

CHINA CATCHING UP AND THE US STILL WELL AHEAD

A comparison of global economies through Time-Distance analysis

Europe enjoyed sustained economic growth in 2006 and for most of 2007¹. This opened a valuable window of opportunity for the EU to enhance its competitiveness through appropriate reforms, investment in research and further developing the internal market. Europe had the chance to enhance its growth potential. Yet, it failed to grasp it.

A close analysis of the EU's economic performance with respect to a number of key structural indicators – such as income, R&D investment and employment – suggests that overall progress has been uneven and often insufficient. Specific areas show no progress at all.

The overall outlook is unsatisfactory, especially if we compare the EU's performance to that of its main global economic competitors. But in making this comparison, a static analysis is insufficient. We need to assess Europe's performance from a dynamic perspective.

Using the 'time distance methodology'², this study shows the time gaps for the EU in relation to the United States and China. Using 'what-if' scenarios, its results also show how many years the EU would need to catch up with the US for a number of indicators, as well as under what conditions of growth China could cut the time distance gap dramatically.

EUROCHAMBRES' message to the 2008 Spring Summit: Empower SMEs and enhance their innovation capacity

Europe needs to greatly enhance its growth potential if it is to remain a key economic player in the coming decades. This is even truer in the light of the current economic scenario, characterized by financial markets' turmoil, high commodity prices, an extremely strong Euro, raising inflation and mounting global imbalances. All these factors contribute to a gloomy economic outlook for 2008, characterized by a marked slowdown in growth³.

In this respect, EUROCHAMBRES believes that the Lisbon Strategy still represents the appropriate framework to foster growth in Europe. In particular, EUROCHAMBRES believes that sustained and significant growth can be achieved through the implementation of reforms at national and EU level that will empower European Small and Medium-sized Enterprises (SMEs).

In this context, a **Small Business Act for Europe** which is ambitious, binding, concrete and integrated into the framework of the Lisbon Strategy would represent the ideal tool through which SMEs' growth potential can be realised.

Only by providing its SME community with the right framework conditions, allowing it to grow and prosper, will Europe remain a global economic force.

1 In 2007, the EU27 registered an average GDP growth rate of about 2.9%, thus outpacing the US, which registered a figure of 2.2% (Eurostat, Euro-indicators press release, 4 March 2008).

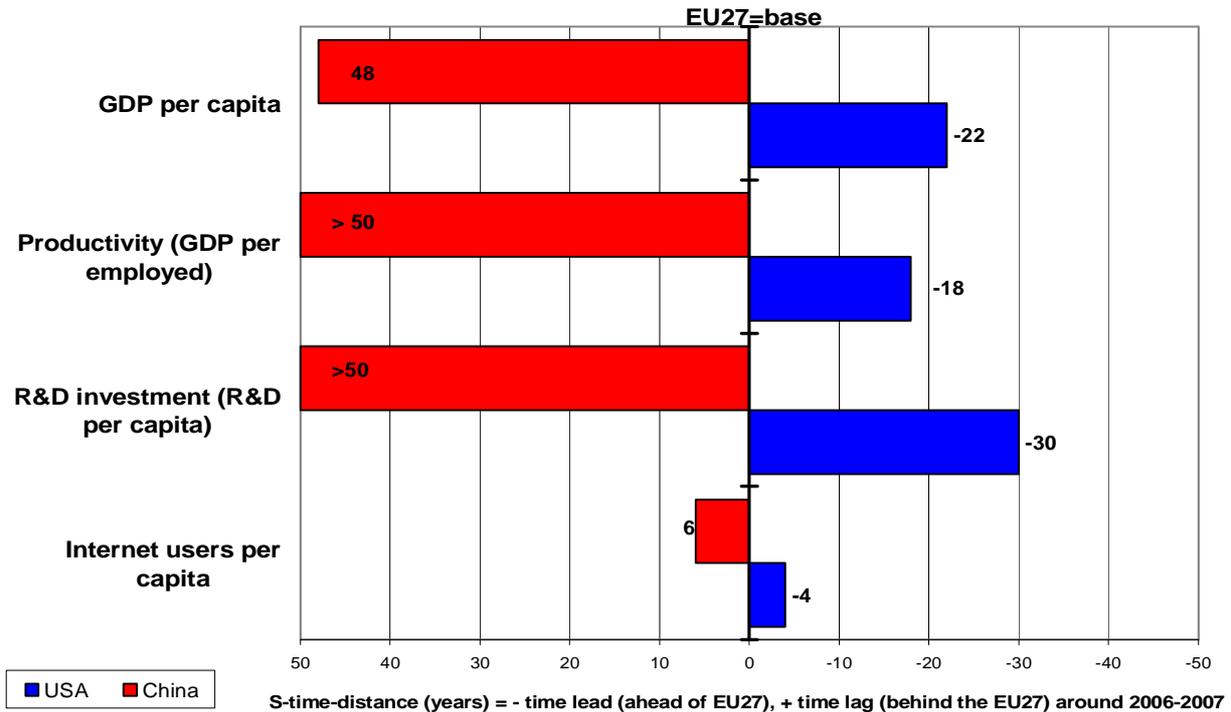
2 This methodology was developed by Pavle Sicherl, Professor of Economics at the University of Ljubljana and founder of SICENTER (Socio-economic Indicators Center), Ljubljana, Slovenia.

3 For 2008, EU GDP growth is currently forecasted at around 2% at most, while US growth is forecasted well below 2%. At the same time, emerging economies do not seem yet to be affected by the recent financial turmoil, with their growth still forecasted to remain at record levels in the coming years. China grew at a rate of above 10% in both 2006 and 2007 and forecasts indicate a similar level for 2008.

The scale of the challenge facing the EU

The graph below compares, using the time-distance methodology, EU27, US and China on a range of indicators⁴. Taking the EU27 as the base and 2007 as reference year, the EU lags behind the US for all economic indicators considered, while it is ahead of China for all indicators, by varying degrees.

Time-distance in years between EU27, US and China for selected indicators⁵



- **GDP per capita** – the US reached the current EU level in 1985 and the EU is thus 22 years late compared to the US. China lags 48 years behind the EU and about 70 years behind the US;
- **Productivity** (GDP per employed) – The current EU level was reached by the US in 1989 (-18 years). China is over 50 years behind the EU and more than 70 years behind the US;
- **R&D investment** (R&D per capita) – The current EU level was reached by the US in 1977 (-30 years). China lags more than 50 years behind the EU and more than 80 years behind the US;
- **Internet users per capita** – The US reached the current EU level 4 years ago. China is 6 years behind the EU and 10 years behind the US.

Compared to EUROCHAMBRES' 2007 time-distance study, the time-lag between the EU⁶ and the US is influenced by the fact that the EU27 average is lower than the EU25 average. Overall, the result remained broadly unchanged in terms of **GDP per capita** (from 21 to 22 years lag). **Productivity** expressed in GDP per employed scored better in the EU in recent years but it is early

⁴ Figures refer to 2007. 'R&D Investment' and 'Internet users per capita' figures refer to 2006. The 'internet users per capita' indicator was also included in the 2007 EUROCHAMBRES comparative study but not in the first one of 2005.

⁵ The data originate from a wide range of sources, among others: Eurostat, OECD, International Monetary Fund (IMF), European Commission, Groningen Growth and Development Centre and the Conference Board, Angus Maddison, International Telecommunication Union, International Comparison Project (published by the World Bank).

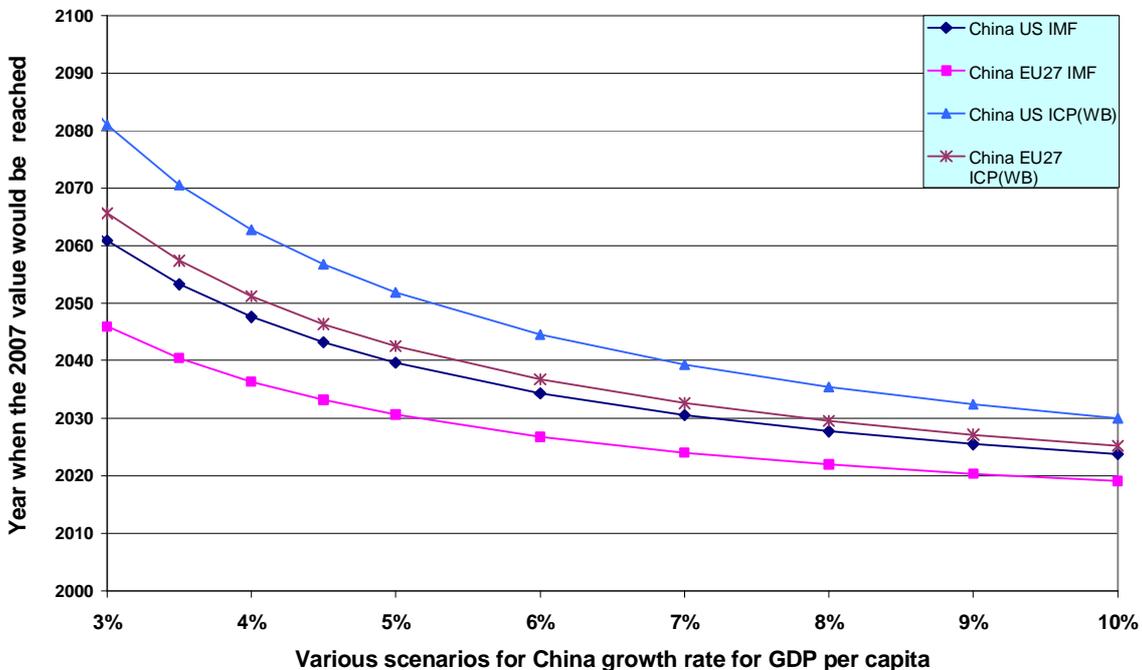
⁶ Now EU27 and not EU25 as in last year's study.

to affirm that the negative trend between EU and US has actually been inverted. If we compare EU27 and US, the time lag is about 18 years, which is substantially the same value as last year. For **R&D in GDP** the gap continues widening (from 28 to 30 years). While the graph above shows that China currently lags many years behind both the EU and the US for all indicators considered, it is nonetheless catching up at an incredibly rapid rate...

...China is catching up with both EU and US...

The graph below illustrates China's impressive growth dynamics⁷. Notwithstanding the current significant gap in GDP per capita with EU and US, China's pace of growth is cutting this time-distance dramatically.

Estimated year in which the present value of the GDP per capita for EU or US would be reached by China under various scenarios



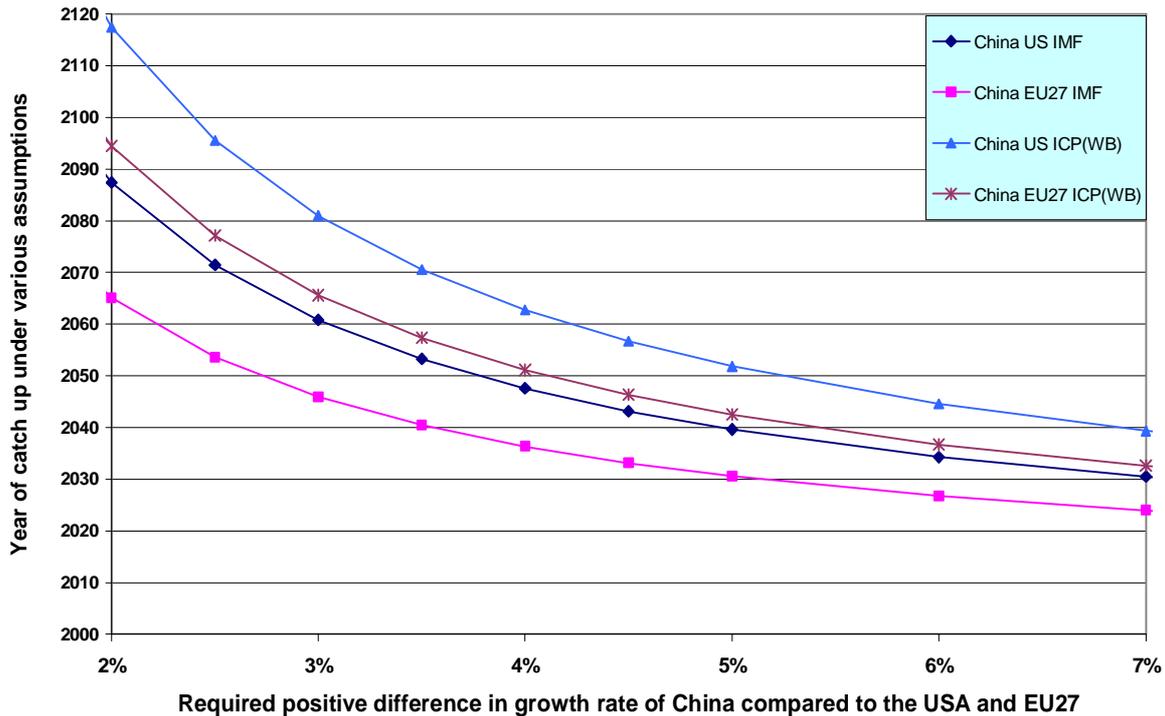
If China's GDP per capita will continue growing at about 10% per year in the coming years, this would bring China to catch up with the **2007** EU level in 12 to 18 years and in 17 to 23 years with the **2007** US level⁸. With 5% GDP growth, this scenario could materialize around 2030 and 2040 respectively. This graph depicts a very dynamic global scenario, which is highly dependent on the growth of China in the coming years.

⁷ Given the important disparity in terms of data, a double calculation is run for both EU-China and US-China comparisons, on the basis of differing sets of data from the IMF and the study of the International Comparison Program (ICP) published by the World Bank

⁸ IMF or International Comparison Programme by the World Bank starting data, respectively.

The graph below shows, for various scenarios of hypothetical China's 'higher growth', in which year it will catch up **in absolute terms** with the US or the EU in terms of GDP per capita.

Year in which China would catch up with the EU27 or US GDP per capita under various 'higher growth' scenarios



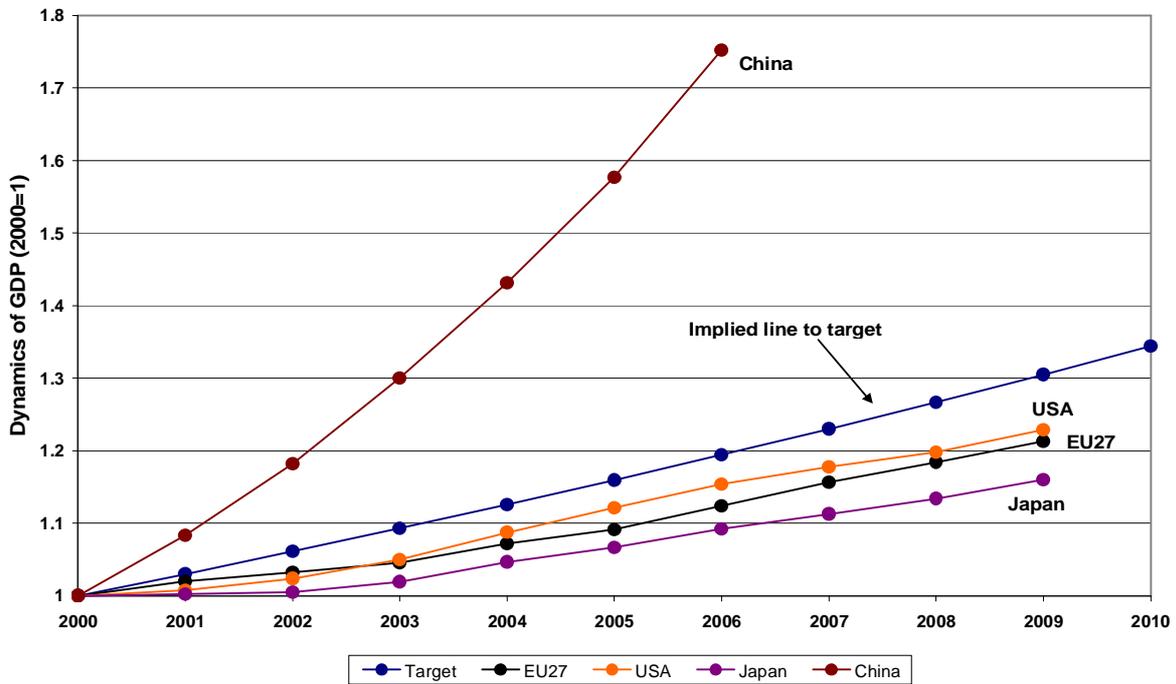
In a very optimistic but also fairly realistic scenario, if Chinese GDP growth will outpace European GDP growth of about 7% in the coming years, as has been regularly the case in recent years, China will eventually catch up with the EU in 17 to 26 years, and in 24 to 32 years with the US⁹. Even with a much smaller difference in growth between China and the EU, for example of 3%, China would catch up with the EU between 2046 and 2066.

⁹ Depending on IMF or ICP-WB starting data.

...and greatly outpacing all global economic counterparts...

The graph below shows the performance of a number of world economic players with respect to the Lisbon performance benchmark of 3% yearly GDP growth. While outpacing Japan, the EU27 lags behind the US, even if the gap closed slightly from 2006 onwards. Overall, the delay in reaching the 3% target is still important and unlikely to be closed by 2010. At the same time, China has been growing more than 4 times faster than both the EU and the US and reached the 3% annual GDP EU Lisbon target level in three and a half years.

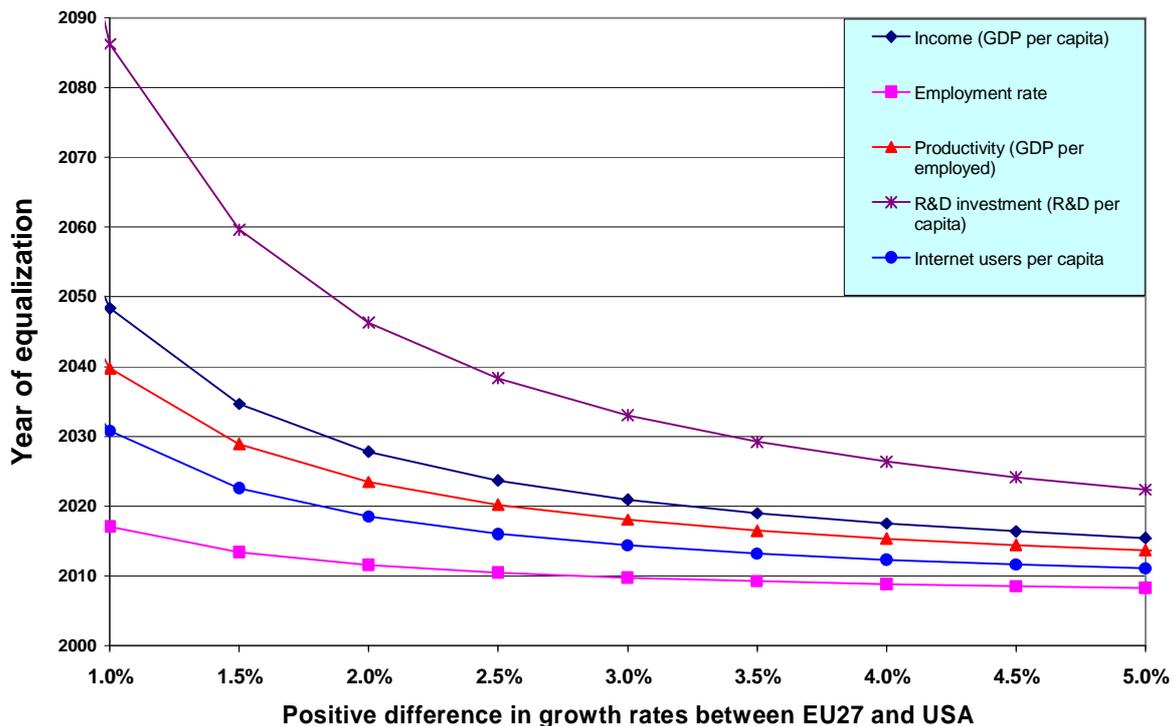
Lisbon target of 3% annual GDP rate compared with current dynamics



...while Europe has a long way to go to catch up with the US...

The graph below shows the time the EU would need to equalize with the US, with respect to a series of key indicators, for a range of hypothetical 'higher growth' scenarios¹⁰.

Year in which the EU would equalize with the US under various 'higher growth' scenarios



The basic assumption of the graph above is that the EU would perform better than the US for the selected indicators.

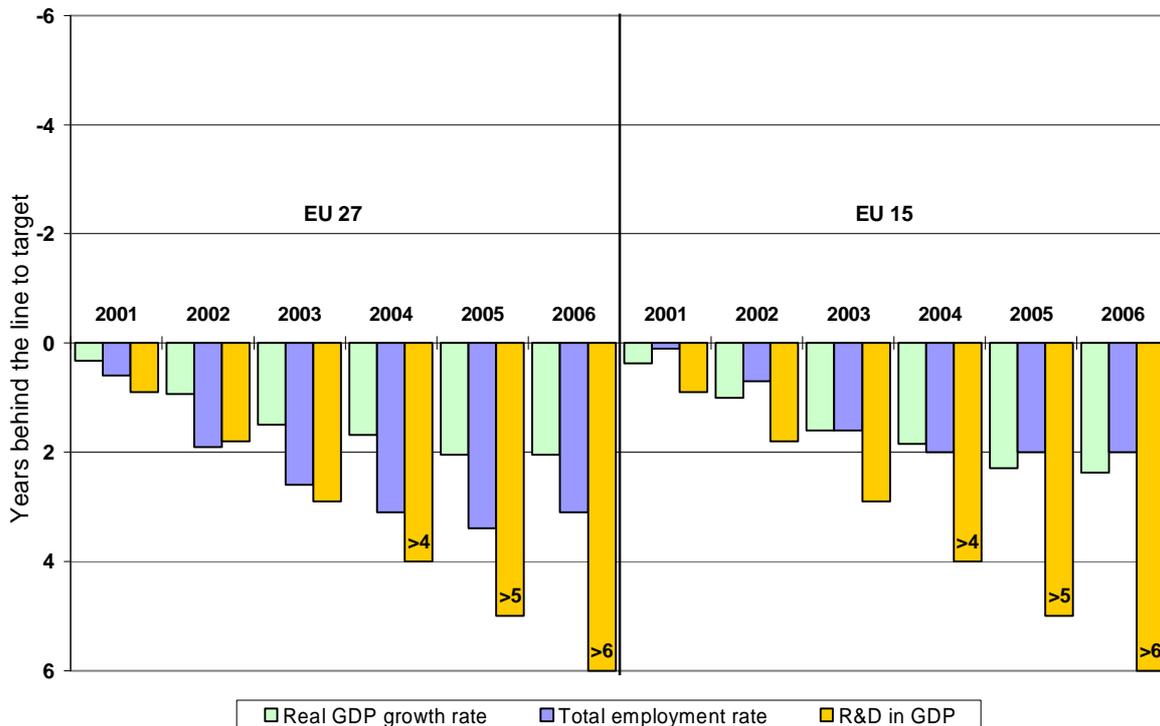
- For instance, if **income** (GDP per capita) would grow in the US at 2% per year and in the EU at 3% per year, meaning a potentially realistic 1% EU higher growth, the EU would catch up with the US in around 2048.
- With regard to **employment rate**, an indicator for which the EU has been performing rather well in recent years, the catch up would materialize only in 2017 in the case of the EU outpacing the US by 1% per year.
- For **productivity** (expressed in GDP per employed), in case the EU will experience a 1% yearly higher growth than the US, the catch up would materialize in 2040.
- For **R&D investment** (R&D per capita), even under the highly optimistic and rather unlikely scenario in which the EU27 would outpace the US of 5% yearly, the catch up with the US would materialize only in 2023. The extremely negative EU performance in terms of R&D investment is well illustrated by a hypothetical 1% EU higher growth, for which the catch up with the US would materialize in 2086.

¹⁰ 'Higher' meaning that the EU27 outperforms the US.

...and is way beyond the original Lisbon targets...

The table below shows the results from monitoring the implementation of the 2000 Lisbon targets of GDP growth, employment rate and investment in R&D, in the time dimension (i.e. showing whether EU countries are ahead or behind the line to the 2010 target).

Monitoring implementation of EU Lisbon targets with time-distance
Time-distance years: current value ahead (-) or behind (+) the line to target



The situation in the EU with respect to the share of **R&D expenditures in GDP** is totally unsatisfactory, even if instead of the original 3% Lisbon target we consider the revised Lisbon target of 2.6%, namely the average of the country-specific targets set by Member States in their National Reform Programs.

Taking 2000 as the starting year, the time-distance analysis shows that the time delay for this indicator in 2006 was over 6 years, with the overall EU value in 2006 even lower than the 2000 starting value. In other words, for this indicator the performance of the EU as a whole was worse in 2006 than 6 years earlier. While Sweden and Finland have already reached the original 3% Lisbon target and Austria is likely to get there sooner than later, the vast majority of the EU countries is registering very disappointing performances.

For **real GDP growth rate**, the situation stabilized from 2005 onwards, but the negative trend has not been substantially reversed yet. Significantly, the EU27 scores better than the EU15 for this indicator, showing that the 'new' EU Member States are generally enjoying higher paces of growth than the 'old' ones.

With respect to the **total employment rate**, the EU27 still lags around 3 years behind the line to target (70% employment rate by 2010), but the trend seems to have been reversed in recent years, with the EU enhancing its performance. In other words, the actual values for 2006 should have been attained around 2003 to be on track for meeting the 2010 target. The **EU15** scores much better for this indicator compared to the EU27, showing that the growth catch up phenomenon is not reflected in the employment rate and thus in labour market developments. Some countries, such as Denmark, the Netherlands and Sweden, have already attained this specific target, while some of the new Member States, such as Romania and Poland, are far from meeting it.

How to respond to the challenge: empower SMEs and enhance their innovation capacity

SMEs constitute the dominant category of business in all EU countries with some 23 million enterprises (99.8%); their share in total employment creation is massive (81.6%) as well as their contribution to the EU-GDP (nearly 60%). As such, SMEs are the main drivers of job creation, economic growth and social cohesion in Europe and their importance for the EU economy is now well recognised.

“SMEs have a crucial role for creating growth and better jobs in Europe. There is a need to develop comprehensive supportive policies for SMEs of all types, as well as a regulatory environment that is simple, transparent and easy to apply.”

As the short extract above illustrates, the **2006 Spring Council conclusions** placed a highly encouraging emphasis on the importance of SMEs in delivering the Lisbon objectives. Sadly, follow-up on these recommendations has been erratic.

The following list of examples illustrates that European SMEs still encounter obstacles throughout the business life cycle. All of these obstacles could be reduced if policy makers devote resources and attach political importance to them.

Empower SMEs...

- **Setting up a business remains a lengthy, complex and costly process:** the most recent World Bank figures show that starting a business takes three times as long (20 days on average vs. 6 days) and costs 10 times more (7% GNI per capita on average vs. 0.7%)¹¹ in the EU than in the US.
- **European businesses are still not free to grow...** Europe's competitiveness is closely related to the policy-makers' ability to create the conditions that allow profitable companies to survive and grow. In this respect, the low level of internationalisation of European SMEs represents a real hindrance to the EU's ability to turn our existing enterprises in tomorrow's global leaders: only 8% of European SMEs trade cross-border, only 12% of SMEs inputs are imported and only 5% of companies obtain income from foreign business partnerships¹².
- Forecasts show that as many as **one third of all enterprises in the EU will transfer ownership in the next 10 years.**¹³ Yet barely half of the legal and tax recommendations set out by the Commission in 1994 to facilitate business transfers has been put into practice by the Member States. The fate of some 610,000 SMEs and 2.4 million jobs is at stake every year¹³.
- Legislation is still being proposed at Community level without adequate analysis of the implications for SMEs. **Of the 160 Impact Assessments carried out by the European Commission in the period 2003-2006, only one quantified costs for SMEs**¹⁴. There is little

¹¹ “Doing Business 2007”, World Bank.

¹² Flash Eurobarometer, 2007 Observatory of European SMEs, November 2006-January 2007.

¹³ Final report of the expert group on the transfer of small and medium-sized enterprises, European Commission, May 2002.

¹⁴ ‘The burden of regulation: Who is watching out for us?’, report prepared by the British Chamber of Commerce, April 2007.

evidence to suggest that this ratio improved markedly during 2007. This clearly adversely affects SMEs throughout the business life cycle.

...and stimulate their innovation capacity

The present study clearly shows that a key concern is the extremely low level of investment in research and innovation in Europe. In this framework, **it is crucial to encourage a more risk-taking attitude, which is a precondition for companies to develop their innovation skills.** As such, **supporting and encouraging the innovation capacity of SMEs** – the main instigators of new products, services, and techniques – should be one of the cornerstones of policy at all levels.

Some of the urgent actions needed in this field include:

- A more effective and coherent patent system, affordable and accessible for SMEs. The Community Patent might be a solution provided that it fulfils these conditions;
- Developing electronic signatures;
- A revision of the application procedures to Community programs, especially in research and innovation, including simplified procedures, clearer basic requirements and more developed information channels, especially for SMEs;

More generally, the principle of **'think small first'** must be applied systematically and become a guiding principle for all relevant legislation at Community and national levels.

The forthcoming **European Small Business Act (SBA)**, announced by the European Commission in October 2007 and scheduled for adoption in June 2008, represents an unprecedented opportunity to add momentum to policy makers' fitful efforts to create a more SME-friendly policy environment in the EU. This must encompass a thorough review of conditions businesses operate in throughout the business cycle, from start-up, through growth to eventual transfer.

EUROCHAMBRES calls on Heads of State and Government to seize the opportunity of the 2008 Spring Council to deliver an unequivocal message of support and commitment to the development and implementation of the SBA. The SBA should provide the framework for a set of binding principles guiding each action undertaken at EU and national levels and a list of priority actions for which precise targets and deadlines should be set. It must deliver concrete results that improve conditions encountered by SMEs every day.

Economic opportunities have not been taken; this important political chance for Heads of State and Government to promote the role of SMEs must not be missed.

About the time distance methodology and the web tool for monitoring implementation

All findings presented in this publication are based on the use of a methodology called the “time distance measure“. This methodology was developed by Professor Pavle Sicherl, Professor of Economics at the University of Ljubljana and founder of SICENTER (Socio-economic Indicators Center), Ljubljana. All research for this publication was undertaken by Professor Sicherl, on behalf of EUROCHAMBRES.

The special concept of time distance, S-time-distance, is a generic concept like static difference at a given point in time and growth rate over time. It compares two time series in horizontal dimension for a given indicator level and calculates the distance (proximity) in time between the points in time when the two compared units attain the same level for a specific economic indicator. In the case of this study, it expresses the development gaps between EU, US and China by looking e.g. at how many years before a given level of an indicator for the EU was attained by the US.

It is a very useful complementary tool for analysis and presentation of key indicators. It allows making statements about a new perspective in addition to other measures of the gap(s). A similar time perspective is used to describe outcomes of alternative future policy scenarios. The years in which, under various assumption, the EU27 would catch up with the US or China with EU27 are the results of multiplying the respective 2007 values of an indicator by the assumed growth rates for these countries and look for the year when the assumed values would become equal.

This generic approach can be usefully applied as an important analytical and presentation tool to a wide variety of substantive fields at macro and micro levels (see www.gaptimer.eu). The simultaneous two-dimensional comparisons of time series data, vertically (standard measures of static difference) as well as horizontally (Sicherl time distance), can be also a very practical application tool for monitoring the Lisbon targets in the EU, at EU as well as at national levels. The time distance information complements the conventional percentage difference in providing a realistic perception of the progress in implementation or the lack of it. Since S-time-distance is expressed in time units, it is intuitively understood by policy-makers, professionals, managers, media and the general public. This makes it an excellent presentation and communication tool.

SICENTER with the help of EUROCHAMBRES and other donors prepared a web tool to calculate the lead or lag from the line to target with S-time-distance at the international, national, regional, local and business levels. Here it was used for analysis of implementation of Lisbon and National Reform Programmes targets. The tool is available at www.gaptimer.eu/content/view/25/33/.

EUROCHAMBRES – The Association of European Chambers of Commerce and Industry represents over 19 million enterprises in Europe through members in 45 countries and a European network of 2000 regional and local Chambers.

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