



**COUNCIL OF
THE EUROPEAN UNION**

Brussels, 11 December 2007

16276/07

**ECOFIN 508
COMPET 432
ENV 703
MIGR 137
TELECOM 171
ENER 317
RELEX 970**

COVER NOTE

from: Secretary-General of the European Commission,
signed by Mr Jordi AYET PUIGARNAU, Director

date of receipt: 11 December 2007

to: Mr Javier SOLANA, Secretary-General/High Representative

Subject: Commission Staff Working Document:
Spillovers and complementarities in the context of the Lisbon Growth and Jobs
Strategy including economic effects of the Community Lisbon Programme

Delegations will find attached Commission document SEC(2007) 1689.

Encl.: SEC(2007) 1689



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 10.12.2007
SEC(2007) 1689

COMMISSION STAFF WORKING DOCUMENT

**Spillovers and complementarities in the context of the
Lisbon Growth and Jobs Strategy including economic effects of the Community Lisbon
Programme**

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1. CROSS-BORDER SPILLOVERS AND COMPLEMENTARITIES BETWEEN REFORMS

A key part of the Lisbon strategy

Cross-border spillovers and complementarities between reforms are at the heart of the Lisbon strategy for Growth and Jobs. These interlinkages make a strong case for a comprehensive and coordinated approach to the structural reform agenda. The need to better exploit such effects was a driving force behind the adjustments to the governance arrangements, introduced in the course of the mid-term review of the Strategy in 2005. In this effort, the re-launched Strategy relies *inter alia* on the partnership to secure national ownership of the Lisbon strategy while facilitating a coordinated approach to reforms, the integration of reform efforts across policy areas and the better alignment of reforms at EU and national level (in part via a Community Lisbon Programme). As a result, the effectiveness of the reform processes at both national and EU levels in terms of their potential to generate robust growth and new and better jobs has increased. Moreover, the partnership approach is designed to foster demonstration effects and institutional learning from the example of reformers and to spread good practices. These political spillover effects add to the overall reform momentum through reducing uncertainty associated with structural reforms and facilitating their implementation.

Cross-border spillovers

Actions taken by one national government have an impact on the performance of other countries as well and thus also implications for the formulation of their economic policies. These cross-border spillovers materialise through intensive flows of goods and investment but also flows of knowledge and innovations. In such cases, purely national, uncoordinated, action would be suboptimal because the important cross-border externalities or economies of scale would be left unexploited. For example, policies to boost R&D and innovation benefit not only domestic companies and industries but also other countries through the transfer and utilisation of the generated knowledge. Similarly, the gains from competition enhancing reforms that boost growth and productivity spill over abroad through greater demand for imports, supply of cheaper exports and more investment opportunities.

The size of spillovers depends on the relative strength of several effects some of which work against each other. This underlines the importance of empirical investigation of these transmission channels of spillovers. The benefits of structural reforms usually spill over to other countries through greater trade exchange. The increased demand in the reforming country due to increases in income is partially covered through the increase in imports from abroad. In this way, the trading partners gain as the demand for their exports rises. The high degree of economic integration achieved in the EU strengthens this effect. While, for example, external openness to trade in goods in the EU is relatively low and comparable to that in the US (average exports and imports as a share of GDP in the EU and the US stood at 10.8% and 11.3% respectively in 2006) intensity of intra-EU trade is much higher for most of the Member States. Overall, average intra-EU exports and imports of goods accounted for 21.1% of GDP in 2006. For all Member States, the markets in other EU countries are the most important destination for their exports. For virtually all of them, intra-EU trade accounts for more than 60% of their overall trade exchange and for some of them this share reaches more than 80% (CZ and SK). Nonetheless, this positive short-run spillover effect can be partially or entirely eliminated through the long-run improvements in competitiveness of the reforming

country (i.e. prices and wages decline and real depreciation occurs) which may reverse the trade balance with the non-reformers. Moreover, investment flows into the reforming countries which are attracted by higher returns on capital further work against the trade channel.

In addition to the flows of goods, services, capital and to some extent labour, an important source of interactions between EU countries stems from the intangible flow of knowledge which gives rise to the so-called knowledge or technological spillovers. In fact, some of the knowledge spillovers are associated with the flows of goods or capital as new ideas and technologies can be imbedded in products or physical capital that cross borders. Similarly, the circulation of skilled labour helps disseminate knowledge and contributes to boosting innovation. Empirically, the knowledge spillovers prove to be a very strong positive transmission channel and drive the overall results in investigations of the size of cross-border spillovers of policies in many areas.

If empirically relevant, the existence of cross-border spillovers of national structural reforms gives a rationale for acting together. The maximisation of welfare for the Union as a whole would, in the presence of strong spillover effects, generally require coordination of economic policies so as to make sure that these externalities are fully internalised. For example, if a part of the benefits from structural reform spills over to other countries due to the decline in terms of trade, the countries may have lower incentives to get engaged in reforming activities. As another example of such a case, it is possible to mention the negative spillover on a reforming country from its unreformed neighbours in a monetary union. If one country reforms, higher productivity and lower structural unemployment in that country translate into lower inflation. However, single country reforms will not influence the euro area aggregate figures significantly and are unlikely to trigger an accompanying response by the ECB in the form of cutting the interest rate. To the extent that reforms have short-term costs, the incentives for reforms are reduced in the absence of supportive monetary stance, leading to sub-optimal level of reforms in the euro area as a whole.¹ The existence of this negative spillover, coupled with the high intensity of economic interlinkages, underlines the importance for enhanced policy coordination in the euro area, particularly in view of the need for greater adjustment capacity to deal with adverse economic shocks with asymmetric impacts on the individual euro area countries.

Complementarities in the Lisbon strategy

There are also important complementarities between reform measures within or across policy domains which give rise to potentially strong synergies from their coordinated implementation. Comprehensive and internally coherent national reform strategies thus bear promise of enhancing the pay off from their implementation. On the contrary, isolated reforms may fail to deliver the expected benefits unless accompanied by appropriate complementary measures. For instance, efforts to boost R&D and innovation are strongly complementary with policies to enhance skills of workers. In the absence of sufficient supply of highly trained researchers, additional spending on R&D activities will only lead to increases in wages of the currently employed researchers without a significant impact on the output in terms of new ideas, technologies or innovations. Another example of exploitation of synergies are the "flexicurity" approaches to labour market reform which combine a number of measures that

¹ Pisani-Ferry, 2005.

encompass the set-up of flexible contractual arrangements, comprehensive life-long learning policies, effective ALMPs and modern social security systems. The emphasis is on the interplay and coherence of policies rather than on single policy measures which allows to widen the focus from "security on-the-job" to the broader notion of "security to remain in the employment". Also, the reduction of administrative burdens, through greater efficiency, higher competition and lower mark-ups, has synergies with measures aimed at increasing employment due to a reduction in equilibrium unemployment. Furthermore, efforts to put public finances on a sound and sustainable basis are a pre-condition for growth and viable social protection systems in the face of population ageing. Such efforts release public resources which can be used for promoting physical and human capital formation, and thus growth potential over the long-run.

In addition, carefully designed comprehensive reform strategies can take advantage of political economy complementarities to help overcome resistance against their implementation. For instance, product market reforms generally pave way to reforms in labour markets as greater competition and higher risk of bankruptcy of uncompetitive firms make the need for labour market reforms more obvious for employers as well as employees and trade unions. Furthermore, by pursuing an integrated set of reforms, policy debates take place amongst a wider group of stakeholders with heterogeneous interests, thus helping to generate constituencies which provide a counter-weight to vested interest groups who benefit disproportionately from the *status quo*. In this respect, the existence of the appropriate institutional framework at national level where the different stakeholders can systematically discuss broad reform agendas may be a pre-condition for consensus-building. Finally, integrated reform strategies can encompass compensatory measures so that the stakeholders are supported through what can be a painful adjustment processes. In this respect, reform packages can also take into account the overall time profile of the benefits of reforms and associated costs and thereby cater for the fact that some reforms have an immediate impact, whereas in other cases the benefits only materialise after a significant time lag.

Model simulations to quantify the size of spillovers and complementarities

An assessment of the nature and size of the cross-border spillover effects and complementarities between reform measures thus contributes to the full understanding of the gains to be reaped from the coordination in the area of structural policies and full implementation of the reforms envisaged under the Growth and Jobs Strategy.

Model simulations underline the importance of cross-border spillovers in many policy areas, though their importance varies (see Table 1 for a summary of the results²):

- Policies aimed at boosting R&D and innovation have the largest positive effect on other EU countries. This is not surprising as the flows of knowledge feature are the most significant transmission channel for spillovers in the EU. If Member States achieve the

² A model, being a stylized description of the economy, cannot always translate directly a given policy initiative. In such cases a change in a variable or parameter linked to the policy measure is changed in the model to capture the reform being simulated. The size of the shock, the choice of the variable/parameter to be changed as well as the specific characteristics of the model used determine the final outcome. For these reasons the usual caveats in interpreting results have to be borne in mind. The simulations presented in table 1 and in table 2 arise from different General Equilibrium Models (mainly WorldScan and QUEST) and the fact that results are typically of the same order of magnitude can be seen as a sign of robustness of the result.

R&D intensity targets announced in their National Reform Programmes, R&D expenditures in the EU will increase from 1.9% of GDP in 2004 to 2.7% in 2010.³ Simulations with the WorldScan model show that this could lead to an increase in output of 3.3% for the European Union as whole. Cross-border knowledge spillovers would account for roughly half of these gains.

- Simultaneous implementation of other types of reforms would also give rise to extra benefits albeit significantly smaller. If implemented across the whole EU, measures aimed at upgrading skills of workers would lead to a long-run increase in GDP of 2.1%. Cross-country spillovers would account for 0.1 percentage point which is approximately 5% of the total impact.
- Reforms aimed at cutting the overall administrative burden by 25% as specified by the European Council raise the level of output by 1.1-1.9% with spillover effects reaching 0.1 percentage point of GDP on average which accounts for 5 to 10%.
- Similar simulations with the QUEST model confirm the importance of knowledge spillovers: long-run GDP gains (after 50 years) from increasing the R&D intensity to the EU-wide target (currently 2.54% of GDP) for a small open EU economy would be higher by around 1 percentage point if R&D spending is promoted in the whole EU compared to an isolated action in this country (isolated action would increase GDP by 3.8% while a coordinated one by 4.8%). The spillover thus accounts for around 20% of the overall effect.⁴

Table 1: Spillover effects of reforms⁵

Policy area	Model	Simulation assumptions	Overall long-run effect on GDP in EU	Average spillovers (as share of overall effect)
R&D	WorldScan	Increasing R&D intensity from 1.86% to 2.7% in 2010 (partially paid through a R&D subsidy financed by lump-sum transfers from households).	3.3%	50%
	QUEST III	Increasing R&D intensity from 1.86% to 2.54% in 10 years through a R&D subsidy (financed from consumption tax).	4.8%*	20%

³ It should be noticed that some Member States have revised their R&D targets, and the most recent R&D targets imply that the EU would spend 2.54% of GDP on R&D in 2010.

⁴ By long run it is meant the time horizon needed for the full impact of the measure to materialise, taken into account the dynamics in the economy.

⁵ The figures reported in the table should be interpreted as annual GDP effects. These effects need time to fully materialise, and smaller impacts will already be visible before reaching the full effect. For example, the implementation of the R&D targets will ultimately yield an annual effect of 3.3% (relative to baseline) according to the WorldScan simulations, but smaller impacts will already develop in earlier years.

Skills	WorldScan	Achieving skill targets set by 2003 European Council. Input into simulation (effects on labour efficiency from these policies and demographic developments) were modelled in a special model.	2.1%*	5%
Administrative burden	WorldScan	Reduction in administrative burden by 25% modelled as a labour efficiency shock.	1.9%	5%
	NiGEM	Reduction in administrative burden by 25% modelled as a shock to mark-up of prices over unit costs.	1.1%	10%

Source: European Competitiveness Report 2007 (European Commission 2007) for the simulation results with WorldScan and NiGEM. For further details see Lejour and Rojas-Romagosa (forthcoming) on WorldScan, and Barrel and Kirby (forthcoming) on NiGEM. For the QUEST simulations, see Roeger, Varga and in'tVeld (forthcoming).

Notes: * these figures refer to long-run effects while the others to year 2025.

Regarding complementarities, coordinated implementation of packages of reforms may indeed magnify the economic benefits as the underlying complementarities are exploited. Model simulations with the WorldScan model explored the effects of jointly implementing the reforms to enhance skills, reaching the employment targets, boosting R&D spending and cutting red tape. Overall, combined implementation of measures in these four policy areas brings an extra 0.4 percentage point increase in output and 0.3 percentage point of consumption in the EU-27 relative to the sum of effects of the separate policies.

2. COMPLEMENTARITIES BETWEEN NATIONAL REFORM POLICIES AND POLICIES AT THE EU LEVEL

A revised Community Lisbon Programme

The revised Lisbon strategy recognises the important complementarities between national reform policies and policies at the EU level. The Commission has put forward a proposal for a revised Community Lisbon Programme which identifies a streamlined number of reform actions that can be taken at EU level, and which moreover are focussed on the same key four priority actions (knowledge and innovation, business potential, adaptability of labour markets and energy and climate) which Member States are invited to consider when they draft their National Reform Programmes for the 2008-11 Lisbon cycle.

Actions planned at the Community level can complement, facilitate or strengthen policy actions envisaged at the national level. For example, the efforts to complete the Internal Market and create thus the level playing field for all the companies can generate momentum for other reforms at the national level. Similarly, Community-driven efforts to achieve a greater degree of financial market integration and better availability of venture capital are

complementary to the plans of many Member States to reduce high administrative entry barriers for start ups and regulatory burdens on firms in general.

Model simulations to quantify the impact of the main measures in the revised Community Lisbon Programme

The priority actions at the EU level, featuring in the new streamlined Community Lisbon Programme, also have a potential to deliver substantial economic benefits. Several simulations to quantify the impact of a number of important measures in the revised Community Lisbon Programme have been carried out using the WorldScan and QUEST models of the Commission. Table 2 summarises the main results of these simulations, which are described in more detail below.

Table 2. Estimated Economic Impacts of Individual Measures contained in the CLP

Specific measure	Model	Assumptions of the simulations	Shocks implemented in the model	Medium-term Impact on EU ^a GDP ^b
Financial market integration	QUEST III (endogenous growth version)	Reduction of costs of lending by 50 basis points	50 basis point reduction in the EU equity risk premia	0.75% in 2020 and 1% after 20 years
	WorldScan		Reduction in cost of capital implemented through a reduction in the tax on investment	0.5%
Mutual recognition of venture capital	QUEST III (endogenous growth version)	Removal of existing regulatory and tax obstacles to cross-border VC funds leading to current best performers' average use of VC capital for all MS, effectively leading to additional 20 billion euros a year for venture capital	10 basis point reduction in equity premium and reduction in entry barriers (fixed costs) for innovating firms ^c by 10%	0.75% in 2020 and 1% after 20 years
	WorldScan		Increase in total factor productivity (TFP) for high-tech manufacturing and (business) services	0.6%
Community contribution to of reduction administrative burdens	QUEST III	25% reduction in administrative burden from EU legislation (35% of the overall burden)	1) reduction in fixed costs 2) reduction in fixed costs and a drop in mark-ups due to higher competition	0.3% (1) - 0.6%
	WorldScan		Increase in labour	0.6%

			efficiency	
Electronic communications	WorldScan	Increased productivity through higher degree of market integration	Increase in capital efficiency for telecommunication services to EU average	0.2%
Unbundling electricity markets	QUEST III (tradable/non-tradable version)	10% decline in energy prices	1) increase in labour augmenting progress by 22% or 2) mark-up reduction by 11 percentage points	0.2% (1) - 0.4% (2)
	WorldScan		Productivity increase by 22%	0.3%
“Blue card” for entry of highly skilled workers	QUEST III (version with labour force decomposed according to the level of skills)	Inflow of highly-skilled workers from outside of EU by 74300 between 2012-2020	0.03 percentage point increase in share of high-skilled labour each year	0.2% in 2020 and 0.25% after 20 years
	WorldScan		Increase in supply of high-skilled workers equivalent to the target	0.2% in EU25
Achieving the 20% independent greenhouse gas goal for 2020	GEM E3 ^d	Cost efficient EU 27-wide CO ₂ reduction with no access to CDM and no assessment of positive impacts of co-benefits.	Introduction of a carbon value in all sectors. But without revenue recycling through e.g. auctioning.	-0.5%
Environmental technologies	WorldScan	Increased energy efficiency of electrical motors through technical innovation	TFP increase corresponding to 41% energy efficiency increase for 30% of electrical motors by 2020	0.4%
Free trade agreements with Korea, India and ASEAN	Computable general equilibrium models (footnote d)	Maximal Free-Trade Agreements	Reductions in bilateral tariff and non-tariff barriers	0.1%

Source: Commission services using WorldScan, QUEST and GEM E3 models

Notes:

a) Results for the QUEST model refer to EU-27 while results for the WorldScan model refer to EU-25.

b) The effects are reported as annual GDP impact in 2020. When the full impact of the reform materialises after 2020 the effect 20 years after implementation is also reported.

c) In the model a distinction is made between innovating firms, producing intermediates which have to invest in

knowledge (patents) in order to start production and final goods producers which do not require particular knowledge investments.

d) European Commission (2007).

It should be noted that these model estimates only cover the *economic effects* of the foreseen measures. It is reasonable to assume that the reform drive at the Community level will add to the national reform momentum through *political economy effects*, e.g. these reforms may facilitate accompanying measures in the respective policy domains or facilitate other complementary reforms. The effects stemming from such political economy complementarities can be potentially powerful. For instance, the Community action directed at completing the Internal Market (e.g. the below analysed initiatives to proceed with liberalisation of network industries, complete the integration of financial markets or create truly internal market for environmental technologies) can generate political momentum for nationally-driven labour market reforms.

Moreover, these simulations generally present only *direct* economic effects of these actions and do not explore interactions with the reforms at national level. This is because such complementarities can take numerous forms and depend crucially on the type of action taken by Member States. Nevertheless, the discussion of complementarities and the simulation results on the effects of complementarities presented above can provide a basic idea about the mechanisms which are at work in this respect. To provide a further example, the Community efforts to complete the Internal Market have strong synergies with measures by Member States to improve the functioning of labour markets through making the latter more effective in delivering the desired benefits (e.g. by means of better regulation or increasing competition). Moreover, such measures can generate positive knowledge spillovers through increased trade in high-tech products and technologies. Evidence suggests that 60% of innovative companies in the EU tend to launch their new products on national markets while only 25% do it in other Member States too.⁶ Also, the "blue card" initiative to attract highly-skilled professionals from outside the EU can positively interact with measures to raise skills of labour in general or the measures aimed at supporting R&D and innovation as well.

The main results of the simulations with the WorldScan and QUEST models are the following:

- ***Financial and venture capital markets:*** despite considerable achievements in integrating financial markets there is still significant scope for further progress. Efforts to complete the internal market for financial services would improve possibilities for risk sharing and would likely reduce the costs of lending. On the basis of the empirical evidence, it is reasonable to expect that this could lead to a reduction of capital costs by about 50 basis points.⁷ The effects, explored with the QUEST model, would be substantial: GDP would be up by about 0.1% in the first year, and would increase by around 0.75% in 2020 to 1% in the long-run (after 20 years). In a policy simulation using WorldScan effects of financial market integration are translated by a decrease in the cost of capital implemented through a decrease in the tax on investment, and the estimated impact is 0.5% of GDP by 2020 for

⁶ Dierx et al. (2007).

⁷ See London Economics (2002), Hardouvelis et al. (2004), and Baele et al. (2004).

the EU25. Moreover, additional gains could stem from initiatives to develop EU-wide venture capital market. Economic studies suggest that increasing the availability and usage of venture capital by reducing the existing regulatory obstacles to venture capital investments could have a significant effect on the EU innovation rates and R&D intensity.⁸ Naturally, the quantity and quality of venture capital is also determined by other factors such as the supply of high quality projects, venture competences and the existence of a 'venture culture'. According to the recent Commission proposal⁹, additional €20 billion a year would be made available for venture capital investments. This would be the result if the removal of existing regulatory and tax obstacles to cross-border investments by venture capital funds were to lead to an average use of venture capital comparable to that of the current best performers. The positive effect of reducing regulatory obstacles to venture capital investments is demonstrated in the QUEST model via a permanent 10 basis point reduction in EU equity risk premia and a 10% reduction in the cost of entry barriers. The combined shocks increase GDP by 0.75% in 2020 raising to 1% in the long-run, generated by an increase in physical investment and R&D. In the policy simulation with WorldScan it is assumed that the impulse in venture capital translates into an increase in total factor productivity for high-tech manufacturing and (business) services, yielding a GDP effect of 0.6% by 2020 for the EU25.

- **Reducing the administrative burden of EU legislation:** the Commission proceeds on its part with efforts to cut red tape and remove the unnecessary administrative burdens on European companies linked to complying with administrative requirements laid out in European legislation. These efforts complement those of Member States to cut red tape stemming from national regulations. EU legislation-related burdens are estimated to constitute 35% of the overall administrative burden. The Commission is committed in line with the general Lisbon target to reduce these compliance costs by 25%. Such a reduction releases human resources for more productive activities and is simulated in QUEST to lead to an increase in GDP of around 0.3% in 2020. This effect can grow to 0.7% if goods markets are sufficiently flexible and due to higher competition the reduction of costs for firms is passed on to consumers via a reduction in mark-ups. In WorldScan, the simulated overall economic effect of achieving the 25% administrative burden reduction targets related to Community legislation is 0.6% of GDP by 2020 for the EU25.
- **Electronic communication:** analysis undertaken by the Commission shows that there are a number of key network industries and services that require particular attention, including electronic communications. Consequently, the Community should enhance single market policy and the enforcement of competition policy with the aim of increasing productivity and reducing prices for consumers, whilst ensuring the provision of services of general interest. For that purpose, the Community needs to enhance its market monitoring of key sectors including effects on consumers and use all available tools where necessary. Overall, improving competition and efficiency in services would improve competitiveness throughout the whole economy. A policy simulation using the WorldScan model assumes an increase of the capital efficiency in the electronic communication sector for those Member States that are below the EU average of the respective sectoral capital intensity. The relative increase in capital efficiency is equivalent to reaching the Community average

⁸ See Kortum and Lerner (2000), Hellmann and Puri (2000) and Romain and van Pottelsbergh (2004).

⁹ See the Community Lisbon Programme 2008 – 2010.

in capital intensity of the electronic communication sector and causes a potential impact on the level of GDP for the EU25 at 0.2%.

- **Managed migration from outside the EU:** the "blue-card" scheme, one of the elements of key area 8 in the CLP, has been introduced at the EU level to counter the skill shortages through attracting highly-skilled workers from outside the EU. The Community proposal accounts for an annual inflow of 74300 professionals between 2012 and 2020.¹⁰ A policy simulation with WorldScan on the impacts of this blue-card scheme and the associated increase in the supply of high-skilled workers yields a GDP impact of 0.2% by 2020 for the EU25. This is very similar to the simulated impact using QUEST, in which a positive impact on output of 0.2% in 2020 is found, rising to 0.25% in the long-run.
- **Liberalising the electricity sector:** efforts to progress with the energy sector liberalisation can deliver important benefits. Model simulations with QUEST explored the potential impact of further liberalisation of the electricity sector. According to a recent empirical study, greater competition could lead to reductions in electricity prices of about 10%, with decreases ranging from 2% for large households to 17% for small industrial firms.¹¹ Price declines would materialise through efficiency improvements or reductions in mark-ups and they could result in long-run increases in GDP of approximately 0.3-0.4%, depending on the main transmission channel (with efficiency improvements generating higher effects). Simulation results with WorldScan suggest that unbundling of electricity markets would lead to a GDP increase of 0.3% by 2020 for the EU25.
- **Achieving the Greenhouse Gas Goals for 2020:** The economic impact of achieving the 2020 independent greenhouse gas emissions reduction target for 2020 of 20% was assessed with the GEM-E3 model in the Impact Assessment of the Communication on "Limiting Global Climate Change to 2 degrees". This work has been updated more recently to address the implementation of the energy and climate change package. The cost impact on EU GDP is projected to be limited at around 0.5% of GDP by 2020.¹² This impact on EU GDP of independent EU action will decrease with access to the project-based Clean Development Mechanism (CDM). But unlimited access to CDM would see a large share of the emission reductions realised abroad because of the low marginal abatement costs in some countries abroad. However, none of these figures takes into account the co-benefits of internal emission reductions which would mitigate the negative impact on GDP: energy security will increase through for instance increased use of renewable energy; health costs decrease through lower levels of air pollution; innovation is spurred in new efficient energy technologies.¹³ By comparison, the longer-term impacts of climate change on the world economy could be as much as a decrease of 5-20% of GDP¹⁴.
- **Environmental technologies:** the European Council's ambitious climate change targets for 2020 will require unprecedented investment in new low-carbon technologies and result in fundamental changes in the EU economy. A Community action is needed to ensure the

¹⁰ See the Communication from the Commission "Policy plan on legal migration" COM(2005) 669 final.

¹¹ Martin et al. (2005).

¹² Impact Assessment for the Implementation of the Energy and Climate Change Package, 2008 (forthcoming).

¹³ Full access to CDM by leading to lower levels of internal EU GHG reductions will lead to lower levels of co-benefits.

¹⁴ Stern Review: The Economics of Climate Change, H.M. Treasury October 2006.

development of a dynamic internal market for low carbon and energy/resource efficient technologies. Member State efforts to promote these industries inevitably lack the scope of market opportunities and economies of scale that could be realised through the development of a truly EU-wide market for environmental products, services, and technologies. Success therefore requires a new Community-wide sustainable industrial strategy in order to lead the transition towards a low carbon and resource efficient economy¹⁵ A particular aspect of this concerns the development and more energy-efficient production of end of the pipe technologies that in turn are facilitating the energy-efficient production of other manufacturing sectors. The respective policy simulation using the WorldScan model puts the magnitude of the potential effects on the level of the EU25 GDP by 2020 at 0.4% applying conservative assumptions with respect to energy efficiency gains, the economic share of relevant technologies, and the annual penetration rate of these technologies over time.

- ***Free Trade Agreements with South Korea, ASEAN, and India:*** the Community needs to open up new opportunities for trade and investment to EU businesses and to develop a common space of compatible regulatory provisions and standards with key trading partners, including the emerging economies. Opening up international markets provides greater market opportunities for EU companies abroad and increased competition and lower prices for consumers at home. Recent studies carried out for the Commission on the Free Trade Agreements with South Korea, ASEAN, and India suggest a combined impact of 0.1% of EU GDP.¹⁶

The economic impacts suggested by the simulations reported in this document indicate the potential of a number of measures to contribute substantially to the standards of living of the EU citizens. While it is difficult to assess the magnitude of the interdependencies across all the policy measures covered here, it is likely that some synergies may magnify the effect of separate implementation, making the full impact of joint implementation stronger than the sum of these individual effects. Concerning the Community Lisbon Programme measures covered in table 2, the aggregation of individual effect pointing on average to a 2¾% increase of GDP relative to the situation without implementation of the measures seems a reasonable approximation of the joint effect of the measures.

¹⁵ Commission Communication "Mid-term review of industrial policy: a contribution to the EU's Growth and Jobs Strategy" COM(2007) 374 of 4.7.2007

¹⁶ See http://trade.ec.europa.eu/doclib/docs/2007/april/tradoc_134543.pdf

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