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## Economic Policy Papers

### AN INVESTIGATION OF THE LISBON METHODOLOGY ASSESSMENT FRAMEWORK (LAF)

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# **An Investigation of the Lisbon Methodology Assessment Framework (LAF)\***

**Louis N. Christofides and Maria Michael**

## ***Abstract***

*The Lisbon Strategy launched by the European Council in March 2000, aims at increasing Europe's productivity and competitiveness, by focusing on employment and promoting research and innovation. This note describes in brief the LIME Assessment Framework (LAF) methodology. This is the main tool used by the Lisbon Methodology (LIME) working group, in order to evaluate the economic progress of all Member States and progress with structural reforms, based on the Lisbon Strategy targets and guidelines. LAF uses indicator analysis and growth accounting, to identify problematic policy areas for each country. It is an important tool since it provides a common, transparent, way to evaluate Member States. However, any mistakes in the methodology, or the data used might result in misleading results for a country. This document analyses the contribution of LAF, as well as its weaknesses and limitations, in terms of both the methodology and its application through the use of the "LAF Maquette", an Excel based application and database. Finally, some suggestions for improving LAF are provided.*

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\* This study is part of a project requested by the Planning Bureau and funded by the Research Promotion Foundation (RPF) through the Economics Research Center (ERC). It aims to reach a better appreciation of the LAF methodology and, following a critical assessment, to propose improvements to this approach. Its application to Cyprus is scrutinised and several suggestions are offered and quantified.



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## ΠΕΡΙΛΗΨΗ

Η Συνθήκη της Λισσαβόνας υπεγράφη το Μάρτιο του 2000 με βασικούς στόχους τη δημιουργία μιας ανταγωνιστικής ευρωπαϊκής οικονομίας βασισμένης στη γνώση και την οικονομική ανάπτυξη των χωρών μελών με περισσότερες και καλύτερες θέσεις εργασίας, κοινωνική συνοχή και σεβασμό προς το περιβάλλον. Με βάση τις Ενιαίες Αρχές (*Integrated Guidelines*) και τους στόχους οικονομικής πολιτικής που τέθηκαν από το Ευρωπαϊκό Συμβούλιο η κάθε χώρα μέλος εκδίδει το Εθνικό Μεταρρυθμιστικό της Πρόγραμμα, το οποίο μετά το Συμβούλιο αξιολογεί. Η αξιολόγηση καταλήγει σε εισηγήσεις προς την κάθε χώρα μέλος.

Λόγω της πολυπλοκότητας της διαδικασίας, του αυξανόμενου αριθμού στόχων αλλά και των χωρών μελών, η Επιτροπή Οικονομικής Πολιτικής (*Economic Policy Committee*) δημιούργησε τον Οκτώβριο του 2006 μια ομάδα εργασίας για τη Μεθοδολογία της Λισσαβόνας (*LIME working group*), με κύριο στόχο τη δημιουργία κοινού αναλυτικού πλαισίου που θα αξιολογεί με διαφάνεια την πορεία της κάθε οικονομίας, τις οικονομικές επιδράσεις των μεταρρυθμίσεων και τις προβληματικές περιοχές πολιτικής για την κάθε χώρα. Η ομάδα αυτή δημιούργησε το Πλαίσιο Αξιολόγησης της Λισσαβόνας (*Lisbon Assessment Framework –LAF*), το οποίο αποτελεί και το αντικείμενο της μελέτης αυτής.

Στόχος της μελέτης, είναι η περιγραφή και ο κριτικός σχολιασμός της μεθοδολογίας του LAF, καθώς επίσης και κάποιες εισηγήσεις για βελτίωση.

Σε γενικές γραμμές το Πλαίσιο Αξιολόγησης της Λισσαβόνας αποτελείται από τρία μέρη:

(i) Την ανάλυση του ΑΕΠ και της παραγωγικότητας με τη χρήση *Growth Accounting* (*GDP performance*).

(ii) Την ανάλυση, με τη χρήση δεικτών, 20 τομέων πολιτικής, σε θέματα που αφορούν την αγορά εργασίας, αγορά προϊόντων και κεφαλαίου, τον τομέα έρευνας και ανάπτυξης και τα μακροοικονομικά (*Policy performance*).

(iii) Την αναγνώριση πιθανής συσχέτισης μεταξύ της απόδοσης των περιοχών πολιτικής και των συστατικών μερών του ΑΕΠ (*Screening exercise*).

Το LAF συνοδεύεται από μια αυτοματοποιημένη βάση δεδομένων τύπου *Excel*, ειδικά διαμορφωμένη (*LAF Maquette*), η οποία περιέχει όλα τα δεδομένα και τους υπολογισμούς που χρειάζονται για τα πιο πάνω, για όλες τις χώρες μέλη.

Μερικές αδυναμίες της μεθοδολογίας επισημαίνονται αναλυτικά στη μελέτη. Για παράδειγμα, η ανυπαρξία ικανοποιητικών στατιστικών δεδομένων για κάποιες χώρες,

ή διάφορα λάθη μέτρησης που παρουσιάζονται κατά τη συλλογή αυτών των δεδομένων αποτελούν ίσως τα βασικότερα προβλήματα που αντιμετωπίζει η εφαρμογή του LAF. Τα πιο πάνω μπορούν να οδηγήσουν στην εξαγωγή παραπλανητικών συμπερασμάτων για μια χώρα, ή σε εκτιμήσεις οι οποίες δεν αντανακλούν τις τελευταίες οικονομικές μεταρρυθμίσεις. Κύριο πρόβλημα αποτελεί επίσης και το ότι δεν λαμβάνεται υπόψη η διαφορετικότητα των χωρών από πλευράς δομής της οικονομίας και παρούσας οικονομικής κατάστασης της υπό εξέταση χώρας. Επιπρόσθετα, η συσχέτιση μεταξύ της απόδοσης των περιοχών πολιτικής και των συστατικών στοιχείων του ΑΕΠ δεν είναι πάντα ξεκάθαρη, πράγμα που καθιστά το τρίτο μέρος του LAF αμφισβητήσιμο.

Τέλος, παρέχονται κάποιες πρακτικές εισηγήσεις για βελτίωση της μεθοδολογίας. Στη μελέτη αναφέρονται και παραδείγματα δεικτών που παρουσιάζουν πρόβλημα στην περίπτωση της Κύπρου με βάση την μέχρι τώρα έρευνα.

# **1 INTRODUCTION**

The Lisbon Strategy launched by the European Council in March 2000, aims at increasing Europe's productivity and competitiveness, by focusing on employment and promoting research and innovation. This study describes in brief the LIME Assessment Framework (LAF). This is the main tool used by the Lisbon Methodology (LIME) working group, in order to evaluate the economic progress of all Member States (MSs) and progress with structural reforms, based on the Lisbon Strategy targets and guidelines. LAF uses indicator analysis and growth accounting, to identify problematic policy areas for each country. It is an important tool since it provides a common, transparent way to evaluate Member States. However, any mistakes in the methodology, or the data used, might result in misleading results for a country. This document analyses the contribution of LAF, as well as its weaknesses and limitations, in terms of both the methodology and its application through the use of the "LAF Maquette", an Excel based application and database. Finally, some suggestions for improving LAF are provided.

## **1.1 The Lisbon Strategy**

To begin with, it is useful to present the historical background regarding the origin and evolution of the Lisbon Strategy up until today. The idea of creating a common plan for jobs and growth for all European Union members started with the Amsterdam Treaty, in June 1997. Before even this was ratified, it was agreed at the Luxemburg Council, November 1997, to implement immediately a complex employment process based on the Amsterdam Treaty with focus on employability, adaptability, entrepreneurship and equal opportunities and was conditioned by the Employment Guidelines that were issued by the Commission and the Council. This process came to be called the European Employment Strategy (EES) or the Luxemburg Process. The EES was implemented by MSs through National Action Plans (NAPs).

The Lisbon Strategy of economic and structural reforms is a development plan, set out by the European Council in March 2000. It recognizes that employment outcomes are related to general economic performance and therefore the EES should be extended to take on board broader economic policy. The Lisbon Strategy or Lisbon process, aimed at making the EU "the most dynamic and competitive knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs, and greater social cohesion, and respect for the environment by 2010". More specifically, the objective of the Lisbon Strategy was to improve Europe's productivity and competitiveness through various policy initiatives, building on a number of goals that had been formulated in earlier years. These goals, included the

creation of an information society for all, establishing a European area of research and development, developing a business-friendly start-up environment, completing the single market, establishing efficient and integrated financial markets, building a knowledge society, ensuring more and better jobs for Europe, modernizing social protection, promoting social inclusion and enhancing sustainable development.

The Lisbon Strategy is based on the Open Method of Coordination (OMC), which rests on monitoring and evaluating countries through guidelines and indicators, benchmarks and the identification of “good practices”. The Council agreed on policy goals and guidelines, which MSs then transposed into national and regional policies. Specific benchmarks and indicators were set, and best practices noted. Each MS issues Lisbon Reform Programmes or plans (LRPs), now called National Reform Programmes (NRPs), based on the Guidelines and the Lisbon recommendations. MS results are monitored and evaluated. Points to Watch (PTW) and Country Specific Recommendations (CSRs) are issued. The Council evaluation for Cyprus for the years 2006, 2007 and 2008 are included in Appendix II.

A main feature of the Lisbon Strategy has been the use of targets to achieve specific policy objectives and outcomes by 2010. Initially, the Lisbon European Council of March 2000 set targets focusing on employment rates, school attainment, internet availability in schools, the IT skills of teachers and e-government. In the following years, the list of targets grew steadily. In 2001, the Stockholm European Council introduced more targets for employment and put emphasis on competition within the Internal Market by establishing goals on implementation of Internal Market Directives. The Barcelona European Council in 2002 increased substantially the number of goals to twenty, while the Brussels summit in 2003 continued this trend and added another eight targets and reiterated some of the older ones. Overall, a total of twenty eight targets were in place by 2005, when the mid-term review of the Lisbon strategy took place. Since then, the governance of the Lisbon Strategy was substantially improved and became known as Lisbon II. It refocused the strategy on policies to raise growth and job potential, summarized in 24 Integrated Guidelines (see Appendix I). In terms of measuring and evaluating the progress, the number of targets was reduced since all the MSs recognized the fact that the number of targets should be kept as low as possible in order to be effective.

The Spring European Council of 2008 decided to renew the Lisbon Strategy for a second three-year cycle (2008-2010), along the same framework and guidelines because, evidently, the Lisbon Strategy has contributed towards the aim of more growth and more jobs. Officially, two headline targets were set, viz, a 3% R&D expenditure and a 70% employment rate to be achieved by 2010. The remaining targets remained in the background. Currently, there are eighteen targets which can

be divided into four categories: (i) Investing in people and modernizing labour markets;(ii) unlocking the business potential, especially for small and medium enterprises (SMEs); (iii) investing in knowledge and innovation and (iv) transforming Europe into a low carbon and energy efficient environment. The social aspect of Europe has come more to the forefront with the signing of the Social Agenda of the EU in July 2008; in the Renewed Lisbon Strategy this is reflected in the inclusion of Flexicurity as one of the priorities of the new Cycle.

The Lisbon Strategy with all the targets and guidelines agreed over time, along with the increasing number of MSs, led to a difficult and complex evaluation procedure. This led to the creation of the LIME working group.

## **1.2 The Lisbon Methodology Working Group**

Due to the complexity of the evaluation procedure, in October 2006, the Economic Policy Committee (EPC) established the LIME working group to develop suitable and transparent methodological approaches in order to track, analyse and model structural reforms based on the Lisbon Strategy Integrated Guidelines and Targets. Assessing reforms and evaluating progress in a clear way, is definitely a key factor for the success of the Lisbon Strategy.

In February 2007, the LIME working group started working with a focus on three main methodological strands for evaluating progress with the Lisbon Process:

- (a) Improved information to track and monitor progress with structural reforms
- (b) Developing an analytical framework to identify policy challenges and evaluate the impact of structural reforms
- (c) Modelling structural reforms.

LAF, which is the objective of this note, is based on the second aspect of work of LIME , and it is the main evaluation tool for the progress of MSs with structural reforms. LAF may help the Commission to evaluate performance in a policy area and priority in terms of importance of the policy area for growth and jobs, but does not access the identification of CSRs and PTWs<sup>1</sup>.

LIME members meet approximately three times a year, in Brussels and through extensive discussions and presentations related to methodology issues or country case study applications agree on the methodological way to proceed. Based on the agreed methods, LIME periodically publishes a case study with the results of the LAF evaluation procedure for each country.

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<sup>1</sup> The Commission's assessment framework for evaluating progress with structural reforms takes into account three elements: (i) performance in a policy area, (ii) priority in terms of importance of a policy area for growth and jobs in that country and (iii) the adequacy of the policy response.

### 1.3 The Lisbon Strategy in Cyprus

Cyprus entered the European Union in May 2004. However, a National Action Plan (NAP) was prepared on a voluntary basis in 2003, which was structured around the four pillars and the ten Lisbon Guidelines, set by the Thessaloniki Council in 2003. The first official participation was the 2004 NAP.

In 2005 a National Lisbon Programme (NLP) and in 2006 a National Reform Programme (NRP), as they were called, were issued. These, were based on the revised Lisbon targets and the 24 new integrated guidelines. The 2005 and 2006 NRPs are more complete and include other aspects of the economy related to Microeconomic and Macroeconomic issues in addition to employment, as specified by the OMC. The key challenges identified for Cyprus in the 2005 LRP included: (i) Sustainability of public finances; (ii) Improving the quality of public finances via a redirection of public expenditure; (iii) Increasing the diversification of the economy towards higher value added activities via, mainly, an increased utilisation of the comparative advantages of the island; (iv) Promotion of Research and Development (R&D) and innovation and facilitation of Information and Communication Technologies (ICT) diffusion; (v) Enhancing competition and improving the overall business climate; (vi) Upgrading of basic infrastructures; (vii) Further human capital development including enhancement of the links of the educational system to labour market needs, development of a comprehensive national framework for lifelong learning and continuous upgrading and adaptability of skills to labour market needs; (viii) Further enhancement of the conditions of social cohesion; and (ix) Ensuring environmental sustainability.

In the Cyprus evaluation report for 2006, "...it is recommended that Cyprus:

- take steps to implement reforms of the pension and health care systems and sets a timetable for their implementation with a view to improving long-term sustainability;
- enhance life long learning, and increase employment and training opportunities for young people by accelerating the reforms of the vocational, education, training and apprenticeship system.

In addition, it will be important for Cyprus over the period of the National Reform Programme to focus on: measures to encourage venture capital investments and to improve competition in the area of professional services."

In 2007 and 2008, updated NRPs followed. In the 2008 NRP, social cohesion was given high priority but the main national challenges remained the same. It took into consideration the country's Strategic Development Plan 2007-2013 as well as the Government's priorities, as outlined in the new President's Programme. Enhancing the competitiveness of the economy, as a tool to achieve greater social cohesion,

remained a key target of the development effort. The 2008 NRP also discussed developments with respect to CSRs and PTW issued by the Commission. These sections regard ageing related expenditures, reforms of the health care system, life-long learning participation, professional services, stimulating R&D and addressing the very high gender pay gap.

In the 2007 evaluation report the CSRs for Cyprus remained the same as in 2006. The PTWs were enriched by two more points: (i) further stimulate the private sector R&D and (ii) address the very high gender pay gap. The point regarding encouraging venture capital investments was removed.

Following the submission of the 2008 NRP and its assessment, the Council recommended that Cyprus should continue the implementation of structural reforms and more specifically "... it is recommended that Cyprus continues with the efforts to expand lifelong learning opportunities, especially for the low skilled, unemployed and disadvantaged groups by proceeding further with the implementation of actions within the approved Lifelong Learning National Strategy, including the reforms of the vocational, education, training and the New Modern Apprenticeship Scheme<sup>2</sup>."

In terms of LIME, Cyprus participates in LIME meetings and provides comments on the various aspects under discussion. So far two case studies have been prepared for Cyprus<sup>3</sup> along with comments.

## **2 LIME ASSESSMENT FRAMEWORK (LAF)**

In this section, we describe the three main steps in LAF and we provide an example of a policy area analysis following the Maquette calculations.

### **2.1 LAF Methodology description**

LAF is an analytical tool, which can help to identify policy challenges in raising a country's growth potential and to evaluate the impact of national structural reforms. It has been developed by the Commission services working together with national authorities in the EPC's LIME working group, and in close cooperation with the Employment Committee (EMCO).

There are two main LAF components:

(a) The LAF methodology or an analytical framework, which is based on growth accounting and indicator analysis, and

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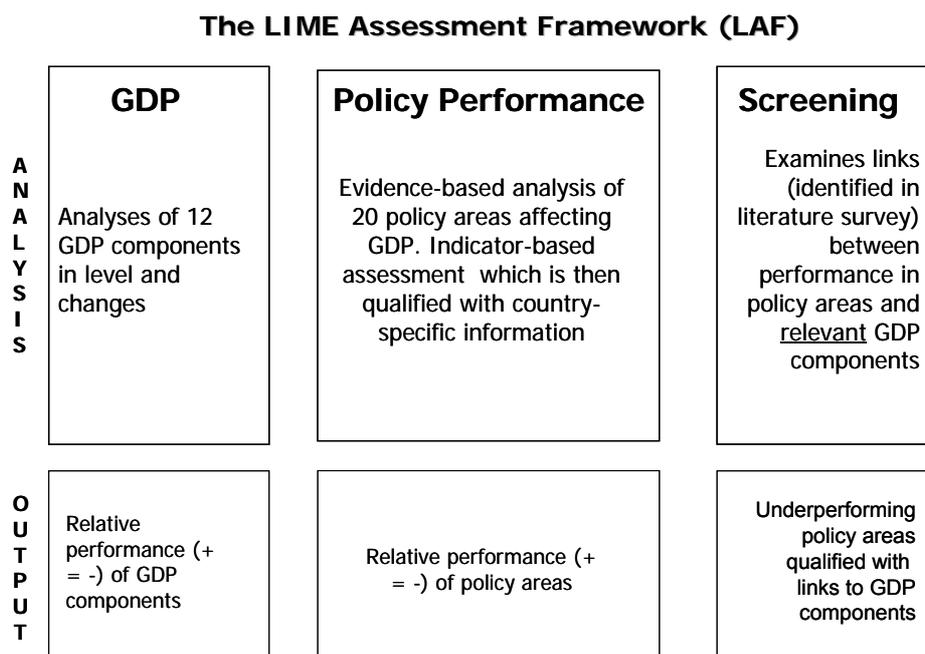
<sup>2</sup> <http://ec.europa.eu/social/main.jsp?catId=101&langId=en>

<sup>3</sup> The latest case study on hand was made June 2008.

(b) The LAF database and Maquette, with all the data and the underlying computations.

The LAF methodology is based on a literature survey and aims at evaluating and systematically comparing the performance of MSs in terms of GDP and policy areas affecting growth. The LAF methodology can be summarized in three steps which are described in the Figure 2.1.1 below and the analysis following.

Figure 2.1.1: LAF (Figure as given in the LAF Methodology document, November 2008)



### 2.1.1 Assessing the performance of GDP components

The first part of the methodology is the growth accounting part (column 1 in Figure 2.1.1) with twelve GDP “components” related to demographic components, labour market components and productivity components. The procedure is summarized in Table 2.1.1.1 (LAF Table 1). Calculations for each indicator are made both in levels and changes over time, relative to the EU15 benchmark. More specifically, each indicator score is calculated using the following formula:

$$\text{Score} = [(\text{Indicator} - \text{EU15average}) / \text{EU15 Standard deviation}] \times 10.$$

In general if the score is below -4, the area is evaluated as underperforming. For a final assessment the results from both level and change scores are combined along with other country specific information.

Table 2.1.1.1: The assessment of GDP components (Table 1 as given in the LAF Methodology document, November 2008)

	I		II	III
	GDP decomposition scores		Qualification	Overall assessment
	Level 2006	Growth 2000-06		
<b>Demographic components</b>				
Fertility / Native Population	<b>Score-based assessment:</b> levels (gap to EU15) and change (gap relative to average contribution for EU15)	<b>Absolute contribution</b> to annual growth is given as a memo item	<b>Additional evidence:</b> used to qualify the results of the score based assessment in level terms	<b>Final assessment</b> of above (+), neutral (=) or under (-) performance for each GDP component
Share of foreign population / Net Migration				
Share of Working age Population				
<b>Labour market components</b>				
Youth Participation				
25-54 Male Participation				
25-54 Female Participation				
55-64 Participation				
Unemployment Rate				
Average Hours Worked				
<b>Labour productivity components</b>				
Capital Deepening				
Total Factor Productivity				
Initial education of labour (Labour quality)				
<b>GDP per capita (level) / GDP (growth)</b>				

### 2.1.2 Assessing the performance in policy areas affecting GDP

The second part (column 2, Figure 2.1.1.1), is based on an indicator analysis in the twenty policy areas specified. The policy areas are related to the labour market, product and capital market regulations, R&D and Innovation, the macro-economy and other areas. A number of indicators are chosen and evaluated for each policy area (wider list of indicators). The most representative and statistically accurate indicators are included in the “narrow list” and, along with a choice of weights, the aggregate score for each policy area is computed and included in column I in Table 2.1.2.1 below.

Table 2.1.2.1: The assessment of performance of policy areas (Table 2 as given in the LAF Methodology document, November 2008)

	Indicator-based assessment		Qualification	Overall assessment
	I	Change	III	III
Policy areas -- Aggregate scores for ES	Level 2006	2000-06		
<b>Labour market</b> Active labour market policies** Making work-pay: interplay of tax and benefit system*** Labour taxation to stimulate labour demand *** Job protection and labour market segmentation/dualisation** Policies increasing working time*** Specific labour supply measures for women*** Specific labour supply measures for older-workers*** Wage bargaining and wage-setting policies** Immigration and integration policies*** Labour market mismatch and labour mobility**	<b>Indicator-based assessment:</b> aggregate score based on the indicators in the narrow list – Scores both in level terms and changes relative to EU15	<b>Additional evidence:</b> used to qualify the results of the score based assessment in level terms	<b>Final assessment</b> of above (+), neutral (=) or under (-) performance for each policy area	
<b>Product and capital market regulations</b> Competition policy framework* Sector specific regulation (telecom, energy)** Business environment - Regulatory barriers to entrepreneurship** Business Dynamics - Start-up conditions*** Financial markets and access to finance** Market integration - Openness to trade and investment**				
<b>Innovation and knowledge</b> R&D and Innovation*** ICT** Education and life long learning***				
<b>Macroeconomy</b> Orientation and sustainability of public finances***				

*Note:* For each policy area the overall quality of the coverage by narrow list indicators is signalled: \*\*\* means a broad coverage, \*\* medium coverage and \* narrow coverage.

All aggregate scores measure the relative performance compared to the EU15 both in levels and changes, using the score formula mentioned above. Additional country specific conditions and circumstances complement the indicator-based assessment.

**2.1.3 Screening- The link between underperformance in policy areas and relevant GDP components**

Finally, a screening exercise follows (Figure 2.1.1.1, column 3). This part relates underperformance in policy areas and relevant GDP components, as presented in Table 2.1.3.1 (LAF Table 3), and provides possible explanations. In the first column

of the table we have all the policy areas included in the second part of the methodology and in the first row we have the GDP components included in the growth accounting part. The shaded squares indicate the cases where according to the literature we expect to have a link among GDP and policy areas. The cells with “X” indicate when underperformance in a policy area coincides with an underperformance in a GDP area, using the estimated scores in the previous sections.

## **2.2 LAF Maquette**

The Maquette is an Excel based application with all the data and calculations necessary for computing the LAF indicators and GDP components according to the LAF methodology. Users of the Maquette have the possibility to change the weights for the calculation of the aggregate scores in each policy area. The latest version of the Maquette also offers the possibility of choosing a different benchmark other than the EU15 average.

## **2.3 Example of a policy area analysis in the LAF Maquette**

To illustrate with an example of the indicator analysis that results in the aggregate numbers shown in Table 2.1.2.1 (LAF Table 2), we analyze the policy area for “R&D and innovation” from the Cyprus case study, June 2008. The area includes four indicators in the narrow list which are weighted equally to give the aggregate score. First, each indicator is computed based on data available to LIME through Eurostat, OECD or other data sources. An example of the Maquette calculations for the indicator “Gross domestic expenditure on R&D” follows.

Table 2.1.3.1: Screening of coincidence between underperformance in policy areas and relevant GDP components (Table 3 as in LAF Methodology document)

	Demographic components			Labour market components					Labour Productivity			
	Fertility (level) / Native Population (growth)	Share of foreign population (level) / Net Migration (growth)	Share of Working age Population	Youth Participation	25-54 Male Participation	25-54 Female Participation	55-64 Participation	Unemployment Rate	Average Hours Worked	Capital Deepening	Total Factor Productivity	Initial education of labour (Labour quality)
Active labour market policies												
<b>Making work-pay: interplay of tax and benefit system</b>							x	x				
<b>Labour taxation to stimulate labour demand</b>								x				
<b>Job protection and labour market segmentation/dualisation</b>							x	x				
Policy instruments												
Specific labour market measures												
<b>Specific labour market measures</b>							x					
Wage bargaining and setting policies												
<b>Immigration and integration policies</b>								x				
Labour market mismatch and labour mobility												
Competition policy framework												
<b>Sector specific regulation (telecom, energy)</b>												
Business environment - Regulatory barriers to entrepreneurship												
Business Dynamics - Start-up conditions												
Financial markets and access to finance												
Market integration - Openness to trade and investment												
R&D and Innovation												
ICT												
Education and life long learning												
<b>Orientation and sustainability of public finances</b>												

*GDP components identified as underperforming (-) are highlighted in bold*

*Policy areas identified as underperforming (-) are highlighted in bold*

*A coincidence of underperformance in a policy area and relevant GDP component is indicated by 'x'*

*The links in the economic literature between policy areas and relevant GDP component are represented by the shaded cells*

Example Indicator: “Gross domestic expenditure on R&D”

Description<sup>4</sup>: Gross domestic expenditure on R&D - % of GDP. Total expenditure on R&D (GERD) is composed of: (i) Business enterprise expenditure on R&D (BERD); (ii) Higher Education expenditure on R&D (HERD); (iii) Government expenditure on R&D (GOVERD); and (iv) Private non-profit expenditure on R&D (PNRD).

Data: Data is taken from the structural indicators (rounded to one decimal in the actual Maquette) as shown in Table 2.3.1.

Table 2.3.1: Gross domestic expenditure on R&D (GERD)- Data values for Cyprus

	1999	2000	2001	2002	2003	2004	2005	2006
CY	0,2	0,2	0,3	0,3	0,4	0,4	0,4	0,4
EU15	1,9	1,9	1,9	1,9	1,9	1,9	1,9	1,9

LAF Maquette, June 2008

Score Calculations

Based on the above data values, to calculate the score on level Vs. the EU15 benchmark the following formula is applied automatically in the Maquette:

$$\text{Score} = [(\text{Indicator value} - \text{EU15 average}) / \text{EU15 standard deviation}] * 10.$$

For example the indicator level score for 2006 is given by:

$$\text{Score} = [(0.4 - 1.9) / 0.7] * 10 = -21.4$$

Note that due to rounding, instead of -21.4, the exact level score in the LAF Maquette is -22.5 as shown in column two of Table 2.3.2.

Table 2.3.2: Score calculations for INDICATOR 2 of the “R&D and Innovation Policy Area”:

Gross domestic expenditure on R&D (GERD)

	Level		Growth-change		Qualification	
	Rate	Score on level	Change	Total score on growth rate	Level	Growth rate
CY	0,4	-22,5	0,0	10	--	++
EU15	1,9		0,0			
std-dev EU15	0,7		0,025			

LAF Maquette, June 2008

<sup>4</sup> See the LAF Methodology Guide, Annex II: “Survey on the Literature on the effects and the channels of transmission of structural reforms.-Choice of indicators”.

Since the data in Table 2.3.1 are given in rates<sup>5</sup>, the “Change” in Table 2.3.2 is calculated as the average of the first differences shown in Table 2.3.3. To find the first differences, looking at the levels in Table 2.3.1, we calculate year to year changes, which taking into account of rounding, gives the numbers appearing in Table 2.3.3 below.

Table 2.3.3: First differences used to calculate the change

Underlying first difference									
	1999	2000	2001	2002	2003	2004	2005	2006	2007
CY		0,01	0,01	0,05	0,05	0,02	0,03	0,02	
EU15		0,02	0,01	0,01	-0,01	-0,03	0,01	0,00	

LAF Maquette, June 2008

For example in Table 2.3.3 the first CY difference for 2006 is calculated as  $0.42-0.4=0.02$  even though the level data in Table 2.3.1 appear to be 0.4 for both 2005 and 2006.

The change is then calculated as

$$\text{Change Cy} = (0,01+0,01+0,05+0,05+0,02+0,03+0,02) / 7 = 0,027$$

Note again that in the third column of Table 2.3.2 the change is rounded up to one decimal which gives the 0.0 value instead of 0.027.

To calculate the total score on growth rate in Table 2.3.2, we set the score for the outlier countries as 30 or -30, if the difference in (Change Cy – Change EU15) is greater than the value of three standard deviations.<sup>6</sup> In other cases, the total score on growth is calculated to be between (-30, 30). More specifically, if:

(Change MS– Change EU15) < 3σ then,

- Score= [(Change MS– change EU15)/3\*σ] \*30\*(-1), if high level means bad performance
- Score = [(Change MS– change EU15)/3\*σ] \*30\* 1, otherwise

Here,  $0,026-0,001 < 3*0,025$ .

Hence, the Total Score on growth=  $[(0,026-0,001)/3*0,025] *30* 1 = 10$

<sup>5</sup> When the data refer to levels or index values, the steps and the Maquette calculations are differentiated accordingly.

<sup>6</sup> More specifically the Score =  $30*[\text{sign}(\text{Change Cy} - \text{Change EU15})]*(-1)$ , if high level means bad performance  
 Score =  $30*[\text{sign}(\text{Change Cy} - \text{Change EU15})]*1$ , otherwise

Following similar procedure, all indicator scores are calculated both in levels and changes. To evaluate the whole policy area, only some of the available indicators are selected (narrow list) and an aggregate policy area score is calculated.

Example aggregate score for Policy area “R&D and Innovation”

To calculate the aggregate score, both in levels and changes, we calculate the weighted average of the indicators included in the narrow list given the aggregation weights specified. For this policy area, the indicators chosen in the narrow list are “Gross domestic expenditure on R&D”, “Science and technology graduates”, “Patent applications to the European Patent office” and “Employment in high tech sectors”. The rest of the indicators are not included, due to insufficient time observations, geographical coverage, redundancy criteria, or other statistical standards.

The aggregate scores and the aggregation weights are presented in Table 2.3.4, following. The weights appear as in LAF. However, the reader should understand that the weight assigned to each column is the ratio of the weight over the sum of all weights. In this specific policy area, all indicators are given equal weight and therefore the aggregate score is a simple average.

Table 2.3.4: R&D and Innovation Policy sector– Aggregate scores

	Gross domestic expenditure on R&D	Science and technology graduates*	Patent applications to the European Patent Office	Employment in High-tech sectors	Aggregate score
<b>Aggregate score on LEVEL</b>					
Weights	100%	100%	100%	100%	
CY	-22,46	-19,43	-14,75	-30	-21,7
<b>Aggregate score on GROWTH</b>					
CY	10,03	-17,84	-4,75	8,18	-1
*The scores for this indicator are not representative, due to miscalculated data for Cyprus					

LAF Maquette, June 2008

Aggregate scores for each of the 20 policy areas, are similarly calculated in the Maquette and summarized for Cyprus in Table 2.1.2.1 (LAF Table 2).

### 3 LAF STRENGTHS AND WEAKNESSES

#### 3.1 LAF contribution

LAF provides a common framework for the evaluation of all countries, which is necessary for the calculation of comparable and transparent results and the objective issuance of recommendations. An individual country evaluation might have led to

misleading results due to methodological differences or data quality; hence LAF is of crucial importance for a systematic evaluation. Moreover, it provides an analytical method for identifying policy priorities for each MS and channels through which these policies affect growth and jobs.

### **3.2 General issues with LAF**

Unfortunately, LAF faces some limitations, as recognized by the LIME members. A practical but important issue with the application of this methodology is that the evaluation of performance does not reflect the latest economic development due to data time lags. This is important since the purpose of LAF is to track economic growth and progress with structural reforms in the MSs. In most of the areas there is a two or three- year time lag since the data available in the Maquette is at least two years old. Therefore, recently adopted national reforms cannot be evaluated. This possibly results in failing to take the appropriate action at the right time and policy issuance might be unnecessary or related to issues with lower priority at that moment.

A second important point is that LAF does not cover all Lisbon Strategy areas and dimensions. LAF covers only some of the integrated guidelines set in 2005 (see Appendix I) and not all aspects related to growth are included, mainly because indicators for some targets are not available. For example, it is difficult to find information on the pace of administrative burden reduction (Guideline 14). In the same vein, information on how fast a young unemployed receives a job, additional training, or other employability measures is not available in EMCO or in the set of structural indicators. In general, there is no coverage in matters related to the environment, energy efficiency, renewable sources, climate change, intrinsic job quality, health and safety at work, work organization, efficiency and quality of R&D spending, links between universities and business, quality of and access to education and vocational training, adaptability of the labour force, infrastructure etc. Some of these are equally, or more, important than those included in LAF.

Perhaps the most important drawback of the procedure is that the Lisbon Targets and therefore LAF do not cover all important aspects of an economy and the way MS performance is assessed through LAF may miss important structural problems in economies that seem to have very good performance in LAF. Sometimes LAF pinpoints minor issues at a time when more important problems may persist. Put differently, LAF evaluates progress on some specific issues but may fail to evaluate the general performance and growth of the economy. Some countries for example may perform well in most of the targets specified and still suffer from important economic problems not covered by any target and LAF. Targets related to long term welfare such as the fiscal deficit, debt to GDP ratio and the current account deficit

should be given more attention under this context. Persistent, bad, performance in these indicators would signal macroeconomic mismanagement that requires corrective measures. Concluding, the fact that important parts of an economy are not assessed by LAF, or Lisbon strategy targets, reduces its importance and usefulness to country policy makers in terms of applicability.

Trying to create a common methodology for economic evaluation is not an easy task especially if one takes into account how different are the various MS economies in terms of economic structure, natural resource availability and current economic conditions. LAF needs to differentiate to some degree among countries since the needs and priorities of economies differ. Country specific targets and evaluation methods are useful for better policy making. Service oriented economies, for example, should be treated differently in terms of R&D nature and intensity. A policy maker cannot treat in the same way, a manufacturing-intensive country like Germany and a services oriented small economy like Cyprus. If some degree of country differentiation is not taken into account, then LAF might result in inefficient policies and reform programmes.

Finally, the choice of benchmark also comes under the comments for country differentiation made in the previous paragraph. A relatively loose benchmark might ignore problematic areas in high performing countries.

### **3.3 Comments on GDP decomposition<sup>7</sup>**

The first part of the LAF methodology, relies on growth accounting (decomposition of per capita GDP growth into various components such as growth in the capital stock, employment and total factor productivity), using concepts from the framework of modern growth theory. In growth theory, economic agents maximize a utility function, which depends on consumption and leisure. However, LAF focuses on income (GDP) per capita and its relation with production (the underlying production function is used for growth accounting purposes) rather than utility (in other words welfare).

This has implications for how certain variables are viewed. For example:

- more hours worked are viewed by LAF positively since they increase production, but, other things equal, more hours of work would induce a welfare reduction (since more hours of work are associated with lower levels of leisure),

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<sup>7</sup> Calling the variables in LAF Table 1 “GDP components” is most confusing to economists who reserve that term for items like consumption, investment, government expenditures, exports and imports. The contents of Table 1 are simply items that enter a modern growth theory-inspired growth-accounting exercise – not GDP components.

- a decrease in real wages is considered as a positive development in LAF (as it is associated with a lower labour/production cost), whereas in a utility maximisation approach this would have been a negative development (since this would lead to lower consumption).

In the context of modern growth theory, prices and wages are perfectly flexible, thus no involuntary unemployment can arise. Nevertheless, LAF Table 1 includes the unemployment rate<sup>8</sup> as a device of getting from the size of the labour force to the amount of labour that is actually employed and contributes to the generation of income and therefore growth. Hence, the prominence of unemployment among “growth components” raises some broader issues:

- whether the strict focus on growth accounting in the context of growth theory is absolutely necessary and, if not, whether important variables other than unemployment could also be given more prominence (such variables could be wages, prices, fiscal indicators, external trade indicators, etc),
- whether the focus should be on income or on welfare; if the latter, a number of other welfare-related variables might also find their way into LAF Table 1 (such welfare-related variables could be life expectancy, education, environmental quality indicators, quality of life indicators).

### **3.4 Comments on the indicator analysis in policy areas**

The basic problem with the indicator analysis is that the limited availability of indicators or data, for some policy areas results in the inadequate coverage of the area. Sometimes this implies that the whole policy area is represented by only two or three indicators, which cover very few or not so important dimensions. Also, there are some cases where the area might be well represented in terms of the basic dimensions but, due to missing data some countries have only some of the indicators available, which might not be representative for the whole area. An example of the above is the ICT policy area, described in Table 3.4.1, where five indicators are included in the narrow list. However, only three of them are available for Cyprus for the aggregate score in levels and only two of them for the change aggregate score. As a result, half of the performance of the whole policy area in levels is based on the broadband penetration rate score. To be more specific, the weight assigned to each indicator is given by the specified weight (as shown in Table 3.4.1) over the sum of all weights, i.e. 100% over 200%. For the aggregate score in changes, the problem becomes worse since 66% of the aggregate score (i.e. 100% over 150%), is based on the growth performance of a single indicator.

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<sup>8</sup> This is measured as one minus the employment rate.

Table 3.4.1: ICT Policy area– Aggregate scores

	ICT expenditure - Information Technology as a % of GDP	ICT expenditure- Telecommunications as a % of GDP	E-government on-line availability	E-government usage by enterprises - % of enterprises	Broadband penetration rate - Broadband lines subscribed % of the population	Aggregate score
Indicator type	Performance	Performance	Policy	Performance	Performance	
<b>Aggregate score on LEVEL</b>						
Aggreg. weights	50%	50%	50%	50%	100%	
CY	N/A	N/A	-5,38	-9,50	-18,81	-13,10
EU15	2,70	2,90	56,00	66,00	20,80	
<b>Aggregate score on GROWTH</b>						
CY	N/A	N/A	N/A	3,73	-7,90	-5,00
EU15	-0,10	-0,10	NA	5,30	3,70	

LAF Maquette, June 2008

Another issue is that the quality of data or mistakes in the data that are used for the indicator calculations, might affect the average score of a policy area significantly. For example in the R&D and Innovation policy area described above, one of the four basic indicators for Cyprus, suffers from data miss-measurement issues which results in an underestimated performance for the policy area. For the science and technology graduates in Cyprus, EUROSTAT excludes tertiary graduates from abroad which are approximately two thirds of the total number of Cypriot graduates every year. By correcting it<sup>9</sup>, as shown in Table 3.4.2, the relevant score in the Maquette improves significantly, though still negative (from -22 becomes -17). The growth score improves from -1 to 4.

Table 3.4.2: R&D and Innovation Policy area– Aggregate scores- Corrections

	Gross domestic expenditure on R&D	Science and technology graduates	Patent applications to the European Patent Office	Employment in High-tech sectors	Aggregate score
<b>Aggregate score on LEVEL</b>					
Weights	100%	100%	100%	100%	
CY	-22,46	-19,43	-14,75	-30	-21,7
CY*	-22,46	0,30	-14,75	-30	-16,7
<b>Aggregate score on GROWTH</b>					
CY	10,03	-17,84	-4,75	8,18	-1
CY*	10,03	3,00	-4,75	8,18	4
*Denotes the aggregate score based on the corrected Science and Technology Graduates indicator					

LAF Maquette, June 2008

<sup>9</sup> There are no official data describing the total number of graduates in Cyprus. The numbers used for the calculations here are based on our own approximations based on existing data.

In general, problems like these might result in incorrect evaluation, underestimate performance and incorrectly issue a CSR/ PTW, or in other cases overestimate the performance and ignore basic problems. The latter mistake is more essential since it is more difficult to be identified by MSs.

Another issue that affects the result is the choice of representative indicators in the narrow list for each policy area (among available indicators) and the choice of weights used for the calculations of the aggregate score.

There are two aspects that should be examined. First, what is the appropriate choice of indicators in the narrow list and respective weights for each policy area and, second, whether this choice should differ among countries. Taking the R&D and Innovation policy area as an example again, we can see in Table 3.4.3 that alternative weights based on the priorities of each country, give different aggregate scores varying from -14.8 to -18.7. For the specific policy area it is more relevant to examine whether the evaluation method should differ for Cyprus and other service oriented economies like Belgium for example, from the method used for high tech manufacturing countries.

Finally, there is not sufficient theoretical background in some policy areas which results in debatable indicators and ambiguous results.

Table 3.4.3: R&D and Innovation Policy area– Aggregate scores- Varying Weights

	Gross domestic expenditure on R&D	Science and technology graduates	Patent applications to the European Patent Office	Employment in High-tech sectors	Aggregate score
<b>Aggregate score on LEVEL</b>					
Weights	0,25	0,25	0,25	0,25	1
CY	-22,46	-19,43	-14,75	-30	-21,7
CY*	-22,46	0,30	-14,75	-30	-16,7
Weights2	0,50	0,25	0,25	0	1
CY2	-22,46	0,30	-14,75		-14,8
Weights3	0,50	0,25	0	0,25	1
CY3	-22,46	0,30		-30	-18,7
Weights4	0,50	0,17	0,17	0,17	1
CY4	-22,46	0,30	-14,75	-30	-18,6
<b>Aggregate score on GROWTH</b>					
CY	10,03	-17,84	-4,75	8,18	-1
CY*	10,03	3,00	-4,75	8,18	4
CY2	10,03	3,00	-4,75		2
CY3	10,03	3,00		8,18	3
CY4	10,03	3,00	-4,75	8,18	3
*Denotes the aggregate score based on the corrected Science and Technology Graduates indicator					

LAF Maquette, June 2008

### **3.5 Comments on screening**

Screening is perhaps the most ambiguous part of the LAF methodology. The transition from parts 1 (Assessment of GDP performance) and 2 (Assessment of the performance in each policy area) to part 3 (Assessment of priorities) raises some issues. The relation between GDP components and the policy areas (as articulated in Table 2.1.3.1- or LAF Table 3) can be both more complex and less clear-cut than is implied by this table, despite use of the term “mechanical link”. It provides no indication of causality, only additional considerations when assessing growth priorities. The numbers are descriptive.

The current structure and current labels of LAF Table 3 suggest that:

- i.* The focus should be on the underperforming “GDP components”
- ii.* There is a clear link between the underperforming GDP components and the problem policy areas in columns two and three of Table 2.1.3.1. For example, the Cyprus Case Study reports, among other things, underperformance in Capital Deepening (level and change) and in Competition Policy Framework (change). It is not immediately obvious that a more competitive economy would necessarily imply more capital deepening (as suggested by LAF).
- iii.* Problematic areas do not affect the GDP components that are deemed to have a satisfactory performance (algebraically greater than -4). The Cyprus Case Study reports, among other things, a good performance in Initial Education/Labour Quality (level and change) and underperformance in R&D, Innovation Policy & ICT. No one would seriously claim that low R&D expenditures do not affect the initial education level of labour (labour quality); higher R&D expenditures may well boost initial education beyond what would otherwise be the case. Yet this link is not present.

### **3.6 Comments on the LAF Maquette**

The Maquette is a very useful tool for accurate, comparable and quick calculations needed in LAF. Users can relatively easily understand the procedure, as long as they are familiar with the methodology. Moreover users can change the weights used which is very useful for further investigation of the performance and sensitivity analysis of the results. Changing the benchmark would also be useful but not yet available in the Maquette version June 2008, currently in our hands.

## 4. SUGGESTIONS

Following the discussion in the previous sections, there might be ways that could possibly improve the methodology and the LAF outcome.

Having in mind the above, the approach of the LAF could be followed in a less constrained, by the growth accounting framework, manner. More specifically the approach could focus in:

Layer one: endogenous variables that relate to the macroeconomic, microeconomic and employment thrusts of the Lisbon Strategy.

- Macroeconomic variables might be GDP per capita, consumption, investment, government expenditure, the trade balance, fiscal indicators, wages and prices, and exchange rates between the Euro and other relevant currencies.
- Microeconomic variables might include competitiveness, productivity, R&D, ICT use and, possibly, some environmental indicators (though these are typically slow-moving).
- Employment-related variables might include employment rates and leisure, unemployment rates by age and gender, participation rates, hours worked and so on.

Layer two: more exogenous and slow-moving variables, some of which may be policy variables (examples of variables that, to a first approximation, influence the state of the economy but are not influenced by it).

- Demographic variables (population, immigration, fertility)
- A number of policy variables, which might not actually be completely exogenous, such as the parameters of the welfare and unemployment insurance system (e.g. the duration of benefits) and of the taxation system.

For example, a glance in the Table 2.1.1.1 (LAF Table 1), equivalent of layer one variables might immediately identify a mal-functioning labour market for a certain country, while a glance at layer two variables might suggest that this is a country with unusually deep welfare and/or unemployment insurance traps.

The choice of variables in layer one and two would depend on what policy makers want to monitor, rather than a particular economic modelling approach. The two layers might have a standard common format for all MSs, as well as a country-specific set of variables that are considered important.

In terms of the current version of LAF, country specific treatment would be especially useful for better policy making. While a large degree of differentiation would be confusing and debatable, a low degree differentiation may be possible. Examples of possible differentiation are dividing countries into groups according to the initial status of the economy (GDP per capita) or according to the industry orientation of the economy, whichever is relevant. If this is not possible, then LAF could include a priority section when issuing recommendations and points to watch and weight the various policy areas differently according to country characteristics. The screening stage for example, could be enriched by weighting the GDP components according to their importance in terms of GDP contribution in each country. This is necessary in order to assign the right priorities to MSs.

Finally, improving the quality of the data would add significantly to the value of the LAF tool in terms of accuracy and applicability. In an ideal world, Eurostat in collaboration with MSs, would generate complete and up-to date datasets on the same basis for all countries. Realizing that the current situation is not ideal, to solve any data issues such as missing data, insufficient coverage, inaccurate values, late data update, which is one of the basic problems for LAF, LIME could create a small “Data management group”, which in cooperation with Eurostat and national services, will be responsible for:

- (i) Creating more indicators in areas that are considered important and are currently missing, by suggesting the inclusion of the relevant questions in existing surveys, or through new surveys.
- (ii) Extending the current surveys used in LAF, for all countries such that a full geographical coverage is achieved for each indicator needed in LAF.
- (iii) Checking and correcting specific country mistakes in cooperation with MSs.

The creation of such a group will solve many of the data problems. The work of this group could be limited to just the identification of data problems and suggestions sent to the relevant authorities or Eurostat. For example, in the Lifelong learning (LLL) policy area, the indicator about LLL concerns participation in learning activities during the last 4 months prior to the survey which is not representative for the yearly LLL activities. An indicator concerning participation in learning activities the last 12 months prior to the survey (as included in the Adult Education Survey) would be more appropriate. Therefore the addition of a single question to the EU Labour Force Survey could increase LAF accuracy without an additional cost. Moreover, the process of consultation with MSs (within which the current study belongs) also alerts the LAF group to data inadequacies and limitations and helps improve the value of LAF. One example of the improvements that can result for this process, arising from

our work, was given with respect to the R&D and Innovation policy area in Section 3.4 above.

Concluding, the LAF methodology is the result of an enormous effort made by the LIME group and it is a necessary tool for the evaluation procedure of the MSs regarding growth and structural reforms. In this paper we have provided our comments and practical suggestions and we hope that these will improve this important tool.

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LAF Maquette can be downloaded at the link below:

[http://ec.europa.eu/economy\\_finance/db\\_indicators/db\\_indicators14998\\_en.htm](http://ec.europa.eu/economy_finance/db_indicators/db_indicators14998_en.htm)

## APPENDIX I: The 24 Lisbon Integrated Guidelines for Growth and Jobs

### A. Macroeconomic Guidelines

**Guideline n°1:** *To secure economic stability for sustainable growth:*

1. In line with the Stability and Growth Pact, Member States should respect their medium-term budgetary objectives. As long as this objective has not yet been achieved, they should take all the necessary corrective measures to achieve it. Member States should avoid pro-cyclical fiscal policies. Furthermore, it is necessary that those Member States having an excessive deficit take effective action in order to ensure a prompt correction of excessive deficits.
2. Member States posting current account deficits that risk being unsustainable should work towards correcting them by implementing structural reforms, boosting external competitiveness and, where appropriate, contributing to their correction via fiscal policies.

See also integrated guideline "To contribute to a dynamic and well-functioning EMU" (n°6)

**Guideline n°2:** *To safeguard economic and fiscal sustainability as a basis for increased employment, Member States should, in view of the projected costs of ageing populations,*

1. undertake a satisfactory pace of government debt reduction to strengthen public finances,
2. reform and re-enforce pension, social insurance and health care systems to ensure that they are financially viable, socially adequate and accessible, and
3. take measures to increase labour market participation and labour supply especially amongst women, young and older workers, and promote a lifecycle approach to work in order to increase hours worked in the economy.

See also integrated guideline "Promote a lifecycle approach to work" (No 17, and 4, 18, 20).

**Guideline n°3:** *To promote a growth, employment orientated and efficient allocation of resources* Member States should, without prejudice to guidelines on economic stability and sustainability, re-direct the composition of public expenditure towards growth-enhancing categories in line with the Lisbon strategy, adapt tax structures to strengthen growth potential, ensure that mechanisms are in place to assess the relationship between public spending and the achievement of policy objectives and ensure the overall coherence of reform packages. See also integrated guideline "To encourage the sustainable use of resources and strengthen the synergies between environmental protection and growth (n° 11)".

**Guideline n°4:** *To ensure that wage developments contribute to macroeconomic stability and growth and to increase adaptability* Member States should encourage the right framework conditions for wage-bargaining systems, while fully respecting the role of the social partners, with a view to promote nominal wage and labour cost developments consistent with price stability and the trend in productivity over the medium term, taking into account differences across skills and local labour market conditions. See also integrated guideline "Ensure employment friendly wage and other labour cost developments" (No 21)

**Guideline n°5:** *To promote greater coherence between macroeconomic, structural and employment policies,* Member States should pursue labour and product markets reforms that at the same time increases the growth potential and support the macroeconomic framework by increasing flexibility, factor mobility and adjustment capacity in labour and product markets in response to globalisation, technological advances, demand shift, and cyclical changes. In particular, Member States should renew impetus in tax and benefit reforms to improve

incentives and to make work pay; increase adaptability of labour markets combining employment flexibility and security; and improve employability by investing in human capital. See also integrated guideline “Promote flexibility combined with employment security and reduce labour market segmentation” (No 20 and No 18).

**Guideline n°6:** *To contribute to a dynamic and well-functioning EMU, euro area Member States need to ensure better co-ordination of their economic and budgetary policies, in particular*

1. Pay particular attention to fiscal sustainability of their public finances in full compliance with the Stability and Growth Pact;
2. Contribute to a policy mix that supports economic recovery and is compatible with price stability, and thereby enhances confidence among business and consumers in the short run, while being compatible with long term sustainable growth;
3. Press forward with structural reforms that will increase euro area long-term potential growth and will improve its productivity, competitiveness and economic adjustment to asymmetric shocks, paying particular attention to employment policies; and
4. Ensure that the euro area’s influence in the global economic system is commensurate with its economic weight.

## **B. Microeconomic Guidelines**

**Guideline n°7.** *To increase and improve investment in R&D, in particular by private business, the overall objective for 2010 of 3% of GDP is confirmed with an adequate split between private and public investment, Member States will define specific intermediate levels. Member States should further develop a mix of measures appropriate to foster R&D, in particular business R&D, through:*

1. Improved framework conditions and ensuring that companies operate in a sufficiently competitive and attractive environment;
2. More effective and efficient public expenditure on R&D and developing PPPs;
3. developing and strengthening centres of excellence of educational and research institutions in Member States, as well as creating new ones where appropriate, and improving the cooperation and transfer of technologies between public research institute and private enterprises;
4. Developing and making better use of incentives to leverage private R&D;
5. Modernizing the management of research institutions and universities;
6. Ensuring a sufficient supply of qualified researchers by attracting more students into scientific, technical and engineering disciplines and enhancing the career development and the European, international as well as inter-sectoral mobility of researchers and development personnel.

**Guideline n°8:** *To facilitate all forms of innovation, Member States should focus on:*

1. Improvements in innovation support services, in particular for dissemination and technology transfer;
2. The creation and development of innovation poles, networks and incubators bringing together universities, research institution and enterprises, including at regional and local level, helping to bridge the technology gap between regions;
3. The encouragement of cross-border knowledge transfer, including from foreign direct investment;
4. Encouraging public procurement of innovative products and services;

5. Better access to domestic and international finance, and
6. Efficient and affordable means to enforce intellectual property rights.

**Guideline n°9:** *To facilitate the spread and effective use of ICT and build a fully inclusive information society*, Member States should:

1. Encourage the widespread use of ICT in public services, SMEs and households;
2. Fix the necessary framework for the related changes in the organisation of work in the economy;
3. Promote a strong European industrial presence in the key segments of ICT;
4. Encourage the development of strong ICT and content industries, and well functioning markets;
5. Ensure the security of networks and information, as well as convergence and interoperability in order to establish an information area without frontiers;
6. Encourage the deployment of broad band networks, including for the poorly served regions, in order to develop the knowledge economy.

See also integrated guideline “To promote flexibility combined with employment security and reduce labour market segmentation” (n°21)

**Guideline n°10:** *To strengthen the competitive advantages of its industrial base*, Europe needs a solid industrial fabric throughout its territory. The necessary pursuit of a modern and active industrial policy means strengthening the competitive advantages of the industrial base, including by contributing to attractive framework conditions for both manufacturing and services, while ensuring the complementarity of the action at national, transnational and European level. Member States should:

1. Start by identifying the added value and competitiveness factors in key industrial sectors, and addressing the challenges of globalisation.
2. Also focus on the development of new technologies and markets.
  - a) This implies in particular commitment to promote new technological initiatives based on public-private partnerships and cooperation between Member States that help tackle genuine market failures.
  - b) This also implies the creation and development of networks of regional or local clusters across the EU with greater involvement of SMEs.

See also integrated guideline “Improve matching of labour market needs” (n°20)

**Guideline n°11:** *To encourage the sustainable use of resources and strengthen the synergies between environmental protection and growth*, Member States should:

1. give priority to energy efficiency and co-generation, the development of sustainable, including renewable, energies and the rapid spread of environmentally friendly and eco-efficient technologies a) inside the internal market on the one hand particularly in transport and energy, inter alia in order to reduce the vulnerability of the European economy to oil price variations, b) towards the rest of the world on the other hand as a sector with a considerable export potential;
2. Promote the development of means of internalisation of external environmental costs and decoupling of economic growth from environmental degradations. The implementation of these priorities should be in line with existing Community legislation and with the actions and instruments proposed in the Environmental Technologies Action Plan (ETAP), inter alia, through a) the use of market-based instruments, b) risk funds and R&D funding, c) the promotion of sustainable production and consumption patterns including the greening of public procurement, d) paying a particular attention to SMEs and e) a reform of subsidies that

have considerable negative effects on the environment and are incompatible with sustainable development, with a view to eliminating them gradually.

3. Pursue the objective of halting the loss of biological diversity between now and 2010, in particular by incorporating this requirement into other policies, given the importance of biodiversity for certain economic sectors.

4. Continue to fight against climate change, while implementing the Kyoto targets in a cost-effective way, particularly in regard to SMEs.

See also integrated guideline "To promote an efficient allocation of resources" (n°3)

**Guideline n°12:** *To extend and deepen the Internal Market*, Member States should:

1. Speed up the transposition of Internal Market directives;
2. Give priority to stricter and better enforcement of Internal Market legislation;
3. Eliminate remaining obstacles to cross-border activity;
4. Apply EU public procurement rules effectively;
5. Promote a fully operational internal market of services, while preserving the European social model;
6. Accelerate financial market integration by a consistent and coherent implementation and enforcement of the Financial Services Action Plan.

See also integrated guideline "To improve matching of labour market needs" (n°20)

**Guideline n°13:** *To ensure open and competitive markets inside and outside*

*Europe, reap the benefits of globalisation*, Member States should give priority to:

1. The removal of regulatory, trade and other barriers that unduly hinder competition;
2. A more effective enforcement of competition policy;
3. Selective screening of markets and regulations by competition and regulatory authorities in order to identify and remove obstacles to competition and market entry;
4. A reduction in State aid that distorts competition;
5. in line with the upcoming Community Framework, a redeployment of aid in favour of support for certain horizontal objectives such as research, innovation and the optimisation of human capital and for well-identified market failures;
6. The promotion of external openness, also in a multilateral context;
7. Full implementation of the agreed measures to open up the network industries to competition in order to ensure effective competition in European wide integrated markets. At the same time, the delivery, at affordable prices, of effective services of general economic interest has an important role to play in a competitive and dynamic economy.

**Guideline n°14:** *To create a more competitive business environment and encourage private initiative through better regulation*, Member States should:

1. Reduce the administrative burden that bears upon enterprises, particularly on SMEs and start-ups;
2. improve the quality of existing and new regulations, while preserving their objectives, through a systematic and rigorous assessment of their economic, social (including health) and environmental impacts, while considering and making progress in measurement of the administrative burden associated with regulation, as well as the impact on competitiveness, including in relation to enforcement;
3. Encourage enterprises in developing their corporate social responsibility.

**Guideline n°15:** *To promote a more entrepreneurial culture and create a supportive environment for SMEs*, Member States should:

1. improve access to finance, in order to favour their creation and growth, in particular micro-loans and other forms of risk capital;
2. strengthen economic incentives, including by simplifying tax systems and reducing non-wage labour costs;
3. strengthen the innovative potential of SMEs, and
4. provide relevant support services, like the creation of onestop contact points and the stimulation of national support networks for enterprises, in order to favour their creation and growth in line with Small firms' Charter. In addition, Member States should reinforce entrepreneurship education and training for SMEs. They should also facilitate the transfer of ownership, modernise where necessary their bankruptcy laws, and improve their rescue and restructuring proceedings.

See also integrated guidelines "To promote a growth, employment orientated and efficient allocation of resources" (n°3) and "To facilitate all forms of innovation" (n°8), n° 22 and 23.

**Guideline n°16:** *To expand, improve and link up European infrastructure and complete priority cross-border projects* with the particular aim of achieving a greater integration of national markets within the enlarged EU. Member States should:

1. Develop adequate conditions for resource- efficient transport, energy and ICT infrastructures – in priority, those included in the TEN networks – by complementing Community mechanisms, notably including in cross-border sections and peripheral regions, as an essential condition to achieve a successful opening up of the network industries to competition;
2. Consider the development of publicprivate partnerships;
3. Consider the case for appropriate infrastructure pricing systems to ensure the efficient use of infrastructures and the development of a sustainable modal balance, emphasizing technology shift and innovation and taking due account of environmental costs and the impact on growth.

See also integrated guideline "To facilitate the spread of ICT and build a fully inclusive information society"(n°9)

## **C. Employment Guidelines**

**Guideline No.17:** *Implement employment policies aiming at achieving full employment, improving quality and productivity at work, and strengthening social and territorial cohesion.* Policies should contribute to achieving an average employment rate for the European Union (EU) of 70% overall, of at least 60% for women and of 50% for older workers (55 to 64) by 2010, and to reduce unemployment and inactivity. Member States should consider setting national employment rate targets.

**Guideline No.18:** *Promote a lifecycle approach to work* through:

- a renewed endeavour to build employment pathways for young people and reduce youth unemployment as called for in the Youth Pact;
- resolute action to increase female participation and reduce gender gaps in employment, unemployment and pay; better reconciliation of work and private life and the provision of accessible and affordable childcare facilities and care for other dependants;

- Support to active ageing, including appropriate working conditions, improved (occupational) health status and adequate incentives to work and discourage early retirement;
- modern social protection systems, including pensions and healthcare, ensuring their social adequacy, financial sustainability and responsiveness to changing needs, so as to support participation and better retention in employment and longer working lives.

See also integrated guideline “To safeguard economic sustainability” (No.2).

**Guideline No.19:** *Ensure inclusive labour markets, enhance work attractiveness, and make work pay for job-seekers, including disadvantaged people, and the inactive through:*

- active and preventive labour market measures including early identification of needs, job search assistance, guidance and training as part of personalized action plans, provision of necessary social services to support the inclusion of those furthest away from the labour market and contribute to the eradication of poverty;
- continual review of the incentives and disincentives resulting from the tax and benefit systems, including the management and conditionality of benefits and a significant reduction of high marginal effective tax rates, notably for those with low incomes, whilst ensuring adequate levels of social protection;
- development of new sources of jobs in services to individuals and businesses, notably at local level.

**Guideline No.20:** *Improve matching of labour market needs through:*

- the modernisation and strengthening of labour market institutions, notably employment services, also with a view to ensuring greater transparency of employment and training opportunities at national and European level;
- removing obstacles to mobility for workers across Europe within the framework of the EU Treaties;
- better anticipation of skill needs, labour market shortages and bottlenecks;
- appropriate management of economic migration.

**Guideline No.21:** *Promote flexibility combined with employment security and reduce labour market segmentation, having due regard to the role of the social partners, through:*

- The adaptation of employment legislation, reviewing where necessary the different contractual and working time arrangements;
- addressing the issue of undeclared work;
- Better anticipation and positive management of change, including economic restructuring, notably changes linked to trade opening, so as to minimize their social costs and facilitate adaptation;
- The promotion and dissemination of innovative and adaptable forms of work organisation, with a view to improving quality and productivity at work, including health and safety;
- Support for transitions in occupational status, including training, self-employment, business creation and geographic mobility;

See also integrated guideline “To promote greater coherence between macroeconomic and structural policies” (No.4).

**Guideline No.22:** *Ensure employment-friendly labour cost developments and wage-setting mechanisms by:*

- encouraging social partners within their own responsibilities to set the right framework for wage bargaining in order to reflect productivity and labour market challenges at all relevant levels and to avoid gender pay gaps;

- reviewing the impact on employment of non-wage labour costs and where appropriate adjust their structure and level, especially to reduce the tax burden on the low-paid

See also integrated guideline "To ensure that wage developments contribute to macroeconomic stability and growth" (No.5).

**Guideline No.23:** *Expand and improve investment in human capital through:*

- inclusive education and training policies and action to facilitate significantly access to initial vocational, secondary and higher education, including apprenticeships and entrepreneurship training;

- reducing significantly the number of early school leavers;

- efficient lifelong learning strategies open to all in schools, businesses, public authorities and households according to European agreements, including appropriate incentives and cost-sharing mechanisms, with a view to enhancing participation in continuous and workplace training throughout the life-cycle, especially for the low-skilled and older workers.

See also, integrated guideline: "To increase and improve investment in R&D with a view to establishing the European Knowledge Area" (No.7).

**Guideline No.24:** *Adapt education and training systems in response to new competence requirements through:*

- raising and ensuring the attractiveness, openness and quality standards of education and training, broadening the supply of education and training opportunities and ensuring flexible learning pathways and enlarging possibilities for mobility for students and trainees;

- easing and diversifying access for all to education and training and to knowledge by means of working time organisation, family support services, vocational guidance and, if appropriate, new forms of cost-sharing;

- responding to new occupational needs, key competences and future skill requirements by improving the definition and transparency of qualifications, their effective recognition and the validation of non-formal and informal learning.

## **APPENDIX II: Annual Evaluation Reports for Cyprus**

### **Cyprus Assessment for 2006**

1. In 2006, Cyprus's GDP per capita is projected at 84% of the EU average. Over the last decade, Cyprus sustained robust economic growth with an average real GDP increase of 3½% per year, outstripping by more than 1% the EU25 average of 2¼%. Since the mid-1990s real wage growth has outpaced productivity increases, even though productivity growth has been slightly above the EU average, leading to some loss of price competitiveness. The total employment rate foreseen at 68% is close to the EU-wide target, while the unemployment rate, despite a moderate rise, is projected to remain low at 5.4% (in 2006). Labour productivity per person employed is expected to remain below the EU average.

2. Cyprus enjoys buoyant economic growth and high employment rates, but the long-term fiscal challenge resulting from an ageing population is large. An improvement of the quality of public finances through a shift of expenditure towards human resources, modern infrastructure and R&D and innovation would support healthy levels of growth and contribute to diversifying the economy. Reforming health care and the pension system, while sustaining the progress in reducing government debt, would help in addressing the sustainability of public finances. Ensuring that wages reflect developments in productivity would contribute to gaining further flexibility and stem emerging risks to competitiveness.

### **PART I: GENERAL ASSESSMENT**

3. The Cypriot 2005-2008 National Reform Programme (NRP) emphasised the objective of increasing the growth potential of the economy and living standards for citizens. It identified challenges in the following areas: fiscal sustainability; quality of public finances; R&D, innovation and ICT; increasing the diversification of the economy; competition and business environment; environmental sustainability; infrastructure; human capital; and social cohesion. In its 2006 Annual Progress Report (APR), the Commission drew attention to the need for stronger action to address the long-term sustainability of the public finances, including through reforms of social security, and for measures to reduce the rate of early school leaving.

4. Its 2006 Implementation Report shows that Cyprus is generally making good progress with the implementation of its NRP. The NRP provided a clear and comprehensive overview of numerous specific measures and linked them well to final objectives. There has been progress towards the vast majority of the R&D and employment targets presented in the NRP. In addition, progress has been generally good on fiscal consolidation; increasing the quality of, and access to, ICTs; improving the business environment; and upgrading basic infrastructure. Although further steps are required, satisfactory initial progress has been made in the following areas: improving the transposition of EU legislation into national law; improving environmental sustainability; energy liberalisation, energy efficiency and security of supply; reinforcing public employment services. There has been limited progress on: reforming health care and social security systems; better regulation; tackling anti competitive regulation in professional services; and reforms of the vocational education and training systems.

5. Progress in responding to the commitments made by the 2006 Spring European Council has overall been fairly good, for example on speeding up start-up procedures and establishing a single administrative contact point for business founders.

6. The efforts to develop ownership of the Growth and Jobs Strategy have been strengthened significantly. It has been repeatedly announced publicly that the Growth and Jobs Strategy and the Convergence Programme constitute the pillars of economic policy. The implementation mechanism and the consultation process are quite extensive and they encompass the participation of all stakeholders; including the Council of Ministers, a Parliamentary Committee, the creation of a National Advisory Committee (involving all stakeholders as well as social partners) and other committees. In order to increase public

awareness, the government organised a number of seminars and public events, together with other activities covered extensively in the media. The efficient and effective use of Structural and Cohesion funding is a key factor to boost investments in several sectors, and it is therefore important that the increase in funding is matched by a similar increase in the absorption capacity.

## **PART II: ASSESSMENT BY POLICY AREA**

### **Macro-economic policies**

7. The macro-economic focus in the NRP is on fiscal consolidation and debt reduction, through expenditure restraint and increased revenues. The NRP also targets the improvement of fiscal management via gradual implementation, starting from 2007, of three-year medium-term budgetary frameworks; expected to enhance expenditure control while linking medium-term targets with the annual budgetary procedure. Furthermore, it aims to restructure government expenditure towards capital outlays, while enhancing transparency. The NRP also includes measures to address the longterm sustainability of public finances, including labour supply and reforms in health care and social insurance, notably the pension system. Labour flexibility and wage moderation measures are also addressed.

8. Good progress has been recorded on fiscal consolidation. In 2005, the general government deficit declined to 2.3% of GDP from 4.1% of GDP the previous year, while the gross government debt-to-GDP ratio subsided to 69¼% of GDP from 70¼% of GDP in 2004. Moreover, economic projections hinted at a further reduction in 2006. Regarding the health care system, practical measures on the long delayed reform are expected to be implemented in 2007. The Health Insurance Organisation, which is responsible for the implementation of the national health insurance scheme, is finalising an action plan for the implementation of the reform. On social security reform, government proposals are presented, though the precise adjustments are yet to be agreed with the social partners, while their budgetary impact is left open. The target date for implementation of the first measures is 2007.

9. Overall, the progress made on the macro-economic reform measures outlined in the NRP is good. There is a particularly pressing need for concrete action to secure the long term sustainability of public finances, and progress in reducing government debt in preparation for future costs of ageing should be sustained. Links and compatibility between the NRP objectives and the priorities set out in Cyprus's National Strategic Reference Framework for the investment of Structural Funds are identified in the Implementation Report, particularly for transport and environmental infrastructure projects, including strategic investments facilitating international trade (i.e. ports, access to ports) and interventions in support of ICT priorities. It is therefore important that the substantial increase in the available Structural Funding as from 2007 is matched by an equivalent increase in the absorption capacity. To this end, additional strengthening of the relevant public administration may be necessary.

### **Micro-economic policies**

10. There are four micro-economic key challenges referred to in the NRP: promotion of R&D, innovation and ICT; enhancing competition/improving business environment; environmental sustainability; and upgrading basic infrastructure. The Implementation Report contains a comprehensive, detailed and precise list of initiatives addressing these challenges, as well as national priorities in other microeconomic policy areas.

11. The Implementation Report sets out many measures dealing with research policy and research capacities which confirm their importance in the Cypriot authorities' agenda. The strategy in this area is almost to build a new system from scratch, including developing and enhancing the institutions and infrastructure to carry out the research, as opposed to filling gaps or addressing specific weaknesses. Consequently, it is too early at this stage to assess whether the efforts are sufficient. Concerning the new R&D spending target of 1% of GDP by 2010 (0.4% of GDP in 2005), the public third of the target is comfortably achievable but the private sector input will need to be boosted. To this end, the government will increase funds to support private-public research links and is contemplating the use of tax incentives. However, no action is envisaged to establish venture capital funds.

12. Cyprus devotes particular attention to ICTs. It concentrates on e-Government, digital literacy and the use of ICT by business. Measures put forward in the NRP have been implemented carefully and on time. Several interesting new projects have been put forward – actions raising awareness of network security, a helpdesk system for public services, and cost-saving projects in health care. However, broadband take up is still low, in spite of widespread availability and more affordable prices. The market review process under the European regulatory framework has started with some delay but is now proceeding steadily.

13. The actions to enhance the business climate and competition must be seen against the background of a generally favourable business environment and strong competition in much of the economy, although one exception is professional services, where restrictions like pricing regulation and advertising bans are common place. Implementation of the various actions listed seems to be proceeding according to plan. On better regulation, there are still only some very preliminary and incomplete measures. Some interesting measures announced in the NRP (introducing comprehensive evaluations of state aid, establishment of a loan guarantee facility and e-Procurement) are due for implementation later. Cyprus has managed to further reduce its deficit in transposing EU legislation into national law, now well below the 1.5% mark, but should remain vigilant on the quality of transposition.

14. The importance of environmental sustainability for growth and jobs was well recognised in the NRP, in particular with regard to the impact of environmental degradation on tourism. Implementation of the infrastructure projects listed in the NRP is ongoing. Cyprus will potentially have to prioritise large investments to meet EU environmental standards within the deadlines foreseen in the Accession Protocol, in particular on solid waste and wastewater treatment.

15. Efforts to upgrade basic infrastructure are being pursued actively with a range of ongoing or planned projects, mainly on roads, harbours and airports, aiming at addressing road congestion and improving accessibility from abroad. Many projects will be financed through public-private partnerships. Implementation of the projects listed in the NRP seems on track.

16. In order to reach its targets relating to renewable energy sources and conservation of energy, Cyprus reinforced in 2006 its support schemes, including by setting up a onestop-shop for large renewable energy investments. Plans for a new energy centre that will contribute to security of supplies are at the engineering study phase. It will include a liquefied gas terminal and strategic oil storage facilities. Energy market liberalisation started in Cyprus with the 2004 accession to the EU. A number of licenses for the generation of electricity have already been granted and others are under consideration. New private suppliers are expected to enter the market by 2008.

18. Overall, the implementation of the vast majority of measures seems to be proceeding as planned. The Implementation Report also includes a number of new measures. However, the effectiveness of the policies can only be assessed in the longer term. The Report does not deal with encouraging venture capital investments and tackling anti-competitive regulation in the area of professional services.

### **Employment Policies**

19. The NRP focused on achieving full employment, improving quality and productivity at work and strengthening social and territorial cohesion. The 2006 Implementation Report confirms as the main priorities in the employment area: promoting more effective use of domestic labour reserves; better managing economic migration; increasing the flexibility of the labour market; developing human capital; and further enhancing social inclusion. The Commission also pointed out in the APR the importance of lifelong learning and skills.

20. Ambitious but realistic employment targets have been set and a wide range of welltargeted active labour market policies put in place. An overhaul of the public employment services, including a candidate placement system, to help match labour supply and demand through personalised services, is also advancing. Nevertheless, there is limited clarity on the effectiveness of policies, particularly for the young. Female employment is high and a wide range of support measures are advancing. Important gender imbalances remain by

occupation, and professional qualifications, as well as in labour market participation, employment and unemployment. The only initiative that is proposed to tackle this is a study in 2007, to suggest policy measures to reduce the very high pay gap. While the total employment rate of older workers is above the EU target for 2010, further measures are in progress, including the gradual increase of the retirement age to 63 years by 2008. The establishment and implementation of an economic migration strategy and enactment of an adjusted immigration law are delayed.

21. Regarding the adaptability of workers and enterprises, part-time and fixed-term employment, though slightly increased in 2005, remain low despite an appropriate legal framework being in place. The report focuses on active labour market policies and the modernisation of public employment services as means to increase flexibility of the labour market. A small pilot project, aimed at encouraging more women to take up work, is running. However, there is limited clarity on policy initiatives in support of the security aspect, particularly as regards the envisaged reforms of the social protection system.

22. Cyprus has a lifelong learning strategy which aims to: promote access to lifelong learning for all; strengthen infrastructures and systems; promote lifelong learning supporting research and development; and promote effective governance. There is limited clarity as to the content and timeframes for its implementation, and indicators and benchmarks in the field are not provided. Progress is slow in implementing the reforms of the vocational education and training systems, including the outdated apprenticeship scheme, to make them more credible and better attuned to labour market needs. Budgetary resources earmarked to this end are limited. Policy measures to reduce further the number of early school leavers are in progress. The development of a training providers' certification system is expected in 2007. The vocational qualifications system has already provided five occupational standards, and implementation is to be completed gradually during the 2007-2013 period.

23. Overall, Cyprus is performing quite well on employment. The Implementation Report provides a thorough account of policy measures under implementation that go in the right direction. They include measures to provide employment opportunities for young people, and overcome difficulties and impediments in the transition from education to work. While education is strong on many fronts, there is room for substantial improvement, especially in developing adaptability and skills. Full implementation of a comprehensive lifelong learning strategy with stronger links between technical/vocational and continuing training will improve participation in training, notably for young, low-skilled and older workers, and will also encourage the progress of social dialogue on flexicurity.

### **PART III: CONCLUSIONS**

24. In the light of the analysis presented in the Commission's 2007 Annual Progress Report – Part II - and based on the Integrated Guidelines for Jobs and Growth, the following conclusions are appropriate:

25. Cyprus is making good progress in the implementation of its National Reform Programme, and of the four areas for priority action formulated by the 2006 Spring European Council. Overall, the implementation of the majority of measures seems to be proceeding as planned.

26. The strengths of the National Reform Programme and its implementation in 2006 include: progress in the field of fiscal consolidation; a new policy to develop a comprehensive research and innovation system; and the maintenance of a good overall employment performance supported by a broad range of active labour market measures.

27. The policy areas in the Cypriot National Reform Programme where weaknesses need to be tackled with the highest priority are: addressing ageing-related expenditure, where measures are not progressing; and increasing labour market opportunities for young people. Against this background, it is recommended that Cyprus:

- take steps to implement reforms of the pension and health care systems and sets a timetable for their implementation with a view to improving long-term sustainability;

- enhance life long learning, and increase employment and training opportunities for young people by accelerating the reforms of the vocational, education, training and apprenticeship system.

28. In addition, it will be important for Cyprus over the period of the National Reform Programme to focus on: measures to encourage venture capital investments and to improve competition in the area of professional services.

## **Cyprus Assessment for 2007**

1. Over the last decade, Cyprus sustained robust economic growth with an average GDP increase of about 3.75% per year, more than the EU27 average. It is estimated that in 2007, Cyprus's GDP per capita will be 93% of the EU average. In 2007 the total employment rate is estimated to have reached 70%, equaling the EU target, and the unemployment rate to have inched further down to 4.3%.

2. Cyprus is converging both in nominal and real terms with the EU. As a result, the Council decided last July in favour of Cyprus' adoption of the euro on 1 January 2008. Cyprus is a small open economy enjoying buoyant economic growth, high employment and stable prices. It also faces a long-term fiscal challenge resulting from an ageing population. Cyprus is mainly a services oriented economy. In 2006 services accounted for 77.6% of GDP and 71.0% of employment. Human capital is therefore the main economic resource. In recent years, there has been a substantial increase of foreign workers, who are mainly employed in unskilled or low-skilled occupations, accounting for 17.7% of total employment.

### **PART I: GENERAL ASSESSMENT**

3. Overall, Cyprus has made good progress with the implementation of its National Reform Programme (NRP) over the 2005-2007 period. The NRP provided a clear and comprehensive overview of numerous specific measures and linked them well to final objectives.

4. Cyprus made some progress in addressing the Council recommendations. With a view to ensuring long-term fiscal sustainability there has been satisfactory initial progress in reforming the health care system. Progress on pension reform has been limited. A lifelong learning strategy and a reform plan of the vocational education, and training systems have been developed, but are not yet implemented.

5. With regard to the additional areas on which the Council concluded that Cyprus should focus on, there has been progress in planning alternatives to private venture capital funds. Some progress has been achieved in stimulating competition.

6. Last years' Annual Progress Report concluded that Cyprus had made good progress in meeting the specific commitments agreed at the 2006 Spring European Council in the priority areas of knowledge, entrepreneurship, employment and energy. Since then progress has remained good for instance on administration of business start ups.

7. Efforts to develop ownership of the Growth and Jobs Strategy have been strengthened. All stakeholders are involved in the consultation and implementation process. In order to increase public awareness, the government organised a number of seminars, public events, and other activities that were extensively covered in the media. The considerable efforts made by the Cypriot authorities to strengthen the relevant administrative bodies are very welcome, given that the absorption of EU Funds remains a concern, especially in the light of the considerably larger allocations for the 2007-2013 programming period.

### **PART II: ASSESSMENT BY POLICY AREA**

#### **Macro-economic policies**

8. The macro-economic focus in the NRP is on fiscal consolidation and debt reduction, improvement of fiscal management, including restructuring of government expenditure and enhancing transparency. The NRP also addresses long-term sustainability of public finances, in particular through reforms in the health care and pension systems. Labour flexibility and wage moderation measures have also been launched. Fiscal consolidation has progressed well.

9. In 2006, the general government deficit fell to 1.2% of GDP from 2.4% of GDP the previous year. While wage and recruitment policy in the public sector remained restrictive, current expenditure increased, notably for social transfers. The gross government debt-to-GDP ratio continued to fall, to 65.25% of GDP from 69.25% in 2005. A further improvement is expected

in 2007 when the medium-term objective is estimated to have been comfortably achieved, mainly due to better than expected revenues and despite the continuation of extra budgetary expenditure.

10. The Council recommended that Cyprus take steps to implement reforms of the pension and health care systems. On health care reform, progress was made on the implementation of the National Health Insurance System. In particular, thematic teams work with a specific time table and monitoring system, to prepare the different aspects of the system. The vetting of the law process is progressing. However, the transformation of hospitals into autonomous units does not seem to have progressed, despite government efforts. Discussions between the government and social partners on reforming the pension system have begun. The aim is to reach an agreement shortly, and adopt the reform in early 2008. However, the precise adjustments and timetable are yet to be agreed, meaning the budgetary impact is uncertain.

11. Overall, the progress made on the macro-economic reform measures outlined in the NRP is good. However, the need for action to secure the long term sustainability of public finances while ensuring adequacy in view of the population ageing remains crucial. In this respect, the recommendation remains valid while the continuation of a prudent fiscal policy and further debt reduction should be sustained.

### **Micro-economic policies**

12. Key micro-economic challenges addressed by the NRP in 2005-2007 include promoting R&D, innovation and ICT, strengthening competition, improving the business environment, enhancing environmental sustainability, and upgrading basic infrastructure.

13. There has been some progress on R&D and innovation, and Cyprus still aims to reach 1.0% of GDP by 2010 though this would require an average annual growth rate of 23.5%. In view of the small size of most firms in Cyprus, additional measures are needed to overcome obstacles and boost the collaboration on innovation between the private sector and knowledge institutions. Fiscal measures are being studied, and new innovation networks and incubators start to engage business more in R&D. On ICT, significant progress has taken place in particular in terms of the availability of e-Government services and digital literacy. Broadband penetration is catching up, but take-up is still low and requires attention. Furthermore, there are delays in the implementation of a National Information Society Strategy. Additional efforts will be needed to speed up ICT uptake.

14. In the area of competition, a series of measures to strengthen the enforcement capacity of the Competition Authority and to improve competition conditions in the markets for energy, postal and telecom markets have produced first results, but it is important to maintain the pace of implementation of these measures. Cyprus is simplifying its business environment through various initiatives, but has not made much progress to date on measuring and reducing administrative burdens, or on developing a better regulation strategy. No target for a reduction in the administrative burden has been set. The 2007 National Action Plan foresees various steps to be taken in these areas, but impact assessment is only to be addressed during a second phase. It is important to ensure that equal attention is paid to improve both existing and new legislation and that these ambitious plans are carried out. Cyprus also needs to enhance its efforts to ensure timely implementation of the Services Directive. On environmental sustainability Cyprus has taken effective steps in the context of the Cyprus Strategic Plan for Reducing Green House Gas Emissions, in order to increase energy efficiency, to achieve savings in the areas of building and transport. Cyprus has set targets for the increase of renewable energy use. Cyprus plans to boost the use of public transport from the current 2% to 10 % in 2015, but implementation is still at an early stage.

15. The Council referred to the need to focus on measures to encourage venture capital investments and to improve competition in the regulated trades and professions. Cyprus has plans to develop a public venture capital fund and a loan guarantee mechanism in collaboration with the Cyprus Development Bank, which draws on the new Risk Sharing Financing Facility. This is a satisfactory policy response. On competition in professional services, Cyprus has confirmed the existence of serious regulatory restrictions on competition in the professions which are having a detrimental effect on price competition. A reform of

business structure regulations and legislation is planned for lawyers, engineers and architects. The policy response has improved since 2006 but is confined to relaxing business structure restrictions. The Commission considers this a limited response to the challenges, and it is important to step up the pace of reform by doing away with much of the restrictive regulation especially on pricing.

16. Overall progress in 2005-2007 with regard to the implementation of policies to address the micro-economic challenges identified by Cyprus in the NRP is good. The micro-economic points to watch have been well covered in the area of venture capital, but less so on competition in professional services.

### **Employment policies**

17. Over the 2005-2007 period, Cyprus has made good progress in implementing the policies set out in its NRP. Active labour market policies have helped increase employment and enabled Cyprus to close in on ambitious national employment targets. The Public employment services have been strengthened. Further initiatives are envisaged in 2008 (with European Social Fund support) to promote flexible but secure forms of employment for older workers, women, young persons, people with a disability, and migrants. The relatively high youth unemployment as compared to total unemployment points to the need to facilitate the transition from school to work.

18. The aim to increase the labour supply is held back by the persistence of important gender imbalances across occupations and in qualifications. A national action plan on gender equality was adopted in 2007 and a preliminary draft report has put forward a number of suggested policy measures to address a gender pay gap that is substantially higher than the EU average. The Cypriot authorities have put in place an appropriate legal framework to encourage part-time work. An economic migration strategy has been established and immigration legislation amended. The main thrust of the new strategy is to discourage the inflow of unskilled non-EU nationals and attract highly skilled EU workers.

19. The Council recommended that Cyprus should enhance life long learning, and increase employment and training opportunities for young people by accelerating the reforms of the vocational, education, training and apprenticeship system. Participation of adults in lifelong learning increased in 2006 but is still short of the EU target for 2010. This increase is mainly due to the higher participation of young adults and highly skilled people. Participation rates in training of older people, the low skilled and the unemployed have stagnated. Cyprus has developed a strategic plan on educational reform, for consultation with relevant stakeholders. External evaluations of technical and vocational education programmes are now in progress, with a view to improving the curricula, and to increase their attractiveness especially to female students. An action plan for the new apprenticeship system has been finalised, and its full introduction by 2010 is foreseen. The development of a vocational qualifications certification system is advancing and a training providers' certification system is expected to become operational in 2010. A national lifelong learning strategy was approved by the Council of Ministers in November 2007. In the Commission's opinion an acceleration of these welcome policy reforms is now needed.

20. Cyprus is initiating a process to address flexicurity in an integrated way by setting up an interdepartmental committee on flexicurity within the Ministry of Labour and Social Insurance. The social partners are involved. A number of schemes are being implemented in the policy areas of contractual arrangements and active labour market policies, while the implementation of lifelong learning measures needs to be accelerated.

21. In general, Cyprus has partially succeeded in implementing measures to deliver on the employment policy commitments expressed in its NRP. The recommendation in the employment area has been addressed to a limited extent, due mainly to the delayed implementation of a comprehensive lifelong learning policy framework to further developing human capital. In addition, Cyprus needs to pay particular attention to tackling gender imbalances and reducing the high pay gap.

### **PART III: CONCLUSIONS**

22. In the light of the 2007 Implementation Report for Cyprus and the Commission's assessment of progress made in implementing key structural reforms and based on the Integrated Guidelines for Growth and Jobs, the following conclusions are appropriate.

23. Cyprus has made good progress in the implementation of its National Reform Programme over the 2005-2007 period. Cyprus had made good progress in fulfilling the specific commitments agreed at the 2006 Spring European Council in the priority areas.

24. The Implementation Report shows a good policy response to the recommendations adopted by the Council. With a view to the long term sustainability of public finances there has been a satisfactory initial response in reforming the health care system but a limited response on pension reform, enhancing lifelong learning and reforming the vocational education and training system. There has been some policy response on the additional areas identified in the Council conclusions as requiring attention.

25. Amongst the strengths of the Implementation Report is progress in the field of fiscal consolidation, in both deficit and debt reduction; a new policy to develop a comprehensive research and innovation system; and the maintenance of a good overall employment performance supported by a broad range of active labour market measures.

26. The policy areas in the Cypriot National Reform Programme where weaknesses need to be tackled with the highest priority are: addressing ageing-related expenditure; implementing a lifelong learning strategy and increasing training and labour market opportunities for young people. Against this background, it is recommended that Cyprus:

- take steps to implement reforms of the pension and health care systems and sets a timetable for their implementation with a view to improving fiscal sustainability;
- enhance life long learning, and increase employment and training opportunities for young people by implementing the reforms of the vocational, education, training and apprenticeship system.

27. In addition, it will be important for Cyprus over the period of the National Reform Programme to focus on measures to: improve competition in the area of professional services; further stimulate private sector R&D; and address the very high gender pay gap.

## Cyprus Assessment for 2008

1. Real GDP growth slowed only moderately to 3.6% in 2008, as domestic demand, and especially private consumption, continued to grow robustly. Growth is projected to decelerate significantly in 2009, mostly because of the impact that lower economic activity in Cyprus' main trading partners will have on tourism and foreign demand for housing. A rising household debt burden and an uncertain environment should also dampen private consumption. The inflation rate of 4.4% in 2008 was double its rate in 2007, mainly due to higher imported oil and food prices. This is expected to move down in 2009. The government budget is expected to have been 1% of GDP in surplus in 2008. Relatively high wage increases have negatively affected the competitiveness of the Cypriot economy which, together with lower external demand, lower tourism revenues and considerably higher commodity prices, has widened the current account deficit to over 13% of GDP in 2008 and is expected to narrow to 12% in 2009.

2. Current labour market estimates show that employment growth was around 2% in 2008 with unemployment falling marginally to 3.9%. Employment growth is forecasted to slow down over 2009, leading to a rise in unemployment. Current developments in the labour market indicate that the tourism and construction sectors along with the largely low-skilled foreign workforce employed in these sectors are likely to be the most hit by the impact of the crisis.

3. In response to the economic downturn, Cyprus recently announced measures, including support for low income households.

4. The Commission will assess measures taken by Cyprus to respond to the economic downturn in line with the principles set out in the European Economic Recovery Plan as adopted by the European Council. As regards public finances, the Commission will assess the compatibility of the updated Stability Programme with the Stability and Growth Pact. Moreover, the measures recommended in paragraph 7 should be implemented swiftly, in particular to encourage the transition towards a low carbon economy and enhance long-term growth potential.

5. Cyprus has continued the implementation of its National Reform Programme. Microeconomic policies aimed at developing the information society and creating the conditions for sustainable growth are, together with social inclusion policies, largely responsible for Cyprus strong performance in 2008. Measures have been taken to help ensure long-term fiscal sustainability, especially in the area of pensions. To complement this further measures are needed to reform the healthcare system. Additional measures are needed if Cyprus is to improve R&D performance. Cyprus has adopted a Lifelong Learning Strategy, and now needs to implement it, including through further actions to reform secondary technical and vocational education and the apprenticeship system. In the micro-economic domain some new measures have helped tackle insufficient competition in professional services.

6. The Cypriot economy has a high degree of trade specialisation, which coupled with the country's openness, increases its exposure to external shocks. The ongoing transition towards a more diversified and innovation-driven economy is important to increase resilience to competition from lower-cost economies. Efforts are needed to increase the productivity of labour through investments in knowledge, skills, the business environment, and innovation. The immediate policy challenge in 2009 will be to improve the country's competitiveness. Given the relatively high external imbalances, it would be important to align wages with productivity. The implementation of the energy and climate change package, agreed by the European Council, will require close attention.

7. In light of the Commission's assessment of progress made, the Council recommends Cyprus to pursue the implementation of structural reforms. In particular, it is recommended that Cyprus:

- continues with the efforts to expand lifelong learning opportunities, especially for the low skilled, unemployed and disadvantaged groups, by implementing actions within the approved

Lifelong Learning National Strategy including the reforms of the vocational, education, training and the New Modern Apprenticeship Scheme.

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