernising social protection".<sup>4</sup> The latter was formulated at the ensuing Council meeting in Stockholm.<sup>5</sup> At the Göteborg European Council the economic and social pillars were extended by an environmental dimension – a strategy for sustainable development.<sup>6</sup>

The Lisbon process has been placed in a new coordination framework: the open method of coordination which incorporates the enforcement mechanism of certain policy guidelines. In the annual Broad Economic Policy Guidelines (BEPG) the European Council

formulates both guidelines for the EU and recommendations to member states which should facilitate the achievement of Lisbon policy goals. The European Commission assesses the progress towards the implementation of the BEPG<sup>7</sup> in annual reports, and the results are discussed in the spring meetings of the European Council.

In the mid-term review of the Lisbon strategy the High Level Group chaired by Wim Kok observed only moderate progress in achieving the policy goals, although several member states had achieved considerable progress in one or more areas.<sup>8</sup> The High Level Group explained these results not only by economic slowdown but also by the limited efforts of member states in the pursuit of structural reforms. Furthermore, the strategy itself suffered from "an overloaded agenda, poor coordination and conflicting priorities".<sup>9</sup> As a result the European Council decided to re-launch the Lisbon strategy and re-focus priorities on growth

<sup>1</sup> Council of the European Union: Employment, economic reforms and social cohesion – towards a Europe based on innovation and knowledge, Document from the Portuguese Presidency, 5256/00, 2000, p. 4.

<sup>2</sup> Ibid., p. 5.

<sup>3</sup> Ibid.

<sup>4</sup> Ibid., p. 6.

<sup>5</sup> Stockholm European Council: Presidency conclusions, [http://ue.eu.int/ueDocs/cms\\_Data/docs/pressData/en/ec/00100-r1.%20ann-r1.en1.html](http://ue.eu.int/ueDocs/cms_Data/docs/pressData/en/ec/00100-r1.%20ann-r1.en1.html), 23 and 24 March 2001.

<sup>6</sup> Göteborg European Council: Presidency conclusions, SN 200/1/01 REV 1, 15 and 16 June 2001, paragraph 1.

<sup>7</sup> E.g. European Commission: The second report on the implementation of the 2003 – 2005 Broad Economic Policy Guidelines, European Economy No. 1, 2005.

<sup>8</sup> High Level Group: Facing the challenge – The Lisbon strategy for growth and employment, 2004, p. 6.

<sup>9</sup> Ibid., p. 6.

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and employment. Social and environmental policy goals were more or less disregarded.<sup>10</sup>

In its Annual Progress Report on Growth and Jobs of 2006<sup>11</sup> the European Commission already praises the success of the re-launch of the Lisbon strategy. The Commission recognises further room for strengthening the reform strategy due to the economic upturn. The main progress has been observed in boosting R&D and innovation and in reinforcing financial sustainability. However, the Commission criticises the lack of competition in certain markets, e.g. in network services, and it demands further labour market reforms in order to implement the “flexicurity” approach.

Already in March 2000 the Lisbon European Council had asked the Council of the EU and the Commission to examine the contribution of the quality and sustainability of public finances to growth and employment for the Spring Summit in 2001. The Commission therefore prepared a report for the Council and the European Parliament in December 2000, which was summarised in the Council-Commission report for the Stockholm European Council in 2001. In this report the Commission identified “channels” through which potential growth and employment could be strengthened.<sup>12</sup>

The Economic Policy Committee (EPC) requested further concentration on the sustainability and quality of public finances in its mid-term review of the Lisbon strategy and stated that a framework for analysis of the composition of public expenditure should therefore be developed.<sup>13</sup> In this connection the EPC has recently published a report “on the impact of ageing populations on public spending”.<sup>14</sup> However, it has not analysed the growth or employment enhancing impact of public finances in general. For a regular analysis of the impact of public finances on structural reform a set of pre-defined fiscal indicators which is assigned to structural indicators would be needed. In this respect, the EPC’s Structural Indicators Task Force suggests in its report on structural indicators that policy indicators

should be linked to performance indicators.<sup>15</sup> The first could be fiscal indicators, the latter structural indicators that measure progress towards achieving the Lisbon targets.

In this paper pre-defined structural indicators and available fiscal indicators that are supposed to reflect the quality of public finances are presented and linked to each other. Simple correlation analysis shows whether or not there is an empirical relationship between the progress of the implementation of the Lisbon agenda and the pursuit of a sound and sustainable fiscal policy by EU25<sup>16</sup> member states in the years 1999 to 2004.<sup>17</sup> Furthermore there will be a discussion on the usefulness of fiscal indicators in structural reform assessment. The empirical analysis is mainly based on ESA’95 datasets obtained from Eurostat,<sup>18</sup> complemented by government statistics from the European Commission’s AMECO database.<sup>19</sup>

### Structural Reforms

Structural reforms are policy interventions that have a long-lasting impact on economic outcome. Furthermore, they affect the general functioning of economic institutions.<sup>20</sup> Thus, structural policy aims at deliberate changes in the functioning of markets by “modifying the institutional setting shaping the interplay among private economic agents”.<sup>21</sup> Within the narrow perspective of the Lisbon strategy these changes should primarily take place on product, labour and capital markets. In a broader sense they also comprise reforms that modify the working of public institutions (pension or health care reforms). Beside reforms of economic and social institutions, the EU Member states agreed on reforms concerning environmental sustainability at the Göteborg Spring Summit.<sup>22</sup>

The structural reforms in the Lisbon agenda should lead to high growth and employment, social cohesion

<sup>10</sup> Ibid., p. 7.

<sup>11</sup> European Commission: Communication from the Commission to the Spring European Council: Time to move up a gear - Part 1, COM(2006) 30 final, 2006.

<sup>12</sup> European Commission: The contribution of public finances to growth and employment: improving quality and sustainability, Communication from the Commission to the Council and the European Parliament, COM(2000) 846 final, 2000, pp. iii-iv.

<sup>13</sup> Economic Policy Committee: Mid-Term Review of the Lisbon Strategy: Advancing Reform in Europe, EPC/ECFIN/289/04 final, 2004, p. 5.

<sup>14</sup> Economic Policy Committee, European Commission: The impact of ageing on public expenditure: projections for the EU25 Member States on pensions, health care, longterm care, education and unemployment transfers (2004-2050), in: European Economy No. 1, 2006.

<sup>15</sup> Economic Policy Committee: Report on structural indicators, EC-FIN/EPC(2006)REP/55713 final, 2006, p. 5.

<sup>16</sup> The 25 countries which were the EU member states from 1 May 2004 to 31 December 2006.

<sup>17</sup> Or as far as indicators are available.

<sup>18</sup> Date of extraction: 26 January 2007 (structural indicators), 1 February 2007 (public finance indicators).

<sup>19</sup> Annual Macro-Economic database of the European Commission’s Directorate General for Economic and Financial Affairs ([http://ec.europa.eu/economy\\_finance/indicators/annual\\_macro\\_economic\\_database/ameco\\_en.htm](http://ec.europa.eu/economy_finance/indicators/annual_macro_economic_database/ameco_en.htm)), date of extraction: 1 February 2007.

<sup>20</sup> European Commission: Public Finances in EMU 2005: European Economy No. 3, 2005, p. 136.

<sup>21</sup> Ibid.

<sup>22</sup> Göteborg European Council, op. cit.

and environmental sustainability.<sup>23</sup> The EU Commission identifies three interconnected instruments to enhance macroeconomic performance:

- employment-friendly labour market reforms, thereby increasing employment and reducing structural unemployment;
- strengthening competition in order to make demand more price-elastic and to raise output;
- fostering investment and productivity growth, thus improving standards of living and raising real income.<sup>24</sup>

Adequate structural policy therefore encourages macroeconomic stability, and a sound, stability-oriented fiscal and monetary policy reinforces the success of structural reforms.<sup>25</sup> Nevertheless economic theory recognises trade-offs between the goals of the Lisbon strategy. For example, high social standards that guarantee social cohesion might have a negative impact on competitiveness. Furthermore, it is not clear whether high social standards lead to high economic growth.<sup>26</sup>

#### Structural Indicators

The European Commission assesses the progress of the Lisbon agenda on the basis of commonly agreed quantitative structural indicators. The assessment should not only show the progress in implementing certain policies but should also explore the effectiveness of these policies.<sup>27</sup> In a first round in 2000 the Commission suggested a set of 27 indicators for assessment which should be “(1) easy to read and understand; (2) policy relevant; (3) mutually consistent; (4) available in a timely fashion; (5) available for most, if not all Member States, acceding and candidate countries; (6) comparable between these countries and, as far as possible, with other countries; (7) selected from reliable sources; and (8) do not impose too large a burden on statistical institutes and respondents”.<sup>28</sup> In October 2003 the Commission suggested a short list of 14 structural indicators which should be used for the following 3 years’ assessment and which should be aligned with the procedure for the Broad Economic Policy Guidelines, the Employment Guidelines and the

<sup>23</sup> European Central Bank: The Lisbon Strategy – five years on, in: ECB Monthly Bulletin, July 2005, pp. 69-84.

<sup>24</sup> European Commission: The EU Economy: 2002 Review, ECFIN/475/02-EN, 2002, p. 85.

<sup>25</sup> Ibid., p. 91.

<sup>26</sup> Cf. the discussion in F. Breuss: Die Zukunft der Lissabon-Strategie, WIFO Working Papers No. 244, February 2005, p. 9.

<sup>27</sup> European Commission: Communication from the Commission: Structural indicators, COM(2000) 594 final, 2000, p. 5.

<sup>28</sup> European Commission: Communication from the Commission: Structural indicators, COM(2003) 585 final, 2003, pp. 4-5.

**Table 1**  
**Short List of Structural Indicators**

Indicator	Target 2010	Out-come 1999	Out-come 2004	Out-come 2004
		EU25	EU25	USA
<b>1) General economic background</b>				
GDP per capita (PPS, EU25 = 100)		100	100	148
Average annual real growth rate 1999-2004 (%)		-	2.16	2.49
Labour productivity per person employed (GDP in PPS p.p. employed, EU25 = 100)		100	100	136
<b>2) Employment</b>				
Employment rate (% of population aged 15 to 64)	70	61.9	63.3	71.2
Employment rate females (%)	60	52.9	55.7	65.4
Employment rate of older workers (% of population aged 55 to 64)	50	36.2	41.0	59.9
<b>3) Innovation and research</b>				
Youth educational attainment (% of population aged 20 to 24 with upper secondary education)	85	74.8	77.1	-
Gross domestic expenditure on R&D (% of GDP)	3	1.86	1.85	2.67
<b>4) Economic reform</b>				
Comparative price levels (EU25 = 100)		100	100	101.3 <sup>a</sup>
Business investment (gross fixed capital formation by the private sector, % of GDP)		18.1	17.1	-
<b>5) Social cohesion</b>				
At-risk-of-poverty rate after social transfers (% of persons with disposable income below 60% of the national median)		16	16	-
Long-term unemployment rate (12 months or more, % of labour force)		4.1	4.1	0.7
Dispersion of regional employment rates (coefficient of variation of employment rates across regions within countries)		13.3	12.2	-
<b>6) Environment</b>				
Greenhouse gas emissions (CO <sub>2</sub> equivalents, index base year = 100)		92	96.5	99.1
		(EU15)	(EU15)	(EU15)
Energy intensity of the economy (ratio between gross inland consumption of energy and GDP)		215	204.9	308.59
Volume of freight transport (ratio between tonne-kilometres and GDP)		101	105	91.4 <sup>a</sup>

<sup>a</sup> 2003.

Source: Eurostat database.

Internal Market Strategy.<sup>29</sup> The indicators were selected from a database comprising about 120 structural indicators within six main categories. In December 2003 the EU Council agreed on a slightly modified short list.<sup>30</sup> Table 1 presents short-list indicator values for 1999 and 2004 and compares the latter with values for the USA.

<sup>29</sup> Ibid., p. 4.

<sup>30</sup> Council of the European Union: Council Conclusions on Structural Indicators, 15875/03, 2003.

The Centre for European Economic Research (Zentrum für Europäische Wirtschaftsforschung, ZEW) has reviewed the indicator choice.<sup>31</sup> In its report it argues that while several indicators on the short list are difficult to compare across countries (e.g. comparative price levels) or across time (e.g. GDP per capita) others are missing (e.g. public sector efficiency). Further discussion on the usefulness and limitation of structural indicators took place at the 29th CEIES seminar.<sup>32</sup> Specifically, an opinion on the feasibility and limitations of EU-US comparisons, and a discussion of the theoretical underpinnings and the relevance of structural indicators and of the usefulness and pitfalls of rankings was published. As for the present list of structural indicators, seminar participants suggest additional indicators, e.g. public sector indicators, which should be included in the full list of structural indicators in order to keep the short list comparable over time.<sup>33</sup>

There are further initiatives to review the indicator choice. In 2006 the EPC mandated a Structural Indicators Task Force (SITF) to examine the indicators which were used to assess the Lisbon National Reform Programmes, to review the Eurostat list of structural indicators and propose improvements, to survey the indicator short list and to review the usefulness of rankings and cross-country analysis.<sup>34</sup> The SITF suggested a list of 24 key indicators in the surveillance of the National Reform Programmes which could be assigned to specific objectives in the BEPG.

### Benchmarking Structural Reforms

The assessment of structural reforms in the EU rests on the benchmarking of indicators' levels and average annual change. The usefulness of rankings has been questioned e.g. by the ZEW. It argues that the results of a multi-policy, multi-issue scoreboard are difficult to interpret. Such scoreboards bear the risk that no clear policy recommendations for individual countries can be made. Countries with a bad performance could be blamed although they do not have the ability to change most of the prevailing performance indicators directly. Many indicators are not eligible for comparison, and the Lisbon objectives are in general not so clearly defined that it is possible to adopt a proper

weighting scheme.<sup>35</sup> Nevertheless, the participants of the 29th CEIES seminar see rankings as "inherent to quantitative and statistical information"<sup>36</sup> although such rankings usually lack confidence intervals. As a consequence the results might easily be misinterpreted. For this reason countries with slight differences in ranking values should be clustered.<sup>37</sup>

The Structural Indicators Task Force mandated by the EPC views benchmarking and ranking as providing an incentive for EU member states to fulfil their individual reform programmes.<sup>38</sup> Comparing performance may contribute to overcoming domestic barriers to reforms. However, the assessment must take into account the individual challenges of the member states and their different starting positions. Furthermore, time-lags between reform action and responses in indicator values need to be considered. Also, the weak correlation between objectives and the associated indicators should be kept in mind. Refined indicators may improve benchmarking possibilities, although the evaluation process becomes complex and loses simplicity, transparency and clarity.<sup>39</sup> The Structural Indicators Task Force highlights three ways in which benchmarking may be improved. First, international comparisons should include both levels of, and changes in, indicator values. Second, outcome indicators should be preferred to policy indicators. Finally, benchmarking needs additional qualitative assessment. For the latter the Task Force mentions various preconditions: that the relation between indicators and underlying policy objectives is clear, the indicator's explanatory power is known (ultimate policy goal, intermediate goal, general conditions or policy instrument), indicators that measure performance (output) and policy strategies (input) are clearly marked and distinguished, and finally that output and input indicators are linked.<sup>40</sup>

The EU Commission does not publish single composite indicators of structural reform progress in its official documents. Instead, it highlights the best and worst performing quintile countries for each short-list indicator. According to Tarantola et al., the short list of indicators is relatively robust compared to the average country ranking of the full list (for EU15 countries<sup>41</sup>).

<sup>31</sup> Zentrum für Europäische Wirtschaftsforschung (ZEW): Eignung von Strukturindikatoren als Instrument zur Bewertung der ökonomischen Performance der EU-Mitgliedstaaten unter besonderer Berücksichtigung von Wirtschaftsreformen: Evaluierung der EU-Strukturindikatoren und Möglichkeit ihrer Weiterentwicklung, Schlussbericht an das Bundesministerium für Finanzen zum Forschungsauftrag 5/04, Mannheim 2004.

<sup>32</sup> Office for Official Publications of the European Communities: 29th CEIES Seminar: Expert Meeting Statistics-"Structural Indicators", Alpbach, Austria, 22 - 24 August 2005, Luxembourg 2005.

<sup>33</sup> *Ibid.*, pp. 241-244.

<sup>34</sup> Economic Policy Committee: Report on structural indicators, EC-FIN/EPC(2006)REP/55713 final, 2006, p. 1.

<sup>35</sup> ZEW, *op. cit.*, p. 242.

<sup>36</sup> Office for Official Publications of the European Communities, *op. cit.*, p. 244.

<sup>37</sup> *Ibid.*

<sup>38</sup> Economic Policy Committee: Report on Structural Indicators, *op. cit.*, p. 4.

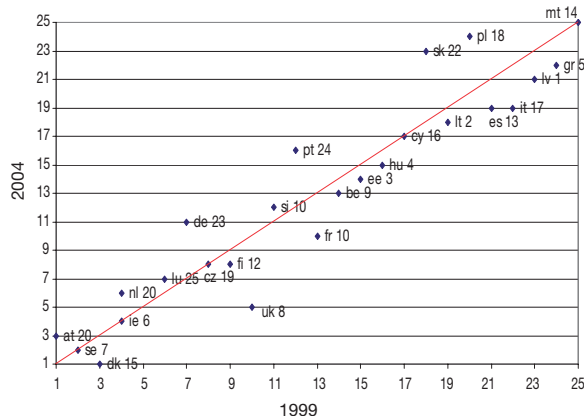
<sup>39</sup> *Ibid.*, pp. 4-5.

<sup>40</sup> *Ibid.*, p. 5.

<sup>41</sup> Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Sweden, Spain, United Kingdom.



**Figure 1**  
**Overall Performance (Levels and Change) of EU25**  
**Member States in Structural Policy 1999 and 2004**



Overall rank: the average rank of levels or average annual change of individual short-list indicators (excluding at-risk-of-poverty rate, dispersion of regional unemployment rates, and volume of freight transport). Numbers next to country short codes show the country's ranking for reform progress ("change").

Source: Eurostat database.

Robustness, is however, lower for Denmark, Spain, France and Greece.<sup>42</sup> Different computing methods for country rankings generally do not alter the results.<sup>43</sup>

An unweighted ranking of the short-list indicators places Denmark, Sweden, Austria, Ireland and the UK at the top and Malta, Poland, Slovakia, Greece and Latvia at the bottom (cf. Figure 1). Other organisations also present indicator rankings either on the Lisbon objectives as a whole or on a single policy issue. For example the World Economic Forum<sup>44</sup> provides regular Lisbon Reviews in which it assesses the policies and reforms in Europe, and the CER evaluates the Lisbon targets in its "Lisbon Scorecard"<sup>45</sup> under several headings by naming out-performers ("heroes") and low-performers ("villains").

Almost all EU25 member countries deviated only moderately in 2004 from their short-list ranking in 1999 (cf. Figure 1). The ranking of the UK improved by 5 and the ranking of France by 3. The opposite is true especially for Germany, Portugal, Slovakia and Poland. Progress towards the Lisbon objectives (average annual changes of indicator values; numbers next to

<sup>42</sup> European Commission: The EU Economy: 2004 Review; ECFIN (2004) REP 50455-EN, 2004, p. 270, based on S. Tarantola, R. Liska, A. Saltelli: Structural indicators of the Lisbon agenda: robustness analysis and construction of composite indicators, Joint Research Centre of the European Commission, Ispra 2004.

<sup>43</sup> Ibid., p. 274.

<sup>44</sup> Latest report by J. Blanke: The Lisbon Review 2006: Measuring Europe's Progress in Reform, World Economic Forum, Cologne/Geneva 2006.

<sup>45</sup> A. Wanlin: The Lisbon Scorecard VI: Will Europe's economy rise again?, Centre for European Reform (CER), London 2006.

**Country Short Codes**

be	Belgium	lu	Luxembourg
cz	Czech Republic	hu	Hungary
dk	Denmark	mt	Malta
de	Germany	nl	Netherlands
ee	Estonia	at	Austria
ie	Ireland	pl	Poland
gr	Greece	pt	Portugal
es	Spain	si	Slovenia
fr	France	sk	Slovakia
it	Italy	fi	Finland
cy	Cyprus	se	Sweden
lv	Latvia	uk	United Kingdom
lt	Lithuania	us	United States of America

country short codes) seems to be less influential for several countries, especially for Latvia, Lithuania and Estonia, which – despite their leading in "progress ranking" – were unable to improve their rankings for performance levels.

For several indicators, the European Council agreed on numerical targets that should be achieved by 2010. Among them, widely known targets are an overall employment rate of 70%,<sup>46</sup> and that overall spending on R&D and innovation should be increased to 3% of GDP<sup>47</sup> (gross domestic expenditure on R&D:GERD). The Lisbon council also assumes that an average GDP growth rate of 3% should be possible if reforms are successful.<sup>48</sup>

Recent indicator values show that average annual real growth rate has been well above 3% in Estonia, Latvia, Lithuania and Hungary. Furthermore, Ireland, Greece, Luxembourg, Slovakia, Spain, Slovenia, Cyprus, the Czech Republic and Poland also display average growth rates above 3%. Total employment targets (70%) have been met by Denmark, the Netherlands, Sweden and the UK. All of these countries have also reached the employment targets (60%) for female workers. The latter target has also been achieved by Austria, Portugal, Finland, Slovenia and Estonia. However, in 2004 only Denmark, Sweden, Estonia and the UK markedly exceeded employment rate targets for older workers (50%). Portugal and Finland have also passed this mark. Various new member states (Slovakia, Slovenia, Poland and the Czech Republic) well exceeded the target for the educational level (85%). Other

<sup>46</sup> Lisbon European Council: Presidency conclusions, [http://ue.eu.int/ueDocs/cms\\_Data/docs/pressData/en/ec/00100-r1.en0.htm](http://ue.eu.int/ueDocs/cms_Data/docs/pressData/en/ec/00100-r1.en0.htm), 23 and 24 March 2000.

<sup>47</sup> Barcelona European Council: Presidency conclusions, SN 100/1/02 REV 1, 15 and 16 March 2002.

<sup>48</sup> Lisbon European Council, op. cit., paragraph 6.

countries come close to it or even exceed it somewhat (Ireland, Lithuania, Austria, Finland and Sweden). The rate for R&D expenditure is above 3% of GDP in Finland and Sweden. Denmark, Germany, France and Austria are also in a relatively good position. However, these rates are particularly low in many new member states.

Observing these figures, it can be seen that Denmark, Finland and Sweden meet many of the specified Lisbon targets but only Denmark and Sweden occupy top ranks in the structural reform ranking. Good performance on the labour market is also exhibited by the Netherlands and the UK. Although Austria is placed third in the overall ranking, it shows only mediocre individual results. Comparing these few observations with the results of the overall ranking, the position of Finland and Austria could be questioned. The ranking of the new member states largely seems plausible. According to the short-list structural indicators' ranking, the top performers among these countries are the Czech Republic, Slovenia and Estonia, which meet several of the specified targets.

#### Quality of Public Finances

Referring to the mid-term review of the Lisbon strategy, the Economic Policy Committee stresses the importance of the sustainability and quality of public finances in reaching the Lisbon objectives.<sup>49</sup> The European Union's position on quality rests on the Commission's report on the contribution of public finances to economic growth and employment.<sup>50</sup> Furthermore, the Commission has presented a more general view of quality in its annual report on public finances.<sup>51</sup> According to this, "the quality of public finances concerns the allocation of resources and the efficient and effective use of those resources in relation to identified strategic priorities".<sup>52</sup> The Commission bases this definition on three dimensions/objectives of budgeting,<sup>53</sup> namely:

- aggregate fiscal discipline
- allocation of resources according to strategic priorities

- an efficient and effective use of resources in the implementation stage.

Or, to put it differently – in a way which fits better into the EU fiscal framework – budgeting should "(1) ensure fiscal control and fiscal discipline, (2) provide a degree of stabilization of the economy, (3) and promote allocative and technical efficiency in service delivery through procedures that provide incentives for greater productivity".<sup>54</sup>

According to these definitions, the quality of public finances depends largely on the underlying strategic priorities. For the EU, these priorities are mainly defined in the BEPG, based on Article 99(2) EU Treaty. Several objectives are explicitly mentioned in the EU Treaty as well: "to promote economic and social progress and a high level of employment and to achieve balanced and sustainable development ..."<sup>55</sup>

Pasterniak provides a similar definition of sound public finance:<sup>56</sup>

- a composition of public expenditure that facilitates the fulfilment of particular policy objectives;
- an application of budgeting procedures, principles and techniques that support and assure the effective and efficient allocation and use of public resources.

According to this view aggregate fiscal discipline – which is given top priority by the Commission – is not a primary policy objective, since it is only an instrument to achieve other goals, e.g. macroeconomic stability. Nevertheless it is considered essential for ensuring fiscal scope.

The first perspective coincides with the macroeconomic perspective on quality as described by the European Commission.<sup>57</sup> However, the EU concentrates on "redirecting public expenditure towards 'productive' uses and on reducing distortionary taxation in order to raise the growth potential of the EU economy"<sup>58</sup> and simply disregards other policy objectives. The second perspective corresponds to the microeconomic view which focuses on techniques and institutions that contribute to an "effective and efficient use of resources in reaching strategic priorities".<sup>59</sup> This paper focuses on

<sup>49</sup> Economic Policy Committee: Mid-Term Review of the Lisbon Strategy, op. cit., p. 5.

<sup>50</sup> European Commission: The contribution of ..., op. cit.

<sup>51</sup> European Commission: Public Finances in EMU 2004, European Economy No. 3, 2004.

<sup>52</sup> Ibid., p. 185.

<sup>53</sup> See also P. Atkinson, P. van den Noord: Managing public expenditure: Some emerging policy issues and a framework for analysis, OECD Economics Department Working Paper 285, 2001; World Bank: Public Expenditure Management Handbook, The World Bank, Washington DC 1998; A. Schick: Does budgeting have a future, in: OECD Journal on Budgeting, Vol. 2, No. 2, 2002.

<sup>54</sup> European Commission: Public Finances in EMU 2004, op. cit., p. 184, based on J. Diamond: Performance-budgeting: Managing the reform process, IMF Working Paper 33, 2003.

<sup>55</sup> Treaty on European Union (consolidated text), Official Journal C 325 of 24 December 2002, Art. 2.

<sup>56</sup> A. Pasterniak: Budgetregeln und die Qualität der öffentlichen Finanzen: Europäische Perspektiven und österreichische Praxis, Wiesbaden 2006, pp. 54-55.

<sup>57</sup> European Commission: Public Finances in EMU 2004, op. cit., p. 186.

<sup>58</sup> Ibid., p. 182.

<sup>59</sup> Ibid., p. 202.

the macroeconomic perspective as taken by the EU Commission.<sup>60</sup> According to the macroeconomic view, public finances enhance potential growth and employment via (1) the accumulation of productive factors, (2) the provision of labour market incentives through tax and benefit systems, and (3) the provision of a stable macroeconomic climate.<sup>61</sup> The first two are part of the medium-run strategy whereas the third has a short and a long-run dimension, stabilising the business cycle and reducing public debt respectively.

As mentioned above, the EU Commission defined an extensive list of structural indicators in order to monitor the Lisbon process. Most of them are performance indicators, and only a few are policy indicators. The regular monitoring of the Lisbon agenda, however, requires not only performance indicators but also indicators which display public policy in various fields. For this reason, the ZEW demands an indicator group within the official structural reform indicators which is assigned to the public sector. These indicators should cover the extent of government activity, the growth impact of the tax system, expenditure structure, the efficiency of the public sector and the sustainability of budgetary policy.<sup>62</sup> The EPC's Structural Indicators Task Force has also requested policy indicators (e.g. sustainability gaps) for specific policy objectives.<sup>63</sup> Some of these indicators are already provided by the EU Commission for other surveys.<sup>64</sup>

In the following, the available policy indicators in the policy fields which have been identified by the EU Commission (macroeconomic view) are discussed. The discussion on theories and empirical evidence as to whether certain expenditure categories actually contribute to the quality of public finances, particularly on growth and employment, is largely disregarded.<sup>65</sup>

#### Accumulation of Productive Factors

Governments contribute to economic growth directly and indirectly by the accumulation of productive factors.<sup>66</sup> In general three relevant categories of pub-

lic expenditures are identified: investment in physical capital (infrastructure which is an input to private investment), human capital (education and training) and knowledge capital (R&D and innovation).<sup>67</sup> However, the accumulation of productive factors takes place in the private sector as well. It is therefore necessary to address private investment too, i.e. by creating an adequate incentive structure for the private sector, e.g. through tax policies. The EU Commission recommends that the re-allocation of public spending into productive uses should be complemented by institutional and structural reforms in order to improve efficiency in the use of expenditure. Additionally, the adoption of market mechanisms – such as internal pricing and budgetary targeting in the public sector – should enhance the efficient use of public resources.<sup>68</sup>

Eurostat provides public policy indicators of factor accumulation for physical, human and knowledge capital. High spending in these categories should lead to good performance in intermediate targets that are an important factor for economic growth, such as educational attainment. Comparable data is available for public spending on investment, on education, and on R&D (government GERD as % of GDP). According to the Barcelona Council, two-thirds of R&D spending should be borne by private business.<sup>69</sup> Therefore countries should exhibit a low share of government R&D expenditures. Table 2 shows EU25 averages of these indicators. It can be seen that apart from public expenditure on education, public expenditure on factor accumulation has not increased markedly from 1999 to 2004 (2003). There is, however, a significant deviation between the top five countries (highest spending levels) and the bottom five countries (lowest spending levels).

Public investment (gross fixed capital formation) is relatively high in countries where the average GDP growth rate from 1999 to 2004 was above average. However, Latvia, whose growth rate was second highest, belongs to the bottom five countries in this category. Public expenditure on education is relatively high in Nordic countries. In the case of Sweden and Finland this is also true for public spending on R&D (government GERD). The low-performers in these categories are partly those countries with high spending on public investment (Luxembourg, Ireland, Greece and Cyprus).

As mentioned above, the EU prefers a high share of private R&D spending and a low share of public R&D spending (government GERD). It can be seen that the

<sup>60</sup> European Commission: The contribution of ..., op. cit.

<sup>61</sup> Ibid., pp. iii-iv.

<sup>62</sup> ZEW, op. cit., Table 8.

<sup>63</sup> Economic Policy Committee: Report on structural indicators ..., op. cit.

<sup>64</sup> European Commission: The contribution of..., op. cit.; European Commission: Annual report on "Public Finances in EMU" (various years).

<sup>65</sup> Cf. e.g. European Commission: Public Finances in EMU 2004, op. cit., 2004, pp. 186-201.

<sup>66</sup> Cf. e.g. A. Afonso, W. Ebert, L. Schuknecht, M. Thöne: Quality of Public Finances and Growth, ECB Working Paper 438, Frankfurt/Main 2005; M. Thöne: Wachstums- und nachhaltigkeitswirksame öffentliche Ausgaben, Forschungsauftrag 12/02 des Bundesministeriums der Finanzen, FiFo Köln, Köln 2004; European Commission, *ibid.*

<sup>67</sup> E.g. European Commission: The contribution of ..., op. cit., p. 15.

<sup>68</sup> Ibid., p. v.

<sup>69</sup> Barcelona European Council, op. cit., paragraph 47.



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**Table 2**  
**Quality of Public Finances: Indicators for Accumulation of Productive Factors**

Fiscal Indicator	weighted avg EU25		unweighted avg EU25	avg	top 5 2004					avg	bottom 5 2004				
	1999	2004			2004	1	2	3	4		5	1	2	3	4
Public investment (gross fixed capital formation, <sup>1</sup> % of GDP)	2.3 <sup>4</sup>	2.4	2.9	4.2	cz	lu	gr	cy	ie	1.6	at	de	be	lv	dk
Public expenditure on education <sup>2</sup> (% of GDP)	4.8	5.2	5.5	7.1	dk	se	cy	fi	be	4.2	gr	lu	es	sk	ie
Government GERD <sup>3</sup> (% of GDP)	0.64	0.64	0.51	0.84	se	fi	fr	de	at	0.23	lv	lu	cy	gr	sk
Government GERD <sup>3</sup> (% of total GERD)	34.5	34.6	40.6	22.2	lu	se	be	fi	dk	61.8	pl	lt	cy	pt	hu

<sup>1</sup> si: missing value; <sup>2</sup> 2003; <sup>3</sup> 2003; it, mt: missing values; <sup>4</sup> 2000.

Source: Eurostat database.

discrepancy between the leading five countries and the last five countries in this respect is substantial. Besides Luxembourg, this share is especially low in the Nordic countries and particularly high in several new member states.

Thus the assessment of the quality of public finances according to capital accumulation shows ambiguous results. To some extent this might be due to non-comparable institutional settings since some countries typically organise public investment separately from the public sector, e.g. by state-owned firms.

### Employment-friendly Tax and Benefit Systems

Employment-friendly tax and benefit systems provide incentives to work and reduce distortions on the labour market in order to enhance labour participation and to increase labour demand. Distortions are reduced by lowering the tax burden on labour (in general, and specifically on low-wage earners) as well as reducing marginal tax rates. Social benefits cause further distortions. Therefore such benefits are not regarded as positive for employment as long as they do not contribute to the correction of market failures.<sup>70</sup> For this reason, the eligibility requirements for social benefits should be adapted. The EU Commission recommends that member states reduce labour taxes, improve the efficiency of tax systems, shift from passive labour market expenditures to active labour market policies, improve the administration of unemployment schemes, and eliminate fiscal disincentives to taking up part-time jobs.<sup>71</sup>

Eurostat provides several tax structure indicators for the evaluation of employment-friendliness. Indicators which systematically describe the benefit system are

<sup>70</sup> European Commission: The contribution of ..., op. cit., p. 16.

<sup>71</sup> European Commission, Council of the EU: The contribution of public finances to growth and employment: improving quality and sustainability, Report to the European Council in Stockholm, 6997/01, 12 March 2001, p. 21.

not available for analysis. However, tax structure indicators partly include the effect of the benefit system. These indicators are expressed in terms of tax rates. Table 3 shows various determinants of labour supply and demand. First of all, a low overall tax burden is a sign of being a low tax country (e.g. Lithuania, Latvia, Slovakia, Estonia and Ireland), which might increase the demand for labour. The implicit tax rate on labour employed (average effective tax burden on labour income) is a more meaningful indicator of an economy's labour costs. The lowest implicit tax rates are to be found in Cyprus, Malta, the UK, Ireland and Luxembourg. Both indicators, total tax burden and implicit tax rate, are especially high in Sweden, Belgium and France, which leads to the conclusion that tax burdens are not solely responsible for low employment, since particularly Sweden and Denmark show a good labour market performance.

Certain numbers indicate incentives or disincentives for low-wage earners (workers earning less than 67% of the average wage) to enter work or to increase the labour supply. An important determinant of low-skilled employment is the tax burden on low-paid workers (tax wedge). High tax wedges signify high tax burdens and thus high labour costs, which inhibit both labour supply and labour demand.

Further determinants of the labour supply are unemployment traps and low-wage traps. The former stands for the tax rate for the transition from unemployment to employment (disposable income during unemployment as a share of gross earnings), while the latter measures the increase in taxation if income rises from 33 to 67% of the average wage (share of lost disposable income). The unemployment trap indicator is well above 80% in the bottom five countries (Denmark, Latvia, Sweden, Luxembourg and Belgium) which indicates strong disincentives to seek work. The same indicator is much lower (about 50%) in certain

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**Table 3**  
**Quality of Public Finances: Indicators for the Employment-friendliness of the Tax and Benefit System**

Fiscal Indicator	weighted avg EU25		unweighted avg EU25	avg	top 5 2004					bottom 5 2004					
	1999	2004			1	2	3	4	5	avg	1	2	3	4	5
Total tax burden <sup>1</sup> (% of GDP)	42.3	40.5	38.1	30.1	lt	lv	sk	ee	ie	47.7	se	dk	be	fr	at
Implicit tax rate on labour employed <sup>2</sup> (%)	37.2	36.5	35.6	25.4	cy	mt	uk	ie	lu	43.0	se	be	fr	it	fi
Expenditure on active labour market policy <sup>3</sup> (% of GDP)			0.53	1.08	dk	nl	se	be	de	0.10	ee	sk	lv	cz	lt
<b>Incentives to work for low-paid workers (tax rates)</b>															
	2001	2004	2004	avg	1	2	3	4	5	avg	1	2	3	4	5
Tax wedge on labour cost (single-no ch, %) <sup>4</sup>	39.7	40.3	37.5	23.2	mt	cy	ie	lu	uk	46.4	be	de	se	hu	at
Unemployment trap (single-no ch, %) <sup>5</sup>	74.3	73.9	71.8	51.6	sk	lt	ee	cy	gr	87.4	dk	lv	se	lu	be
Low-wage trap (single-no ch, %) <sup>6</sup>	46.5	48.0	40.5	16.0	cy	mt	gr	es	pt	67.2	dk	nl	pl	se	be
Low-wage trap (couple-2 ch-1 earner, %) <sup>7</sup>	58.7	54.2	60.0	10.3	it	es	mt	gr	hu	100.0	lu	lv	fi	se	dk

<sup>1</sup> Total receipts from taxes and social contributions (including imputed social contributions) after deduction of amounts assessed but unlikely to be collected. <sup>2</sup> Average effective tax burden on labour income; pl, pt, sk: 2003. <sup>3</sup> cy, lu, mt, pl, si: missing values; lv: 2003. <sup>4</sup> Income tax plus employee's and employer's social security contributions, expressed as a percentage of the total labour costs of the earner, defined as gross earnings plus the employer's social security contributions plus payroll taxes (for a single person without children earning 67% of average wage). <sup>5</sup> Percentage of gross earnings which is taxed away through higher tax and social security contributions and the withdrawal of unemployment and other benefits when an unemployed person returns to employment (for a single person without children earning 67% of average wage). <sup>6</sup> Percentage of gross earnings which is taxed away through the combined effects of income taxes, social security contributions and any withdrawal of benefits when gross earnings increase from 33% to 67% of average wage (for a single person without children). <sup>7</sup> Ditto (for a one-earner couple with two children).

Source: Eurostat database.

new member states and in Greece. The difference between the top five and the bottom five countries is much stronger for low-wage traps than for unemployment traps, especially for couples with two children. Low-wage traps are especially serious in Denmark and Sweden for both single earners without children and couples with two children. Both values are less severe in Cyprus, Malta and Greece. Low-wage traps of 100% or even more in Luxembourg and Latvia imply that additional gross income in these countries even reduces net disposable income.

On the expenditure side expenditure on active labour market policies can be observed. High spending on labour market policy should improve the match between jobs offered and jobseekers' qualifications. Mostly, countries with high unemployment or low wage traps spend more on active labour market policy. In contrast, the Baltic countries as well as the Slovak and Czech Republics spend relatively little on the same category.

Labour market incentives did not change much from 1999 to 2004. Notably, the total tax burden has fallen and the low-wage trap for couples has become less severe. At the same time, the low wage trap for singles has risen.

### Stable Macroeconomic Climate

Sound public finances should contribute to a stable macroeconomic climate. Stable economic conditions should again foster growth and employment.<sup>72</sup> The EU Commission analyses the soundness of public finances in the short, medium and long run.<sup>73</sup> In each term it considers specific objectives.

- Short-run fiscal policy should rely on automatic stabilisers to maintain or achieve a budget "close to balance or in surplus". Pro-cyclical behaviour should be avoided. Assessment of the short-run position should be based on cyclically adjusted budget balances.
- In the medium term public finances should contribute to enhancing growth and employment as described above. The fiscal strategy proposed by the EU aims at fiscal consolidation on the one hand and sustainable tax reduction and sustaining investment in physical, human and knowledge capital on the other hand.
- The long-run policy should tackle the fiscal implications of ageing populations. Therefore public

<sup>72</sup> European Commission: The EU Economy ..., op. cit., p. 91.

<sup>73</sup> European Commission: The contribution of ..., op. cit.

finances should be sustainable in the long run. Sustainability means an evolution of budget positions that coincides with the inter-temporal budget constraint (i.e. the debt to GDP ratio is stabilised).<sup>74</sup>

Following a “three-pronged strategy”<sup>75</sup> should enable governments to keep tax burdens at employment- and growth-friendly levels and should help to reallocate resources from pensions and health care to education and investment. The first element of this strategy is that member states should reduce public debt levels at a faster pace; the second element should contribute to a labour market reform, restoring incentives to work. Finally, the third prong stands for pension reforms in order to take pressure off public finances and to alleviate intergenerational imbalances.

The EU Commission assesses the progress in long-term sustainability in its annual publication on “Public Finances in EMU”, in which it presents estimates of sustainability (tax) gaps according to the stability or convergence programmes of member states and to status-quo forecasts of fiscal indicators.

Increased sustainability finally manifests itself in diminishing debt ratios. On average the gross debt ratio as a percentage of GDP decreased from 1999 to 2004 (Table 4). However, the EU25 average is still above the 60% mark of the Stability and Growth Pact. The cyclically adjusted primary balance (CAPB) is a simple indicator for (past) sustainability. From 1999 to 2004 it was on average well below the debt stabilising primary balance indicator (required primary balance; RPB), i.e. there are other factors that have contributed to debt reduction (e.g. one-off measures). On average, debt ratios are lower in the new member states than in EU15 countries. However, among the five countries with the highest debt ratios are not only EU15 member states but also Malta and Cyprus. EU15 states such as Belgium, Finland, Denmark, Sweden and Italy have taken stronger measures in the past to improve sustainability (higher CAPB). These are in general not those countries which would require high primary surpluses in future (RPB) to achieve sustainability in the long run. Moreover, there is a discrepancy between countries with a low required primary balance (Poland, Estonia, Hungary, Luxembourg and Latvia) and a low sustainability gap (Austria, Denmark, Finland and Belgium). The latter indicates whether a tax increase or a rise in the structural primary balance would be necessary to stabilise debt burdens. Only Estonia shows both a low required primary balance and a low sustainability gap.

<sup>74</sup> For a detailed view on fiscal sustainability cf. O. Blanchard et al.: *The Sustainability of Fiscal Policy – An New Answer to an Old Question*, OECD Economic Studies 15, Autumn 1990.

<sup>75</sup> European Commission, Council of the EU, op. cit., p. 2.

This is also the country with the lowest gross debt ratio.

Short-run fiscal policy is somewhat harder to measure since it would be necessary to observe the current or future fiscal stance, which cannot be determined immediately. Therefore it is difficult to judge if countries have been able to implement countercyclical fiscal policy. Furthermore, short-run policies are not in the focus of the Lisbon agenda which, rather, aims at the medium to long-term perspective of permanent structural reforms.

#### **Link Between Structural Reforms and Quality of Public Finances**

Structural reforms enhance competitiveness, productivity and, thus, the growth potential of an economy. Changes in the quality of public finances should intensify these effects. However, the direction of the impact is ambiguous. Structural reforms can also affect the quality of public finances, e.g. by altering fiscal sustainability. Unfortunately, such reforms might have an undesirable effect on budgetary positions in the short or medium run, since such policies are regularly associated with adjustment costs, e.g. by causing direct budgetary costs, by providing compensation packages to reform-losers or by bearing political costs.<sup>76</sup>

The focus of this study is to examine the impact of public finances (policy indicators) on structural reforms as measured by the short list of Lisbon’s performance indicators. To this end, indicators that should reflect the quality of public finances have already been introduced. In the following, these (policy) indicators are assigned to short-list indicators of structural reform according to theoretical considerations. Fiscal policy indicators are supplemented by “total state aid” and “total environmental taxes” from the Eurostat database in order to contrast them with performance indicators for economic reform and environment objectives. Moreover, the rate of “social protection expenditure” is linked to the at-risk-of-poverty rate and the long-term unemployment rate. Table 5 presents these indicators. Columns 3 and 4 of the table show simple correlation statistics between corresponding indicators. These indices are calculated with 2004 level values and with average annual change values from 1999 to 2004 respectively.<sup>77</sup> In order to limit the size of the table, not all the correlation results are presented.

Although it would have been possible to perform a regression analysis between structural and fiscal indicators, it was decided not to do so, since the direction

<sup>76</sup> European Commission: *The second report ...*, op. cit., p. 143.

<sup>77</sup> For some indicators 2003 or average change values from 2000 to 2003 or 2004 are used since several data points are missing.

**Table 4**  
**Quality of Public Finances: Fiscal Sustainability Indicators**

Fiscal Indicator	weighted avg EU25	unweighted avg EU25	avg	top 5					avg	bottom 5				
				1	2	3	4	5		1	2	3	4	5
Gross debt 1999 <sup>1</sup> (% of GDP)	66.0	52.3	12.9	ee	lu	lv	cz	lt	93.7	it	be	gr	at	se
Gross debt 2004 <sup>1</sup> (% of GDP)	62.4	50.3	14.9	ee	lu	lv	lt	si	90.4	gr	it	be	mt	cy
CAPB 1999-2004 <sup>2</sup> (avg. % of GDP)	1.3	1.0	4.9	be	fi	dk	se	it	-2.3	mt	cz	sk	lv	cy
Required primary balance <sup>3</sup> (RPB) (% of GDP)		3.2	0.3	pl	ee	hu	lu	lv	6.3	gr	cz	si	fr	be
Sustainability gap <sup>4</sup> (% of GDP)		2.9	-0.7	ee	at	dk	fi	be	7.6	gr	cz	cy	fr	si

<sup>1</sup> General government consolidated gross debt (excessive deficit procedure). <sup>2</sup> Average CAPB: average cyclically adjusted primary balance of general government (adjustment based on potential GDP, excessive deficit procedure). <sup>3</sup> RPB: Average minimum required cyclically adjusted primary balance that guarantees the respect of the inter-temporal budget constraint of the government (2004 budget scenario); pt: missing value.

<sup>4</sup> Sustainability gap (S2): Necessary permanent increase in the tax-to-GDP ratio or the structural primary balance as % of GDP that guarantees the inter-temporal budget constraint (2004 budget scenario); pt: missing value.

Sources: AMECO database; European Commission: Public Finances in EMU 2005, in: European Economy No. 3, 2005.

of the relationships is not entirely clear and reasonable econometric analysis would demand a more sophisticated model design. Furthermore, the number of observations (25 or less) is rather small, which implies that correlation indices can only give some hints as to possible relationships.

Summarising the results of the correlation indices with special focus on indices above 0.4 or below -0.4 shows the following.

- *General economic background.* The countries with a high average CAPB in the underlying observation period – indicating sustainable public finances – also have a high GDP per capita in PPS. The latter reflects not only high economic development but also a good rating in Lisbon reform progress. Less meaningful are the relationships between public investment and average annual real GDP growth rate and between gross debt rate and GDP per capita, although the correlation statistics show the assumed signs. High tax burdens are related to a high labour productivity whereas there is a negative relationship between labour productivity growth and average change in the tax burden. The former does not suit theoretical considerations while the latter is in line with the idea that high taxes have a negative impact on economic development. The discrepancy of the signs of the correlation indices partly arises from the large difference in indicator values between good and poor performers in economic and fiscal terms. Countries with originally low rankings but favourable changes in indicator values still lag behind in terms of levels at the end of the observation period. The sign of the correlation index between labour produc-

tivity and expenditure on active labour market policy is, however, as assumed, at least for indicator levels.

- *Employment.* Results in this reform area are similar to those of labour productivity. Countries with high total tax burdens, high active labour market policy spending, and strong low-wage traps are associated with high employment rates. The latter also holds also for the employment rates of older workers. These results are – except for the active labour market spending indicator – generally not in line with theoretical considerations. According to these considerations, labour market disincentives should have a negative impact on labour market performance. The signs of the correlation indices for the average change of indicator values are, however, mostly correct, although these indices are very low.
- *Innovation and research.* Relationships in this category generally show the expected signs, although the assumed relationship between youth educational attainment and public expenditure on education seems to be very loose. On the contrary, high government R&D spending is clearly an indicator for high total R&D spending and average change in public expenditure on R&D goes along with the change in total economy expenditure on R&D. However, low shares of government R&D spending are accompanied by high total R&D spending, which is less obvious. One can explain this result by rising private R&D spending ratios with economic development. EU15 countries e.g. have relatively low government spending shares and relatively high total R&D spending ratios in terms of GDP.
- *Economic reform.* Correlation indices in this category are rather low. The signs of the indices are – at

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**Table 5**  
**Correlation between Structural Reform and Fiscal Indicators**

Short List of Structural Reform Indicators	Corresponding Fiscal Indicators	Levels 2004	Avg change 1999-2004
<b>1) General Economic Background</b>			
GDP per capita in PPS <sup>1</sup>	Gross debt	-0.03	-0.08
	Avg CAPB 1999-2004	<b>0.56</b>	
	Required primary balance	0.11	
Average annual real GDP growth rate <sup>2</sup>	Sustainability gap	-0.13	
	Public investment	0.34	0.30
Labour productivity <sup>1</sup>	Total tax burden	<b>0.59</b>	<b>-0.49</b>
	Active labour market policy	<b>0.62</b>	-0.36
<b>2) Employment</b>			
Employment rate	Total tax burden	<b>0.44</b>	0.13
	Implicit tax rate on labour employed	-0.06	0.39
	Active labour market policy	<b>0.61</b>	0.10
	Tax wedge on labour cost (single-no ch)	-0.02	-0.11 <sup>3</sup>
	Unemployment trap (single-no ch)	0.38	-0.05 <sup>3</sup>
	Low wage trap (single-no ch)	<b>0.42</b>	-0.21 <sup>3</sup>
	Low wage trap (couple-2 ch-1 earner)	<b>0.56</b>	-0.08 <sup>3</sup>
Employment rate of older workers	Total tax burden	0.16	-0.15
	Active labour market policy	0.30	-0.21
	Low wage trap (couple-2 ch-1 earner)	<b>0.55</b>	-0.18 <sup>3</sup>
<b>3) Innovation and Research</b>			
Youth educational attainment	Public expenditure on education	0.14 <sup>4</sup>	0.05 <sup>5</sup>
Gross domestic expenditure on R&D	Government GERD (% of GDP)	<b>0.86<sup>4</sup></b>	<b>0.41<sup>5</sup></b>
	Government GERD (% of total GERD)	<b>-0.73<sup>4</sup></b>	-0.27 <sup>5</sup>
<b>4) Economic Reform</b>			
Comparative price levels	Total State aid (% of GDP)	-0.13	-0.23 <sup>7</sup>
Business investment	Total State aid (% of GDP)	-0.34	-0.01 <sup>7</sup>
<b>5) Social Cohesion</b>			
At risk-of-poverty rate after social transfers	Social protection expenditure	-0.35 <sup>4</sup>	0.21 <sup>6</sup>
Long-term unemployment rate	Social protection expenditure	-0.37 <sup>4</sup>	-0.01 <sup>6</sup>
	Unemployment trap (single-no ch)	<b>-0.41</b>	0.06 <sup>3</sup>
Dispersion of regional employment rates	(too many missing values)		
<b>6) Environment</b>			
Greenhouse gas emissions	Total environmental taxes (% of GDP)	0.32	0.13
Energy intensity of the economy	Total environmental taxes (% of GDP)	-0.38	-0.12
Volume of freight transport relative to GDP	Total environmental taxes (% of GDP)	-0.36	0.03

Missing values for the years 1999 and 2004 are replaced by adjacent values of the years 2000 and 2003 respectively. Bold numbers are bigger than 0.4 or smaller than -0.4.

<sup>1</sup> Correlation coefficient for average change is calculated with average annual real GDP growth rate/average annual labour productivity growth rate. <sup>2</sup> Coefficient indices for "level" and "change" are based on average annual real GDP growth rate. <sup>3</sup> 2001-2004. <sup>4</sup> 2003. <sup>5</sup> 1999-2003. <sup>6</sup> 2000-2003. <sup>7</sup> 2000-2004.

Source: Own calculations based on Eurostat and AMECO databases.

least for business investment – as expected. Those for comparative price levels are difficult to predict because comparative price levels are not a proper indicator for economic reform (presumed low price levels) since this indicator at the same time reflects economic development which is connected with high price levels.

- *Social cohesion.* Correlation indices for expenditure on social protection and at-risk-of-poverty rates as well as for expenditure on social protection and long-term unemployment rates show the assumed signs, although these indices are rather small. However, a

rise in social protection expenditure corresponds to an increase of the at-risk-of-poverty rate. Furthermore, weak unemployment traps for single earners are associated with high long-term unemployment rates, which is obviously not the expected direction of the relationship.

- *Environment.* The available fiscal indicator in the environment category – total environmental taxes – is rather loosely linked to Lisbon reform indicators. At least the signs for energy intensity of the economy and volume of freight transport are as assumed.



Correlation indices suggest that the relationship between policy and performance indicators is rather weak. This may lead to the conclusion that an assignment of policy and performance indicators as demanded by the EPC's Task Force does not make much sense or at least that the model design is inadequate, e.g. the impact on performance indicators could actually be lagged, or other determinants – especially those that capture the institutional framework – have not been taken into account. However, the problem of model design is not taken into account since analysis should be kept simple and data quality is limited. Furthermore, it can be seen that there are many cases where the direction of the empirical relationship does not support the theory. The results are most peculiar for the employment and unemployment indicators. For this reason, other labour market institutions – for which quantitative indicators are not yet available – need to be examined in the analysis of the Lisbon process. Since these problems of quantitative analysis hamper the assessment of the Lisbon strategy, additional qualitative assessment of reform strategies is absolutely necessary.

### Conclusions

In the year 2000 the European Council in Lisbon decided to launch a policy agenda in order to make the EU the most competitive and dynamic economic area in the world by the year 2010. Since this decision, the European Council has regularly reviewed the progress of structural reforms towards the policy objectives and has extended the agenda in various policy fields. The empirical analysis above has shown that – according to a simple unweighted ranking of available short-list indicators for the year 2004 – the leading countries in structural reform are Denmark, Sweden, Austria, Ireland and the UK. Malta, Poland, Slovakia, Greece and Latvia, on the contrary, show the worst performance. However, a detailed view of certain indicators questions the results of the simple ranking. Less meaningful than absolute levels is the average annual change of indicator values. Despite their high ranking with regard to progress Latvia, Lithuania, Estonia, Hungary and Greece have not been able to improve their level ranking substantially from 1999 to 2004 and still lag behind, which partly stems from the large discrepancy of indicator values between highly developed and less developed countries.

Already at the start of the Lisbon strategy the EU Commission highlighted the impact of fiscal policy on structural reforms according to the Lisbon objectives.<sup>78</sup> This can be seen as the starting-point of the discussion on the quality of public finances in the EU.

<sup>78</sup> European Commission: *The contribution of ...*, op. cit.

Recently, the EPC has requested stronger observance of the quality of public finances.<sup>79</sup> Its Structural Indicators Task Force also suggests assigning policy variables (e.g. fiscal indicators) to performance variables (structural indicators).<sup>80</sup> However, it is not clear whether adequate fiscal indicators are available that have a clear-cut impact on structural indicators. To this end, in this article fiscal indicators that are easily available are assigned to short-list structural indicators and simple correlation indices are calculated.

In general, an unambiguous link between structural reforms (performance indicators) and the quality of public finances (policy indicators) cannot be observed. There is some evidence that public accumulation of productive factors and fiscal sustainability contributes to good performance as measured by structural reform indicators (or vice versa). Countries with sustainable public finances in the past (measured by the CAPB), for example exhibit a higher GDP per capita. In contrast, labour market incentives such as income tax tariffs appear to be of minor importance. Summarising individual results, best performance in terms of structural and public sector quality indicators (disregarding indicators for labour market incentives) is observed in Nordic countries whereas performance is weaker in the new member states as they have to catch up in several policy fields. Large EU countries are mostly in the middle of the ranking (UK, France and Germany).

However, the largely weak correlation statistics lead to the conclusion that available indicators are not meaningful in the Lisbon reform areas, or that it is not possible to assign policy indicators to performance indicators as suggested. It should be taken into consideration that other factors – such as the institutional framework – could be of major importance. Consequently, either other indicators, such as a composite indicator displaying fiscal performance or indicators for the institutional setting, should be included in quantitative analysis, or other evaluation techniques need to be developed. Results, moreover, indicate the need to further sharpen the term “quality of public finances”, since up to now there is no commonly accepted framework of analysis. Finally, it must not be forgotten that quantitative analyses are not meaningful without qualitative amplification. The implementation reports on the Lisbon strategy show that the EU Commission's attention to this evaluation technique has already been growing in recent years.

<sup>79</sup> Economic Policy Committee: *Mid-Term Review...*, op. cit.

<sup>80</sup> Economic Policy Committee: *Report on structural indicators...*, op. cit.