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Cash-Flow Margin of Austrian Manufacturers Still Resilient in 2008

Due to the favourable business conditions prevailing in 2007, the cash-flow/sales ratio of Austrian manufacturers rose to 13.7 percent. In 2008, the more moderate increase in net output of 3.5 percent has probably dampened the earnings power towards its long-term average, to a cash-flow/sales ratio of 10.3 percent as estimated by WIFO. The decline is an early reflection of the international financial market crisis leading to a business cycle downturn in the fourth quarter. The positive earnings trend in 2007 contributed to the fact that for the first time the equity capital ratio in the Austrian manufacturing sector of 38.5 percent exceeded the European average (36.7 percent). Among the service industries, cash flow and equity ratios differ markedly, partly due to different intensities in economies of scale and degrees of competition. Overall, the equity ratio is substantially lower in services than in manufacturing. With a ratio of 15.6 percent of the balance sheet total, financial assets of Austrian manufacturers are relatively low by international standards and have increased only little in the last few years.

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While macro-economic indicators reflect the structural and cyclical influences on particular companies, firm-specific key figures, derived from balance sheets or earnings statements, serve as the basis for operational decisions as regards strategic planning, management and internal control. They are also deemed of external relevance, e.g., for the valuation of a company or for the assessment of risks. The value of such information reaches beyond the company level, and if aggregated to sectoral indicators, they can play a role also from a macro-economic perspective. The behaviour of these sectoral indicators can in turn be explained by cyclical influences.

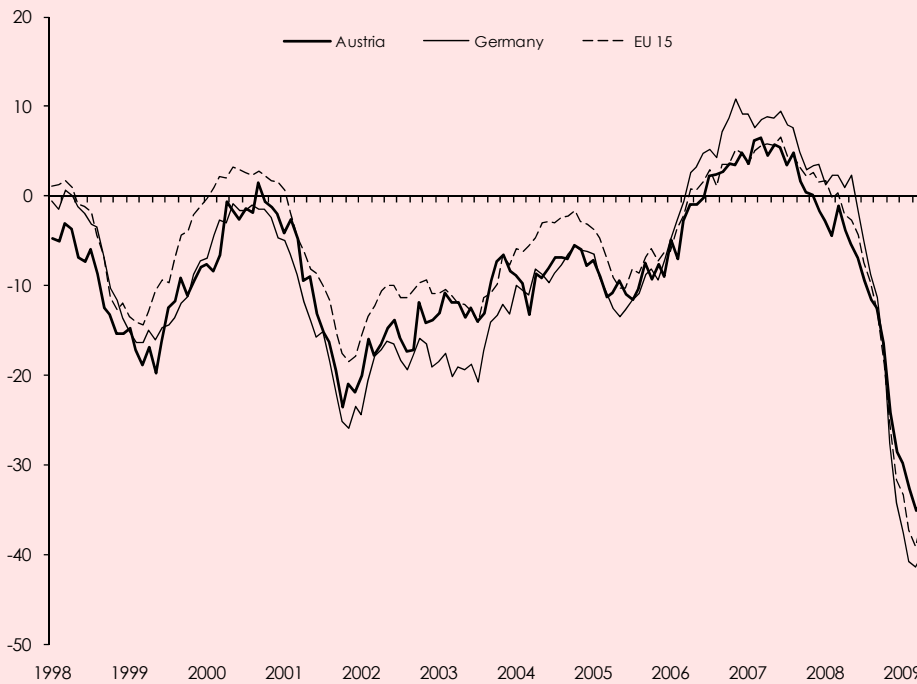
A significant indicator is the cash-flow ratio, which is equivalent to the surplus of cash over sales. In addition, WIFO monitors regularly the equity ratio of the Austrian manufacturing sector measuring the relative endowment with equity capital. For the first time, this report assesses also the share of financial assets in the balance sheet total as a gauge of the degree of exposure vis-à-vis financial market variations. Financial assets, i.a., include shares in affiliated companies, as well as securities in fixed assets.

The development of these indicators will be analysed for the manufacturing and parts of the service sector at the industry level. For this purpose we will use the BACH database ("Bank for Accounts of Companies Harmonized"), which offers harmonised balance sheet statistics for European countries, thereby allowing an international comparison of the performance of manufacturers at a disaggregated level. However, despite the efforts at harmonisation, the data are comparable only to a certain extent; moreover, the international balance sheet indicators refer only to non-financial incorporated enterprises.

For the calculation of the indicators, the Oesterreichische Nationalbank (Austrian central bank) combined several sets of data. Some of the data for Austria are derived from the balance sheet statistics of the OeNB. These are obtained from company data that banks supply for the examination of creditworthiness in the context of open market operations. The Austrian Institute for SME Research (KMU Forschung Austria) supplements this data set by information on smaller companies supplied by

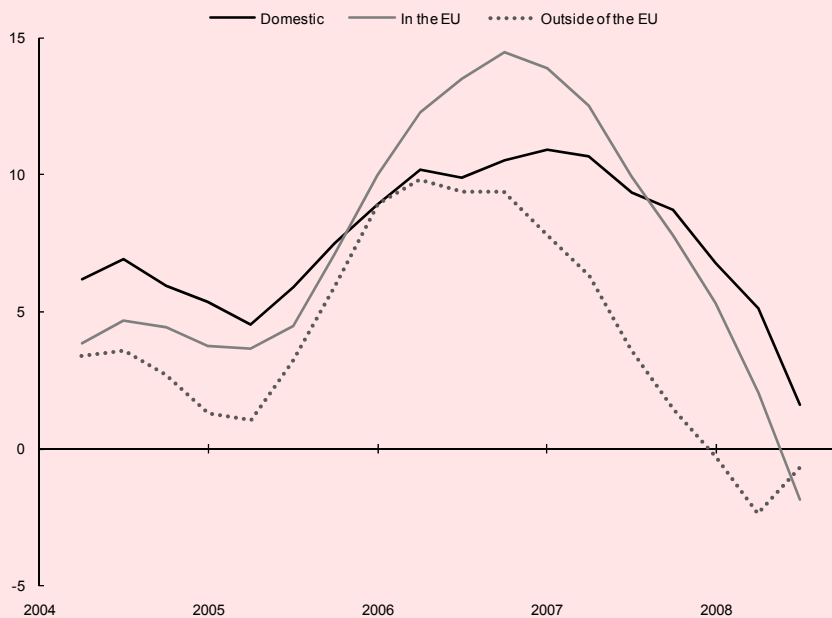
banks. The indicators are not directly comparable with those from OeNB publications before 1999.

Figure 1: Industrial confidence indicators



Source: European Commission, DG Economic and Financial Affairs, Business and Consumer Surveys, http://ec.europa.eu/economy_finance/db_indicators/db_indicators8650_en.htm.

Figure 2: Personal assessment of competitiveness of Austrian manufacturers
Balance of positive and negative assessments as a percentage of total responses



Source: WIFO business cycle survey.

The real value added of Austrian manufacturing companies increased by 3.5 percent in 2008, less than the +5.5 percent gain in 2007. After a positive development in the first and second quarter, business activity took a sharp fall in the second half-

year; the decline in seasonally-adjusted value added accelerated in the fourth quarter, to a rate of 1.4 percent.

After an increase by 8.7 percent in 2007, real exports of goods edged up by only 0.9 percent year-on-year in 2008. Results from the WIFO business cycle survey for the manufacturing sector show, as from the second half of 2008, a substantial deterioration of all indicators as compared with 2007. A similar pattern is drawn by the confidence indicators issued by the European Commission for the EU 15 and for Germany (Figure 1). While the international downturn is set to continue, the range of forecasts is rather wide. As a small export-oriented economy, Austria cannot escape the negative trend, as already revealed by the data for late 2008. In its latest short-term projections of end-March, WIFO expects the total value added of the manufacturing sector to shrink by 5.5 percent in 2009, before picking up by 0.5 percent in 2010. This profile suggests for 2009 a marked setback in earnings power.

Table 1: Cost developments in manufacturing

	Industrial commodity prices, euro basis		Unit labour cost		Interest rate on corporate loans in percent	Real-effective exchange rate index	
	1990 = 100	Change from previous year in percent	2000 = 100	Change from previous year in percent		First quarter 1999 = 100	Change from previous year in percent
1990	100.0	.	96.3	+ 1.3	.	.	.
1991	91.4	- 8.6	101.2	+ 5.1	.	.	.
1992	82.4	- 9.8	107.4	+ 6.1	.	.	.
1993	74.9	- 9.2	115.7	+ 7.8	.	104.5	.
1994	85.7	+ 14.5	114.7	- 0.9	.	104.4	- 0.1
1995	90.8	+ 5.9	114.0	- 0.6	.	107.5	+ 3.0
1996	84.5	- 6.9	110.8	- 2.9	6.6	103.9	- 3.4
1997	96.0	+ 13.6	104.5	- 5.6	6.1	99.2	- 4.6
1998	83.5	- 13.1	105.0	+ 0.5	5.7	99.5	+ 0.3
1999	85.0	+ 1.9	103.7	- 1.2	4.7	98.1	- 1.4
2000	105.8	+ 24.4	100.0	- 3.6	6.0	94.1	- 4.1
2001	98.7	- 6.7	101.1	+ 1.1	5.9	93.9	- 0.2
2002	91.2	- 7.6	102.3	+ 1.2	5.2	94.4	+ 0.6
2003	88.6	- 2.9	103.3	+ 0.9	4.2	97.6	+ 3.3
2004	100.7	+ 13.6	101.5	- 1.7	3.6	98.5	+ 1.0
2005	115.3	+ 14.5	100.5	- 0.9	3.5	97.6	- 1.0
2006	151.2	+ 31.1	96.2	- 4.4	4.1	97.0	- 0.5
2007	160.1	+ 5.9	95.6	- 0.6	5.1	97.8	+ 0.7
2008	156.1	- 2.5	97.1	+ 1.6	4.6	98.7	+ 0.9

Source: WIFO, OeNB, HWWA.

Framework conditions deteriorated primarily from the demand side, notably exports to the USA (-10 percent), Germany (+1.2 percent) and Italy (-1.4 percent) were much weaker in 2008 than in the last few years. Moreover, the euro appreciated slightly, as reflected by the increase in the real-effective exchange rate index in trade with manufactures by 0.9 percent. The increase in gross earnings per capita by 3 percent drove up unit labour costs by 1.6 percent in 2008. These factors made for an only slight decrease in the cash-flow ratio for the time being.

Other cost components had a dampening effect on the decline. The interest rate for corporate credits eased in 2008 despite the financial market crisis by ½ percentage point to 4.6 percent. Also, raw materials were 2.5 percent cheaper than in 2007, largely because of the sharp fall in oil prices.

The benign economic conditions of 2007, with GDP growing by 3.1 percent and the working-day-adjusted production index of manufacturing rising by 6.1 percent, are mirrored by the aggregate cash-flow ratio, which on average for the 19 industries analysed rose to 13.7 percent, clearly exceeding the 10.5 percent observed for the period 1995-2006. For 2008, the WIFO estimate, using a dynamic panel-econometric model (Kiviet, 1995), is for a ratio of 10.3 percent. While still broadly stable, the decline of the ratio reflects the sharp deceleration of business activity towards the end of 2008. The working-day-adjusted production index still gained 0.8 percent on annual average 2008, but fell by 4.6 percent year-on-year in the fourth quarter. The re-

Estimates for 2008 show the cash-flow-to-sales ratio of Austrian manufacturers remaining resilient at 10.3 percent in 2008. It was nevertheless lower than the 13.7 percent achieved during the earnings boom in 2007.

sult was dragged down in particular by the output loss in the automotive industry (-8.9 percent) in the production of non-durable goods (-1.6 percent).

Data and Definitions

The cash flow ratio is an indicator of a company's capability to finance investment or distribute profits out of revenues from its sales. It mirrors the self-financing power of a company. Of similar interest is a comparison of firms' equity capitalisation. The latter is of importance beyond the pure liability element, notably with a view to its effect on confidence with clients and suppliers regarding the company's future liquidity as well as its autonomy in carrying out risky financial operations.

The cash flow of a company corresponds to the surplus of revenues over expenditure generated within a period through its own business operations. As different from external financing (via equity capital, debt capital or subsidies) or asset transformation (asset sales, depletion of inventories etc.) as a form of internal financing, self-financing in the wider sense consists of three components: retained earnings (self-financing in the narrow sense), the "earned" counter value of depreciation, and of financial reserves for potential liabilities vis-à-vis third parties (Schäfer, 1998).

The cash-flow-to-sales ratio is measured by the share of cash flow in sales revenues. For this purpose, the cash flow is defined as follows:

$$\begin{aligned}
 & \text{Result from ordinary business operations} \\
 + & \text{ normal depreciation of fixed assets} \\
 + & \text{ depreciation of financial assets and securities of current assets} \\
 [& \pm \text{ allocation to or liquidation of reserves}] \\
 [& \pm \text{ allocation to or liquidation of social capital}] \\
 = & \text{ Cash flow}
 \end{aligned}$$

The equity capital ratio as a measure of financial independence vis-à-vis third parties is obtained as the share of equity capital in the balance sheet total. The equity capital includes both the equity capital on the balance sheet and financial reserves. The balance sheet total is composed of fixed capital, current capital and accruals/deferrals.

The BACH database

The BACH database (Bank for Accounts of Companies Harmonized) has been established since 1987 by the European Commission (DG ECFIN) in co-operation with the European Committee of Central Balance Sheet Offices, in order to facilitate international comparisons between the EU member states, Japan and the USA. At present, aggregated data on corporate annual financial statements are available in the following breakdown:

- 12 countries: Austria, Belgium, Spain, France, Germany, Italy, the Netherlands, Portugal, Finland, Poland, Japan and the USA,
- 55 industries according to NACE rev. 1.1 (2-digit), of which 23 for manufacturing.
- 3 size brackets: companies with annual sales below € 10 million, between € 10 and 50 million, and above € 50 million.

Since a few industries are not included in the statistics¹, the econometric estimations for the period 1991-2008 presented here cover only 19 of the 23 industries.

¹ Tobacco industry, manufacture of coke, refined petroleum and nuclear fuel, manufacture of office machinery and computers, recycling.

After the remarkably good results of 2007, the cash-flow ratio is likely to have declined in 2008 in nearly all industries (in particular manufacturing of leather and leather goods -7.2 percentage points, of metal and metal goods -8.6 percentage points, of office machinery, data processing equipment, electronics, advanced mechanical and optical equipment -12.1 percentage points, of non-specified vehicle construction -6.1 percentage points). The Austrian automotive industry was already in 2008 dragged down by the global crisis of the motor car industry and suffered a slump of its earnings by more than one-fifth (cash flow ratio -2.3 percentage points).

A Panel-Econometric Model for Cash Flow Projections

The projections for cash flow trends at the industry level use a panel-econometric approach. Despite rather short time series, the pooling of sectoral data allows a reliable econometric estimate to be made for the cash flow ratio for 2008. The specification follows the industrial economics literature and assumes that the cash profitability and thereby also the self-financing power of companies exhibit differences persistent over time (Mueller, 1990, Aiginger – Pfaffermayr, 1997, Peneder – Pfaffermayr, 2003). Allowance is made for this assumption by introducing fixed industry-specific effects. The econometric model also includes the cash flow ratio lagged by one period in order to illustrate the partial adjustment to external shocks.

Further explanatory variables are a synthetic business cycle indicator (I_{it}) and (I_{it-1}) on the basis of companies' judgement of business conditions as sampled by the WIFO business survey. Additional structural data for the explanation of the cash flow ratio are not available. The synthetic cyclical indicator is derived from the annual averages of the balance between optimistic and pessimistic responses (as percent of all responses) with regard to the current business situation (GL), the business outlook for the next six months (GL_6) and the development of prices (PR) using the following formula (Oppenländer, 1996):

$$I = \left[(GL + 200)(GL_6 + 200)(PR + 200) \right]^{1/3} - 200.$$

The series of these balances of responses are closely correlated with the trend of the cash-flow-to-sales ratio and with manufacturing output. However, they also mirror non-observed structural differences and different developments in production costs between industries. For projection purposes, this indicator should exhibit a sufficient lead in time. The correction by 200 ensures that the value of the term in square brackets is always positive.

Ten outlier dummies (D_1, \dots, D_{10}) capture special influences which cannot be explained by the exogenous variables. In addition, the model includes dummies for the different industries (S).

In algebraic terms, the econometric forecasting model is specified as follows:

$$\log \pi_{it} = \beta_1 \log \pi_{it-1} + \beta_2 I_{it} + \beta_3 I_{it-1} + \beta_0 + \sum_{j=1}^{10} \alpha_j D_j + \sum_{j=1}^{18} \gamma_j S_j + \varepsilon_{it},$$

$$\varepsilon_{it} \sim N(0, \sigma^2), \quad i = 1, \dots, 19, \quad t = 1992 \text{ to } 2008.$$

In the present estimation, the average cash flow ratio for the entire manufacturing sector is obtained as the weighted average of the industry-specific projections, the weights being the aggregated balance sheet total for each industry. Since these data are not available for 2008, aggregate sales according to the WIFO investment survey have been used as proxy weights; the weights have been assumed as deterministic.

The estimation results for the period from 1992 to 2007 are presented in Table 2. While the lagged business cycle indicator is insignificant, all other explanatory variables, including the fixed industry-specific effects, are shown to be statistically significant. The fact that the parameter of the cash flow ratio lagged by one period is significant implies that exogenous influences on earnings developments, even of low persistence, have an echo-effect over several periods. Overall, the model exhibits an appropriate estimation quality; the high R^2 of .87 should not be overrated nevertheless, since it is largely determined by the outlier dummies and the fixed industry-specific effects.

The weakening of the cash flow quotas extended to nearly all manufacturing industries. Only textiles and clothing, (+0.7 percentage points), glass and glass or ceramic manufactures (+2.1 percentage points) as well as metal goods (+0.5 percentage points) beat the trend. Such uneven earning performance across the different industries is captured by the estimates on the basis of companies' responses summarised in the synthetic business cycle indicator. Apart from the strength of demand and structural change, these responses also reflect different developments in the operational framework.

Table 2: Estimated coefficients for the projection of the cash-flow-to-sales ratio

Observation period: 1992-2007

	I_t	I_{t-1}	$\log \Pi_{t-1}$
β	0.21	- 0.06	0.29
z-value	5.32***	- 1.31	5.5***
$NT = 323$			
R^2	0.89		
σ	0.21		

Correction for distortion according to Bruno (2003), Bun – Kiviet (2003) and Kiviet (1995). According to Bruno (2003), the standard deviation of the estimators is obtained from bootstrapping with 1,000 replications. Fixed sectoral effects and 10 outlier dummies for extraordinarily high or low cash flow ratios are not shown. I_t ... synthetic business cycle indicator, I_{t-1} ... relation between depreciation and sales (lagged by one period), $\log \Pi_{t-1}$... sector-specific cash flow ratio (lagged by one period); *** ... significant at the 1 percent level.

Table 3: Cash flow ratio by manufacturing industries

	2001	2002	2003	2004	2005	2006	2007	2008
	Cash flow as a percentage of sales							
Manufacture of food products, beverages and tobacco	7.0	8.8	9.6	9.6	8.6	8.9	9.4	8.8
Manufacture of textiles and textile products (without apparel)	2.5	7.8	7.5	8.4	9.6	7.5	6.2	7.0
Manufacture of wearing apparel	2.6	2.7	4.4	4.0	3.6	2.0	5.7	4.4
Manufacture of leather and leather apparel	5.5	3.3	3.8	3.2	11.8	7.6	15.5	8.2
Manufacture of wood and wood products (except furniture)	8.9	7.5	6.7	8.3	7.1	8.2	10.2	8.0
Manufacture of pulp, paper and paper products	19.7	18.8	17.1	15.6	12.8	15.4	14.5	13.0
Publishing, printing and reproduction of recorded media	8.8	8.4	8.8	9.3	9.5	7.6	16.7	10.6
Manufacture of chemicals and chemical products	13.1	14.7	11.2	10.9	11.2	13.0	17.5	13.3
Manufacture of rubber and plastic products	8.8	9.1	11.3	11.6	10.8	10.5	10.2	9.6
Manufacture of other non-metallic mineral products	15.0	14.4	16.7	16.6	15.0	15.4	12.7	14.7
Manufacture of basic metals	13.6	6.4	9.6	11.1	14.2	13.0	20.8	12.1
Manufacture of fabricated metal products	9.9	10.1	10.8	10.5	11.3	11.3	10.6	11.1
Manufacture of machinery and equipment	9.2	9.3	7.7	7.6	11.2	11.9	13.5	10.6
Manufacture of electrical machinery and apparatus	6.0	1.9	11.3	16.6	6.4	12.6	10.1	9.8
Manufacture of radio, television and communication equipment and apparatus	18.0	22.4	5.2	8.9	8.3	13.8	15.5	8.5
Manufacture of medical, precision and optical instruments	12.8	15.2	15.8	10.2	12.3	17.4	27.5	15.4
Manufacture of motor vehicles, trailers and semi-trailers	8.9	8.3	8.4	7.4	7.7	10.4	10.9	8.6
Manufacture of other transport equipment	11.6	13.5	10.1	7.8	4.4	17.5	19.4	13.3
Manufacture of furniture, jewellery, musical instruments, sports equipment, toys; other manufacturing	10.0	10.5	9.0	8.0	7.9	7.5	4.6	6.7
Total manufacturing ¹	10.6	10.2	10.4	11.0	10.1	11.6	13.7	10.3

Source: OeNB, WIFO calculations. 2008: projection. – ¹ Weighted average.

At 13.7 percent in 2007, the cash flow ratio of the Austrian manufacturing sector was above the average for all countries sampled (for 10 EU member states 10.21 percent; Table 4). Also over the period from 1995 to 2007, the earnings of Austrian manufacturing firms was very strong (10.8 percent), exceeded only by the Netherlands (17.8 percent) and Finland (15.9 percent).

Cash-flow ratio above the international average

In most countries, the cash flow ratio oscillated only little around its mean over time. The variation coefficient (i.e., the standard deviation as percent of the mean value) is 9 percent for Austria, 3 percent for Italy and 4 percent for France, but a much higher 21 percent for the Netherlands and 17 percent for Finland.

In Poland, the only new EU member state for which data are available, the cash flow ratio rose to 11.5 percent in 2007. It thereby exceeded the average for the period from 2002 to 2007 of 10.9 percent as well as the average for the European sample of 11 percent.

In the USA and Japan, the cash flow ratio has been less stable over time than in Europe. In Japan it varied from 7 percent until 2003 to around 3 percent since 2004. While for the USA, the average for the period 1995-2005 of 10.9 percent was in line with that for the EU countries, the cash flow ratio varied more strongly from year to year in the USA.

In 2007, the cash-flow ratio of the Austrian manufacturing sector of 13.7 percent exceeded the international average. Also for the whole period since 1995, the benchmark for Austria of 10.8 percent was outperformed only by the Netherlands (17.8 percent) and Finland (15.9 percent).

Table 4: International comparison of cash flow ratios in manufacturing

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Average 1995-2007
Cash flow as a percentage of sales													
10 EU countries													
Belgium	9.3	10.1	10.2	9.8	9.9	8.4	9.2	10.3	10.5	10.1	11.0	10.6	9.90
Germany	7.5	7.7	8.1	7.7	7.8	6.8	7.0	6.2	5.8	9.5	8.0	11.0	7.76
Spain	8.1	9.4	10.1	9.3	9.6	8.5	8.5	9.1	10.2	9.9	9.2	9.3	9.22
France	9.3	9.6	9.7	9.8	9.6	9.1	10.5	9.2	9.8	9.4	8.8	9.2	9.49
Italy	8.2	8.4	8.5	8.9	8.8	8.2	7.9	8.4	8.3	8.2	8.4	8.3	8.42
The Netherlands	17.2	17.8	14.8	16.9	20.5	14.9	13.3	13.8	18.6	26.2	23.0	.	17.80 ¹
Austria	9.4	10.5	11.2	11.2	10.6	10.6	10.2	10.4	11.0	10.1	11.6	13.7	10.83
Portugal	8.3	9.5	10.6	11.5	11.3	10.1	10.5	10.6	10.9	10.6	9.2	9.3	10.12
Finland	12.2	14.7	20.6	16.1	17.2	19.8	16.2	16.2	15.1	12.6	.	.	15.86 ²
Poland	.	.	.	.	.	.	8.9	9.9	12.8	11.4	11.1	11.5	10.94 ³
Average ⁴	9.9	10.9	11.5	11.2	11.7	10.7	10.3	10.5	11.1	11.8	11.2	10.2 ⁵	10.89
Median ⁴	9.3	9.6	10.2	9.8	9.9	9.1	10.2	10.3	10.5	10.1	9.2	9.3 ⁵	9.76
Japan	7.7	7.6	6.9	7.2	8.0	7.0	7.3	8.0	3.1	2.9	.	.	6.62 ²
USA	11.5	11.8	11.9	12.3	11.5	5.8	8.5	10.6	12.2	12.6	.	.	10.92 ²

Source: BACH database, WIFO calculations. – ¹ Average 1995-2006. – ² Average 1995-2005. – ³ Average 2002-2007. – ⁴ Excluding Poland. – ⁵ Excluding Finland.

For the first time, the Austrian manufacturers recorded in 2007 an equity-to-asset ratio that exceeded the average for the nine European countries sampled (38.5 percent against 36.7 percent). For the period 1995-2007, the average equity ratio for Austria was 34.7 percent, as compared with 38.2 percent for the European countries. In 2007, the equity ratio was higher than in Austria only in Belgium (45.3 percent) and Poland (50.3 percent; Table 5). The equity ratio is, to a higher degree than the cash flow ratio, a structural indicator and is therefore less volatile.

Austria's equity ratio for the first time above European average

In a similar way as in manufacturing, the cash flow ratios and the equity ratios of selected industries of the service sector vary markedly on average for the period from 2000 to 2007 (Table 6)¹. In many service companies, the self-financing power plays a different role than in manufacturing, due to the nature of the business. Thus, sales and capital turnover are high in the distribution sector, and cash surpluses are less determined by the endowment with capital, but rather by the readiness to pay and the degree of competition or market concentration. In capital-intensive industries like energy and water supply, the high cash-flow ratio of 25.2 percent is explained

Selected services industries

¹ The selection of industries and observation periods is motivated by the availability of data and their plausibility.

by important economies of scale and a low degree of competition. Markedly lower is the share of cash flow in total sales for industries exposed to strong competition like distribution, repair and maintenance of motor cars (including service stations) of 3.9 percent or in retail trade of 4.9 percent.

Table 5: International comparison of equity ratios in manufacturing

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	Average 1995- 2007
Equity capital as a percentage of balance sheet total													
10 EU countries													
Belgium	39.4	38.5	39.3	38.6	36.6	37.1	36.0	37.9	36.2	39.5	42.1	45.3	38.8
Germany	30.3	30.1	31.6	30.6	29.8	30.2	31.8	29.8	29.3	30.3	30.5	32.1	30.4
Spain	42.9	44.1	44.4	43.7	42.9	42.3	41.4	41.7	40.2	39.0	37.7	36.5	41.1
France	35.5	35.7	36.6	35.9	34.4	33.8	33.8	34.3	35.5	37.6	37.7	36.1	35.4
Italy	29.3	28.2	28.4	28.6	30.6	29.0	29.8	30.4	31.3	31.7	31.5	31.7	29.9
The Netherlands	52.7	54.8	50.0	51.1	52.5	51.7	47.9	48.3	49.0	53.2	53.4	.	51.4 ¹
Austria	32.6	32.3	33.4	35.1	35.2	33.4	35.0	34.7	37.9	34.2	35.7	38.5	34.7
Portugal	39.9	40.0	43.4	43.0	41.0	41.3	42.4	43.4	43.0	43.5	37.2	36.8	41.2
Finland	35.7	37.4	44.2	41.9	43.9	48.3	48.5	47.3	46.1	43.5	.	.	42.8 ²
Poland	.	.	.	.	.	.	40.6	41.1	47.6	49.8	49.5	50.3	46.5 ³
Average ⁴	37.6	37.9	39.0	38.7	38.5	38.6	38.5	38.6	38.7	39.2	38.2	36.7 ⁵	38.2
Median ⁴	35.7	37.4	39.3	38.6	36.6	37.1	36.0	37.9	37.9	39.0	37.4	36.5 ⁵	37.2
Japan	34.5	35.4	37.0	37.0	39.0	38.6	39.5	41.2	31.2	31.8	.	.	36.2 ¹
USA	38.8	38.7	36.9	36.8	38.1	38.5	36.7	40.2	41.8	42.4	.	.	38.8 ¹

Source: BACH Database, WIFO calculations. – ¹ Average 1995-2006. – ² Average 1995-2005. – ³ Average 2002-2007. – ⁴ Excluding Poland. – ⁵ Excluding Finland.

Also the degree of volatility is different, as measured by the variation coefficient. While the cash flow ratio of the construction sector, with an average variation of 5.6 percent of the mean, is extremely stable, the cash flow to sales ratios vary considerably for the renting of moveable objects (coefficient of 42.8 percent).

Differences of similar extent can be observed for the equity ratios. Overall, equity capital endowment is lower in the service sector than in manufacturing. The construction sector exhibits an average ratio of only 17.1 percent for the period from 2000 to 2007. The sector of energy and water supply is rather well equipped with equity capital, amounting to a ratio of 32.4 percent of the balance sheet total, but remains clearly below the average for the entire manufacturing sector of 35.6 percent.

As in manufacturing, the cash flow ratios and the equity ratios vary considerably across industries in the service sector. The dispersion may derive from factors like differences in economies of scale or the degree of competition. Overall, the equity ratio is lower in the service sector than in manufacturing.

Table 6: Comparison of cash flow and equity capital ratios for services industries

	Cash flow ratio				Equity capital ratio			
	2007	Average 2000-2007	Standard deviation	Variation coefficient	2007	Average 2000-2007	Standard deviation	Variation coefficient
	Cash flow as a percentage of sales				Equity capital as a percentage of balance sheet total			
Electricity, gas and water supply	22.3	25.2	2.9886	0.1188	33.7	32.4	3.1850	0.0984
Construction	6.1	6.4	0.3585	0.0561	20.6	17.1	2.4381	0.1426
Sale, maintenance and repair of motor vehicles and motorcycles, service stations	3.9	3.9	0.6807	0.1735	27.4	21.9	6.6625	0.3038
Wholesale trade and commission trade	5.4	4.6	0.4230	0.0923	30.2	27.3	3.1731	0.1164
Retail trade	5.9	4.9	0.5713	0.1166	30.0	20.4	4.0863	0.2006
Real estate activities	36.5	27.8	3.0687	0.1105	40.1	24.2	2.7030	0.1119
Renting of machinery and equipment without operator and of personal household goods	38.2	42.0	17.9643	0.4276	33.0	19.9	6.8270	0.3436
Computer and related activities	11.4	12.5	3.9423	0.3160	37.9	28.5	3.1977	0.1124

Source: BACH database, WIFO calculations.

The asset side of the balance sheet breaks down the fixed assets into tangible assets (e.g., plant and equipment), intangible assets (e.g., intellectual property rights, company value) and financial assets, i.e., financial holdings in a wider sense. Develop-

**Stock of financial
assets relatively low**

ments of the latter not only reflect changes in the composition of holdings and investments (such as a shift from real towards financial investments), but also serve as a risk indicator. The relation between financial assets and the balance sheet total represents, i.a., a gauge of a company's exposure vis-à-vis volatility on financial markets. Its explanatory power is, however, limited by the fact that many financial instruments implying payment obligations (e.g., derivatives), according to § 237a UGB, must be included only in the annex of the balance sheet, and not as part of the financial assets.

According to § 224 UGB, financial assets consist of shares in affiliated companies, loans to affiliated companies, shareholdings, loans to companies with whom there exists a share in ownership, securities of the capital assets and other loans. The BACH database adds these items and publishes a joint item consisting of two parts: shares in affiliated undertakings and participating interests, and other financial assets. The data available do not allow an in-depth analysis of these items for Austria, for which reason all financial assets are discussed here together.

With a share of 15.6 percent of the balance sheet total in 2007, financial assets in Austria were clearly below the average of the European countries sampled (Table 7). These ratios were markedly higher particularly in Belgium (48.3 percent), Germany (33.2 percent) and Spain (30.8 percent). The ratio in Austria has been rather stable since 1990, oscillating between 15 percent and 17 percent. On average for eight other European countries, it increased significantly from 12 percent in 1990 to 24.2 percent in 2007. It more than doubled in Germany to reach 33.2 percent in 2007. As revealed by the data, financial assets usually consist to more than 80 percent of shares in affiliated companies. The exposure of manufacturing companies to financial market developments is probably much lower in Austria than in other European countries.

In 2007, financial assets of Austrian manufacturers amounted to 15.6 percent of the balance sheet total, as compared with 24.2 percent on average for eight European countries. Despite a recorded increase in financial assets since the 1990s, the gap has become wider. Notably in Germany, the ratio has risen considerably over the period.

Table 7: Financial assets

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2000-2007
	As a percentage of total assets												
10 EU countries													
Belgium	29.76	30.30	32.51	34.78	36.94	39.54	45.87	47.90	50.02	47.90	47.43	48.34	45.49
Germany	24.39	23.42	23.44	24.28	28.62	29.91	31.34	31.81	30.63	30.02	30.28	33.21	30.73
Spain	12.71	15.52	15.45	17.00	19.95	22.79	24.16	24.42	23.41	26.20	25.21	30.75	24.61
France	17.40	19.14	19.91	20.61	19.72	19.55	17.39	18.45	18.56	19.89	20.51	19.20	19.16
Italy	10.50	9.88	10.54	11.18	11.30	12.26	12.22	10.99	11.85	12.51	12.84	11.36	11.92
The Netherlands	45.47	48.06	43.71	45.61	46.99	47.87	44.22	43.44	45.46	50.17	48.61	.	46.68
Austria	15.36	15.80	17.18	18.91	17.95	15.75	17.03	17.23	19.86	12.79	16.04	15.57	16.53
Portugal	6.61	7.49	7.64	8.25	7.84	11.60	11.36	12.32	12.35	13.06	9.41	10.65	11.07
Finland	.	.	.	30.38	36.73	39.40	39.30	39.82	42.29	37.06	.	.	39.10
Poland	2.27	3.13	4.57	5.30	6.21	6.68	6.32	5.72	5.31	5.82	7.35	7.66	6.38
Average ¹	20.28	21.20	21.30	23.44	25.12	26.52	26.99	27.38	28.27	27.73	26.29	24.15	26.56

Source: BACH database, WIFO calculations. – ¹ Excluding Poland.

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Earnings Margin of Austrian Manufacturers still Resilient in 2008 – Summary

Based on a small panel of NACE 2-digit industries, econometric estimates indicate a cash-flow-to-sales ratio of Austrian manufacturing firms of approximately 10.3 percent in 2008. This marks a significant drop from the extraordinarily high 13.7 percent in 2007, and can be explained by the beginning of the current crisis in the last quarter of 2008. Comparable international data are only available up to 2007. This development contributed to the increase of the Austrian equity ratio to 38.5 percent, which for the first time exceeds the European average of 36.7 percent. Both cash flow and equity of selected service industries differ significantly in their levels, which can largely be explained by economies of scale and market concentration.

The economy-wide downturn, which was triggered by the current financial crisis, raised questions about the risk exposure of Austrian manufacturing firms. Financial assets accounted for 15.6 percent of total assets. This ratio is much lower than the average of the available European sample of 24.2 percent. Yet, approximately 80 percent of financial assets typically consist of shares in companies. However, other risk indicators (e.g., derivatives held) are only provided on the notes, and may provide further information on the exposure to financial market risks.