

# SPECIAL TOPIC: INFRASTRUCTURE INVESTMENTS IN AUSTRIA

In the following paper, the **main results** of a study commissioned by the Government Debt Committee and carried out by Eva Hauth and Bernhard Grossmann (staff members at office of the Government Debt Committee), at the beginning of 2010 are presented. The study “**Infrastructure investments in Austria: economic relevance, investment volumes, and the role of the public sector**” examines the economic position of the government as an investor and an economic stabilizer as well as a financier and a guarantor of infrastructure. In addition to discussing the economic effects of (material) infrastructure investments on business cycles and economic growth, it deals mainly with empirical issues of the amount, the structure, and the development of material infrastructure investments in Austria, as well as the role of the public sector in this respect. The statistical value that is often used to measure infrastructure investments and to determine the infrastructure capital stock of a country, namely the “**gross investments of the public sector**” from the system of national accounts, is completely inadequate for Austria.

The results and conclusions are not necessarily in accordance with the assessments of the Government Debt Committee. Additional empirical information (tables, graphs and charts), more detailed comments, as well as references can be found in the complete version of the study<sup>1</sup> on the Internet and are available for download at the **website of the Government Debt Committee** (<http://www.staatsschuldenausschuss.at/de/pub/publikationen.jsp>).

## INFRASTRUCTURE INVESTMENTS IN AUSTRIA: ECONOMIC RELEVANCE, INVESTMENT VOLUMES, AND ROLE OF THE PUBLIC SECTOR

**Infrastructure as subject matter** can be explored from very different perspectives. A few examples are regional, sectoral, macro-economic requirement analyses, cost-benefit considerations, macro-economic issues about infrastructure investments and their effects on economic cycles, growth, employment, competitiveness, etc., regulatory framework issues on the government’s role as well as fiscal aspects in connection with infrastructure investments and the resulting budgetary implications. An efficient infrastructure does not only have a decisive influence on the attractiveness of a business location, but it also serves regional and distributive goals. Even if infrastructures are being provided to a lesser degree by government bodies directly, but instead by companies, there are still close inter-connections with public budgets in the form of shareholdings, guarantees, subsidies, etc. This inter-play of politics and the economy also become noticeable in times of crises, in which infrastructure investments are utilized as stimulatory measures.

The present study deals with **four issues**:

- Significance of (material) infrastructure investments for **the business cycle and economic growth**
- **Extent** and development of (public and private) **infrastructure investments** in Austria
- **Role of the public sector** as “indirect” infrastructure investor (quantifying units with close ties to federal, provincial, and local governments).
- Financial situation of the **Austrian Federal Railways** and degree of liberalization of rail transport in Austria.

Important results and conclusions of these four issues of the study will be presented in the following text.

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1) The complete version is only available in German language.

## Infrastructure investments for the business cycle and economic growth

In Chapter 2 of this study after the term infrastructure has been defined, the economic effects of (material) **infrastructure investments** on **business cycles** and **growth** of an economy are pointed out. By means of a thorough review of numerous empirical studies of infrastructure research, an overview of the various models and methodical approaches to measuring economic effects is presented. The wide range of results illustrates that the decisive factor is the theoretical framework that is used as the basis (e.g. considerations of forward-looking actions of the public sector and private enterprises in connection with the implications of fiscal policy measures), which simplifications are made in carrying out theoretical connections in an empirical model, as well as which methodical approaches (with varying depictions of cause and effect connections) are chosen.

**In times of crisis**, infrastructure investments are considered an important instrument of stabilization policy: They stimulate the economy, create and secure jobs and also serve to reinforce a business location in international competition for the long term. Establishing infrastructures initially triggers direct demand effects, which has an impact on companies that are immediate providers of infrastructure services or indirect providers such as subcontractors. Income for business owners and employees generated by the activities of the companies involved that are at least partly (re-)invested and/or consumed and thus reinforce the original demand impulse (**multiplier effect**). In comparison with other government measures, infrastructure investments trigger high **short-term multiplier effects**, as they are entirely incorporated in the economic cycle, are labor-intensive, and show low import quotas. According to the OECD, in **Austria** a rise in public investment spending in the amount of EUR 1 billion is reflected in a rise of nominal GDP of EUR 1.1 billion (cumulated overall effect after two years).

Infrastructure investments are – in addition to the short-term demand effect – of great relevance, in particular for **macro-economic growth** and the **productivity** of private production factors. The central issue in this context is whether an infrastructure raises the output of companies, or whether the expenses for a particular output are lowered. Positive effects of infrastructure investments are to be expected until the additional benefit for the private sector is covered by the expense of providing an additional public infrastructure unit (e.g. additional tax burden to finance the investments). What is decisive for the growth effect or productivity effect of a new technology is the degree of efficiency of the technologies that had already been available in comparison to the new ones. A highly developed economy already has an effective infrastructure in place. Also, certain infrastructure investments can lead directly to increases in productivity in the short term, whereas others do not show any effects or only very long-term effects. Examples of the latter are primarily investments aiming at environmental goals that improve the quality of life immediately, but initially hardly improve productivity. The **empirical evidence** of the relationship between infrastructure investments and sustainable economic growth or productivity has been studied in a large number of scientific works supported by various approaches (production-function, cost-function, or profit-function approach, vector autoregressive models and cross-section regressions). To a large extent the results show that there are **positive effects** of infrastructure investments on productivity and economic growth, but this does not always hold true.

However, the effectiveness of **macro-economic approaches** is limited. Regional differences in view of the level of agglomeration and its advantages or the technological level are mostly not taken into account. General statements (including very differentiated ones) concerning infrastructure expenditures are problematic, as the relationship between infrastructure investments and economic growth turns out to vary, depending on the provider, the sector of industry, region, etc. that is mainly affected. Additional conditions that must also be met for a positive growth effect of infrastructure investments do not become evident until regional or micro-economic effects are analyzed. Thus growth effects of infrastructure investments can only emerge if, for example, there are complementary factors (labor pool, willingness to invest of private sector).

Cost-saving effects of public transport infrastructure investments on the costs of production in the private sector have also been verified in **Austria**. Recent studies have concentrated on modeling regional economic effects of rail infrastructure investments through assessed improvements of availability and the economic valuation of (individual) rail infrastructure projects in the construction and operating phase. Thus macro-economic productivity gains through investments in the rail infrastructure can only be expected in the very long-term (if at all). Even though road improvements have recently been limited, road freight transport

infrastructure still achieves productivity improvements and competitive gains much more quickly thanks to its progress in technology and organization (loading technique, automotive engineering, and information technology).

## Conclusions

- Infrastructure investments are specifically suitable to mitigate a **temporary lack of demand** in crisis times. However, a government impulse (e.g. permanent “investment shock”) only stimulates growth temporarily in line with multipliers. When interpreting fiscal multipliers it should be taken into consideration that the level of the multipliers does not provide any information on the sustainability of the impulse. Moreover, there is usually a time lag until the actual development of the impulse takes effect, as investment activities, as a rule, have a relatively long planning phase and thus often have procyclical effects.
- Infrastructure investments are also of significance for macro-economic **sustainable growth** and the productivity of production factors. In literature, positive effects have also been widely observed on the basis of differing methodic approaches. The degree of effectiveness of infrastructure investments on sustainable macro-economic growth and productivity, however, has been shown to be much less in recent studies (e.g. as the result of the current high level of public capital stock).
- Both the actual contribution of infrastructure investments geared to the **attractiveness of a business location** of a country (the opportunity to attract international direct investments as a result of a decrease in transport expenses, reliable energy provision, improved flow of information by means of a high-quality telecommunication network etc.) and also the present **amount of capital stock** (decreasing marginal benefit of an additional unit with an increasing amount of capital stock) are of significance for the **extent of the positive effects**. Expanding the public investment quota does not always lead to higher productivity and sustainable economic growth.
- Potential **negative effects** resulting from **financing investment projects** on growth, productivity, and employment (e.g. reductions in other public spending categories, crowding out of private projects, competitive disadvantages as a result of high tax rates, etc.) have not been taken into consideration by a number of (partial) approaches, which means that their validity is limited.
- The **effectiveness of macro-economic approaches** is limited in light of diverging infrastructure projects and regional demand conditions. Additionally, the benefit that infrastructure investments can generate, take on **various dimensions**. Thus in road infrastructure, for example, the economic benefits mainly predominate, while with investments in rail infrastructure the social and ecological benefits are of particular relevance.
- On the basis of public monopolies, state intervention is increasingly limited to responsibilities relating to guarantees and regulations. **Privatization** represents a possible element of the restructuring process, among other things, with the goal to increase the efficiency of infrastructure firms and to reduce the burden of public budgets.

## Public and private infrastructure investments in Austria 1995 to 2008

Statistics on the **extent of public and private infrastructure investments** are neither available in Austria nor in other countries. In Chapter 3 of this study an attempt is made to statistically determine the amount and structure of material infrastructure investments in Austria. The indicator that is mainly used to measure infrastructure investments and to determine the infrastructure capital stock of a country, namely the **“gross fixed capital formation of the state”** from the system of national accounts, is in the case of Austria completely insufficient. The main share of material infrastructure is not provided by public administrative bodies or the public sector according to ESA 1995, but is provided by private corporations (ÖBB [Austrian Federal Railways], ASFINAG [motorway and expressway financing company], Telekom [Telekom Austria Group], communal budgets financed by fees, hospitals, real estate companies). Infrastructure in this case is understood to be (selected) **capital goods**, regardless of whether the investments are carried out by the

government, by (spun-off) companies with close ties to the government, or by the private sector. **Structural information** is provided for in **five areas** of material infrastructure (transport, information and communications, energy and water, waste disposal, as well as miscellaneous (e.g. education, health services)).

**Private and public infrastructure investments** increased in the report period 1995 to 2008 on an annual average by approximately 3% on nominal terms and in 2008 covered approximately 30% of the total gross fixed investments. According to a broad definition in 2008 the **investment quota** reached 6.8% of GDP and according to a somewhat more narrow definition it reached 6.4% of GDP. From 1995 to 2008, the period under review, infrastructure quotas measured on GDP as well as gross fixed capital formation show a slightly decreasing trend (broad definition: -0.7 percentage points). The positive relationship that was to be expected between economic development (or tax revenue) and infrastructure activities is not evident every year and the causal relationships seem to go in both directions.

The detailed views on various infrastructure activities are based on the broad definition. In the period under review, the total increase was mainly the result of **transport infrastructure investments** (1995 – 2008: +7.0% p.a.) as well as the investments of the category **miscellaneous infrastructure investments** (1995 – 2008: +3.8% p.a.). In 2008 traffic infrastructure investments reached a share of 23% and the category miscellaneous infrastructure investments a share of 45%. The category **miscellaneous infrastructure investment** includes economic real estate management, public administration, country defense, social security as well as cultural affairs, and sport and entertainment categorized as one unit. It also includes investments of public bodies in museums, universities, theaters, sport stadiums, provincial and municipal roads, etc. as well as investments of BIG, the federal real estate company with close ties to the state, and provincial or local government real estate companies and capital goods investments of private organizational units

The only item to show a definite downward trend was the sector **communications**, which expanded in nominal figures until 2000 and then afterwards decreased dramatically (1995–2008: -3.1% p.a.).

From 1995 to 2008 there was a below-average increase in investment volume in the sector **energy and water supply as well as waste disposal** (sewage and waste disposal and other refuse disposal) (+0.8% p.a.). In the past years the partial sector **energy supply** recorded high increases (2004–2008: +9.8% p.a.). For example, among other things, the completion of the 380kV-grid is now in the implementation stage. In contrast, in the reporting period infrastructure investments in the partial sector **waste disposal** continued to remain at almost the same level. In total, in 2008 this section accounted for 16% of total investments.

Although in the period under review the increase in public and private construction as well as equipment investments for **education, health, veterinary and social services** (not including social security funds) was below average (1995–2008: +1.8% p.a.), increases in recent years were indeed substantial (2004–2008: +4.8% p.a.). This is probably due to heavy investments of **hospital operating companies**. Infrastructure investments for **education** declined in this category during the reporting period (1995–2008: -0.4% p.a.). The share of this partial category of total infrastructure investments was 12% in 2008.

## Conclusions

- In the field of infrastructure in Austria the **usual clear line** between public investments (Sector S.13 according to ESA 95) and private investments (Sector S.11 and S.15) is completely blurred. Since the 1980s in Austria as well as internationally there has been a shift from public provision of services to “ensuring the provision of services” in the area of infrastructure. **Public investments** according to ESA (2008: EUR 3.0 billion or 1% of GDP) are thus **not an indicator** for infrastructure investment volume in Austria.
- Exclusively **private ownership structures** in the infrastructure sector in Austria seem to be rather the exception. Thus, for example, although stock in utility companies is increasingly widely held stock, the federal government and the provinces continue to hold substantial shares (usually 51%). Government-owned enterprises or quasi-corporate enterprises owned by public bodies dominate the provision of water supply and sewage disposal. In addition, far fewer traffic infrastructure investments and ICT infrastructure (information and communication technology), as well as construction investments in the

area of education and hospitals are being commissioned directly by public bodies than before (See also next section).

- In the period under review from 1995 to 2008 the decrease in the infrastructure investment rate (as compared to GDP) as well as the declining share of individual infrastructure sectors could be interpreted as an indication of a backlog demand. However, similarly isolated cases of low infrastructure rates were observed even more than 20 years ago. The empirical analysis of this study is not extensive enough to provide an answer to the question of whether infrastructure investments of recent years were too low and if there is a **backlog demand**. For this purpose, **more detailed requirement analyses** are necessary.
- In order to **estimate the volume of infrastructure**, individual economic sectors (ÖNACE 2-Steller – Austrian Statistical Classification of Economic Activities) and investment categories have been chosen and adopted in simplified form, so that the gross investments are always entirely infrastructure investments. The consequence is that this premise is likely to partially distort the results upward and hence the results represent the upper limit.
- The **developments** that the five infrastructure investment categories as well as the aggregate are subject to show **fluctuations that do not always depict investment cycles**. The reasons that can be cited are in particular tax-law aspects (e.g. investment increase premium 2002 to 2004) but also changes in classifications of the survey units.

## Significance of “units with close ties to the government” in the sector infrastructure in Austria

In Chapter 4 of the study, the issue of which **role the public sector plays in infrastructure investments** is dealt with, as in Austria a significant number of infrastructure investments is rendered by public enterprises or other organizational units (e.g. associations) with close ties to the government. Based on the private sector according to the sector categorization of ESA 95, an attempt is made to differentiate between the areas ‘with close ties to the government’ and ‘private’ and to estimate the significance of the market participants with close ties to the government based on the number as well as in a macro-economic context (e.g. by means of sales or number of employees). In this connection all those private organizational units are considered to have close ties to the government if an administrative body (federal, provincial, local government) either has a holding in the unit or has a coporate relationship to the unit.

Based on the federal government, the eight provinces (not including Vienna), and 2,357 local governments (including Vienna), 1,437 government units (61% of Austrian administrative bodies) could be identified as having at least one active relationship to a registered company.

These 1,437 government bodies had holdings that totaled 2,271 enterprises (of those 79 in the public sector according to ESA 95). At 3,448 the number of active connections turned out to be even higher, as several government bodies have holdings on one single company. The **identified number of holding relationships** is understood to take into account the existence of holding structures, indirect shareholdings, and the circumstance that only sole shareholders are recorded in the company register.

Of the 2,192 enterprises classified in the private sector that were identified as **having close ties to the government**, **1,301 enterprises** were categorized as **infrastructure units**. There are 1,845 active relationships between the government bodies of various levels and these infrastructure units.

With 1,756 holding connections approximately 95% of the identified relationships were allocated to **Austrian local governments**. On the local government level the main share of the holdings are likely to have been identified, as holding structures as a rule only occur in local governments of larger communities. The regional distribution is very heterogeneous. The average number of holdings per local government shows a very positive correlation to the average size of the community (measured in number of inhabitants) of a province.

The pace of stepping up enterprise shareholdings and with them shifting government tasks in the field of infrastructure seems to be in direct relationship with the changes of institutional framework conditions of Austria in the context of the EU integration process: The **first spinning-off phase** 1993/1994 took place in the preliminary stages of Austria's accession to the EU (measure to consolidate the budget). The **second phase** coincides with the beginning of the third step of the EMU (introduction of the common currency), which required the convergence criteria to be fulfilled in a sustainable manner. The strategy formulated for the purpose of lowering the debt ratio included among other things, a market orientation of fee-based municipal services.

In this study an attempt was made to **connect** the infrastructure enterprises with close ties to the government that had been identified with the data on infrastructure investments, debt, etc. by means of the **business register** (Statistik Austria). The possibility to increase the width of features by the use of the business register was limited, as important data on the private sector (among other things, gross fixed asset investments, debt level) are not included in the framework of a census and therefore these data could not be summarized in the business register either. As an alternative data source the value-added-tax statistics were used including the value-added-tax advance payment notices and the employment statistics of the Association of Social Security Funds.

However, these results represented only a part of the effective amount: **Sales** in the sector of the **identified** infrastructure companies having **close ties with the government** reached EUR 6.5 billion in 2008. The number of the **employed** in infrastructure enterprises with close government ties was almost 39,000 persons. If large units that have not previously been included in these results, such as the ÖBB Group [Austrian Federal Railways] and hospital operating companies were added, the number of employed in the infrastructure sector of enterprises with close government ties would increase to approximately 120,000 persons, which is equivalent to about one-third of the number of civil servants.

## Conclusions

- The **scale** of **spin-offs** that was verified in this study suggests that the owners should thoroughly deal with this subject (goals of the spun-off units, best practice guidelines, evaluation of goals and performance, tax mechanisms of the owners, transparency, etc.); this is a requirement on all levels of government. The numerous small organizational units (in particular in the local government sector) for which no adequate information is available at present are a particular challenge.
- At present, the attempt to **make a systemic record of infrastructure units with close ties to the government** is confronted with restrictions. Although the number of infrastructure enterprises with close governmental ties can be ascertained by means of the **company registry** and the presented active connections (to the government bodies), the identification of relevant units is incomplete, due to holding constructions as well as gaps in capturing data (e.g. stock corporations with public stockholders of below 100%). Thus **important enterprises are not taken into account**.
- At present it is **not possible** to make an **estimation** based on investment and debt ratios of the **relevance** of **infrastructure enterprises with close governmental ties**. The required information would need to be collected directly by the government bodies or by centrally coordinated contact points (e.g. units of holding management, local supervisory bodies).
- The sectoral categorization of the infrastructure units identified as part of the private sector may be put into question by Eurostat in the course of implementing the revised ESA system (planned for 2014). It is to be expected that on the basis of the **new ESA regulations** a share of the currently spun-off units, as well as their investment and debt, will be allocated to the public sector. The actual effects of the budget balance and the debt level in the sense of ESA are, however, uncertain, as no information on funding (e.g. investment grants, subsidies, outside funding, etc.) for these units is available.
- The increasing number of spin-offs is complicating **strategic directing**. In this context, problem areas, such as **insufficient transparency** between associated companies and owners, **uncoordinated strategic goals** of administrations and spun-off companies, increased **complexity** and utilizing existing ways to exert influence in associated companies are showing effects. As a result of the varying control

criteria and instruments for spun-off and administrative services, a unified and coordinated harmonization of public functions is lacking.

- With the growing number of units that have close ties to the government the urgency to apply **compatible accounting systems and reporting standards** to ensure overall consolidated reporting is increasing. At present, **financial reports on spin-offs and group accounts** are only available in individual cases, although they would be essential for an overall view of the economy.

## **Austrian Federal Railways between the conflicting priorities of requirements and restrictions**

Chapter 5 of the study deals with the **Austrian Federal Railways (ÖBB) as the main rail transport carrier** in the backdrop of the EU-liberalization process and financial restrictions. As a rule, in Europe, providing rail transport is the responsibility of private enterprises in which the federal government holds the main share. The EU-wide new orientation in the direction of **regulated competition** required an extensive restructuring of federal railways (e.g. separation of carrier services and the operating company). In total, at present three EU directive packages have been passed with the third package containing, among other things, the liberalization of passenger traffic effective January 1, 2010. Liberalization of goods transport had already taken place in 2007.

In Austria there is wide consensus that mainly the government should commission investments in maintenance, new rail infrastructure, and upgrading of existing infrastructure, and also finance these activities. In addition public transport provides a vital contribution to climate protection, the quality of life, traffic safety and ensures mobility for all people. But the government is also subject to budget restrictions that must be considered.

**Administrative authority** in the area of rail transport is broken down in the following way in Austria:

- In Austria the **principals** are **public units** (federal government, provinces, local governments, transport authorities, etc.) representing matters of public concern. Planning, organization, and funding are their responsibility.
- On a second public level, **regulatory authorities** (e.g. SCG, SCK) play an important role. The purpose of which is to guarantee a non-discriminatory network access. Their field of action is shaped by statutory regulations.
- The **transport enterprise, ÖBB**, is the central actor of providing services and performs management duties. In principle, this responsibility can be described as maximizing profits, although also public service interests have some influence as a side condition.

Federal contributions dominate the flow of **transfers between the ÖBB and the federal, provincial, and local governments**, which in 2008 reached a volume of EUR 3.6 billion net and can be broken down into **three categories**. They are

- firstly, the **sale-relevant contributions** (public service compensation for passenger and goods transport as well as infrastructure contributions for operating the rail network),
- secondly, **services for investments** in the rail network as well as
- thirdly, **pension payments** for former **ÖBB federal civil servants**.

The federal government's **infrastructure contribution** for operation and construction amounted to EUR 1.2 billion in 2008. However this funding served mainly for **operations of infrastructure** (e.g. shunting); the main share of **construction investments** was funded in the form of (off-balance sheet) borrowing of the ÖBB.

In 2007 **funding of rail infrastructure installations** was reformed by means of the ÖBB Budget Authorization Act. The subgroup ÖBB infrastructure obtains the required funding to finance new construction projects on capital markets; 70% of the amortization rate and interest expenditures spread over a thirty-year period are, however, settled by the Republic of Austria. Based on the present ÖBB framework plan 2009, this “loan model” raises the **net financial debt** of the sector **ÖBB infrastructure** from EUR 12 billion at the end of 2009 to EUR 20 billion to the year 2014 (using the price basis 2008). According to present projections, the highest level of debt will be reached in 2023 after the investment phase in the amount of EUR 26.4 billion (based on 2008 prices) is completed. In Switzerland investments are also mainly financed by debt. The increase of debt of the Schweizerische Bundesbahnen (SBB - Swiss Federal Railways) – in contrast to the ÖBB – is included in the debt management of public sector bodies (in particular, loan payments of the federal government to the SBB) and, ceteris paribus, causes the public debt to be higher. Over time the **funding ratio of the federal government** will rise. Only approximately 9% of the planned annual expenditures for infrastructure investments (gross investments) of the ÖBB are initially (2009) being reimbursed by the federal government in the same year. The contribution of the federal government of approximately EUR 1 billion (based on 2008 prices) will not correspond with the planned investment volume of the respective year until 2023.

In 2008 the **expenditures of the federal government for pension benefits of the ÖBB minus revenues** required to be paid in by the ÖBB and its employees amounted to EUR 1,571 million. These net pension benefits of the federal government for ÖBB civil servants are showing a dynamic development (2006 to 2010: +5.1% p.a.). According to federal estimates for 2010 net expenditures of the federal government for ÖBB pensions in the amount of EUR 1,739 million will already slightly exceed all other ÖBB federal contributions.

In 2008 **payments of the federal government to the ÖBB** had already reached a volume of a **total** of EUR 3.6 billion or 1.3% of GDP. In addition, the **provincial and local governments and the transport associations** made sales-related contributions to the ÖBB group in the amount of EUR 0.4 billion or 0.1% of GDP.

## Conclusions

- The **enterprise ÖBB** has a **business-oriented mandate** that, in light of the cost-intensive planning and construction phases, requires a very high planning and funding security. One measure to improve the competitiveness of the ÖBB could consist of a **midterm funding and goal planning program** between the ÖBB and the public administration bodies **that is fixed to the extent possible** and that can only be adapted in exceptional cases and, for example, provides for fines for unjustified ad-hoc new orientations. An increased **transparency** in connection with the commitments already made by the contracting parties could reinforce the respective binding force.
- Although subsidies granted by the public sector in passenger transport and in rail infrastructures are of public interest, public funding or guarantees have a tendency to reduce the incentive for achievement. **Regulated competition** could contribute substantially to guaranteeing more efficient and higher quality traffic services; but this must be authorized. For example, there are still technical barriers in the sector rail.
- In the sector of public transport **public benefit interests** are a matter of concern and the subject of economic policy. The public service functions of the ÖBB are thus to be defined and funded by the public sector. A continuation of unprofitable activities or keeping on personnel whose workload is very low is not the purpose of an enterprise that is exposed to competition.
- The point of view of the ÖBB management that improvements in connection with **earnings of the ÖBB** should be made particularly in **(local) passenger service** and in **framework conditions** is in line with the results of the present study. The **SBB** can probably be cited as a positive example of the restructuring of (local) passenger service with the **involvement of all levels of government** as well as of business matters. For example, in 2008, the operating revenue per employee of the ÖBB was approximately one third below that of the SBB. However, in 2008 the ÖBB did slightly improve this rate in comparison with that of 2007.

- The extensive investments in renovation and extension of the rail net, in new rolling stock as well as in the reconstruction of train stations in the present framework plan are essential in order to further develop the range of offers; but they will also dramatically increase the **debt level** of the ÖBB and are likely to require **capital increases by the owner** (federal government). As early as 2008 the ÖBB **equity capital ratio** was still only 11%. The goal of increasing the ÖBB self-financing level is hardly likely to suffice in covering the planned investment volume.
- The **financing agreements** between the **federal government** and the **ÖBB** that have been in effect since 2007 in the infrastructure sector in the form of a **“30-year loan model”** could be faced with increasing **resistance**, and the **expansion projects** could be **jeopardized** in light of scarce budget funds as well as a rapidly expanding ÖBB debt level. Also in the course of implementing the revised ESA System (expected in 2014) the sectoral categorization of the ÖBB as part of the private sector will be questioned. It cannot be ruled out that on the basis of the **new ESA regulations**, the ÖBB debt will be considered part of the public debt.
- The expenditures of the **federal government for ÖBB civil servant pensions** are not comparable with the sales-related public grants from the content point of view. However, they represent a significant budget expenditure that is showing a relatively dynamic development. According to federal forecasts, in 2010 pension benefits of the federal government for ÖBB civil servants will slightly exceed all other federal contributions to the ÖBB. In this connection more measures should be taken to achieve the goal of a change in work places for ÖBB employees by means of support programs and retraining programs. Early retirement puts a heavy burden on the federal budget for a long period of time and lowers Austria’s growth potential.