LEUPHANA
UNIVERSITÄT LÜNEBURG

Ownership Patterns and Enterprise Groups in German Structural Business Statistics

Weche Gelübcke, John Philipp

Publication date:
2011

Document Version
Publisher's PDF, also known as Version of record

Link to publication

Citation for pulished version (APA):
Weche Gelübcke, J. P. (2011). *Ownership Patterns and Enterprise Groups in German Structural Business Statistics*. (Working Papers in Economics; No. 212). Institut für Volkswirtschaftslehre der Universität Lüneburg.

General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal ?

Take down policy
If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Download date: 12. Okt.. 2024

WORKING PAPER

Ownership Patterns and Enterprise Groups in German Structural Business Statistics

by

John P. Weche Gelübcke

University of Lüneburg
Working Paper Series in Economics

No. 212

August 2011

www.leuphana.de/institute/ivwl/publikationen/working-papers.html

ISSN 1860 - 5508

Ownership Patterns and Enterprise Groups in German Structural Business Statistics

John P. Weche Gelübcke*

Leuphana University Lueneburg, Germany
[wechegel@uni.leuphana.de]

1. Introduction

Division of labor, cross-border capital flows, and capital linkages among business entities have intensified at national as well as global levels, and have led to significant changes in the structure of business. For example, firms outsource ancillary activities to independent legal entities, and multinational enterprises (MNEs) shift production abroad to lower costs. Structural business statistics should therefore offer a sufficient consideration of these changes to provide the possibility of an adequate economic analysis. Until recently, official German firm-level data neither allowed the identification of enterprise groups nor revealed the existence of foreign ownership or type and origin of the latter. This lack of information severely restricted analyses of structural business statistics, such as those concerning the concentration of market power (Monopolkommission 2000: 99f.) and patterns of foreign influence on business activities within the German economy (Gnoss 2010: 81).

Efforts were made to overcome these insufficiencies mainly by the German Monopolies Commission (*Monopolkommission*) at national level and by European Institutions via several regulations. In the wake of European legislature, first mandatory data preparations were completed for reporting year 2007. This data only became available to researchers recently. In particular, the information captures whether an enterprise is an affiliate, group head, or independent entity and if the group head of an affiliate is located abroad. New information on affiliates situated abroad but owned by German parent enterprises are to mention in this context as well. They are processed and administered by the German central bank (Outward Foreign Affiliates Statistics). However, they are not the

* I am grateful to Joachim Wagner and Dirk Oberschachtsiek for discussion and support. Furthermore, I thank Julia Höninger, Florian Köhler, and Anja Malchin from the statistical offices of the German federal states Berlin-Brandenburg and Lower Saxony for information on the data and processing the do-files.

focus of this article (see Schmidt et al. 2009 for further information on new statistics and Lipponer 2003 for general information about the FDI micro database).

The new information on ownership patterns is linked to the German business register (URS) and therefore reveals many possible combinations with other databases. It has to be understood as part of the reform of official German enterprise statistics towards register-based business statistics (see Gnoss 2010 and Sturm 2010 on this). This process involves new approaches, such as the cooperation of the Federal Statistical Office with private data vendors, and, thus, data quality may be of concern. Nevertheless, a new high-quality[1] firm-level database has become accessible to the scientific community and will play an even more important role in the future. This article presents the new information covered by official statistics and highlights its future research potential

2. Data history and accessibility

In their efforts to move to a common business register framework amongst European Member States, European Institutions echoed the importance of enterprise groups and the structure and activities of foreign affiliates. Regulation (EC) No 177/2008 of the European Parliament and of the Council prescribes the consideration of legal and financial links between enterprises for identifying enterprise groups as defined in regulation (EEC) No 696/93. A separate regulation (EC) 716/2007[2] deals with the Europe-wide acquisition of information on the foreign control of enterprises in respective Member States. In order to meet these new requirements, German institutions in charge of producing official statistics needed to gather information according to principles of proportionality.[3] Therefore, relevant data had to be delivered by a private vendor after Europe-wide calls for tenders. This process demonstrated a new approach for the Statistical Offices and must prove itself in the future (Sturm 2010: 126).

The relevant information on ownership structure is extracted from the commercial database *MARKUS*, a joint product of Bureau van Dijk and Creditreform (*Verband der Vereine Credireform e.V.*) (see Monopolkommission 2010: 78). This dataset covers approximately 1.2

[1] For advantages of German official enterprise data see Wagner (2010: 134).
[2] Amended by regulation (EC) No 747/2008.
[3] Information on financial linkages between enterprises is recorded at the German registration courts but are not proper to be prepared by the Statistical Offices at reasonable expenses (Sturm et al. 2009: 769).

million enterprises located in Germany and contains comprehensive information on ownership structure and financial linkage, mainly from annual balance sheets (Creditreform 2011). Since the first data delivery in 2005, preparation has been performed through a cooperation between the Federal Statistical Office and the statistical offices of the German federal states. To date, new data is still stored in an individual enterprise group database, separate but linked to the URS. However, information will be independently handled by the URS in the near future (Sturm et al. 2009: 773). Following several feasibility studies[4] and methodological enhancements, the first comprehensive analysis of the enterprise group database was carried out for the reporting year 2007. According to the regulation (EC) 716/2007 on foreign affiliates statistics (FATS-R), mandatory information on foreign-controlled enterprises (e.g. number, employees, turnover, value added at factor costs) are sent annually to Eurostat in aggregate form beginning in 2010 (Feuerhake et al. 2010: 454). Another important recipient is the German Monopolies Commission that used the enterprise group database for reporting concentration statistics first in its 17th main report for 2006/2007 (Monopolkommission 2008). Both agencies merged enterprise group data with several other surveys from official statistics.

Since 2001, the Federal Statistical Office and the statistical offices of the German federal states have run several research data centers (RDCs) to provide researchers access to micro data from official statistics (see Zühlke et al. 2004). Enterprise group data and information on foreign control is part of official statistics and is therefore available via the RDCs at relatively low costs. Data can be accessed at guest researcher workplaces or via controlled remote data processing so long as respondents are not identified by third parties. The various ways of using this data are described in detail by Zühlke et al. (2004) and Malchin and Pohl (2007).

[4] Results of first tentative FATS surveys for other Member States are reported and discussed in several Eurostat publications, i.a. Grell (2008 and 2007) as well as Schneider (2004). First results of feasibility studies for Germany are reported by Feuerhake et al. (2009) and Schmidt et al. (2009).

3. Information covered

In official German enterprise statistics, the statistical unit of interest is defined as the smallest independent legal entity that is obliged to keep records under commercial or tax law. Since the appropriateness of an examination unit varies with the individual question in case, alternatives have emerged that try to find a broader definition of the economic entity in consideration.[5] The allowance for more complex business entities is part of an effort to model up-to-date economic phenomena in official statistics. According to regulation (EEC) No 696/93 (Annex section III), an enterprise group is

> "an association of enterprises bound together by legal and/or financial links. A group of enterprises can have more than one decision- making centre […]. It constitutes an economic entity which is empowered to make choices, particularly concerning the units which it comprises."

To identify such ties between legal units, a statistical measure is applied in which control constitutes a majority ownership with a capital share of more than fifty percent. The rationale behind this measure is that the owner has "the ability to determine the general policy of an enterprise by choosing appropriate directors, if necessary." (Regulation (EC) 716/2007, Article 2). However, an enterprise could be controlled by another legal entity if the latter is the head of several minority shareholders of the former and thereby indirectly holds a majority of shares (indirect cumulated control). Alternatively, the group head can also simply hold majority ownership through only one intermediary (indirect control). Moreover, it is accounted for contractual control agreements and consolidated accounting practices, whenever possible (see Sturm et al. 2009: 766f. and Eurostat 2009: 13ff. for the statistical concept of control). Certainly, not all possible forms of control can be considered[6] but there exists broad consensus that the applied concept and capital linkages in particular act as an arguable proxy for effective control (Feuerstack 2001: 14 with reference to

[5] For instance, the European regulation (EEC) No 696/93 proposes a broader definition of the enterprise that points more to an economic understanding instead of a legal perspective, e.g. by incorporating legally independent units performing ancillary activities (see Schmidt and Waldmüller 2004).

[6] This applies for example to fiscal units (*Organschaften*) (Monopolkommission 2010: 79) and forms of effective minority control, where a group of several minority shareholders act in concert and can therefore gain de facto majority control (Eurostat 2009: 14).

Eurostat). The group head or the ultimate controlling institutional unit (UCI)[7] describes the legal or natural person at the end of a control chain that is not controlled by any other.

Analyses by the Monopolies Commission (2010: 80f.) for the reporting year 2007 reveal a significant role of enterprise groups in Germany. Although only 6.3 percent of all enterprises captured by the URS joined an enterprise group, they accounted for 70 percent of total turnover and 53 percent of all employees. In manufacturing, 7.3 percent are group-dependent, and obtain turnover and employment shares of 34.6 and 26.6 percent, respectively. In the electricity industry, turnover and employment shares even reach more than 88 percent.

Beyond information about whether an enterprise is group head or affiliate, the group head type is given as well. Hence, one is able to detect, for example, publicly-owned units, those controlled by banks and other financial companies, and enterprises under control of individuals and families (for more details see section 5). Furthermore, the 4- or 5-digit industry of the group head´s main activity is available.

Now that the attribute of foreign majority ownership is available in databases, the group of foreign affiliates can be isolated as the object of comprehensive research. The threshold of 51 percent of shares of a UCI located abroad adds another dimension of the role of MNEs to the investigation of foreign direct investment (FDI) data, where the threshold generally lies at 10 percent. While flows and stocks of FDI mainly reflect a monetary aspect, information on the activity of foreign-owned affiliates can shed some light on how the controlled resources operate and the impact of these enterprises (Vergina and Grell 2009: 107f.). Analogous to the role of enterprise groups, foreign-controlled affiliates have disproportionate impact in the German economy despite their frequency of approximately one percent of all enterprises (Feuerhake et al. 2010: 457). According to Inward FATS for the German non-financial sector and reporting year 2007, foreign affiliates generated 28 percent of total turnover, were employers to 13 percent of all employed persons and achieved a value added at factor costs of 23 percent (ibid.).

A foreign owner´s country of origin can be analyzed by ISO country codes and reveals no large differences compared to FDI figures: around 70 percent of foreign-controlled

[7] Where the institutional unit is in general defined as "elementary economic decision-making centre characterised by uniformity of behavior and decision-making autonomy in the exercise of its principal function." (Eurostat 2009: 17).

enterprises belong to owners within Europe and almost 55 percent to units situated in Member States of the European Union. Another 16 percent belong to the United States, which makes it the single most influential country (ibid.: 458f.).

4. Research potential and future prospects

One of the most important features of the new variables is their incorporation into the URS. The URS serves as cornerstone of official German enterprise statistics by drawing a highly representative picture of the universe of German enterprises and being a sampling frame as well as a general interface of various industry- and topic-specific surveys. German enterprises´ capital linkages can now be analyzed, for the first time, in multiple contexts. The analysis of enterprise groups, MNE activities and foreign ownership in general can be extended in two ways: in depth through enlargement of the pool of available variables and in scope through the opening of a broader range of sectors with extended classification. In this respect, the aforementioned database clearly sets itself apart from other datasets used to date, such as the IAB establishment panel (see Fischer et al. 2009 for general information on this database)[8] or the isolated *MARKUS* data.

Combination possibilities within the frame of structural business statistics can be for example annual surveys concerning information on cost structure, production, investment behavior as well as monthly reports for the manufacturing industries. Furthermore, the structural survey on the service sector and the survey on environmental protection investments are interesting cases in point. An overview of the entire range of accessible firm-level data packages can be found at the RDC´s homepage (www.forschungsdatenzentren.de). Some descriptive statistics of merged datasets are presented in Section 5 for illustrative purposes.

First econometric studies investigating the role and comparative performance of foreign-controlled enterprises in the German manufacturing and service industries, based on the presented data, were carried out by Weche Gelübcke (2011b and a). He found inter alia mixed results regarding a ceteris paribus foreign ownership performance premium. Due to

[8] Another advantage over the establishment panel of the Institute for Employment Research (IAB) is the type of reporting unit. As the name suggests, the latter database deals with establishments which may have different roles within the network of an enterprise and results can thus hardly reflect the comprehensive operational activity of a particular economic entity. Certainly, this also applies to analysis on the enterprise-level but probably to a reduced extent.

the broadened pool of variables that became available for analysis, for instance information on export behavior was investigated with respect to ownership patterns, and, for example, revealed evidence on performance differences between exporting and non-exporting foreign-controlled firms. By and large, the newly available variables in official enterprise statistics bear research potential on questions relevant to competition policy and in the field of MNE activity, foreign presence and its impact on the host economy, mergers and acquisitions, international control links and globalization issues in general.

Another source of potential future empirical work stems from the fact that information on enterprise groups and foreign ownership result from EU-level legislature that demands standardized and consistent methodologies for all Member States. Consequently, empirical evidence will become comparable across European countries and will meet an important condition for producing stylized facts (see Wagner 2011 at length on this). As the database is at an early stage of development, much of the research potential lies in upcoming developments. By far, the most important of these is the becoming of a panel dataset from the moment when information for reporting year 2009 becomes available. Panel data allows more sophisticated econometric applications, inter alia the consideration of unobserved heterogeneity among firms and treatment analysis for evaluation causality. For example, the investigation of capital linkages over time with respect to stability, the role of individual economies, or the impact of economic and financial shocks becomes realizable.

5. Descriptive examples of manufacturing and services

To offer an impression of the merged data sources, simple descriptive statistics for the manufacturing and service industries for the reporting year 2007 are presented in this section. For the manufacturing sector, the cost structure survey (KSE) was used, which consists of a random sample of up to 18,000 enterprises with at least 20 employed persons from the manufacturing as well as the mining and quarrying sectors (sections C and D according to the German industry classification 2003). The sample is stratified according to number of employees, turnover volume, industries and the Federal State (see Fritsch et al. 2004 for more information on the KSE). Statistics on services come from the structural survey on the service sector (SiD) that consists of a stratified random sample from the service sectors of transport, storage and communication and real estate, renting and business activities (Sections I and K). The sample covers up to fifteen percent of the

population with units of an annual turnover of at least 17,500 EUR (see Vogel 2009 for more information on the SiD). Both surveys were analyzed using the data packages *AFiD-Panel Industrial Enterprises* and *AFiD-Panel Services*[9] merged with the new variables on capital links.[10]

In the 2007 manufacturing industry, more enterprises were under majority control than independent, and group heads accounted for nearly six percent as can be seen in Table 1. Furthermore, the share of foreign-controlled affiliates seems remarkably high, with almost fourteen percent of the population of units of at least 20 persons employed. Only slightly more than half of the foreign-controlled affiliates were situated in the medium- and high-tech sectors (53%), but that is still more than any other group (all less than 40%). Data for the service industry is not directly comparable inter alia due to the different cut-off point at annual turnover of less than 17,500 EUR, what includes units with very few persons employed. Hence, as expected, the vast majority consists of independent enterprises (79%) and only seventeen percent are domestically-owned affiliates. Little more than two percent are foreign-owned, however it is still more than the average of the entire non-financial sector (cf. Section 3). Enterprises with an annual turnover of more than 250,000 EUR are reported separately because only these are obliged to answer the full SiD questionnaire.

[Table 1 about here]

Group heads are by far the largest units in manufacturing, as they obtained an average number of almost 930 employed persons per firm in 2007 (Table 2). Foreign-controlled affiliates account for little more than half of that number but nearly twice as much as their domestically-controlled counterparts. A similar relation shows up regarding other performance measures. However, turnover per capita, labor productivity, and wages per capita, were exceptions, mean values of the foreign-controlled group exceeded even those of group heads. In general, the same picture applies to the service sector but with more pronounced gaps.

[Table 2 about here]

[9] The abbreviation *AFiD* means *Official Firm Data for Germany* (*Amtliche Firmendaten für Deutschland*). For detailed information on the AFiD projects see Malchin and Voshage (2009).

[10] All computations were done with Stata 11 within the RDCs of Lower Saxony and Berlin-Brandenburg. In both AFiD datasets, no cases were excluded from computations like those with extremely deviating or missing values.

[Table 3 about here]

If one looks at the country of origin patterns of foreign majority owners, the quantitative hierarchy turns out to mirror origin structures of the general FDI. They are not very different between the sectors under consideration (Table 3). In both manufacturing and service industries, domestically-owned affiliates were most often controlled by named individuals and families (60% and 66%) while their foreign counterparts were controlled by industrial companies up to a share of more than 80 percent in manufacturing and about 75 percent in services (Table 4). Finally, industrial companies controlled almost 35 percent and 25 percent of the affiliates in services.

[Table 4 about here]

6. Representativeness issues

Although data is already available in the context of high-quality official statistics, the quality standards of well-established statistical formats will probably not be reached by enterprise group data and FATS during the first years (e.g. Schmidt et al. 2009: 183f.). The main reason for this assumption lies in representativeness issues. It is not sure at the moment how reliable the identification procedure of capital links within the URS population really works. Assessments of the Monopolies Commission (2010: 79) cause additional concerns, and methodology improvements are in progress (Feuerhake et al. 2010: 461). This uncertainty particularly becomes important in econometric analysis for time-like panel analysis. For example it is impossible to evaluate whether enterprises which became controlled in 2008, but were independent in 2007 received their status due to takeovers or due to mere new discoveries. Hence, the extent of majority holdings may eventually be underestimated. For illustration, changes from 2007 to 2008 are reported in Table 5. However, one should keep in mind that changes can reflect the beginning of the global economic and financial crisis as well as the fact that a complete new sample was drawn for the SiD in 2008.

[Table 5 about here]

Table 5 shows that remarkable changes took place in manufacturing data as the group of independent enterprises declined by 46 percent and all the others rose by an appreciable extent; in comparison to 2007, 25 percent more enterprises were controlled by a foreign group head and 28 percent more by a domestic one in 2008. In services, changes seem negligible.

Furthermore, new characteristics like foreign ownership are not accounted for in sample drawing yet and descriptive figures for relatively small subcategories. For example, the 5-digit industry classification has no reliability guarantee (Feuerhake et al. 2009: 462).

7. Concluding remarks

First official data on enterprise groups and foreign majority ownership for Germany became available recently. The new firm-level information is linked to core German structural business statistics, the URS, and therefore offers a wide variety of new research possibilities in fields that often fall victim to polarizing public and academic debate of high relevance to policy decisions.

German official statistics generally offer a high quality level, but, since private vendor data integration and processing of data on capital links remain in development, new features of representativeness must prove themselves in the future.

References

Creditreform (2011): MARKUS UserGuide, URL: http://www.creditreform.de/Ressourcen /PDF/ Downloads/Marketing_Services/Business_Marketing/ Handbuch_MARKUS_ Datenbank.pdf, last updated March 2011.

Eurostat (2009): Foreign AffiliaTes Statistics (FATS). Recommendations Manual, Luxembourg.

Feuerhake, Jörg/Schulze, Alexander/Untz, Kirsten (2010): InwardFATS – Auslandskontrollierte Unternehmen in Deutschland 2007, *Wirtschaft und Statistik*, 5/2010, 453-462.

Feuerhake, Jörg/Untz, Kirsten (2009): Inward FATS - Auslandskontrollierte Unternehmen in Deutschland 2006, *Wirtschaft und Statistik*, 7/2009, 676-686.

Feuerstack, Rainer (2001): Unternehmensgruppen in der deutschen amtlichen Wirtschaftsstatistik. Methodische, empirische und technische Probleme und deren Lösung, *ifo Schnelldienst*, 15/2001, 6-16.

Fischer, Gabriele/Janik, Florian/Müller, Dana/Schmucker, Alexandra (2009): The IAB Establishment Panel – Things Users Should Know, *Schmollers Jahrbuch/Journal of Applied Social Science Studies*, 129(1), 133-148.

Fritsch, Michael/Görzig, Bernd/Hennchen, Ottmar/Stephan, Andreas (2004): Cost Structure Surveys for Germany, *Schmollers Jahrbuch/Journal of Applied Social Science Studies*, 124(4), 557-566.

Gnoss, Roland (2010): Reform der Unternehmensstatistik in Deutschland: Qualitätskonzept des Programms, *AStA Wirtschafts- und Sozialstatistisches Archiv*, 4(2), 77-113.

Grell, Michaela 2008: Foreign-controlled enterprises in the EU, Eurostat (Ed.), *Statistics in focus,* 30/2008.

Grell, Michaela 2007: The impact of foreign-controlled enterprises in the EU, Eurostat (Ed.), *Statistics in focus*, 67/2007.

Laafia, Ibrahim (2002): National and regional employment in high tech and knowledge intensive sectors in the EU - 1995-2000, Eurostat (Ed.), *Statistics in focus*, 3/2002.

Lipponer, Alexander (2003): Deutsche Bundesbank´s FDI micro database, *Schmollers Jahrbuch/Journal of Applied Social Science Studies*, 123(4), 593-600.

Malchin, Anja/Pohl, Ramona (2007): Firmendaten der amtlichen Statistik – Datenzugang und neue Entwicklungen im Forschungsdatenzentrum, *Vierteljahrshefte zur Wirtschaftsforschung*, 3/2007, 8-16.

Malchin, Anja/Voshage, Ramona (2009): Official Firm Data for Germany, *Schmollers Jahrbuch/Journal of Applied Social Science Studies*, 129(3), 501-513.

Monopolkommission (2010): XVIII Hauptgutachten 2008/2009 „Mehr Wettbewerb, wenig Ausnahmen“, Baden-Baden, Nomos.

Monopolkommission (2008): XVII Hauptgutachten 2006/2007 „Weniger Staat, mehr Wettbewerb“, Baden-Baden, Nomos.

Monopolkommission (2000): XIII Hauptgutachten 1998/1999 „Wettbewerbspolitik in Netzstrukturen“, Baden-Baden, Nomos.

Schmidt, Peter/Waldmüller, Bernd (2004): Konzept und Ergebnisse der § 7-Erhebung zum Unternehmensbegriff in der Statistik, *Wirtschaft und Statistik*, 2/2004, 155-162.

Schmidt, Peter/Waldmüller, Bernd/Feuerhake, Jörg/Stejskal-Passler, Beatrix (2009): Die künftige Statistik über ausländisch beherrschte Unternehmen in Deutschland (InwardFATS) und Tochterunternehmen deutscher Investoren im Ausland (OutwardFATS), *AStA Wirtschafts- und Sozialstatistisches Archiv*, 3(3), 169-186.

Schneider, Michaela (2004): Characteristics of foreign-controlled enterprises, Eurostat (Ed.) *Statistics in focus*, 21/2004.

Sturm, Roland (2010): Konzept einer registerbasierten Wirtschaftsstatistik, *Wirtschafts- und Sozialstatistisches Archiv*, 4(2), 115-139.

Sturm, Roland/Tümmler, Thorsten/Opfermann, Rainer (2009): Unternehmensverflechtungen im statistischen Unternehmensregister, *Wirtschaft und Statistik*, 8/2009, 764-773.

Vergina, Gita/Grell, Michaela (2009): Foreign AffiliaTes Statistics (FATS), in Eurostat (Ed.) 2009: European Economic Statistics, Luxembourg, 107-113.

Vogel, Alexander (2009): The German Business Services Statistics Panel 2003 to 2007, *Schmollers Jahrbuch/Journal of Applied Social Science Studies*, 129(3), 515-522.

Wagner, Joachim (2010): The Research Potential of New Types of Enterprise Data based on Surveys from Official Statistics in Germany, *Schmollers Jahrbuch/Journal of Applied Social Science Studies*, 130(1), 133-142.

Wagner, Joachim (2011): From estimation results to stylized facts. Twelve recommendations for empirical research in international activities of heterogeneous firms, *De Economist*, forthcoming.

Weche Gelübcke, John P. (2011a): Foreign Ownership and Firm Performance in German Services: First Evidence based on Official Statistics, University of Lueneburg Working Paper Series in Economics No. 213.

Weche Gelübcke, John P. (2011b): Foreign Ownership and Firm Performance in German Manufacturing, University of Lueneburg Working Paper Series in Economics, forthcoming.

Zühlke, Sylvia/Zwick, Markus/Scharnhorst, Sebastian/Wende, Thomas (2004): The research data centres of the Federal Statistical Office and the statistical offices of the Länder, *Schmollers Jahrbuch/Journal of Applied Social Science Studies*, 124(4), 567-578.

Tables

Tab. 1: Enterprise groups in AFiD databases (in % for 2007)

	Manufacturing		Services	
	Total	High-tech industries[a]	Total	Turnover>250,000 EUR
Independent enterprises	36.32	33.9	78.58	65.48
	(5,268)	(1,978)	(81,462)	(35,261)
Group heads	5.76	5.45	1.93	3.29
	(836)	(318)	(2,000)	(1,774)
Domestically-controlled affiliates	43.96	42.37	17.07	26.87
	(6,375)	(2,472)	(17,699)	(14,470)
Foreign-controlled affiliates	13.96	18.29	2.42	4.36
	(2,024)	(1,067)	(2,509)	(2,346)
Σ	(14,503)	(5,835)	(103,670)	(53,851)

Note: Reported are percentages with absolute numbers in brackets; [a]High-tech industries include the medium- and high-tech sectors according to the OECD sectoral approach (see Laafia 2002: 7).

Tab. 2: Mean values of performance measures by enterprise groups from AFiD databases (2007)

	Persons employed	Turnover	Turnover per capita	Value added at factor costs	Labor productivity[a]	Wage per capita
Manufacturing						
Independent enterprises	142.53	34,400,000	179,482.9	9,735,117	55,897.87	31,875.42
	(1,411.5)	(397,000,000)	(321,992.3)	(121,000,000)	(40,903.95)	(11,409.88)
Group heads	929.1	382,000,000	279,640.1	84,200,000	72,912.82	40,077.25
	(6,731.04)	(3,510,000,000)	(384,538.2)	(693,000,000)	(38,779.42)	(11,086.71)
Domestically-controlled affiliates	287.53	81,400,000	230,442.5	23,300,000	64,593.27	35,794.78
	(1,232.64)	(515,000,000)	(262,529.9)	(123,000,000)	(39,776.88)	(11,667.78)
Foreign-controlled affiliates	494.07	238,000,000	390,185.7	45,400,000	84,299.43	43,264.4
	(1,173.04)	(1,440,000,000)	(1,084,721)	(127,000,000)	(60,199.37)	(11,828.51)
Services						
Independent enterprises	15.71	1,519,045	144,610.4	757,282.1	78,151.5	12,994.29
	(147.06)	(27,700,000)	(895,505)	(11,500,000)	(622,041.9)	(23,883.12)
Group heads	281.32	43,000,000	629,140	17,300,000	300,753.1	48,825.07
	(4,801.94)	(640,000,000)	(5,839,516)	(297,000,000)	(2,095,451)	(91,933.18)
Domestically-controlled affiliates	85.11	12,600,000	568,417.6	5,510,900	345,456.9	29,967.8
	(536.15)	(131,000,000)	(10,500,000)	(80,000,000)	(8,989,044)	(75,278.21)
Foreign-controlled affiliates	189.85	35,300,000	1,535,653	15,500,000	895,721.4	56,495.4
	(1,474.07)	(218,000,000)	(27,600,000)	(107,000,000)	(24,500,000)	(230,610.3)

Note: Reported are mean values in EUR with standard deviation in brackets; N given in Table 1; [a]Measured as value added per person.

Tab. 3: Foreign-controlled affiliates by continent of origin from AFiD databases (in % for 2007)

	Manufacturing		Services	
Europe	70.29	(1,365)	73.89	(1,794)
North America	23.17	(450)	19.52	(474)
Asia	5.2	(101)	5.15	(125)
Africa	0.51	(10)	0.45	(11)
South America	0.41	(8)	0.49	(12)
Australia	0.41	(8)	0.49	(12)

Note: Reported are percentages with absolute numbers in brackets; Category Europe includes Russia; South America includes Panama, Trinidad Tobago and Netherland Antilles; Asia includes Turkey, Kazakhstan and Cyprus; Africa includes Egypt.

Tab. 4: Affiliates by type of group head from AFiD databases (in % for 2007)

	Manufacturing				Services			
	Domestically-controlled affiliates		Foreign-controlled affiliates		Domestically-controlled affiliates		Foreign-controlled affiliates	
Industrial companies	34.68	(2,211)	80.14	(1,622)	25.07	(4,438)	75.29	(1,889)
One or more named individuals or families	59.56	(3,797)	6.18	(125)	65.85	(11,654)	8.01	(201)
Insurance companies	2.13	(136)	6.08	(123)	1.74	(308)	6.46	(162)
Banks and financial companies	0.3	(19)	1.29	(26)	1.65	(292)	4.23	(106)
Mutual and pension funds/nominees/ trusts/trustees	0.35	(22)	2.77	(56)	0.27	(48)	2.07	(52)
Other[a]	2.98	(190)	3.56	(72)	5.42	(959)	3.95	(99)

Note: Reported are percentages with absolute numbers in brackets; [a]Aggregates the following categories: Foundations and Research Institutes; Employees, Managers and Directors; Public authorities, States and Governments; Unnamed shareholders. Moreover there are very few cases in this category with a missing identification of the group heads type (≤6).

Tab. 5: Enterprise groups in AFiD databases 2007 and 2008 (in %)

	Manufacturing			Services		
	2007	2008	Δ in %	2007	2008	Δ in %
Independent enterprises	36.32	19.5	-46.31	78.58	77.63	-1.21
	(5,268)	(2,575)		(81,462)	(90,595)	
Group heads	5.76	6.88	+19,44	1.93	2.07	+7.25
	(836)	(909)		(2,000)	(2,414)	
Domestically-controlled affiliates	43.96	56.14	+27.71	17.07	17.47	+2.34
	(6,375)	(7,412)		(17,699)	(20,391)	
Foreign-controlled affiliates	13.96	17.47	+25.14	2.42	2.82	+16.53
	(2,024)	(2,307)		(2,509)	(3,295)	
Σ	(14,503)	(13,203)		(103,670)	(116,695)	

Note: Reported are percentages with absolute numbers in brackets.

Working Paper Series in Economics

(recent issues)

No.211: *Joachim Wagner*: Exports, Imports and Firm Survival: First Evidence for manufacturing enterprises in Germany, August 2011

No.210: *Joachim Wagner*: International Trade and Firm Performance: A Survey of Empirical Studies since 2006, August 2011

No.209: *Roland Olbrich, Martin F. Quaas, and Stefan Baumgärtner*: Personal norms of sustainability and their impact on management – The case of rangeland management in semi-arid regions, August 2011

No.208: *Roland Olbrich, Martin F. Quaas, Andreas Haensler and Stefan Baumgärtner*: Risk preferences under heterogeneous environmental risk, August 2011

No.207: *Alexander Vogel and Joachim Wagner*: Robust estimates of exporter productivity premia in German business services enterprises, July 2011

No.206: *Joachim Wagner*: Exports, imports and profitability: First evidence for manufacturing enterprises, June 2011

No.205: *Sebastian Strunz*: Is conceptual vagueness an asset? Resilience research from the perspective of philosophy of science, May 2011

No.204: *Stefanie Glotzbach*: On the notion of ecological justice, May 2011

No.203: *Christian Pfeifer*: The Heterogeneous Economic Consequences of Works Council Relations, April 2011

No.202: *Christian Pfeifer, Simon Janssen, Philip Yang and Uschi Backes-Gellner*: Effects of Training on Employee Suggestions and Promotions in an Internal Labor Market, April 2011

No.201: *Christian Pfeifer*: Physical Attractiveness, Employment, and Earnings, April 2011

No.200: *Alexander Vogel*: Enthüllungsrisiko beim Remote Access: Die Schwerpunkteigenschaft der Regressionsgerade, März 2011

No.199: *Thomas Wein*: Microeconomic Consequences of Exemptions from Value Added Taxation – The Case of Deutsche Post, February 2011

No.198: *Nikolai Hoberg* and *Stefan Baumgärtner*: Irreversibility, ignorance, and the intergenerational equity-efficiency trade-off, February 2011

No.197: *Sebastian Schuetz*: Determinants of Structured Finance Issuance – A Cross-Country Comparison, February 2011

No.196: *Joachim Fünfgelt and Günther G. Schulze*: Endogenous Environmental Policy when Pollution is Transboundary, February 2011

No.195: *Toufic M. El Masri*: Subadditivity and Contestability in the Postal Sector: Theory and Evidence, February 2011

No.194: *Joachim Wagner*: Productivity and International Firm Activities: What do we know?, January 2011

No.193: *Martin F. Quaas* and *Stefan Baumgärtner*: Optimal grazing management rules in semi-arid rangelands with uncertain rainfall, January 2011

No.192: *Institut für Volkswirtschaftslehre*: Forschungsbericht 2010, Januar 2011

No.191: *Natalia Lukomska, Martin F. Quaas and Stefan Baumgärtner*: Bush encroachment control and risk management in semi-arid rangelands, December 2010

No.190: *Nils Braakmann:* The causal relationship between education, health and health related behaviour: Evidence from a natural experiment in England, November 2010

No.189: *Dirk Oberschachtsiek and Britta Ulrich:* The link between career risk aversion and unemployment duration: Evidence of non-linear and time-depending pattern, October 2010

No.188: *Joachim Wagner:* Exports and Firm Characteristics in German Manufacturing industries, October 2010

No.187: *Joachim Wagner:* The post-entry performance of cohorts of export starters in German manufacturing industries, September 2010

No.186: *Joachim Wagner:* From estimation results to stylized facts: Twelve recommendations for empirical research in international activities of heterogenous firms, September 2010 [forthcoming in: De Economist]

No.185: *Franziska Dittmer and Markus Groth:* Towards an agri-environment index for biodiversity conservation payment schemes, August 2010

No.184: *Markus Groth:* Die Relevanz von Ökobilanzen für die Umweltgesetzgebung am Beispiel der Verpackungsverordnung, August 2010

No.183: *Yama Temouri, Alexander Vogel and Joachim Wagner:* Self-Selection into Export Markets by Business Services Firms – Evidence from France, Germany and the United Kingdom, August 2010

No.182: *David Powell and Joachim Wagner:* The Exporter Productivity Premium along the Productivity Distribution: First Evidence from a Quantile Regression for Fixed Effects Panel Data Models, August 2010

No.181: *Lena Koller, Claus Schnabel und Joachim Wagner:* Beschäftigungswirkungen arbeits- und sozialrechtlicher Schwellenwerte , August 2010
[publiziert in: Zeitschrift für Arbeitsmarktforschung 44(2011), 1-2, 173-180]

No.180: *Matthias Schröter, Markus Groth und Stefan Baumgärtner:* Pigous Beitrag zur Nachhaltigkeitsökonomie, Juli 2010

No.179: *Norbert Olah, Thomas Huth and Dirk Löhr:* Monetary policy with an optimal interest structure, July 2010

No.178: *Sebastian A. Schütz:* Structured Finance Influence on Financial Market Stability – Evaluation of Current Regulatory Developments, June 2010

No.177: *Franziska Boneberg:* The Economic Consequences of One-third Co-determination in German Supervisory Boards: First Evidence from the German Service Sector from a New Source of Enterprise Data, June 2010
[forthcoming in: Schmollers Jahrbuch / Journal of Applied Social Science Studies]

No.176: *Nils Braakmann:* A note on the causal link between education and health – Evidence from the German short school years, June 2010

No.175: *Torben Zülsdorf, Ingrid Ott und Christian Papilloud:* Nanotechnologie in Deutschland – Eine Bestandsaufnahme aus Unternehmensperspektive, Juni 2010

No.174: *Nils Braakmann:* An empirical note on imitative obesity and a puzzling result, June 2010

No.173: *Anne-Kathrin Last and Heike Wetzel:* Baumol's Cost Disease, Efficiency, and Productivity in the Performing Arts: An Analysis of German Public Theaters, May 2010

No.172: *Vincenzo Verardi and Joachim Wagner:* Productivity premia for German manufacturing firms exporting to the Euro-area and beyond: First evidence from robust fixed effects estimations, May 2010

No.171: *Joachim Wagner:* Estimated capital stock values for German manufacturing enterprises covered by the cost structure surveys, May 2010
[published in: Schmollers Jahrbuch / Journal of Applied Social Science Studies 130 (2010), 3, 403-408]

No.170: *Christian Pfeifer, Simon Janssen, Philip Yang and Uschi Backes-Gellner:* Training Participation of an Aging Workforce in an Internal Labor Market, May 2010

No.169: *Stefan Baumgärtner and Martin Quaas:* Sustainability Economics – general versus specific, and conceptual versus practical, May 2010
[forthcoming in: Ecological Economics]

No.168: *Vincenzo Verardi and Joachim Wagner:* Robust Estimation of Linear Fixed Effects Panel Data Models with an Application to the Exporter Productivity Premium, April 2010

No.167: *Stephan Humpert:* Machen Kinder doch glücklich? April 2010

No.166: *Joachim Wagner:* Produktivität und Rentabilität in der niedersächsischen Industrie im Bundesvergleich. Eine Benchmarking-Studie auf der Basis vertraulicher Firmendaten aus Erhebungen der amtlichen Statistik, April 2010
[erschienen in: Statistische Monatshefte Niedersachsen, Sonderausgabe "Kooperation Wissenschaft und Statistik - 20 Jahre Nutzung von amtlichen Mikrodaten", S. 30 - 42]

No.165: *Nils Braakmann:* Neo-Nazism and discrimination against foreigners: A direct test of taste discrimination, March 2010

No.164: *Amelie Boje, Ingrid Ott and Silvia Stiller:* Metropolitan Cities under Transition: The Example of Hamburg/ Germany, February 2010

No.163: *Christian Pfeifer and Stefan Schneck:* Relative Wage Positions and Quit Behavior: New Evidence from Linked Employer-Employee-Data, February 2010

No.162: *Anja Klaubert:* “Striving for Savings” – religion and individual economic behavior, January 2010

No.161: *Nils Braakmann:* The consequences of own and spousal disability on labor market outcomes and objective well-being: Evidence from Germany, January 2010

No.160: *Norbert Olah, Thomas Huth und Dirk Löhr:* Geldpolitik mit optimaler Zinsstruktur, Januar 2010

No.159: *Markus Groth:* Zur Relevanz von Bestandseffekten und der Fundamentalen Transformation in wiederholten Biodiversitätsschutz-Ausschreibungen, Januar 2010

No.158: *Franziska Boneberg:* Die gegen das Drittelbeteiligungsgesetz verstoßende Aufsichtsratslücke existiert. Replik zu „Das Fehlen eines Aufsichtsrates muss nicht rechtswidrig sein“ von Alexander Dilger, Januar 2010
[erschienen in: Zeitschrift für Industrielle Beziehungen, 1 (2010)]

No.157: *Institut für Volkswirtschaftslehre:* Forschungsbericht 2009, Januar 2010

No.156: *Alexander Vogel, Joachim Wagner, Kerstin Brunken und Arno Brandt:* Zur Beschäftigungsentwicklung in der Region Hannover - Ein Vergleich mit 12 deutschen Verdichtungsräumen, Dezember 2009

(see www.leuphana.de/institute/ivwl/publikationen/working-papers.html for a complete list)

Leuphana Universität Lüneburg
Institut für Volkswirtschaftslehre
Postfach 2440
D-21314 Lüneburg
Tel.: ++49 4131 677 2321
email: brodt@leuphana.de

www.leuphana.de/institute/ivwl/publikationen/working-papers.html