

Allianz Dresdner Economic Research

The European Growth and Jobs Monitor: Interim Update, Autumn 2007

plus:

European growth drivers: infrastructure investment

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In addition to our annual European Growth and Jobs Monitor, which measures the progress made with respect to the Lisbon Process, we plan, from now on, to highlight what we believe to be particularly promising growth drivers in another annual feature. This time, the growth driver in question is infrastructure investment.

The key results of this study are set out below:

1. The EU has made further progress towards achieving the Lisbon targets, particularly with respect to improved labour productivity. Whether this signals the beginning of a higher productivity growth path in the longer term remains unclear.
2. There is a clear connection between infrastructure, or public investment, on the one hand and economic growth on the other. Bottlenecks caused by congestion and agglomeration (“congestion costs”) are calls for action to policymakers.
3. Globalisation, public-sector financing woes and efficiency considerations support the use of public-private partnerships for the implementation and running of infrastructure projects.
4. Education spending shares many characteristics with infrastructure investment, and should, in the main, be not only viewed as such, but also – to ensure that targeted political decisions are made – also recorded as such in terms of statistics to a greater extent than hitherto.

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plus:

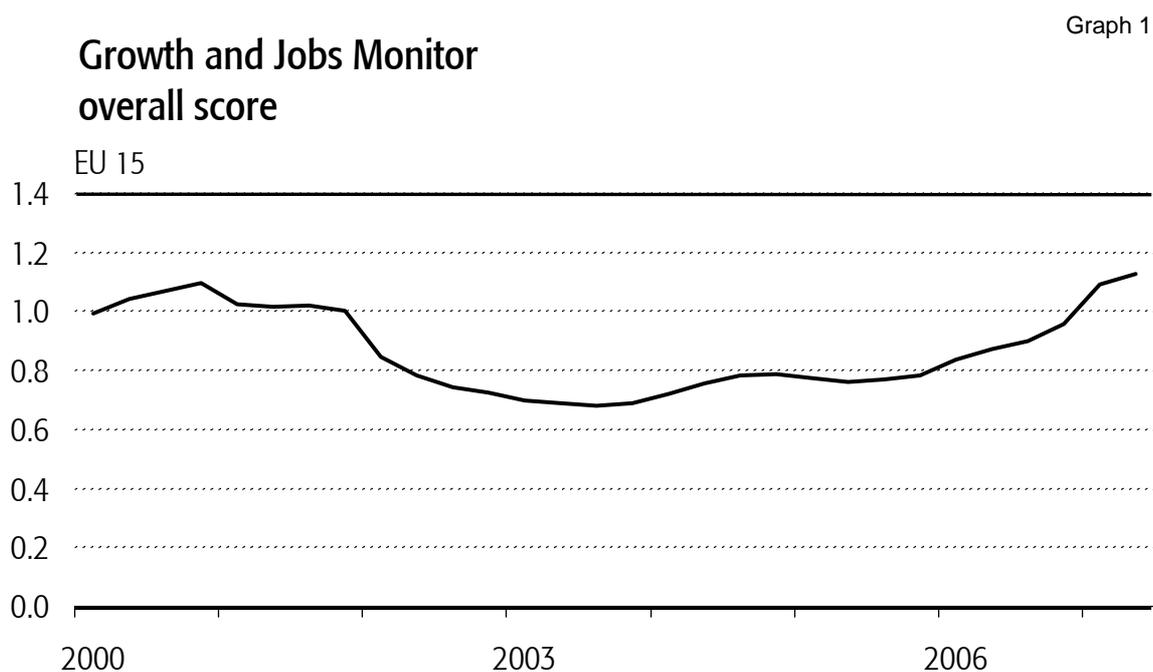
European growth drivers: Infrastructure Investment

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1. Lisbon indicator reaches peak

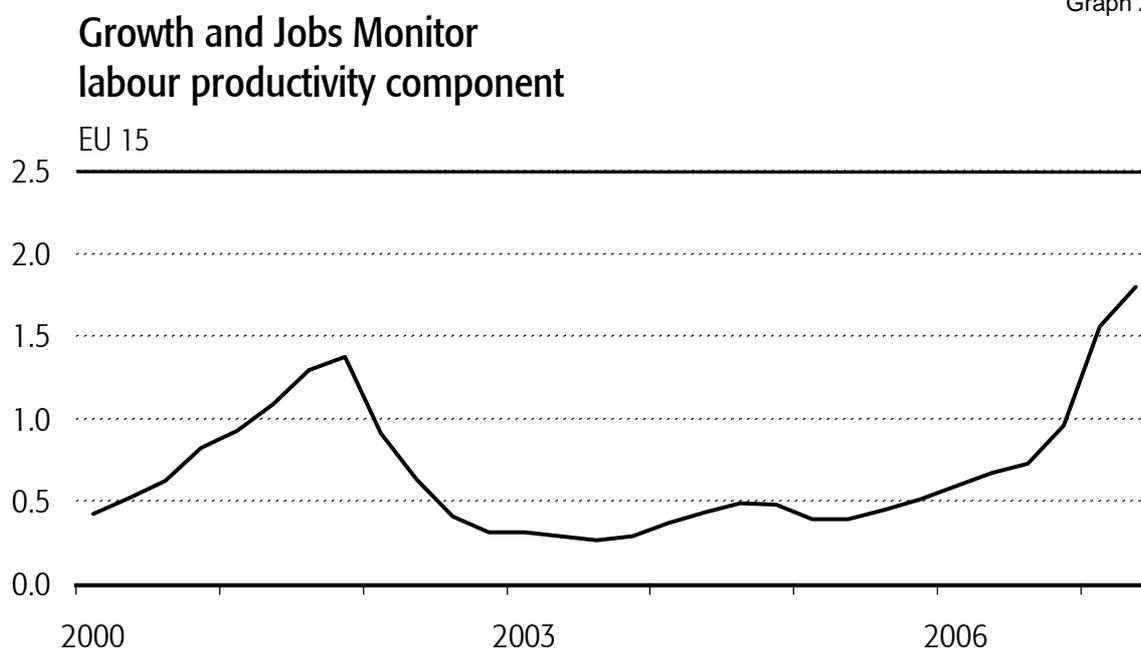
The **Lisbon Strategy**, launched in the year 2000, is **synonymous with growth-oriented reform policy in Europe**. Every year, the European Commission evaluates the progress made in the implementation of the national reform programs, and the Lisbon Strategy is always on the agenda at the EU Spring Summit. This was the motivation behind our publication in February of this year, entitled “**The European Growth and Jobs Monitor: Indicators for Success in the Knowledge Economy**” which used selected indicators to illustrate the progress made with respect to the Lisbon objectives. We calculated an overall indicator for the EU as a whole, as well as for the major member states, comprising the following six components: economic growth, labour productivity, employment growth, workforce qualifications (proportion of the workforce that has completed tertiary education), growth-oriented investment and the sustainability of public finances. **An indicator value of 1 – provided that it can be maintained over a sustained period – shows that the EU, or the respective country, is well en route to achieving the objectives set for 2010. Values higher than 1 indicate outperformance; values lower than 1 show a failure to reach the target.**



An extended and updated version of our European Growth and Jobs Monitor will be published in early March 2008 featuring detailed results. But it is already safe to say that, **as an aggregate, the EU-15 had moved further towards the Lisbon objectives by the middle of this year**. The **overall indicator currently stands at 1.1**, which is actually the highest level since the Lisbon Strategy was launched. The increase is largely a result of a **very marked improvement in the labour productivity component**. We use the US as a benchmark when calculating this sub-indicator. This means that the annual rates of change in labour productivity per employee on both sides of the Atlantic are set in relation to one another (and smoothed with a moving eight-quarter

average). An indicator value of below or above 1 shows that Europe has fallen behind or overtaken the USA respectively. The latest value of 1.8 means that European productivity growth is almost twice as high as that of the US.

Graph 2



The chart above clearly shows that **the tides have turned over the past year**. This is due both to the accelerated rise in labour productivity in Europe and a slowdown in the US, with the latter proving the dominant factor of late. The obvious question is **whether the development is long-term or merely temporary, whether it is structural or cyclical**. There will certainly be something of a delay before a retrospective answer can be given to this question, but the section below aims to at least touch upon the current status of the debate.

Accelerated productivity growth in Europe – for how long?

ECB President Jean-Claude Trichet argued recently that the increased productivity in the euro area is mainly a result of the economic cycle, and has less to do with structural improvements. Moreover, he said that **the increase in productivity seen most recently in the second quarter (y-o-y) was in line with the average of the past ten years**. In other words, **compared with past cycles**, the current level of growth is **not especially high**. Nevertheless, Trichet did not want to rule out that we may be witnessing not only a cyclical improvement, but also the beginnings of what could be a long-term structural effect, prompted by **structural changes such as the expansion of the single market for goods and services, the progress made with respect to financial market integration, and the implementation of reforms in connection with the Lisbon Strategy**.

The French central bank showed more conviction in its monthly report for August 2007. **According to the Banque de France's analyses, the increased labour productivity in Europe could be a long-term trend:** in the shorter term, due to less unfavourable sectoral effects than in the past (German construction sector, Spanish and Italian industrial sectors), and in the longer-term thanks to the faster dissemination of information and communications technology (ICT) stemming from structural reforms that have already been put in place. In terms of the relative performance of the EMU member states and the US, the Banque de France is of the opinion that **the slowdown in US productivity growth may well persist**, because information and communications technology is expected to contribute less to productivity growth in the absence of a new ICT wave. Thus, in the view of the French central bank, the slowdown in US productivity of late is not only a cyclical effect, i.e. the result of lower economic growth.

The **increase in investment activity** in Europe can be interpreted as a sign that increased productivity is connected with cyclical development. On the other hand, one indication of structural improvements would seem to lie in the fact that the productivity progress is accompanied by **significant employment growth** – despite the fact that a rise in employment usually puts a damper on productivity. In this context, it is also interesting that, in its monthly report for October 2007, the Bundesbank puts German potential growth at around a quarter of a percentage point higher than in the past (between 1½ % and 1¾ %) and, in doing so, also recognises structural adjustments.

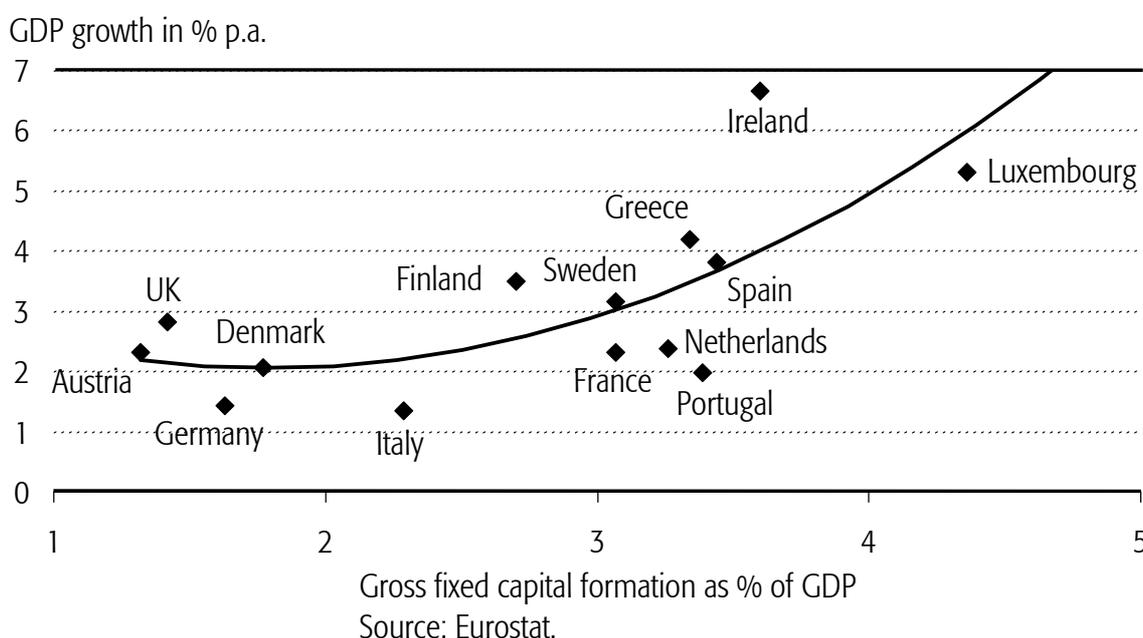
It is true that there have been positive structural shifts within the European Union, and we still believe that there is reason to be confident that the member states, overall, are **on the right track towards sustained, higher productivity and economic growth. However, the current high level of our Lisbon Indicator is only a snapshot, and one which is also shaped by the healthy economy.** As a result, it goes without saying that **further efforts and reforms remain necessary**, and there are a number of areas waiting to be tackled in this respect. Below we intend to examine the importance of **public works, particularly infrastructure investment**, in this context. If we look at the six components of our Lisbon Indicator, these investments are linked not only to the growth-oriented investment and productivity components, but also have connections with the government finances sub-indicator. After all, when the public sector is short of cash, it is difficult to finance investments. One way of mitigating this situation involves **Public Private Partnerships (PPP)**, which are covered in section three of this study.

2. Infrastructure – a growth driver with multiplier effect

Efficient infrastructure has always been a **key basis for productivity and economic growth**. As far back as the Roman Empire, it was a well-known fact just how important highways, harbours and plumbing were for political and social stability, as well as for the long-term development of overall prosperity; the Romans were also aware of the **bottleneck effect** that would result from a (possibly temporary) **over-burdening of infrastructural capacity**. Even the ancient Romans imposed driving bans to tackle the growing traffic chaos in the city.¹

Graph 3

Public investment and economic growth in the EU-15 (1998 - 2006)



Moving on to the present day, the **interdependent relationship between infrastructure** – which consumes a significant portion of public spending – **and economic development** is still obvious (Graph 3). The more comprehensive the available network of transportation routes and ICT, and the smoother the operation of these networks, the greater the **mobility among the people**, the faster the **turnover of goods and services** and the lower the **transportation and storage costs**. **Logistics** becomes more efficient, **productivity** increases, **falling costs** enhance companies' **scope for price cuts**, **investment and employment** rise, taking **economic growth potential** along with them. An increase in economic strength in turn creates more demand for transportation and other types of infrastructure.

¹ Tabula Heracleensis, vulgo: lex Iulia municipalis (80-43 B.C.); see M.H. Crawford et al., Roman Statutes, I, London 1996, in: Y. Lassard & A. Koptev, The Roman Law Library (Université Pierre-Mendès-France, Grenoble), <http://web.upmf-grenoble.fr/Haiti/Cours/Ak/>.

By means of example, the average transport volume on streets and railroads in the **15 western member states of the European Union (EU-15)** is around 80 percent higher than in the **12 new member states from central, eastern and southeastern Europe (EU-12new)**.² This discrepancy reflects both what is, in some cases, considerable **economic gap** and differences as regards the state of repair and efficiency of transport facilities.

Public sector gross fixed investment in Europe

	in EUR million			as % of GDP 2006
	2000	2003	2006	
France	44,458	48,989	60,105	3.4
Spain	19,855	28,069	37,765	3.8
UK	19,481	26,869	35,087	1.9
Italy	27,720	32,778	33,850	2.3
Germany	36,790	33,730	32,420	1.4
Netherlands	13,112	16,932	17,607	3.3
Poland	4,430	6,382	11,242	4.1
Sweden	7,537	8,227	9,697	3.2
Greece	4,957	6,510	7,119	3.6
Ireland	3,758	5,320	6,791	3.9
Czech Republic	2,221	3,680	5,716	5.0
Belgium	4,934	4,547	5,377	1.7
Finland	3,322	4,208	4,400	2.4
Hungary	1,666	2,594	3,997	4.4
Denmark	2,895	2,993	3,996	1.8
Portugal	4,585	4,303	3,558	2.3
Romania	758	1,694	2,771	2.9
Austria	3,122	2,654	2,705	1.1
Luxembourg	843	1,183	1,346	4.1
Slovenia	561	803	1,092	3.7
Lithuania	292	488	986	4.2
Slovak Republic	616	750	975	2.2
Bulgaria	499	449	915	3.7
Latvia	112	235	539	3.4
Cyprus	296	395	479	3.3
Estonia	232	358	468	3.6
Malta	178	223	227	4.2
EU-15	197,368	227,312	261,823	2.4
EU-12new	11,862	18,051	29,407	4.3
EU-27	209,230	245,364	291,230	2.5

Basis: National accounts (ESA 95). Public companies where more than 50 % of production costs are covered by sales are not included in these figures. Source: Eurostat.

In purely quantitative terms, the **electrified railroad networks** in both the East and the West are similarly close-knit. Measured in terms of total area, the EU-12 have more than twice as many **national highways** as the EU-15, while the **motorway network** in the EU-15 is at least five times the size of that in the EU-12.³

Of course, the **growth effects** to be expected from infrastructure investments tend to be bigger, the less efficient the existing infrastructure is. The **first paved road** is a **quantum leap** for a developing country, and even further expansion measures – for example, in the emerging market countries of central and eastern Europe – still have a considerable impact on growth thanks to the

² Average no. of kilometres per person and day, 2003; Source: Eurostat and own estimates.

³ In each case, the average for the EU-15 and EU-12 in km per square km of surface area.

resulting **network effects**. Nevertheless, as infrastructure expansion progresses in highly developed countries, the **marginal utility** of each additional kilometre of road for citizens, and the **cost savings** for companies, decline.

The situation can even make a 180-degree turn and result in increased costs when what was initially a highly-efficient infrastructure network attracts so many users that **congestion and agglomeration drawbacks (“congestion costs”)** emerge in the form of traffic jams, a considerable impact on the environment and high land costs. Such situations **are call to policymakers** to take appropriate action. The ideal infrastructure level is achieved “...when the profits for the private sector...cover the cost involved in the provision of infrastructure.”⁴

Infrastructure in Europe Selected indicators*

	GDP per head EUR, 2005	Railway density ^{oo}		Motorway density ^{oo}	Passenger transport bn person-km		Freight transport bn tonnes-km		Energy production Mtoe ^{ooo}	Connection to sewage plants ^{oooo}	Telephones per 1,000 population	Internet per 10,000 population
		Total	electrified		Rail	Road	Rail	Road				
Germany	27,236	97	54	34	72.9	854	95.4	310	134.5	93	661	4,267
Belgium	28,664	116	97	57	8.7	110	8.1	44	13.9	38	460	4,062
Denmark	38,536	50	14	24	5.9	61	2.0	23	31.3	89	645	6,041
Finland	29,695	19	9	2	3.4	60	9.7	32	16.6	81	452	6,300
France	28,405	54	27	19	74.4	739	40.7	205	136.9	79	559	4,137
Greece	16,394	19	1	6	1.7	64	0.6	15	10.3	*	573	1,781
Ireland	39,725	28	1	3	1.6	24	0.3	18	1.7	70	491	2,963
Italy	24,478	54	37	22	49.3	711	22.8	193	27.6	75	444	4,978
Luxembourg	64,216	106	101	57	0.3	6	0.4	9	0.1	95	797	5,900
Netherlands	30,877	83	61	61	14.1	146	5.0	91	67.9	99	482	6,163
Austria	30,098	68	42	20	8.7	81	19.0	37	9.8	86	462	4,752
Portugal	14,034	31	15	22	3.7	97	2.4	43	3.6	42	403	2,803
Sweden	32,087	24	19	4	8.7	96	21.8	39	34.8	85	715	7,546
Spain	21,348	25	15	20	20.3	346	11.6	233	30.3	89	417	3,318
UK	29,933	68	22	15	43.3	677	22.6	164	204.3	86	561	6,288
Estonia	8,142	22	3	2	0.2	10	10.6	6	3.7	71	330	5,122
Latvia	5,605	35	4	*	0.8	10	19.8	8	2.3	72	282	3,543
Lithuania	6,094	27	2	6	0.3	19	12.5	16	3.9	62	239	2,809
Malta	10,003	*	*	*	*	2	*	*	0.0	13	*	7,525
Poland	6,363	63	38	1	18.4	172	50.0	112	78.8	58	322	2,335
Slovak Republic	7,063	75	32	6	2.2	25	9.5	23	6.6	52	232	4,227
Slovenia	13,524	61	25	24	0.7	16	3.2	11	3.4	33	407	4,796
Czech Republic	9,597	123	39	7	6.6	69	14.8	43	32.9	72	335	4,997
Hungary	8,698	85	31	6	10.2	46	9.1	25	10.3	57	354	2,674
Cyprus	15,889	*	*	29	*	3	*	1	0.1	35	*	3,693
Bulgaria	2,692	38	26	3	2.6	*	5.2	*	10.7	40	351	1,590
Romania	3,639	45	16	0	8.5	*	17.0	*	27.9	*	203	2,076
EU-15	26,835	47	25	17	317.0	4,072	262.4	1,456	723.5	*	539	4,656
EU-12new	6,323	57	25	3	50.5	372	151.7	245	180.6	*	293	2,775
EU-27	22,465	49	25	14	367.5	4,444	414.1	1,701	904.1	*	487	4,255

* In each case latest available figure.

** Railway lines/length of roads, in terms of surface area. *** Million tonnes oil equivalent.

**** share of population connected to sewers.

Sources: Statistisches Bundesamt, Eurostat, OECD, IEA and own calculations.

⁴ Felderer/Schuh (2005).

3. Closer cooperation between state and private enterprise in the infrastructure sector?

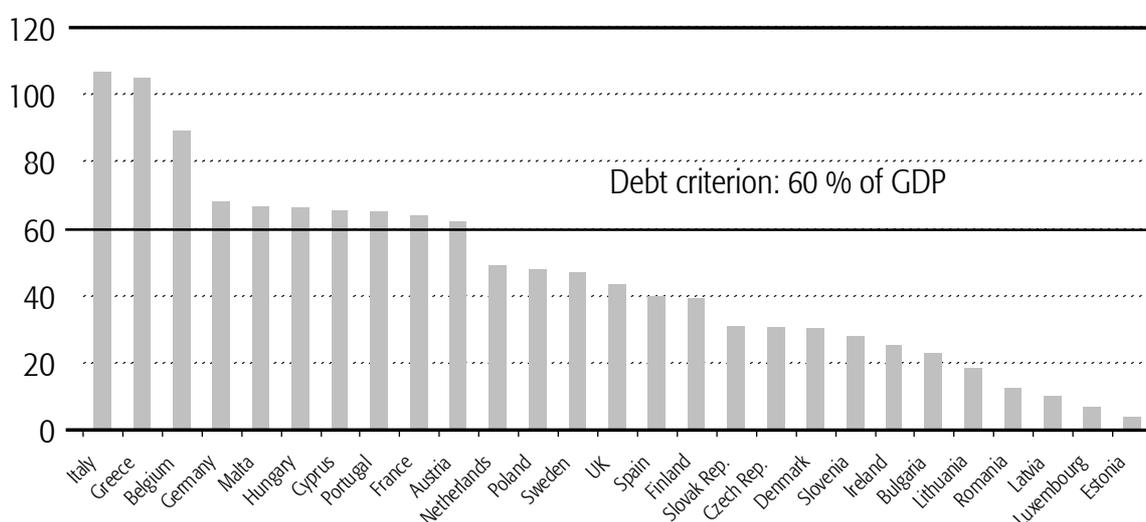
3.1 Globalisation and public-sector financing woes

Since the mid-1980s in particular, the globalisation of the markets has put the **role of the state** and its **duties as far as the economy is concerned** into a new perspective. Competition has mounted on the goods, labour and financial markets, as has the exchange of technical expertise. These days, capital is more able than ever before to transcend political boundaries. This mobility allows investors to give more consideration to international market parameters when making decisions, and to achieve broader risk diversification.

As the markets grow closer together, the **public sector's scope for action** is also subject to change. Globalisation exposes national structural deficits and shortcomings in economic policy, creating **adjustment pressure and a need for action**. Parallel to the competition on the markets, this increases the competition between different political approaches to problem-solving. **Economic efficiency** becomes a **political imperative**. Radical **demographic changes** also force a rethink and redefinition of political priorities.

Graph 4

Public sector debt in the European Union Debt level 2006 as % of GDP



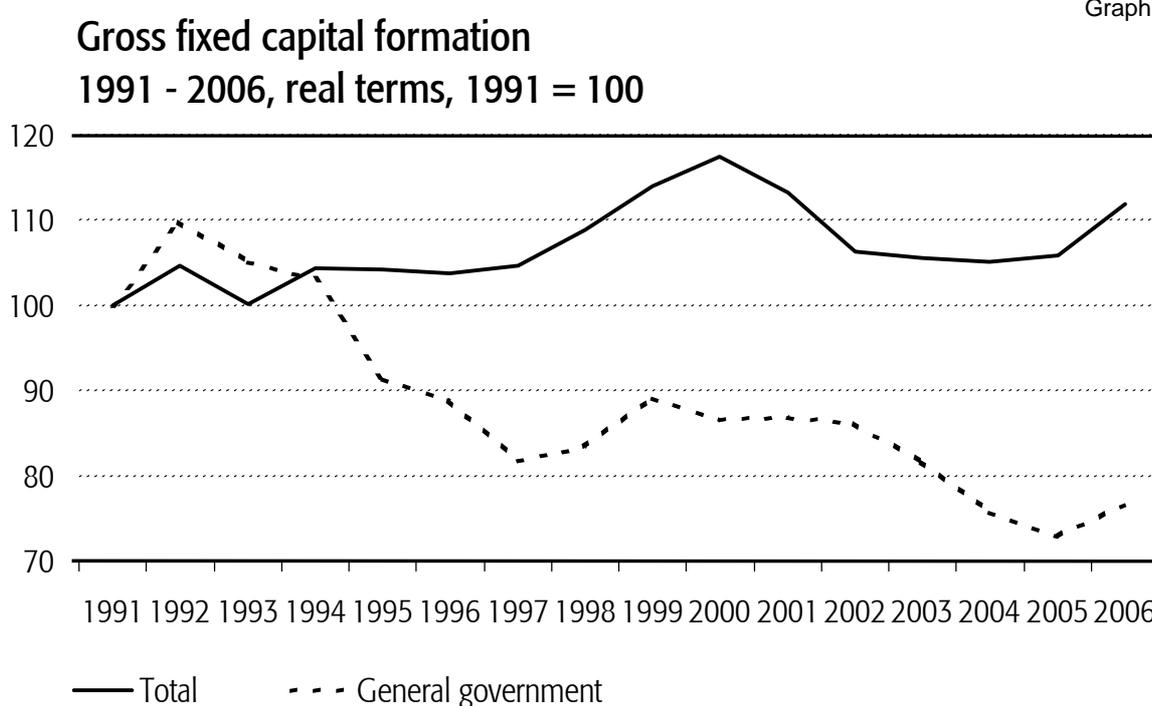
Source: Eurostat.

This is compounded by the **precarious situation of public sector finances**: although the ratio of government spending to GDP in Germany has decreased in recent years, the development of public sector finances still leaves a lot to be desired. *Institut der deutschen Wirtschaft* (IW – Cologne Institute for Business Research) only acknowledges genuine **consolidation** with respect to statutory social insurance and the federal states. Federal and local authority spending has

increased further, and the **spending structure** has deteriorated at the expense of investment budgets. IW fears that German **government debt** could swell from the current level of 68 percent of GDP to around 240 percent in 2050 if there is no change in public-sector financial conduct.⁵

The public sector has little leeway on the **revenue side** apart from cyclical effects: the relief provided to companies and individuals from 1999 onwards by means of the **tax reforms** was long overdue in terms of economic growth and employment. On the other hand, structural shifts towards **consumption spending** are casting a sizeable shadow over the government's future contribution to overall economic growth in Germany. This also poses the fundamental question as to what duties the **public sector** should continue to assume with respect to **public goods allocation** in the future, either entirely under its own steam or in cooperation with private players.

Graph 5



Source: Original destatis data (Fachserie 18, Reihe 1.4) rebased.

In terms of providing an overall framework for economic activity, the government has to make provisions for **traditional public goods**, the use of which cannot be made dependent on the payment of a price. Similarly, it has to take action where negative **external effects** arise, i.e. in all areas in which private economic activity entails social costs that are not covered by the costs-by-cause principle. Government action should irrefutably include, in particular, **internal and external security, health, education, preserving a healthy environment and providing transport and public utilities infrastructure.**

⁵ IW (2007).

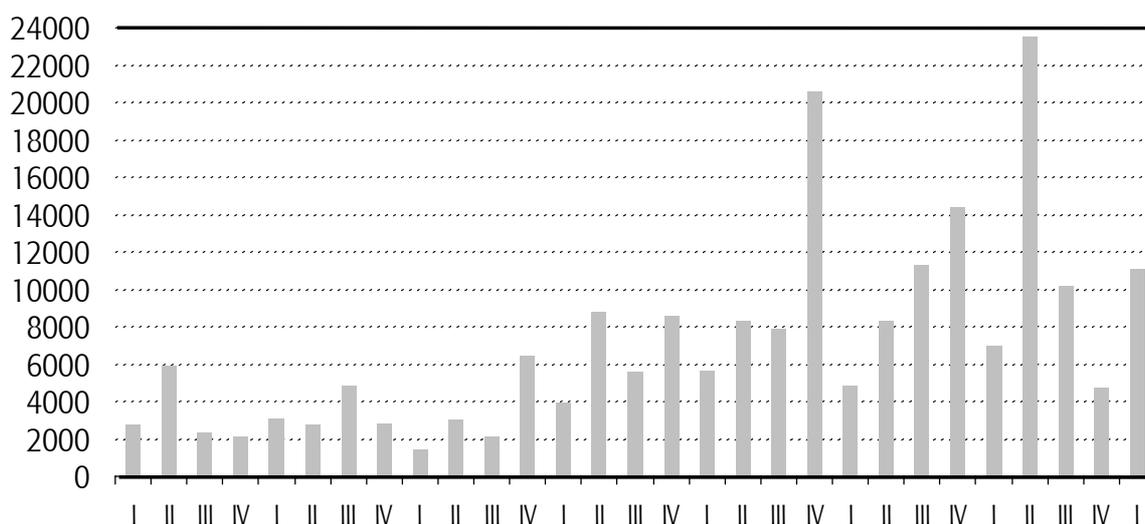
It goes without saying that it is the responsibility of the government to provide for an adequate **supply of public goods**. This does not, however, mean that government agencies have to assume responsibility for the **production and distribution** of these goods (and services). Even in premodern times, **public authority** was delegated to private service providers, such as security in Ptolemaic Egypt, when the administration used a private security service to supervise the transportation of juniper oil, for example: “*The security service certainly did not involve permanently employed staff from the responsible authorities...but rather Phylakes working in the private sector, who gradually expanded the scope of their activities.*”⁶

3.2 Public Private Partnerships – a model with a future?

In more recent times, the government and the corporate sector in numerous countries have found new ways of working together, particularly with respect to infrastructure development, under the umbrella of **Public Private Partnerships (PPP)**. Unlike systematic, complete and material privatisation, these are partnerships based on the **limited privatisation of certain functions**, whereby the government retains public authority and other rights of intervention. Different contractual structures are used depending on the project in question, from **operator models**, through **concession models** down to companies with public and private shareholders in the framework of **cooperation models**.

Graph 6

Global PPP project finance volume 2000 trough 2007, USD m



Source: Dealogic in: Euromoney, Privatisation & Public Private Partnership Review 2007/08.

⁶ Clemens Homoth-Kuhs; *Phylakes und Phylakon-Steuer im griechisch-römischen Ägypten. Ein Beitrag zur Geschichte des antiken Sicherheitswesens. Archiv für Papyrusforschung und verwandte Gebiete*; supplement 17, referring to P.Sorb. I 34 (Arsinoites; 230 B.C.); Munich/Leipzig: K.G. Saur, 2005. Book review by Sven Günther, University of Mainz, in: Bryn Mawr Classical Review 2006-05-15.

As with other projects – both private and public – PPPs have to be assessed on the basis of **efficiency criteria**. They have to meet the politically intended **overall social and economic targets**, and also have to ensure that the respective projects are executed at the minimum cost. **The purely public-sector solution** should not be the only **benchmark** applied; **full privatisation** should also be included in order to prevent “second best” solutions as far as possible. The combination of public and private interests in PPPs also poses particular challenges with respect to the **transparency of procedural rules**.

In the **UK**, where over 800 projects have been carried out with PPPs since the introduction of the Private Finance Initiative (PFI) in 1992, the **efficiency gains** have stood at between **10 and 25 percent** compared with projects carried out by the public sector.⁷ The **German federal government** puts the efficiency gains achieved with the 46 **PPP projects** realized in the **German civil engineering segment** at an average of **16 percent**.⁸

Potential efficiency gains via PPP *

Saving of construction costs with pre-defined quality	Private equity participation (success interest)
Optimized terms for planning and implementation	Use of private innovation potential
Lower operating costs (life-cycle approach)	Synergy effects (e.g. public-private mixed use projects)
Contractual Performance orientation	

*Compared with project implementation by public authorities. Source: Federal Ministry of Transport, Building and Urban Affairs.

Synergy effects, efficiency gains and savings potential naturally **depend** to a considerable degree on the **project in question**. On the other hand, the technical problems involved with the introduction of the lorry toll system in Germany and the problems relating to the financing of the European Galileo satellite navigation system show that cooperation between public agencies and private companies in the field of infrastructure development can also prove to be a bumpy ride.

As a result, the German government also stifles expectations – both in respect of public finances and the future PPP volume – pointing out that **only some public-sector investment projects are suitable for PPPs**. *“The vast majority of procurement needs will continue to be met in the conventional way. This is because the projects have to meet certain requirements, for example, with respect to risk distribution, the scope of services, performance-related service specifications*

⁷ As assessed by the National Audit Office. See BdB (2004).

⁸ At time of issue. BMVBS (2007), page 16.

and the competitive situation. PPPs neither replace a proper budget policy nor can they realize projects which cannot be funded in the conventional way.”⁹

The **federal and individual state-level audit offices** elaborated on this further with a view to **public budget principles**: “There are other running expenses involved with PPP projects that take the place of debt servicing burdens and strain future budgets in the same, or similar ways. Only efficiency gains which are proven and have an impact on the budget can help to take the strain off the budget.” What is more, “PPP projects must be clearly presented in the budget over their entire contractual term. The burden placed on future budgets must be easy to recognize.”¹⁰

Real **GDP** in Germany rose by a good 24 percent between 1991 and 2006. During this 15-year period, **gross fixed investment** (also price-adjusted) expanded by 12 percent, while **government gross fixed investment** fell by more than 23 percent (Graph 5). This means that, for some time now, the public sector has been playing less and less of a role in strengthening Germany’s output potential.

Public Private Partnerships (PPP) in Europe Signed contracts 2001-2006

	Value (EUR m)			Total number
	2001-2004	2005	2006	
Italy	890	2,145	3,436	18
Spain	1,000	1,154	367	30
France	0	1,788	255	13
Belgium	1,300	480	-	4
Netherlands	1,302	-	431	6
Germany	440	830	205	21
Ireland	720	121	623	9
Bulgaria	0	715	563	5
Greece	0	798	450	2
Austria	49	0	850	5
Portugal	278	-	32	5
UK	44,831	6,250	12,586	436
Other	2,690	1,254	500	19
Total	53,500	15,535	20,298	573

Source: International Financial Services, London / Public Private Finance.

Largest PPP contracts in Europe^o 2001-2006

Country	Type of project	Year	EUR m	Land	Type of project	Year	EUR m
UK	Transport	2002	25,730	Spain	Canal	2002	800
Italy	Bridge	2006	3,000	Greece	Rail	2005	798
UK	Defence	2006	2,640	Bulgaria	Road	2005	715
UK	Health	2006	1,614	Finland	Road	2005	700
Belgium	Tunnel	2004	1,300	Poland	Road	2004	680
UK	Transport	2001	1,286	France	Road	2005	618
Netherlands	Rail	2001	1,200	France	Road	2005	590
Italy	Road	2005	860	Bulgaria	Airport	2006	563
Austria	Road	2006	850	France	Rail	2005	550
Poland	Road	2004	840	Italy	Energy	2005	550

Source: International Financial Services, London / Public Private Finance.

⁹ BMVBS (2007), page 18.

¹⁰ Joint declaration by federal and individual state-level audit offices on PPPs on May 3/4, 2006.

In other European countries, too, the state's contribution to macroeconomic investment activity has decreased over the past few years. At the same time – at least according to the few statistics available – a growing **trend** has been emerging **towards more PPPs**. Based on data from International Financial Services, London, the **value of the PPP contracts in Europe stood at around EUR 20bn in 2006**; in relation to the average for 2001-2004, this would represent an increase of around 50 percent.¹¹ Nevertheless, the **relative importance** of PPPs on the European continent remains **low**; in the period from 2001 to 2006, they accounted for an estimated average of around **2 percent of total public gross fixed investment**. With a proportion of between 10 and 15 percent (1996-2006)¹², the **UK** is by far the most active PPP country in Europe, meaning that it can claim a certain **benchmark role** in this respect.

The **German government** has declared that it is **aiming** to increase the **proportion of PPPs in public investment** from the current level of 4 percent to **15 percent**.¹³ In terms of current gross fixed investment made by the government, this would correspond to a volume of **some EUR 4.8bn**. Assuming that public investment continues to account for more or less the same proportion of GDP over the next few years, and that the target of 15 percent is achieved within a ten-year period, the value of German PPP projects would still barely scrape 2 thousandths of German GDP.¹⁴

Germany: Government gross investment by sector (EUR bn)

	2000	2003	2006
General administration	1.0	1.0	0.6
Defense	1.2	0.9	1.2
Public order and security	2.5	2.3	2.3
Economic affairs*	14.8	14.9	14.9
Environmental protection	3.3	2.5	2.3
Housing/Municipal services	2.4	1.9	2.0
Health sector	0.2	0.2	0.3
Leisure, sport, culture, religion	2.3	2.0	1.8
Education	7.4	7.1	6.8
Social security	1.1	0.9	0.8
Total	36.2	33.8	32.8

* Mainly transport infrastructure (roads, canals, ports, water industry), plus agriculture, fuels/energy, mining, telecommunications i.a.

Basis: National accounts.

Source: Statistisches Bundesamt.

¹¹ See International Financial Services (2007).

¹² Ibidem.

¹³ Speech by Federal Minister Steinbrück at the German Transport Forum (*Deutsches Verkehrsforum*) on April 25, 2007.

¹⁴ Assuming nominal GDP growth of 3½ percent p.a. on average.

A look at investment in statistical terms

Gross capital formation as reflected in the **European System of National and Regional Accounts (ESA 95)** comprises – in addition to changes in inventories and acquisitions less disposals of valuables, gross fixed capital formation, i.e. “the resident producers' acquisitions, less disposals, of fixed assets ...”.¹⁵ This includes, in particular, **fixed assets such as dwellings and other buildings, machinery and equipment**, as well as **intangible fixed assets** such as computer programs and copyrights with a useful life of over one year. This is a very restricted definition of investment in material terms if we consider that fixed-asset investments serve to preserve, expand and improve the production facilities for the economy as a whole. This includes, in particular, spending on **infrastructure to create human capital (e.g. the German “Initiative for Excellence”)**. However, the lion’s share of government spending on education, such as personnel costs, are accounted for as “final consumption expenditures by general government (individual consumption)”: Pre-primary and primary education, secondary education, post-secondary non-tertiary education, tertiary education, education not definable by level, and subsidiary services to education. In accordance with the national accounts from the German Federal Statistics Office (*Statistisches Bundesamt*), **gross government investment** in education in 2006 amounted to around **EUR 7bn** (table), and **total government spending** on education (consolidated) came in at just under **EUR 94bn**.

Irrespective of the quantitative role that PPPs may play in the future, both government and the private sector should **exhaust all of the opportunities** that PPPs offer with respect to increasing macroeconomic **efficiency and productivity reserves**. As only recently indicated by the initiative IFD (*Initiative Finanzstandort Deutschland*), banks and the capital markets are “*in a position to provide sufficient cost-effective capital for a growing PPP market in Germany. One of the IFD’s foremost objectives is, in the interests of Germany as a financial location, to help ensure that market development is given new impetus and that the target of increased PPP use in Germany can be achieved quickly.*”¹⁶ In order to ensure that progress is made, all parties involved must **contribute their specific expertise** to **eradicate** any **obstacles** that are still standing in the way of such joint projects, to **expand** the **range of funding models** available – be it via equity or debt capital, to make both standardized and tailored **products more attractive**, and to give **market participants easier access** to the latter.

¹⁵ <http://circa.europa.eu/irc/dsis/nfaccount/info/data/esa95/en/een00136.htm>

¹⁶ IIFD (2007).

4. The future of Germany's infrastructure on a firm footing

In terms of its **infrastructure** and the quality thereof, **Germany leads the international field**; it comes in first out of 125 countries in the relevant sub-index of the **WEF Global Competitive Index 2007/2008**¹⁷, before France, Singapore and Switzerland.

Nevertheless, maintaining this quality and improving it as far as possible must remain a **constant challenge** in the interests of the economy and society at large. This is illustrated, for example, by the huge amount of wear and tear and associated damage inflicted on German autobahns and autobahn bridges by heavy goods traffic. In addition to the **transport sector** and other traditional areas of infrastructure such as **energy supply** and **telecommunications**, **education** also shares many characteristics with infrastructure. Nevertheless, a considerable portion of spending in this area is treated as consumption in the statistics (see box on page 15), although it has an impact on growth and employment in the long term, meaning that it represents material **investment in human capital**. The limitations of this definition need to be reviewed and amended in this respect, also to ensure that **targeted political decisions** are made.

The **ongoing development of Germany's infrastructure** as part of the **National Reform Program Germany 2005-2008** offers **potential for success**:¹⁸

- A framework investment plan for federal **transport infrastructure** for the period leading up to 2010;
- A master plan for **freight transport and logistics** (more efficient organization of freight transport, better use of transportation routes);
- Opening the Investment Act (*Investmentgesetz* – InvG) in favor of PPPs by **creating a new asset class for PPP projects** (creation of infrastructure funds);
- **Developing rural areas and improving competitive abilities of towns/cities** (including level of education, innovative potential, development of cultural landscapes, comprehensive health care, urban planning promotion programs, village renewal, integration of large-scale retail);
- **Regional development initiative** "Central European North-South Corridor" Scandinavia - Mediterranean.

¹⁷ WEF (2007).

¹⁸ BMWT (2007).

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