

# The Importance of Lease Financing for Austrian Municipalities

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*The innovation of this paper is to use Central Credit Register (CCR) data to analyze and assess municipal (local government) leasing activities. Among other things, the analysis highlights the different accounting treatment of (real estate) lease transactions undertaken by local governments in their capacity as market producers and as nonmarket producers.*

*The lease financing volume of municipalities totaled roughly EUR 1.1 billion, thus corresponding to 8.5% on average of total municipal exposures as reflected in the CCR. This aggregate figure masks considerable differences across individual municipalities, for which it is hard to find meaningful theoretical evidence.*

*Those municipalities whose leasing deals have been subject to approval by provinces for the longest period tend to report lower lease shares. At the same time, there is little correlation between the credit quality of a municipality and its exposure to lease financing; evidently, credit quality checks are based on comparable criteria irrespective of the financing model of choice. Likewise, there is only a weak correlation between municipalities' exposure to lease financing and their level of (residual) debt. More highly indebted local government units have not been found to be more inclined to shifting their portfolios to financing forms that do not push up the level of debt.*

*These results suggest that municipalities thoroughly assess options of lease financing on a case-by-case basis as new borrowing needs arise, and that they have become less likely to go for lease financing ever since such deals have become subject to approval by the provincial governments, just like loans.*

*JEL classification: H63, H72, E62*

*Key words: lease financing, public debt, credit quality, municipalities.*

## 1 Introduction

In recent years, the fiscal policies of Austria's local governments (excluding Vienna) were strongly influenced by the requirements of the Austrian Stability Pacts of 2001 (effective until 2004) and 2005 (effective until 2007) to achieve balanced annual budgets within each of the provinces. Partly as a result of cyclical developments, municipal revenues mostly remained below municipal expenditures in the period covered by the two successive stability pacts, above all in the expenditure categories health and welfare, which further tightened the financial leeway of municipalities. At the same time, new tasks devolved to the local governments (such as the responsibil-

ity for maintaining residency records, issuing passports or offering a lost-and-found service) added to the need for consolidating municipal budgets. Austerity measures taken as a result mostly affected municipal investments and municipal infrastructure projects (investment projects were postponed or dropped, or delegated to units that were spun off or reclassified to the private sector); in other words, local governments reduced their discretionary spending. Given necessary tradeoffs between consolidation requirements and investment demand, the local governments were able to realize only some of their plans in this period for renewing and improving municipal infrastructure as

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outlined in the Financing Needs Report of 2002 for Austrian towns and municipalities.

Against this backdrop, municipalities reviewed existing financing structures and became more inclined to use alternative investment instruments, such as lease financing, especially in the period from 2000 to 2004.

The innovation of this paper is to use CCR<sup>2</sup> data to analyze and present municipal leasing activities. Section 2 summarizes the basics of lease financing that are of particular relevance for municipal budgets. Section 3 explains how the Central Credit Register works, what range of data it covers and how representative the data are with respect to municipal liabilities in general (including the liabilities of market producers, which many municipal enterprises are) and their exposure to lease financing in particular. Section 4 offers hypotheses why local governments have resorted more frequently to lease financing in some provinces than in others, and tests these hypotheses against empirical evidence. To this effect, the paper evaluates how the structure of the municipal debt portfolio (percentage of lease financing and residual debt) interrelates with other municipal characteristics (e.g. number of inhabitants, regional aspects, credit quality). Section 5 concludes with a summary of the key findings.

## 2 Lease Financing Basics

### 2.1 Leasing Real Estate and Other Capital Goods Is an Important Financing Option for Municipalities

Under a *lease* financing contract, the lessee obtains the (noncancellable) right to use an object bought or produced by the lessor during the agreed lease term in exchange for lease (i.e. rental) payments, without assuming ownership rights, which are retained by the lessor.<sup>3</sup> Objects to be leased may be vehicles, movable property (IT and other equipment) and immovable property (new buildings, renovations and additions), provided they can reasonably be used by third parties after the lease term expires.<sup>4</sup>

Local governments tend to lease above all immovable property, such as schools, kindergartens, administrative buildings, community centers, as well as movable capital goods, such as public utility service vehicles or equipment for schools, kindergartens and hospitals (Association of Austrian Leasing Companies, 2003). The distinction between movable and immovable assets is important above all for tax purposes, because the taxation of *municipal leasing* activities differs for different types of assets. Leasing equipment has the advantage that VAT is payable on a pro rata basis (i.e. on the regular lease payments rather than on the full asset value) and that the debt burden of local governments

<sup>2</sup> Based on the Guideline on CCR Reporting of 2004, which was replaced by a new guideline on January 1, 2008.

<sup>3</sup> Should the lessor and the lessee be residents of different countries, the transaction is called *cross-border-leasing*.

<sup>4</sup> See more details on leasing options e.g. in Kuhnle and Kuhnle-Schadn (2001). Objects such as public roads or bridges which cannot be leased as a rule because they are tailored to the specific needs of a lessee and can be used reasonably only by this lessee may be financed through *special lease agreements*. In such cases, the lessee will also acquire the economic ownership rights and thus lose all tax advantages.

does not rise in the process (section 2.2). Leasing real estate is attractive above all for local governments in their capacity as nonmarket producers, because this allows them to benefit from the input tax credits leasing companies may claim, just like municipal enterprises that qualify as market producers.

With regard to the design of lease contracts, municipalities may basically choose from among the full spectrum of lease types and models (see Lindhuber, 2005, for a systematic and comprehensive overview). The following section summarizes selected lease types and models which are particularly relevant for municipalities and for the accounting and tax treatment of lease payments.

#### 2.1.1 Full Payout or Less Than Full Payout

The existence of a residual value, i.e. *end-of-lease buyout costs*, makes a lease a *nonpayout lease*. The residual value is the purchase price (“balloon payment”) lessees need to pay if they decide to keep the leased property when the lease expires.

In contrast to a nonpayout lease, a *full payout lease* allows the lessor to recover, through the lease payments agreed for the lease term, the total equipment cost and financing charges.

#### 2.1.2 Leases with and without Up-Front Charges

Basically, lessors may reduce their capital input and total financing costs by requiring lessees to contribute to the financing costs by making *down payments up front*. These variants allow subsidies to be priced into the

leasing costs up front, thus reducing the periodical lease payments.

Furthermore, lessees may be required to pay a *refundable deposit* to provide additional security or to reduce the initial lease rate and/or the lease rate on the periodic rental payments. These payments are to be refunded to the lessee or will offset the buyout price at the end of the lease term.

Up-front payments by the lessee will typically not trigger a *reclassification of the leased property* to the lessee, provided the up-front costs do not exceed 30% of the purchase or capitalization costs. Leased property will, however, have to be fully accounted for by the lessee if the payments made by the lessee on top of the regular lease payments (such as rent down payments, deposits, subsidies passed on to the lessee) exceed 75% of the capitalized costs (excluding VAT) according to the income tax regulations for 2000.

#### 2.1.3 Operating Lease or Finance Lease

Other defining elements of leases are their financing and risk pattern as well as the lease term. In this respect, the two most common types of leases are *operating leases* and *financial leases*. This distinction not only reflects defining features of the underlying transaction but is also relevant for its accounting treatment, i.e. for the decision as to whether the lease deal does or does not increase the general government deficit on a Maastricht basis and/or the level of public debt.<sup>5</sup> In Austria, municipal lease transactions are, as a rule, operating leases.

<sup>5</sup> For definitions, see ESA 95, Annex II Leasing and hire purchase of durable goods.

In an *operating lease*, the lessee acquires the right to use a durable good for a period that is shorter than the entire or a predominant part of the good's estimated useful life. The lease term need not be fixed in advance, and the lease may be canceled at any time subject to the agreed notice period. The lessor typically possesses expert knowledge about the kind of durable goods leased, carries the full investment risk and normally assumes responsibility for maintenance and repairs as well as replace-

ment in case of a breakdown. Operating leases do not a priori specify the sale of the leased property when the lease expires, but in practice, the lessee (or a third party) is typically given a purchase option.

The leased property is capitalized by the lessor, who also writes down the value of the asset over its estimated useful life. The lessee, in contrast, expenses only the periodical lease payments, under administrative and operating expenses.

Box 1

### Tax Treatment of Leased Properties in Austria

In Austria the **tax treatment of leased properties** is governed by the **income tax regulations of 2000** based on the principle of economic ownership. As a rule, the lessor is treated as the owner of leased property except for specific cases in which ownership rights are deemed to have been transferred to the lessee. Under a **full payout lease** ownership rights are transferred to the lessee under the following conditions:

- if the lease term broadly corresponds to the estimated useful life of the property (which is expected to be the case if the lease term exceeds 90% of the estimated useful life),
- if the lease term is below 40% of the estimated useful life,
- if the lease contract provides for a bargain purchase or extension option (below 50% of the linear book value), or
- if the leased property has been tailored to the specific needs of the lessee and can be used reasonably only by this lessee when the lease term expires (special lease agreement).

Under **less-than-full-payout leases** ownership rights are transferred to the lessee up front under the following conditions:

- if the lease term broadly corresponds to the estimated useful life of the property,
- if the lessee carries both the risks and the rewards of ownership,
- if the lessee may purchase the leased property at a residual value that lies well below the presumed market value, or
- if the underlying lease is a special lease.

With regard to the classification of **immovable goods**, premises and buildings need to be treated separately. In the case of premises, the civil law owner will, as a rule, be treated as the owner. Yet by way of exception, the lessee will be deemed to be the owner of premises if a purchase option has been agreed and any buildings on the premises are already owned by the lessee. Buildings are to be treated in line with the criteria outlined above except for the following cases: Buildings are deemed to be owned by the lessor if the lessor also owns the premises and

- if the underlying lease is neither a full payout lease nor a special lease,
- if the agreement to use the premises runs well in excess of the lease term for the building, or
- if the lessor may lease or sell the building to a third person when the lease expires.

Under *ESA 95 (European System of Accounts)*, the lease payments need not be subdivided into interest rate payments and repayments of principal. The lease payments to be recorded under administrative and operating expenses are fully reflected in the deficit or surplus no matter whether the lessee engages in market or non-market production. Liabilities arising from an operating lease qualify as administrative liabilities (liabilities arising from the purchase of goods or services, payment commitments or payment arrears) and are therefore not deemed to increase the level of debt.

Under a *finance lease* the lessee assumes the right to use a durable good for a predetermined period of time, which covers all or most of the economic life of the leased property. The lessee may not cancel the lease contract before it expires. The lessor's role is, as a rule, purely financial (he assumes the credit risk). In other words, the lessor will typically not possess specific expertise with regard to the leased property, and he offers no repair, maintenance or replacement services (the investment risk is transferred to the lessee). At the end of the lease term, the lessee often buys the leased property (often at a symbolic price in the case full payment), because the leased property is typically a tailor-made good for which third parties will have little use.

The lessor retains legal ownership of the leased property at all times. The leased property is, as rule, capitalized by the lessor unless the lessee assumes the economic ownership of the good.

Whether the lessee is the economic owner of a leased property also matters with regard to how that property is recorded under *ESA 95*. Under the *ESA* framework, leased goods are treated as if owned by the lessee from the beginning of the lease term, with the lease payments representing the (imputed) repayments of principal and interest rate payments to the creditor (i.e. the lessor). The interest rate payments add to the Maastricht-based deficit measure, whereas the capital share of the lease payments (repayment of principal) is reflected in the deficit measure only in the case of public entities classified as market producers. If goods are leased by a nonmarket producer, repayments of principal are recorded as financial transactions, and thus not reflected in the general government deficit under the Maastricht definition. The year-end present value of amounts outstanding under finance leases are fully reflected in the level of public debt, provided the lessor is classified under the public sector as defined in *ESA 95*.

#### 2.1.4 Sale-and-Leaseback Contracts

*Sale-and-leaseback contracts* constitute a special type of lease insofar as the lease transaction as such builds on the sale of property that is to be leased thereafter. Assuming the role of the lessee, the original seller leases the property from its new owner (lessor). This concept is typically used to free up cash by mobilizing hidden reserves (Lindhuber, 2005).

The *leased property is deemed to be owned* by the seller or lessee<sup>6</sup>

<sup>6</sup> In such case the sale and the leaseback are considered to be a loan contract, with the leased property transferred to the lessor as collateral.

- if the conditions relevant for a full payout lease are met (box 1),
- if the purchase price differs considerably from the value of the leased property, or
- if the contract contains unusual clauses negotiated in order to achieve tax advantages (misuse under Article 22 of the Federal Fiscal Procedures Act).

## 2.2 Advantages and Disadvantages of Municipal Leasing

The advantages and disadvantages of lease deals need to be assessed from the perspective of the respective agents. The case for corporate lease financing is made very compellingly by Credit Suisse (2006) or by the Association of Austrian Leasing Companies (2003); the arguments put forth by those two institutions by and large also hold for the public sector. Yet in the context of municipal leasing, a number of additional aspects come into play, as outlined by Plach (2006).

Important *advantages* for local governments are as follows:

- Lessors typically have *long-standing expertise* in planning and implementing investment projects. As a result, it is often possible for the lessee to negotiate *additional services* (such as providing planning and construction management, including the responsibility for overall project management, procurement, construction supervision or turnkey installation; by the same token, the lessor may take on a number of risks).
- Lessees may benefit from *cost advantages* (such as advantages that come with the lessor's market position), gain *planning security* (e.g. through agreed fixed prices and finalization deadlines) or *transfer part of the administrative burden* to the lessor.
- Lease financing enables the lessee to *purchase goods* without using *own funds* or incurring additional debt, as all funding is provided by the lessor. As a result, local governments may avoid financing constraints and implement investment projects earlier than would otherwise be possible.
- Lease rates become payable upon completion or transfer of the leased property; in other words, lease deals do not require *any prefinancing or bridge financing*. Accrued construction interest is added to the amount on the basis of which lease rates are calculated.
- Lease payments, i.e. the financing volume and the periodic lease rates, may be reduced through by subsidies or *up-front payments*, subject to the relevant limits (section 2.1.2).
- Unlike local governments, leasing companies may claim full *input tax credit* for investments made in nonmarket production facilities. Such tax credits lower the financing volume, e.g. limiting it to the net construction costs.<sup>7</sup> The periodic lease rates are subject to VAT, however. Moreover, municipalities benefit from a *postponement effect* resulting from the gradual payment of VAT. Once the ten-year input tax adjustment period has expired, lessees still

<sup>7</sup> This is a tax advantage with which all properties leased by municipal market producers come; therefore, real estate leasing has its merits above all in the context of nonmarket production.

have the option of claiming tax exemptions, as a result of which they will not have to pay VAT on the monthly lease rate, thus *saving on taxes*.

- In line with the *Maastricht criteria*, operating leases come with the advantage of not increasing the public debt level (section 2.1.3).

Yet lease deals also have some *disadvantages*:

- The lessee *does not become the de jure owner* of leased properties, which means that the lessee may not sell leased goods if they are not needed or if he has to raise urgently needed cash. This limited room for maneuver is further reduced by the fact that lease rates must be paid *for the entire lease term* in the case of full payout leases.
- The *overall lease costs* taking into account the entire economic life (i.e. taking into account the residual book value or the purchase price at the end of the agreed lease term) may turn out to be higher in the end than a loan-financed purchase of the property at hand, particularly in the case of property for which the lessee (local government) would as a rule be able to claim input tax credit.<sup>8</sup>
- The periodical operating lease rates, *including the pro-rata repayment of principal*, increase the general government deficit or reduce the general government surplus.

- In the case of legal disputes, the involvement of a leasing company, i.e. of an *additional player*, may make it more difficult to assert claims (e.g. in the context of warranty and liability issues).

- Finally, a *property purchase tax* of 3.5% is payable on the residual value of leased property.

### 3 Evidence from CCR Data on the Role of Municipal Leasing

The empirical evidence provided here is derived from the CCR<sup>9</sup> that the OeNB's Credit Division maintains and analyzes. On December 31, 2006, the CCR showed 2,095 municipalities to be indebted, and three-quarters of this category (1,585 municipalities or 75.7%) to have incurred lease liabilities. In 2006 the average lease finance volume totaled EUR 522,000 (or EUR 691,000 excluding municipalities without lease liabilities), with the lease deals of individual municipalities ranging from EUR 16,000 to EUR 61 million. The following section highlights the development of lease volumes and the share of lease financing in municipalities' total exposure (sum of all liabilities) and assesses the representativeness of the CCR data through a cross-check with other sources (Statistics Austria, Association of Austrian Leasing Companies).

<sup>8</sup> However, in the case of a nonpayout lease only a portion of the capital used is repaid during the contract period. Consequently, a nonpayout lease comes with lower periodical costs than a fully loan-financed project or a full payout lease.

<sup>9</sup> The legal framework governing the CCR is the Austrian Banking Act and the OeNB's CCR Reporting Regulation. A new Guideline on CCR Reporting has been in force since January 1, 2008. Based on CCR reports, credit and financial institutions as well as insurance companies can obtain information on the potential or actual loan exposure of major borrowers.

### What is the Central Credit Register?

The purpose of the Central Credit Register (CCR) is to pool information on all borrowers (other than the federal government and the regional governments up to January 1, 2008) whose aggregate **credit volumes, credit lines or legally binding loan commitments** with an institution that is subject to reporting requirements under Article 1 paragraph 1 of the CCR Reporting Regulation (basically credit institutions, financial institutions and insurance companies) total **EUR 350,000** or the euro equivalent of that sum. The reporting entities are required to submit the following information, apart from **identifying data and outstanding amounts**: collateral value, account-specific provisions, credit quality, groups of connected clients<sup>1</sup> as well as internal standards and rules applied by the reporting agents (with regard to the valuation of collateral, internal ratings or the establishment of account-specific provisions).

Outstanding loans become subject to reporting requirements as soon as they exceed the threshold of EUR 350,000 and cease to be subject to reporting requirements as soon as repayments cause the aggregate volume to fall below that threshold. Liabilities to a number of financial institutions that add up to more than EUR 350,000 but do not exceed this threshold at the individual financial institutions do not require reporting to the CCR.

**Credit subject to reporting requirements** (or credit lines) include credit operations, discounting operations, guarantee schemes (including state guarantees at the federal and regional government level), factoring and lease transactions as well as asset securitization transactions and special off balance sheet transactions.<sup>2</sup>

<sup>1</sup> Under the Banking Act and the Commercial Code, a group of connected clients exists when major borrowers control each other or are interlocked through commercial law partnerships, as general partners, etc.

<sup>2</sup> For definitions and detailed explanations, see the Guideline on CCR Reporting (2004 and 2008).

### 3.1 Development of Lease Volumes and Relative Lease Shares in the Total Exposure of Municipalities

#### 3.1.1 Lease Share of Total Municipal Exposure Averaged 8.5% in 2006

Claims arising from lease transactions are treated as credit equivalents in the CCR by recording the present value of lease rates including the residual value of the leased property. Lease payments reduce the underlying credit line and the extent to which it is drawn down. While the credit line is gradually reduced in line with the repayment scheme, irrespective of actual payment of lease rates, the use of the credit line reflects the amount of outstanding lease rates or other claims against the customer. Balances that exceed the credit line would thus

point to payment arrears of the lessee.

Based on CCR data, the lease financing volume of municipalities excluding local government-owned companies totaled approximately EUR 1.1 billion at the end of 2006. This corresponds to an average lease share in municipalities' total exposure of 8.5%.<sup>10</sup> During the period under review (1990 to 2006), lease volumes expanded gradually, peaking at EUR 1.4 billion in 2004. Since then, the year-end volumes have been going down. The average lease share of municipalities' total exposure did not start to rise until 1998 and thus also peaked in 2004 at 9.3% (see tables 1 und 4).

Reflecting above all fiscal policy framework conditions, the lease vol-

<sup>10</sup> In relation to municipalities including local government-owned companies (see box 4), the lease financing volume totaled EUR 1.3 billion, corresponding to a share of 7.8% of total exposure in 2006.



Table 1

Development of Municipal Leasing by Province										
EUR million	Burgenland	Carinthia	Lower Austria	Upper Austria	Salzburg	Styria	Tirol	Vorarlberg	Total	Change in %
1995	1	14	135	66	38	65	107	63	490	x
1996	1	12	154	61	36	88	114	56	521	6.4
1997	2	11	152	59	38	91	143	61	557	6.9
1998	5	14	148	57	37	113	150	65	589	5.6
1999	5	14	151	67	42	129	152	70	629	6.9
2000	13	14	229	68	49	162	176	70	780	23.9
2001	24	13	355	95	62	225	193	81	1,048	34.4
2002	31	11	408	121	63	236	196	83	1,150	9.7
2003	32	10	449	168	73	245	190	79	1,248	8.5
2004	46	26	474	183	74	270	212	76	1,361	9.1
2005	54	17	417	161	71	259	225	71	1,276	-6.2
2006	54	19	307	120	68	237	225	63	1,095	-14.2

Source: OeNB (CCR), author's calculations.

Note: Municipalities excluding local government-owned companies (see box 4).

ume jumped in 2001.<sup>11</sup> That is the year in which the Austrian Stability Pact of 2001 became effective, under which Austria's municipalities (excluding Vienna) were required to achieve balanced budgets within each of the provinces. With the local governments' obligation thus pinned down, municipalities reacted, among other things, by adjusting their discretionary spending – i.e. spending (on investment, etc.) that is optional rather than mandatory. This led to a significant reduction in the investment ratio of local governments (Government Debt Committee, 2005; Municipal Finance Report of 2005). The effect of falling investment volumes also increased in anticipation of a further strengthening of municipalities' balance sheets through alternative sources of finance (such as operating leases) – the reason being that properties acquired through (operating) leases are not capitalized as in-

vestment in public sector accounting; it is only the lease rates that are expensed. Traditional loans, in contrast, need to be expensed, while the assets purchased with that loan need to be capitalized and thus increase the investment ratio accordingly.

### 3.1.2 Lease Share in Total Exposure Highest in Municipalities with over 5,000 and up to 10,000 Inhabitants

Based on *municipal size* (table 2), per capita lease shares were highest (EUR 273) in the bracket from 5,001 to 10,000 inhabitants, second-highest (EUR 224) in the bracket from 10,001 to 20,000 inhabitants and third-highest (EUR 199) in the bracket from 20,001 to 50,000 inhabitants. Conversely, the per capita share was lowest in municipalities with 50,000 inhabitants or more (EUR 92), followed by the bracket from 501 to 1,000 inhabitants (EUR 115).

<sup>11</sup> To some extent, the increase in the lease volume can also be ascribed to the fact that, following the changeover to the euro, the threshold for reportable exposures was lowered from ATS 5 million (EUR 363,364) to EUR 350,000.

Table 2

**Municipal Lease Volumes by Size of Municipality in 2006**

Number of inhabitants	Total volume	Volume per inhabitant
	EUR million	EUR
≤ 500	5	122
From 501 to 1,000	32	115
From 1,001 to 2,500	232	140
From 2,501 to 5,000	236	171
From 5,001 to 10,000	258	273
From 10,001 to 20,000	142	224
20,001 to 50,000	91	199
≥ 50,001	100	92

Source: OeNB (CCR), author's calculations.

Note: Municipalities excluding local government-owned companies (see box 4).

Box 3

**Per Capita Exposure Highest in Small Municipalities**

The deficit of Austria's local governments (excluding Vienna) reached EUR 11.0 billion in 2006 (compared with EUR 10.8 billion in 2005), with the bracket from 1,001 to 2,500 inhabitants accounting for both the highest number of inhabitants within a bracket and the highest share of total exposure (table 3).

While the average municipal exposure per inhabitant (excluding Vienna) totaled EUR 1,694 in 2006, small municipalities (up to 1,000 inhabitants) had the highest debt level per inhabitant (EUR 2,068), followed by the bracket from 20,001 to 50,000 inhabitants (EUR 2,054). The seven largest municipalities (excluding Vienna), which all have 50,000 inhabitants or more, reported the lowest per capita debt, namely EUR 1,442.

Table 3

**Financial Debt of Austrian Municipalities by Size in 2006**

	Number of municipalities	Number of inhabitants	Financial debt in 2006	
			EUR million	EUR per capita
<b>Municipalities excluding Vienna</b>	2,356	6,482,803	10,980.8	1,694
Up to 1,000 inhabitants	598	375,358	776.3	2,068
From 1,001 to 2,500 inhabitants	1,129	1,814,899	3,164.3	1,743
From 2,501 to 5,000 inhabitants	413	1,388,322	2,273.8	1,638
From 5,001 to 10,000 inhabitants	144	953,094	1,527.8	1,603
From 10,001 to 20,000 inhabitants	49	622,440	1,041.6	1,673
From 20,001 to 50,000 inhabitants	16	458,772	942.5	2,054
From 50,001 to 500,000 inhabitants	7	869,918	1,254.6	1,442
<b>Municipalities including Vienna</b>	2,357	8,032,926	12,454.3	1,550

Source: Statistics Austria, author's calculations.

Note: Number of inhabitants based on the census of 2001.

### 3.1.3 Average Lease Share of Total Exposure between 1.6% (Carinthia) and 23.9% (Tirol) in 2006

The importance of municipal lease financing varies considerably across the various provinces. On the one

hand, the share of average lease volumes in the total annual exposure ranged from as little as 1.6% for Carinthia's municipalities to close to one-quarter for the municipalities of Tirol (2006 data; table 4 and chart 1).

Table 4

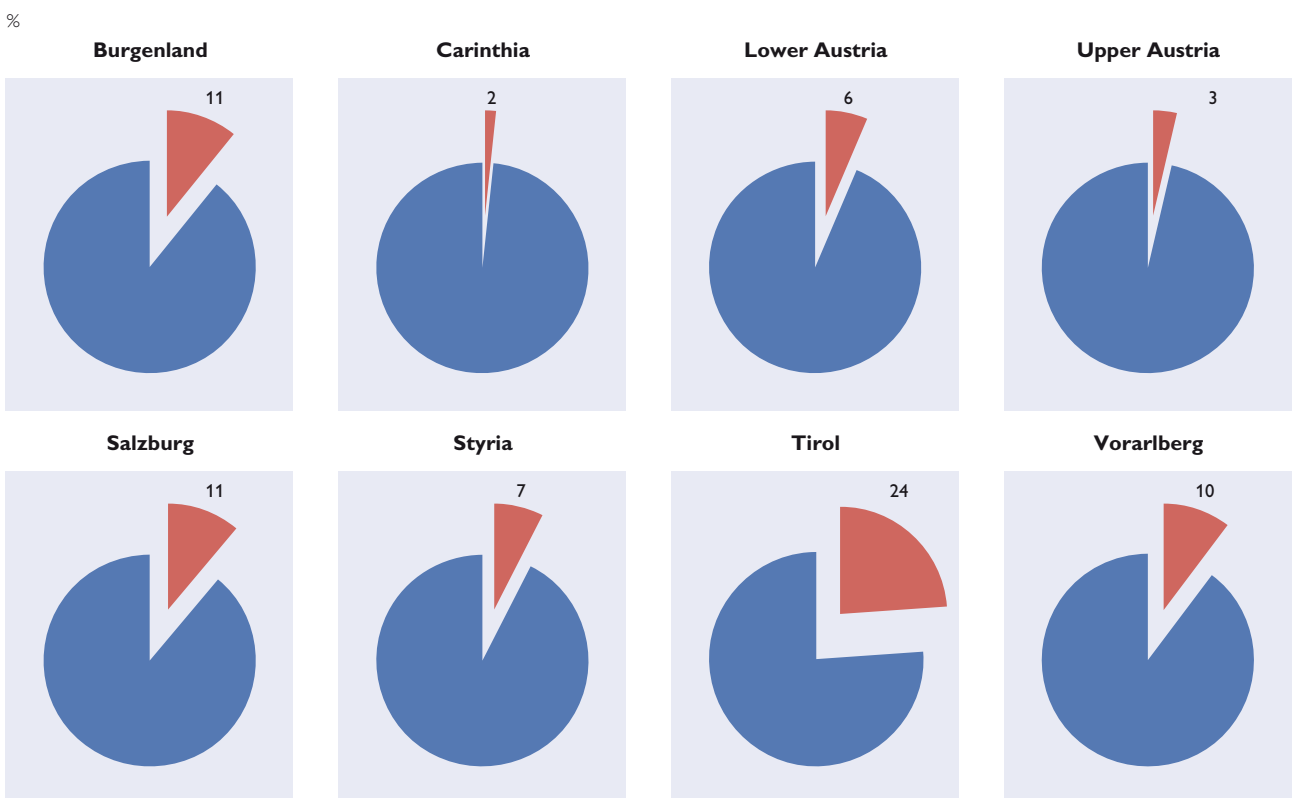
Average Leasing Ratio in the Total Exposure of Municipalities by Province										
%	Burgenland	Carinthia	Lower Austria	Upper Austria	Salzburg	Styria	Tirol	Vorarlberg	Total	
1995	1.6	1.7	6.8	27.4	7.0	6.6	29.9	23.4	12.1	
1996	1.1	1.4	6.2	8.4	6.2	7.0	27.5	20.0	9.2	
1997	1.8	1.2	4.8	7.0	6.7	5.9	25.6	18.8	8.2	
1998	1.5	1.3	4.0	5.4	6.4	4.8	23.1	16.0	7.0	
1999	2.5	1.4	3.9	4.9	9.8	5.0	21.9	16.0	7.1	
2000	3.7	1.2	4.6	3.8	9.2	6.0	21.8	14.2	7.3	
2001	6.1	1.1	6.1	5.1	10.6	8.1	23.0	14.6	8.7	
2002	8.6	1.3	6.2	5.2	10.5	7.9	22.3	14.2	8.8	
2003	9.7	1.1	6.3	5.2	9.8	8.6	23.1	13.6	9.0	
2004	10.6	1.5	6.9	5.4	10.2	8.9	23.8	11.1	9.3	
2005	11.7	1.3	6.9	4.7	10.9	8.7	24.2	10.5	9.3	
2006	10.8	1.6	6.3	3.5	11.1	7.4	23.9	10.3	8.5	

Source: OeNB (CCR), author's calculations.

Note: Municipalities excluding local government-owned companies (see box 4).

Chart 1

Leasing Ratio of Municipalities' Total Exposure as Recorded in the CCR on December 31, 2006



Source: OeNB (CCR), and author's calculations.

Note: Municipalities excluding local government-owned companies.

On the other hand, the provincial breakdown also reveals considerable differences in developments over time: While the average lease share remained fairly constant in Carinthia, Lower Austria and Styria, it increased sharply in Burgenland and in Salzburg. At the same time, the volume of lease financing dropped in Upper Austria, Tirol and Vorarlberg, the three provinces with the highest initial levels, in fact plummeting to very low levels in Upper Austria.

### 3.2 Representativeness of the Central Credit Register Data

#### 3.2.1 Central Credit Register Data (OeNB) versus Government Finance Statistics (Statistics Austria)

Table 5 shows the debt volumes of Austria's local governments (excluding Vienna) on the basis of two different statistical sources – the Government Finance Statistics compiled by Statistics Austria and the CCR of the OeNB. Notwithstanding initial differences, the end-2006 levels were fairly well aligned, coming to EUR 11 billion according to the Government Finance Statistics and to EUR 10.5 billion according to the CCR. The narrowing of this gap can, however, basically be explained by two changes related to CCR reporting requirements. On the one hand, the reporting requirements were extended in 1997 to include securitized assets,

as a result of which the scope of the debt definitions has become more closely aligned. On the other hand, the threshold for volumes of credits subject to reporting requirements was lowered from initially ATS 5 million (EUR 363,364) to EUR 350,000. This increased the degree of coverage of the CCR in relation to the aggregate volume of Austrian debtors.

When taking into account the distinction between operating leases and finance leases made above,<sup>12</sup> the debt volumes of municipalities excluding local government-owned companies as reflected in the CCR (2006 data) corresponded to somewhat more than 85% of the financial debt recorded by Statistics Austria. In other words, the CCR data are highly *representative*.

A cross-check with the number of municipalities confirms the high degree of representativeness of the CCR database: Out of 2,356 Austrian municipalities (excluding Vienna) listed in the Government Finance Statistics of 2006, as many as 2,173 had reported a financial debt of more than EUR 350,000. Those municipalities would be candidates for the CCR, which in fact listed 2,095 municipalities as debtors in 2006. This gap suggests that the criterion mentioned above (EUR 350,000 in loans outstanding from *one* institution subject to reporting requirements) did not apply to 78 municipalities.<sup>13</sup>

<sup>12</sup> That is to say, before calculating the degree of representativeness, we deducted the lease financing volume of EUR 1.1 billion from the total debt burden of municipalities excluding local government-owned companies on a CCR basis.

<sup>13</sup> To some extent, the difference may also be explained by the number of credit lines below the threshold (and thus not covered) that had been provided to municipalities already covered by the CCR by other financial institutions.

Table 5

**Debt Level of Austrian Municipalities according to Different Sources**

Year-end level in EUR million

	Financial dept (Statistics Austria)	Municipal debt (excluding local government-owned companies) – CCR	Municipal debt (including local government-owned companies) – CCR
1990	5,223	2,086	2,542
1991	5,480	2,168	2,675
1992	5,857	2,323	2,872
1993	6,470	2,511	3,028
1994	7,028	3,455	4,127
1995	7,712	4,321	5,250
1996	8,181	5,027	6,260
1997	8,490	6,142	8,742
1998	8,800	6,916	9,780
1999	9,222	7,432	10,517
2000	9,594	8,333	11,830
2001	9,940	8,949	12,609
2002	10,097	9,343	13,158
2003	10,347	9,869	13,909
2004	10,655	10,491	14,899
2005	10,836	10,559	15,047
2006	10,980	10,479	15,171

Source: OeNB (CCR), Statistics Austria.

Note: See box 4 for definitions.

Box 4

**Central Credit Register: Conceptual Framework and Sectoral Classification**

The starting point for assessing the representativeness of CCR data compared with Government Finance Statistics<sup>1</sup> (section 3.2.1) must be a comparison of the underlying **concepts and definitions**. Financial debt as reflected in the Government Finance Statistics and as derived from the public debt statements published in line with the Budgeting and Accounts regulation is broadly defined in Article 65 paragraph 1 of the Federal Budget Act 1986 as “any cash liabilities ... incurred in order to ... obtain spending power.” Such liabilities include, among other things, bonds, loan liabilities as well as assignments of assets (i.e. the transfer of assets to financial institutions before maturity against the cash equivalent of those assets less interest rates and fees). This general definition of financial debt also covers the types of CCR credit subject to reporting requirements mentioned above. There is, however, an exception with regard to the treatment of lease transactions: Only the financial lease volumes are treated as financial debt, whereas operating leases qualify as administrative debt. In contrast, the CCR covers all lease volumes (irrespective of the type of lease transaction) that exceed the reporting threshold of EUR 350,000. This means that data stemming from different sources need to be adjusted for that aspect to allow a meaningful comparison (section 3.2.1).

With regard to **sectoral classification** it should be pointed out that both the financial debt statistics of the local governments (excluding Vienna) as well as the CCR data on indebted municipalities (excluding Vienna) provide an overall picture of the capital market activities of local governments. In this respect, no distinction is made as to whether they raised funds for the purpose of financing municipal market producers, nonmarket producers or third parties. Making that distinction is, however, crucial for calculating the general government debt under the Maastricht definition.<sup>2</sup>

<sup>1</sup> The Government Finance Statistics reflect the fiscal debt of municipalities based on the latter's finalized accounts. For a sectoral breakdown of general government debt, see the Statistics Austria publication “Gebarungen und Sektor Staat.Teil II” (annual series).

<sup>2</sup> This article does not provide a breakdown of debt into non-Maastricht-based and Maastricht-based debt measures; the latter do not include the liabilities of market producers but include offsetting entries for intergovernmental claims.

The CCR data can also be used to highlight the level of municipal liabilities including any entities that have close relations with municipalities. This allows us to include also public entities or nonprofit organizations (municipal cooperatives, municipal hospitals, municipal utilities, etc.) as well as borrowers with joint and several liability<sup>3</sup> constituting municipal entities and registered companies, with at least one local government holding at least a 50% stake. In contrast, the Government Finance Statistics reflect only the financial debt of municipal cooperatives, which reached roughly EUR 3 billion in 2006 (Statistics Austria, 2006).

<sup>3</sup> A borrower group with joint and several liability exists when several borrowers take out a joint credit line, which may only be drawn down from a joint account.

### 3.2.2 Comparability of the Representativeness of CCR Data on Lease Financing Is Limited

Apart from the OeNB's CCR, the Association of Austrian Leasing Companies is another key source for lease financing data at the municipal level. The Financing Needs Report 2002, commissioned by the Austrian Association of Towns and Cities and the Austrian Association of Municipalities, put the municipal leasing volume for the period from 2001 to 2004 at EUR 1,026 million.

For 2005 and 2006 the Association of Austrian Leasing Companies was able to provide the lease volume (present value before deduction of deposits) only for the public sector as a whole (table 6).

The overwhelming share of the public sector's lease volume, namely 90%, was real estate leasing, which totaled about EUR 3.5 billion in 2006. The major beneficiaries of real estate leasing are the provincial governments, which rely on real estate leasing above all in the area of (vocational) schooling and elder care. Demand for equipment leasing (10% share) and vehicle leasing (3% share) is comparatively low among public sector entities, but has been growing. On the whole, the public sector lease volume reached EUR 4 billion in 2006, thus accounting for one-fifth of the Austrian leasing market.

The possibility of cross-checking the CCR-based lease volumes for their *representativeness* is limited owing

Table 6

#### Leased Property in Austria<sup>1</sup>

Type of lease	2005		2006	
	EUR million	share in %	EUR million	share in %
Real estate, total	10,636	52	11,033	51
of which: leased by public entities	3,602	88	3,487	87
Equipment, total	3,467	17	3,598	17
of which: leased by public entities	419	10	396	10
Vehicles, total	6,264	31	6,926	32
of which: leased by public entities	73	2	117	3
Total leased property	20,367	100	21,557	100
of which: leased by public entities	4,094	100	4,000	100

Source: Association of Austrian Leasing Companies.

<sup>1</sup> These figures are representative for approximately 96% of the Austrian leasing market.

to the lack of specific data sources. The evidence provided by the finance needs report 2002, which is based on a survey of the Austrian Association of Leasing Companies, would appear to confirm the CCR measures. Yet the Financing Needs Report only reflects the sum total of new leasing business from 2001 to 2004 (roughly EUR 1 billion), which merely allow for a rough comparison, as the data are not adjusted for repayments and the pre-2001 volumes. Last but not least, no municipal data are available for the final years of the review period. The lease volume recorded by the Austrian Association of Leasing Companies for the public sector as a whole cannot be broken down further due to data limitations.

#### 4 Possible Reasons for the Different Role of Municipal Leasing Across Provinces

The following section contains a number of *working hypotheses*<sup>14</sup> established to explain the differences in the incidence of leasing across provinces. These hypotheses are tested below based on municipalities excluding local government-owned companies:

- *Financing behavior is influenced by municipal supervisors.* In their capacity as municipal supervisors, the provincial governments may affect the choice among different financing forms in a number of ways (e.g. by giving incentives through subsidies).
- *Leasing may solve problems of credit-worthiness.* Municipalities with poor

credit records find it difficult to raise the required funds through “traditional” loans.

- *Municipalities with high per capita debt volumes are more inclined to opt for leasing.* Municipalities that are already highly indebted (e.g. based on per capita measures of debt) might have a particular interest in looking into alternative financing options – such as leasing – that do not increase the level of debt (further).

#### 4.1 Is Lease Financing Affected by Institutional Requirements Imposed by Municipal Supervisors?

There are a number of municipal transactions that require *supervisory approval*. The type and scope of those transactions differ across provinces and are outlined in the respective local bylaws. Taking out a loan or assuming a guarantee or liability is typically subject to approval. As demand for lease financing rose, lease deals became subject to approval in more and more municipalities.<sup>15</sup> The different periods in which municipal bylaws were amended basically reflects the diverging role of lease financing across provinces: As a rule, the earlier the time at which lease transactions became subject to approval, the lower the share of leases is in the overall exposure. In Carinthia, where the average lease share of local governments’ overall exposure was lowest at 2% in 2006, lease contracts have been subject to approval by the

<sup>14</sup> The list provided here is not exhaustive.

<sup>15</sup> The approval requirements differ across provinces. Different provinces may treat different types of leasing differently; in some instances approval may be subject to different criteria, such as the financial strength of a community. However, real estate leasing – which accounts for the bulk of municipal leasing – is either subject to approval as a rule (in Burgenland, Carinthia, Lower and Upper Austria, Tirol and Vorarlberg) or subject to approval under certain conditions (in Salzburg and Styria). See Mösenbacher (2004).

provincial government since mid-1998. Conversely, those provinces in which municipalities recorded relatively high lease shares (such as Burgenland, Salzburg and Vorarlberg) introduced approval requirements for lease deals as late as in 2003 or 2004.

Furthermore, the municipal supervisors may also *make approval of municipal investment projects dependent on a specific form of financing*. Such a concept may reflect many different intentions, such as the wish to compare the costs of different financing alternatives, to reach specific targets, like Maastricht-based deficit and debt measures, or to influence the structure of the debt portfolio.

#### 4.2 Are Lease Deals a Way Out for Municipalities with Poor Credit Records?

To test the working hypothesis, namely that municipalities with poorer credit records – measured in terms of the average default probability (all credit lines taken together) of a borrower<sup>16</sup> – tend to rely more heavily on leasing in order to circumvent banks' credit standards for the approval of loans or credit lines, a correlation matrix was built for the purpose of this article.

This matrix is composed of correlation coefficients that describe the linear relationship of the variables and that range between 0 (no correlation) and 1 (complete correlation). Correlations are broad-brush indicators of the relationship between variables, but they cannot answer the causality question, i.e. highlight cause-effect relationships.<sup>17</sup>

If lease financing is assumed to play a minor role at low default probabilities (i.e. high creditworthiness), the correlation coefficient should be positive and close to 1. As is evident from table 7, the correlation coefficient is indeed positive, but it is close to 0. In other words, there is no statistical evidence of such a relationship.

This lack of a relationship between low lease finance and high creditworthiness can be explained by the fact that like loans, lease deals are subject to an approval process and creditworthiness criteria that are similar to the standards applied for loans. Before entering into a contract, leasing companies will test the prospective lessee's default probability using numerous sources of information (trade inquiries, annual financial statements, income statements, credit statements

Table 7

#### Correlation Matrix – Probability of Default and Lease Financing

	Probability of default	Leased property per inhabitant	Lease ratio in % of total exposure
Probability of default	1	0.051*	0.006
Leased property per inhabitant	0.051*	1	0.620**
Lease ratio in % of total exposure	0.006	0.620**	1

Source: OeNB (CCR), author's calculations.

Note: \*The correlation is significant at a level of 0.05 (both sides). \*\*The correlation is significant at a level of 0.01 (both sides).

<sup>16</sup> In this context it appeared to useful to take the arithmetic mean rather than the median to reflect the actual default probability characteristics of individual credit lines.

<sup>17</sup> Causality is typically tested with experiments followed up by regression analysis. This approach was, however, not a useful option for this paper.



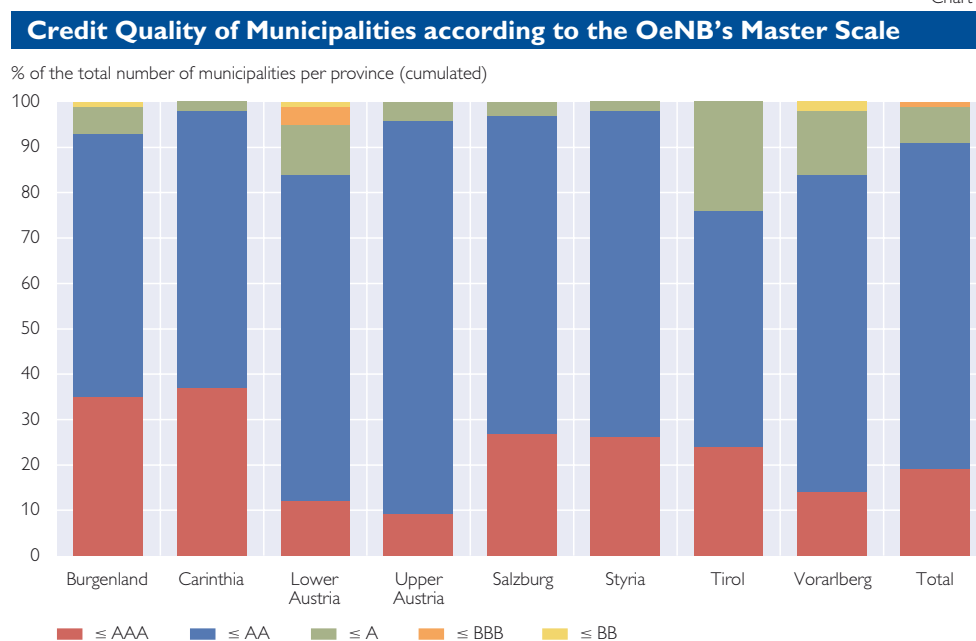
and, in the case of municipalities, in particular existing levels of per capita debt).

#### 4.2.1 Digression: The Larger a Community, the Better its Credit Quality

Banks assess the credit quality (ability to pay interest and repay principal) of municipalities on the basis of different measures (e.g. measures of financial strength) and assign them to a given rating grade. Such internal ratings have been applied to municipalities based on CCR reporting requirements since early 2003. Banks are thus meeting the growing institutional demand for information on credit quality (e.g. on the part of the OeNB, the IMF and the World Bank) as well as the requirements of the new

capital adequacy (Basel II) rules (Datschetzky et al., 2003). As the individual financial institutions use different classification frameworks, the OeNB transfers the credit quality data provided in CCR reports to a master scale in order to make them comparable. Depending on their probability of default, municipalities are assigned to one of eight rating grades of the OeNB master scale (grade 1: highest credit quality; grade 8: default).<sup>18</sup> The lower the default probability, the higher the credit rating to be assigned. As communities tend to have more than one credit line or numerous exposures, which may come with different probabilities of default, it is necessary to establish an “average” default probability that reflects the entire debt portfolio of the

Chart 2



Source: OeNB (CCR), and author's calculations.

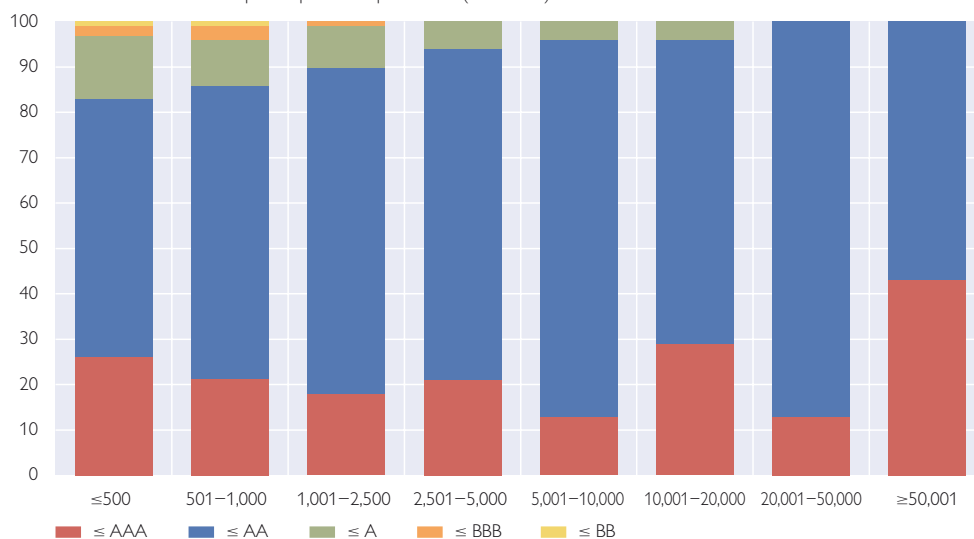
Note: Based on the rating framework of Standard & Poor's, AAA denotes the highest rating.

<sup>18</sup> The OeNB's master scale contains eight rating grades, which are further broken down into 27 subgrades (21 “viable” grades and 6 default grades).

Chart 3

### Credit Quality of Municipalities according to the OeNB's Master Scale

% of the total number of municipalities per municipal bracket (cumulated)



Source: OeNB (CCR), and author's calculations.

Note: Based on the rating framework of Standard & Poor's, AAA denotes the highest rating.

given municipality. To this effect, and to prevent outliers from skewing the rating, the OeNB calculates the median of the default probabilities for all individual credit lines. To put the OeNB master scale data in a wider perspective in this article, the results were translated into the rating framework of Standard & Poor's (S&P), where AAA indicates the highest credit quality. According to the S&P framework, the municipalities in the five best rating grades are rated AAA to BB.<sup>19</sup>

Credit quality differs highly across individual municipalities. A breakdown by individual provinces (chart 2) shows that Carinthian and Styrian municipalities have a particularly high

credit rating: approximately 98% of all communities are rated AA or better.

In Tirol, in contrast, little more than three-quarters of all municipalities are rated that highly. Extending the scope to A broadly suffices to cover the majority of all Austrian municipalities. Only in Burgenland, Lower Austria and Vorarlberg are there also municipalities rated BBB or BB.

A breakdown by municipal size shows that credit quality deteriorates as size increases (chart 3). In other words, the more inhabitants in a municipality, the higher the share of rating grades that correspond with higher probabilities of default, and vice versa.<sup>20</sup>

<sup>19</sup> For an exact definition of the underlying S&P ratings for long-term issuer default rates see [www2.standardandpoors.com](http://www2.standardandpoors.com)

<sup>20</sup> However, as the correlation coefficient calculated from the original time series (number of inhabitants, probability of default) is close to 0, the statistical evidence backing up this relationship is not significant.

### 4.3 Does High Per Capita Debt Prompt Portfolio Shifts toward Lease Finance?

This section looks into the question of whether highly indebted communities are more inclined to shift their portfolios toward instruments that do not constitute financial debt.

In order to test this relationship, a debt variable representing the per capita level of debt excluding lease liabilities (residual debt per inhabitant) is cross-tabulated with the available leasing variables in a correlation matrix. If the working hypothesis holds, the correlation coefficient between residual debt and leasing per capita should be positive and close to 1. The correlation between residual debt and the leasing share ought to be similar if the leasing share rises at a disproportionate scale as residual debt increases. In actual fact, the coefficient between residual debt per capita and leasing volume per capita is indeed positive according to the correlation matrix; at the same time, a measure of just 0.16 indicates a rather weak relationship between the two variables (table 8).

When the second leasing variable, the share of leasing in total exposure, is used, the correlation coefficient turns negative. Apparently, the observations reflect that the increase in residual debt is higher than the increase in the lease volume, as a result of which the lease share in the aggregate

exposure tended to decline as the residual debt rose. This would imply that the working hypothesis, based on using the leasing share as an indicator for a high share of leasing financing when per capita debt is high, does not hold. This result confirms the weak relationship derived above.

One reason for that weak relationship might be that the per capita debt of communities is an important criterion in the rating test to which leasing companies subject potential lessees. In other words, it may well be the case that a high (residual) debt is the very reason why access to leasing finance is limited for municipalities.

## 5 Conclusions

The CCR provides a database with detailed information on the debt situation of municipalities and on the characteristics of municipal finance. As indicated by a cross-check with the Government Finance Statistics, which reflect the financial debt of municipalities on the basis of finalized accounts, the CCR data reflect 85% of the total exposure of municipalities and are thus fairly representative measures of municipal debt (even though liabilities become subject to reporting requirements only once they exceed EUR 350,000 in total). Given this high degree of representativeness, the CCR is an important data source for analyses.

Table 8

### Correlation Matrix – Debt per Capita and Lease Financing

	Residual debt per inhabitant	Leased property per inhabitant	Lease ratio in % of total exposure
Residual debt per inhabitant	1	0.155**	-0.190**
Leased property per inhabitant	0.155**	1	0.620**
Lease ratio in % of total exposure	-0.190**	0.620**	1

Source: OeNB (CCR), author's calculations.

Note: \*\* The correlation is significant at a level of 0.01 (both sides).

The CCR facilitates a systematic assessment of the role of lease financing at the municipal level. The development of lease volumes reflects, at least to some extent, the effects of institutional and legal framework conditions (such as Maastricht-based requirements). What is striking is that the lease volume jumped in 2001. This was the year in which the Austrian Stability Pact of 2001 became effective, which produced consolidation pressures at all levels of government. Municipalities responded above all by lowering their investment ratio and by looking for alternative financing instruments, such as lease financing. The ensuing increase in municipal leasing thus reinforced the decline in municipal appropriations in the financing account.

The average lease volumes or shares in local governments' total exposure (within each province) as reflected in the CCR show a high degree of heterogeneity. Yet it is fairly difficult to back up those differences across provinces with theoretical evidence.

Furthermore, there is no conclusive evidence as to the role municipal supervisors play in approving investment projects, as the approval process is influenced by a range of factors (costing exercises, Maastricht relevance etc.), which do not a priori imply a systematic bias for particular forms of financing.

At the same time, the leasing ratio of the aggregate exposure appears to be correlated with the date at which municipal lease finance deals became subject to approval under municipal bylaws. The earlier in time approval became mandatory, the lower the leasing volume as a ratio of the aggregate exposure tends to be.

Conversely, it was not possible to provide empirical evidence of a posi-

tive correlation between a higher share of leasing in total exposure with poorer credit quality. The starting point for testing this relationship was the hypothesis that communities with a poorer credit quality might try to circumvent stringent credit standards of banks by opting more readily for leasing. While the credit ratings made by financial institutions that are subject to reporting requirements confirm that those ratings made some difference, they do not confirm that lease deals might have substituted loans as a result of poorer credit records. This may be ascribed to the fact that potential borrowers are subjected to comparable credit quality checks no matter whether they want to take out a loan or lease.

A high per capita level of debt correlates with the scope of lease financing to a rather limited extent. Thus, a high existing exposure will provide little motivation for shifting portfolios toward lease financing so as not to increase the level of debt any further, as under an operating lease framework.

The decision for or against lease financing can be expected to be taken on an ad hoc basis in most instances. Neither supervisory framework conditions nor a community's level of indebtedness are likely to have a systematic influence on lease deals. While municipal leasing is a useful alternative to traditional financial instruments under certain conditions, it is not a panacea to ease the burden on municipal households and/or to control public debt levels (Wölker, 1996). While municipal leasing can be expected to have its merits above all when it comes to real estate leasing for nonmarket producers, the case for this instrument will always have to be made on an ad hoc basis.

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