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# IWH-FDI-Micro-Database

## Representativeness

### Survey 2012

**In East Germany (including Berlin)**

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**Halle Institute for Economic Research (IWH)**

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## Representativeness of the sample

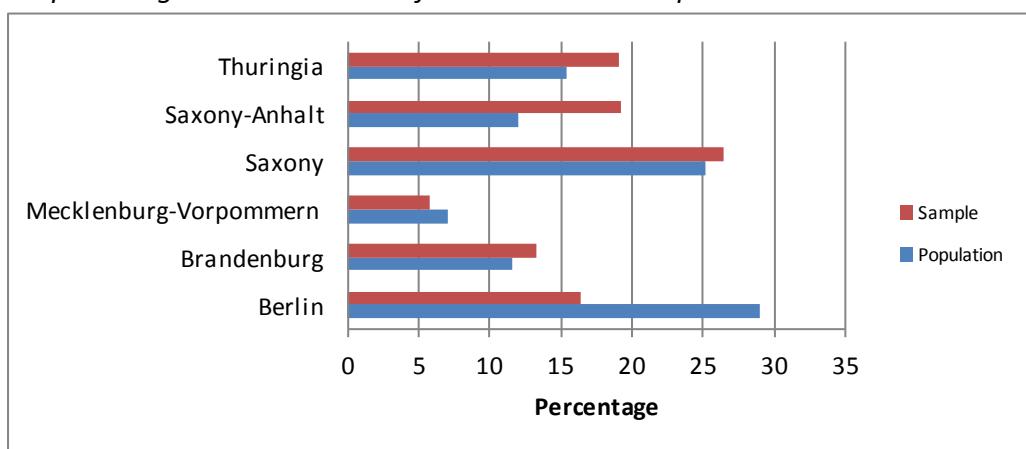
In the following section, the representativeness of the survey 2012 will be discussed. The sample will be split into two groups; on the one hand East German enterprises having one or more multinational investor(s). On the other hand, we will consider the population of East German enterprises holding capital shares abroad. The representativeness analysis of the samples will be done by analyzing the employment size, the industry of the enterprises, the regional distribution, and the ownership structure. In order to check the identity between the distribution of the sample and the population, a Chi-square-test will be applied. If the test statistics does not exceed the significance level of 5%, the null hypotheses will be rejected. In this case, one can assume that the sample is exposed to a different distribution compared to its corresponding population.

### 1. Investors in East Germany

#### 1.1 Multinational investors

The majority of the enterprises with a multinational investor (see table A1 and graph 1) is located in Berlin, with almost one third of the enterprises (29%). In Saxony hosts an additional quarter of the enterprises with a multinational investor (25.2%), while the federal state of Mecklenburg-Vorpommern hosts only a share of 7% of the population. The federal states of Thuringia (15.3%), Saxony-Anhalt (12.5%) and Brandenburg (12%) account for the rest of the population of East German enterprises with a multinational investor.

*Graph 1: Regional distribution of East German enterprises with a multination investor*



Source: IWH 2012

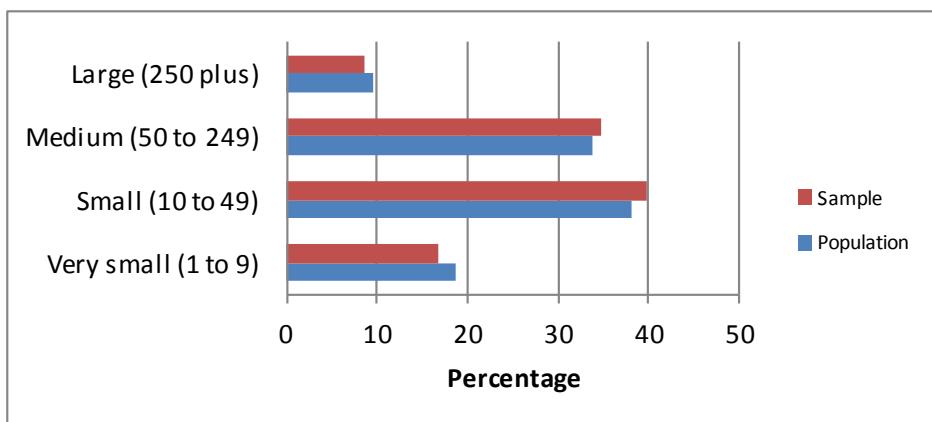
Compared to the population of East German enterprises with a multinational investor, the regional figures of the sample show Berlin is underweight (-12.6% to 16.4%), whereas the federal state of Saxony comprises the largest share within the sample of East German subsidiaries of multinational investors (26.4%). The strongest deviation compared to the population apart from Berlin can be found in Saxony-Anhalt (+7.3%). The Chi-square-test

indicates that the regional distribution of the sample differs significantly from the distribution of the population.

Concerning the regional distribution sorted by ROR<sup>1</sup> we observe large differences between the regions. Berlin attracts most of the foreign investments (29%), while the region of Altmark accounts only for 0.6% of the multinational affiliates in East Germany. Furthermore, the figures show distinct regional agglomerations (see table A2). In Saxony, nearly two third of the enterprises with a multinational investor are located either in the region around Dresden (Oberes Elbtal/Westerzgebirge, 7.5%), or in the region in the south of Saxony around Chemnitz (Südsachsen 8.5%). In Thuringia, the same structure can be observed since Ostthüringen and Mittelthüringen account for more than 10% of the population and around two thirds of the enterprises in the federal state. In Saxony-Anhalt, the regions around Halle/S. (4.2%) and Magdeburg (5.1%) host three quarter of the state's population. In Brandenburg and Mecklenburg-Vorpommern, the regions of the Havelland-Fläming (4.1%) and Mittleres Mecklenburg/Rostock (2.5%) attract most of the regions' multinational investments. Compared to the population, the null hypothesis of an identical distribution of the sample can be rejected.

The majority of the population of East German enterprises with a multinational investor is classified as small or medium-sized enterprise (see table A9 and graph 2). The shares of large companies and very small-sized enterprises account for 9.5% and 18.6% of the population, respectively. In comparison with the complete East German economy, the enterprises with a multinational investor are considerably bigger. In addition to the regional figures above, these figures indicate a structural impact of multinational companies investing in East Germany. In the sample, small enterprises are slightly overweight (+1.7%), while very small companies are only slightly underrepresented (-1.7%). Hence, the Chi-Square test statistic leads to a non-rejection of the null hypothesis of an identical distribution.

*Graph 2: Distribution per employment size of East German enterprises with a multination investor.*



Source: IWH 2012

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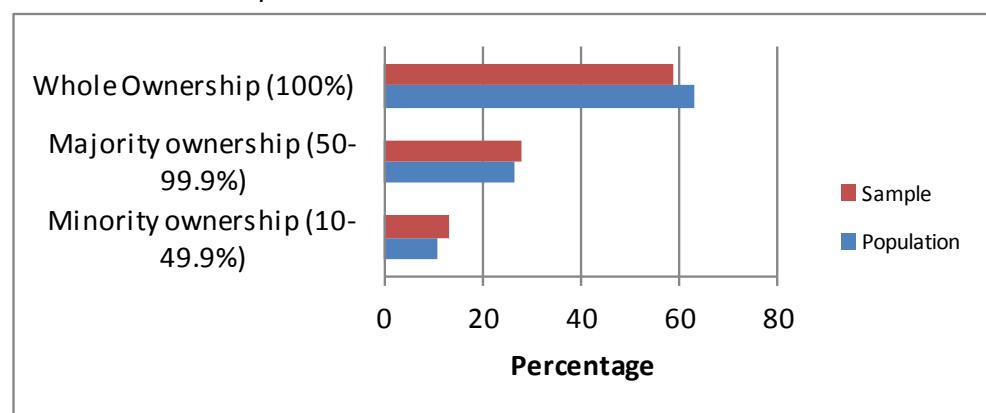
<sup>1</sup> ROR is an abbreviation for Raumordnungsregionen, which divides East Germany into 23 regions.

Regarding the distribution of enterprises per branch, the population's multinational affiliates are nearly equally distributed between the service sector (53.8%) and the industrial sector (46.2%). In the sample services are underpresented (-7.3%). Thus, the corresponding null hypothesis can be rejected (see table A13).

Considering the sectoral distribution sorted by the WZ 2008 2-digit Code (see table A14), the largest share of enterprises with multinational investor belongs to the wholesale sector (WZ 2008 Code 46, 13.4%), followed by the sector of metal processing (code 25) with a share of 6.9%. Compared to the corresponding population, the sectors of metal products, energy supply and architectural and engineering activities (codes 24, 35 and 71) are overweight, while the sectors of wholesale trade, computer programming, real estate and management consultancy activities (WZ2008 codes 46, 62, 68 and 70) are slightly underrepresented in the sample. Despite these deviations, the assumption of an identical distribution cannot be rejected.

The figures of the ownership structure depending on the capital share held by the investor, show that almost two thirds of the East German enterprises with a multinational investor (63%) are absolutely owned by their investor (see table A21 and graph 3).<sup>2</sup> An additional share of 26% of the multinational investors have a majority control over their affiliates in East Germany, while only 10.7% of the investors hold a minority share. As the sample's deviation from its population is relatively small, the null hypothesis of an identical distribution cannot be rejected.

*Graph 3: Distribution of East German enterprises with a multinational investor sorted by ownership structure.*



Source: IWH 2012

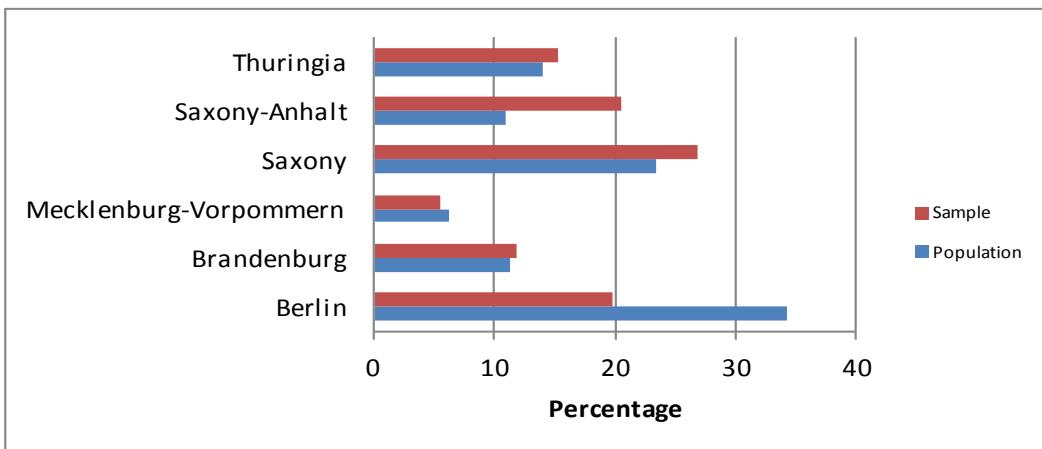
## 1.2 Foreign Investors

One third of the population (34.2%) of East German enterprises with a foreign investor is located in Berlin, followed by the federal states of Saxony (23.3%), Thuringia (14%), Brandenburg (11.2%), Saxony-Anhalt (11%), and Mecklenburg-Vorpommern (6.3%) (see table A2 and graph 4). In the corresponding sample, Berlin is strongly underrepresented (-

<sup>2</sup> The difference between direct and indirect is neglected for this representativeness analysis.

14.3%), while especially Saxony-Anhalt is overweight (+9.6%). These strong differences lead to rejection of the null hypothesis of an identical distribution.

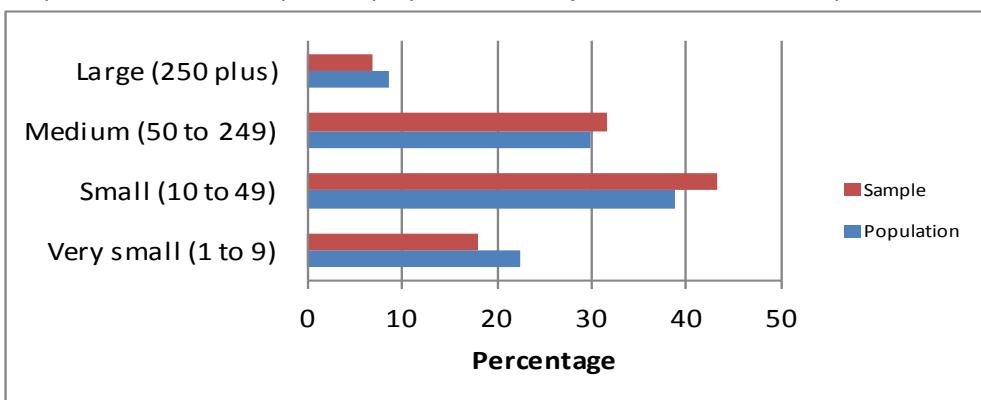
*Graph 4: Regional distribution of East German enterprises with a foreign investor*



Source: IWH 2012

On the regional level following the framework of ROR described above, the distribution is exposed to distinct differences, as the share of Berlin (34.2%) is nearly 70-times larger than the share of the region of Altmark (0.5%) (See table A2). In Saxony, the regions around Dresden (7.1%) and in the south of Saxony (6.8%) are the driving forces in the federal state, while the regions of Ostthüringen (5.6%) and Mittelthüringen (4.1%) attract the majority of the foreign investments in the state of Thuringia. In Saxony-Anhalt, the regions around the cities of Halle/S. (3.7%) and Magdeburg (4.6%) account for three quarter of the federal state's FDI, while the regions of Havelland/Fläming (3.6%) and Mittleres Mecklenburg/Rostock (2.2%) host the largest share of foreign investors in the state of Brandenburg or Mecklenburg-Vorpommern, respectively. In the sample, many regions are slightly overrepresented (e.g. Halle/S. (+4.7%)) at the expense of the share of Berlin (-14.3%). Due to the distributional difference between the sample and the population, the assumption of an identical distribution is rejected.

*Graph 5: Distribution per employment size of East German enterprises with a foreign investor*

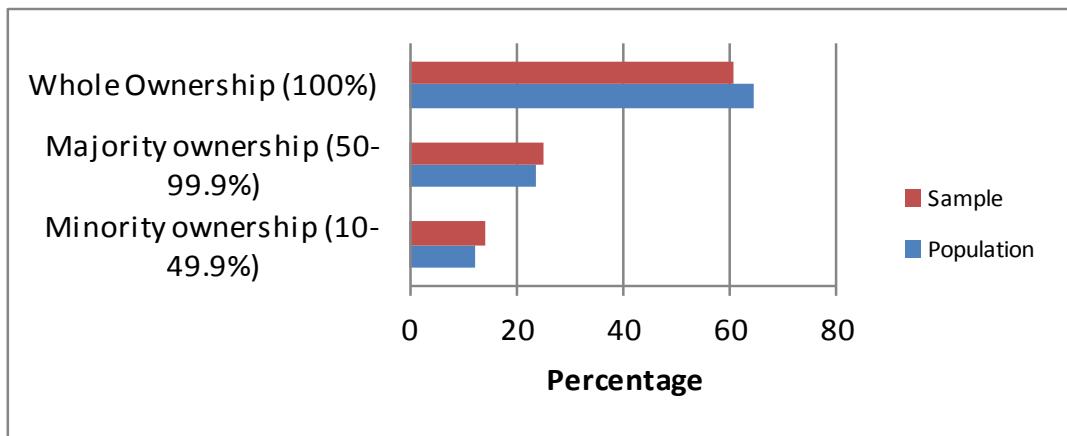


Source: IWH 2012

Regarding the population of enterprises with a foreign investor ordered by employment size (see table A10 and graph 5), 38.9% of the firms are classified as small enterprises, followed by medium-sized firms with a share of 30% and large companies accounting for 8.6% of the population. In the sample, very small firms are slightly underweighted (-4.4%) at the advantage of small companies (+4.3%). The null hypothesis cannot be rejected.

Among the East German enterprises with a foreign investor, a share of 57.2% belongs to the service sector, while 41.3% of the population's enterprises are part of the industrial sector. Due to an overrepresentation of the industrial sector (+7%), the null hypothesis of an identical distribution can be rejected. The analysis of the sectoral distribution of foreign affiliates in East Germany basing on the 2-digit WZ 2008 Code (see table A15) leads to nearly the same results as the analysis of multinational affiliates, since wholesale sector (code 46, 14.2%) account for the largest shares among East German subsidiaries of foreign investors, followed by the sector of business service providers (code 70, 7.8%). The largest sector among in manufacturing is again metal processing (code 25, 6.2%). In the sample, the sector of business service providers is underweighted (-3.9%) in favor of the manufactures of chemical substances (code 20, +2.7%). The distributional differences are not pronounced enough to reject the assumption of an identical distribution.

*Graph 6: Distribution of East German enterprises with a foreign investor sorted by ownership structure*



Source: IWH 2012

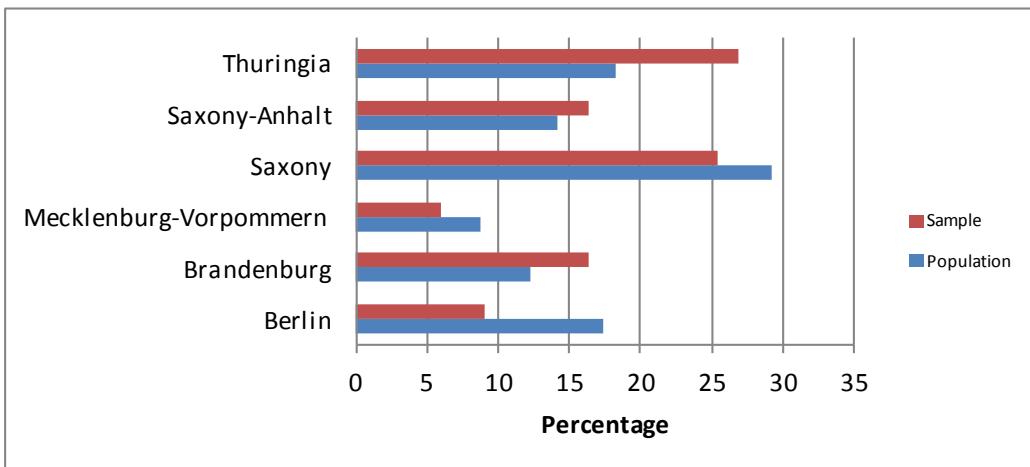
Considering the distribution of FDI in East Germany sorted by the ownership structure (See table A22 and graph 6), we observe that almost 90% of the foreign investors in East Germany hold a majority stake of the affiliate, whereas 64.7% are even completely owned by the foreign investors. As the sample hardly deviates from the corresponding population, the assumption of an identical distribution is not rejected.

### 1.3 West German Multinational Investors

The population of East German enterprises with a West German investor indicates Saxony's dominant position in East Germany (apart from Berlin), as the federal state attracts 29.3% of the investments coming from West Germany (see table A5 and graph 7), followed by

Thuringia (18.3%) and Berlin (17.3%). The federal states of Saxony-Anhalt (14.2%), Brandenburg (12.2%), and Mecklenburg-Vorpommern (8.7%) remain at the bottom of the chart. Furthermore, the domination of Berlin is less pronounced. Within the corresponding sample, Berlin is underweighted again (-14.3%). As the deviations especially for Berlin are not negligible, the null hypothesis is rejected.

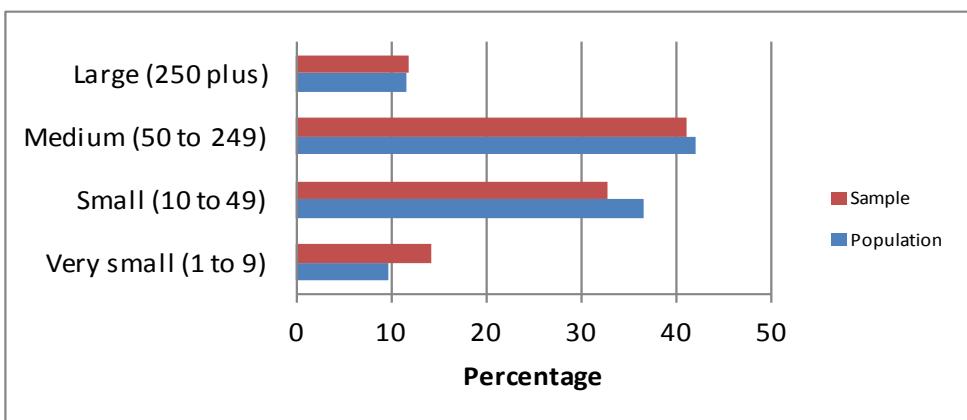
*Graph 7: Regional distribution of West German multinational affiliates in East Germany*



Source: IWH 2012

On a regional level, the regions around the cities of Dresden (Oberes Elbtal, 8.8%) and Chemnitz (Südsachsen, 12.1%) attract the largest share of West German investments outside of Berlin (17.3%). With the region of Südsachsen it seems that one region is almost able to keep pace with the region of Berlin with regard to West German investors (see table A6). In the sample, the regions of Halle/S. (+3%), Lausitz/Spreewald (+3.8%), and Mittelthüringen (+2.3%) are overrepresented at the expense of the regions of Berlin, Magdeburg (-1.7%), and Südsachsen (-3.1%). Nevertheless, the null hypothesis of an identical distribution is not rejected.

*Graph 8: Distribution of West German affiliates in East Germany sorted by employment size*



Source: IWH 2012

Among the East German affiliates of West German investors, more than 75% of the enterprises are classified as small or medium-sized (see table A11 and graph 8), while micro enterprises account for 9.8%. In the sample, micro enterprises are slightly overweight at the

expense of small-sized companies (+4.4% and -3.7%, respectively). Hence, the differences to the population are not sufficient to reject the assumption of an identical distribution.

Contrary to foreign affiliates, the majority of East German enterprises with a West German investor belong to the industrial production (53.6%). This distribution hardly changes in the sample. Hence, the null hypothesis cannot be rejected (see table A17). The same result is obtained, when the distributional identity is checked on the base of the 2-digit WZ 2008 Code.

More than half (59%) of West German subsidiaries in East Germany are completely owned by their investor (see table A23). Beyond that, 33.1% of West German investors hold a majority stake of their East German affiliate. This distribution looks pretty similar to the distribution among affiliates of foreign investors. As the sample's distribution slightly differs from its population, the null hypothesis is not rejected.

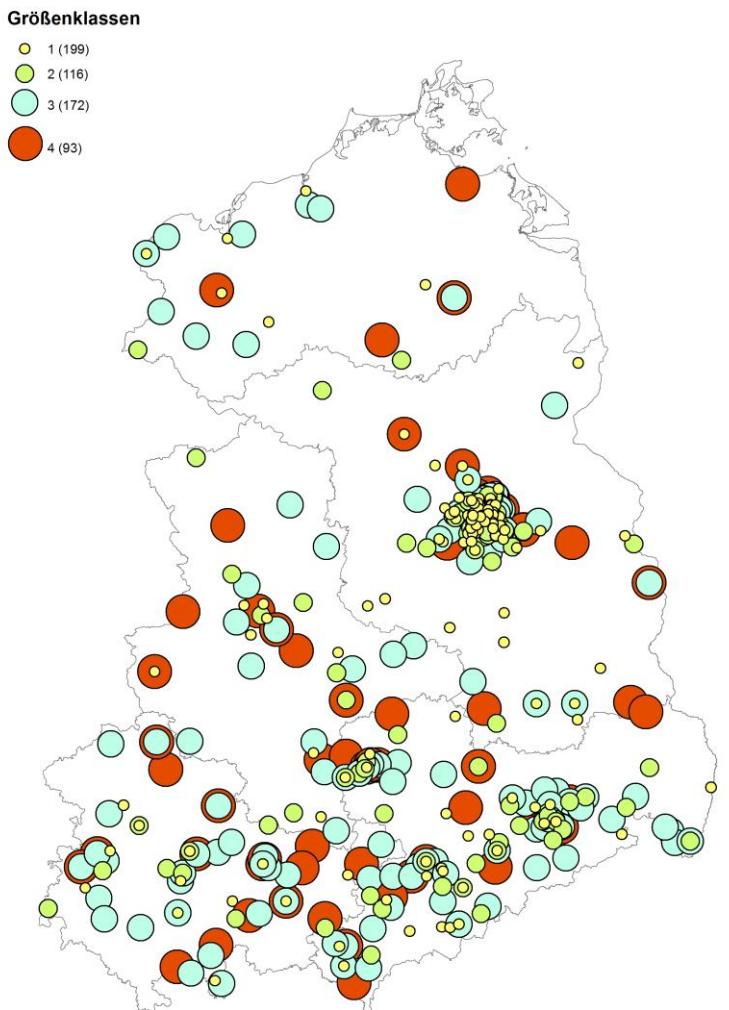
## 2. East German Enterprises investing abroad

In the following section, we will discuss the representativeness of East German enterprises holding foreign direct investments. Compared to earlier surveys, the amount of East German firms investing abroad has increased. In the year 2008 249 enterprises were investing abroad. This figure has been increasing to 583 enterprises in the year 2012. The number is still small compared to the number of enterprises being (partly) owned by foreign investors (1920), but it indicates that global integration of East German enterprises continues. This conclusion is supported by the fact that the ratio of outward/inward firms increased from 0.07 in 2008s survey to 0.21 in the survey of 2012.

Within the population of East German companies holding FDI, 40.8% of the enterprises are located in Berlin and were not necessarily exposed to the transition process (see table A7 and graph 9). Two thirds of the remaining enterprises investing abroad can be found either in Saxony (25%) or in Thruringia (13.9%). In the sample, Saxony is strongly overrepresented (+13.8%) at the expense of Berlin (-18.1%). Thus, the null hypothesis of an identical distribution is rejected.

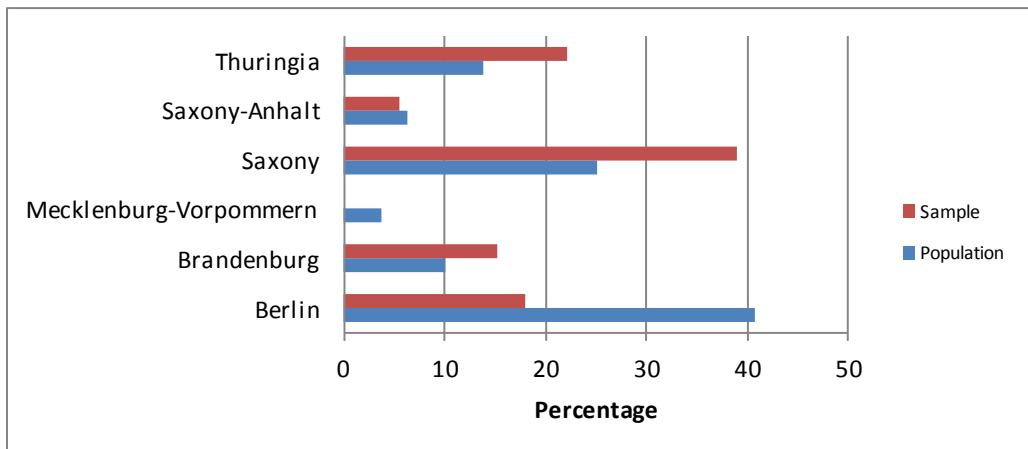
On the regional level (see table A8), the regions of Südsachsen (9.9%), Oberes Elbtal/Osterzgebirge (6.9%) and Ostthüringen (5.3%) are the driving internationalization forces of the East German economy. The regional disparity of outward FDI is even more pronounced compared to East German enterprises with a multinational investor. As the sample deviation is quite high (especially again for Berlin), the assumption of an identical distribution does not hold.

*Graph 9: Regional distribution of East German enterprises investing abroad*



Source: IWH 2012

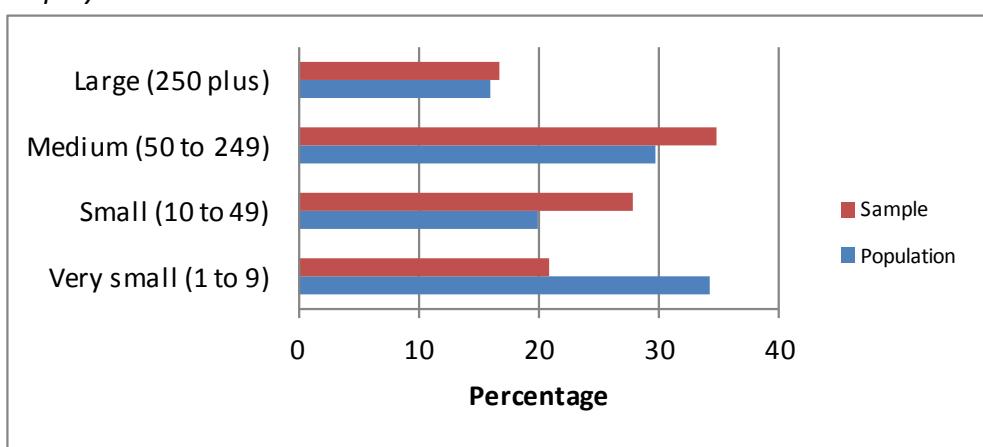
*Graph 10: Regional distribution of East German enterprises investing abroad*



Source: IWH 2012

In comparison to East German enterprises with a multinational investor, on the companies investing abroad are larger (see table A12 and graph 11); 16% of outward FDI firm have more than 250 employees. This figure might indicate that larger companies are more likely to be integrated into the global economy. In the corresponding sample, micro enterprises are underweighted (-13.5%) in favor of small (+7.8%) and medium-sized companies (+5.1%). These deviations are not distinct enough to reject the null hypothesis of an identical distribution.

*Graph 11: Distribution of East German enterprises investing outside Germany sorted by employment size.*



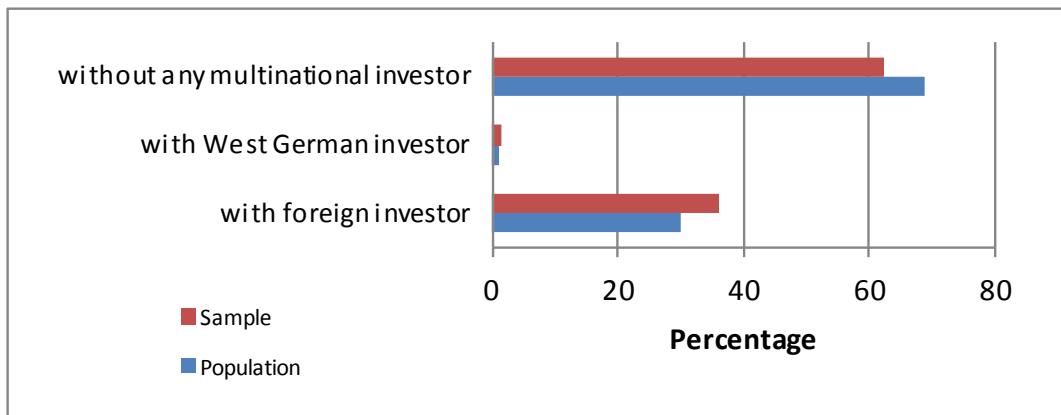
Source: IWH 2012

The majority (62.3%) of East German enterprises investing abroad belongs to the service sector (see table A19). These figures might indicate East German service sector has achieved a higher degree of internationalization compared to the East German manufacturing, while in the inward population the amount is almost equal. Despite an underrepresentation of the service sector (-9.5%), the null hypothesis of an identical distribution of the population cannot be rejected. With respect to the sector distinction by WZ 2008 2-digit Codes, the largest share of East German companies holding FDI belongs to the sector of business service providers (code 70, 17%), and wholesales (code 46, 10.3%). This figure shows the domination of enterprises from the service sector among East German enterprises investing

abroad. Compared to the population, the metal processing sector is overweight (+3%) at the expense of the business service sector (-4.5%). Despite the distinct sample deviations from the population, the assumption of an identical distribution cannot be rejected.

Nearly 68% of the East German companies holding FDI have the absolute control over at least one affiliate outside Germany (see table A24). Compared to 2010 this share has increased at 10%. Beyond that, an additional share of 23.3% of East German enterprises with an investment abroad hold a majority control over one or more foreign affiliates. As the distribution remains stable in the corresponding sample, the null hypothesis is not rejected.

*Graph 12: Distribution of East German enterprises holding FDI sorted by ownership structure*



Source: IWH 2012

The analysis of the ownership structure of East German enterprises investing abroad shows that 68.8% of the enterprises are originally East German (see table A25 and graph 12), since 30% or 1.2% of these companies have either a foreign or a West German multinational investor, respectively. Due to only small deviations from the population, the assumption of an identical distribution of the population and the corresponding sample holds.

## Appendix

**Table A1 Number of enterprises with a multinational investor per federal state**

Enterprises per Bundesland	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Berlin	805	29,0	69	16,4	122	-12,6
Brandenburg	321	11,5	56	13,3	49	1,8
Mecklenburg-Vorpommern	195	7,0	24	5,7	30	-1,3
Saxony	700	25,2	111	26,4	106	1,2
Saxony-Anhalt	333	12,0	81	19,2	50	7,3
Thuringia	426	15,3	80	19,0	65	3,7
<b>Total</b>	<b>2.780</b>	<b>100</b>	<b>421</b>	<b>100</b>	<b>421</b>	
Missing	0					
Chi-Square-Test	47,606					
DF	5					
<b>asymptotic significance</b>	<b>0,0000</b>					

Source: IWH FDI-micro-database 2012

**Table A2 Number of enterprises with a multinational investor per region (ROR)**

Enterprises per ROR	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Altmark	16	0,6	2	0,5	2	-0,1
Anhalt-Bitterfeld-Wittenberg	60	2,2	18	4,3	9	2,1
Berlin	805	29,0	69	16,4	122	-12,6
Halle/S.	116	4,2	35	8,3	18	4,1
Havelland-Fläming	113	4,1	17	4,0	17	-0,0
Lausitz-Spreewald	85	3,1	16	3,8	13	0,7
Magdeburg	141	5,1	26	6,2	21	1,1
Mecklenburgische Seenplatte	37	1,3	4	1,0	6	-0,4
Mittelthüringen	123	4,4	25	5,9	19	1,5
Mittleres Mecklenburg/Rostock	69	2,5	12	2,9	10	0,4
Nordthüringen	47	1,7	10	2,4	7	0,7
Oberes Elbtal/Osterzgebirge	209	7,5	28	6,7	32	-0,9
Oberlausitz-Niederschlesien	110	4,0	16	3,8	17	-0,2
Oderland-Spree	59	2,1	11	2,6	9	0,5
Ostthüringen	162	5,8	33	7,8	25	2,0
Prignitz-Oberhavel	39	1,4	8	1,9	6	0,5
Südsachsen	235	8,5	37	8,8	36	0,3
Südthüringen	94	3,4	12	2,9	14	-0,5
Uckermark-Barnim	25	0,9	4	1,0	4	0,1
Vorpommern	28	1,0	3	0,7	4	-0,3
Westmecklenburg	61	2,2	5	1,2	9	-1,0
Westsachsen	146	5,3	30	7,1	22	1,9
<b>Total</b>	<b>2.780</b>	<b>100</b>	<b>421</b>	<b>100</b>	<b>421</b>	<b>0,0</b>
Missing	0					
Chi-Square-Test	65,020					
DF	21					
<b>asymptotic significance</b>	<b>0,0000</b>					

Source: IWH FDI-micro-database 2012

**Table A3 Number of enterprises with foreign investors per federal state**

Enterprises per Bundesland	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Berlin	656	34,2	57	19,9	98	-14,3
Brandenburg	216	11,3	34	11,8	32	0,6
Mecklenburg-Vorpommern	120	6,3	16	5,6	18	-0,7
Saxony	448	23,3	77	26,8	67	3,5
Saxony-Anhalt	211	11,0	59	20,6	32	9,6
Thuringia	269	14,0	44	15,3	40	1,3
<b>Total</b>	<b>1.920</b>	<b>100</b>	<b>287</b>	<b>100</b>	<b>287</b>	
Missing						
<i>Chi-Square-Test</i>	43,260					
<i>DF</i>	5					
<b>asymptotic significance</b>	<b>0,0000</b>					

Source: IWH FDI-micro-database 2012

**Table A4 Number of enterprises with foreign investors per region (ROR)**

Enterprises per ROR	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Altmark	10	0,5	1	0,3	1	-0,2
Anhalt-Bitterfeld-Wittenberg	42	2,2	14	4,9	6	2,7
Berlin	656	34,2	57	19,9	98	-14,3
Halle/S.	71	3,7	24	8,4	11	4,7
Havelland-Fläming	69	3,6	11	3,8	10	0,2
Lausitz-Spreewald	60	3,1	7	2,4	9	-0,7
Magdeburg	88	4,6	20	7,0	13	2,4
Mecklenburgische Seenplatte	22	1,1	3	1,0	3	-0,1
Mittelthüringen	72	3,8	14	4,9	11	1,1
Mittleres Mecklenburg/Rostock	42	2,2	8	2,8	6	0,6
Nordthüringen	31	1,6	5	1,7	5	0,1
Oberes Elbtal/Osterzgebirge	136	7,1	19	6,6	20	-0,5
Oberlausitz-Niederschlesien	80	4,2	12	4,2	12	0,0
Oderland-Spree	43	2,2	8	2,8	6	0,5
Osthessen	107	5,6	21	7,3	16	1,7
Prignitz-Oberhavel	28	1,5	6	2,1	4	0,6
Südsachsen	131	6,8	25	8,7	20	1,9
Südthüringen	59	3,1	4	1,4	9	-1,7
Uckermark-Barnim	16	0,8	2	0,7	2	-0,1
Vorpommern	21	1,1	2	0,7	3	-0,4
Westmecklenburg	35	1,8	3	1,0	5	-0,8
Westsachsen	101	5,3	21	7,3	15	2,1
<b>Total</b>	<b>1.920</b>	<b>100</b>	<b>287</b>	<b>100</b>	<b>287</b>	<b>0</b>
Missing						
<i>Chi-Square-Test</i>	59,975					
<i>DF</i>	21					
<b>asymptotic significance</b>	<b>0,0000</b>					

Source: IWH FDI-micro-database 2012

**Table A5 Number of enterprises with a Western German investor per federal state**

Enterprises per Bundesland	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Berlin	149	17,3	12	9,0	23	-8,4
Brandenburg	105	12,2	22	16,4	16	4,2
Mecklenburg-Vorpommern	75	8,7	8	6,0	12	-2,8
Saxony	252	29,3	34	25,4	39	-3,9
Saxony-Anhalt	122	14,2	22	16,4	19	2,2
Thuringia	157	18,3	36	26,9	24	8,6
<b>Total</b>	<b>860</b>	<b>100</b>	<b>134</b>	<b>100</b>	<b>134</b>	
Missing	0					
<i>Chi-Square-Test</i>	15,143					
<i>DF</i>	5					
<b>asymptotic significance</b>	<b>0,0098</b>					

Source: IWH FDI-micro-database 2012

**Table A6 Number of enterprises with a West German investor per region (ROR)**

Enterprises per ROR	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Altmark	6	0,7	1	0,7	1	0,0
Anhalt-Bitterfeld-Wittenberg	18	2,1	4	3,0	3	0,9
Berlin	149	17,3	12	9,0	23	-8,4
Halle/S.	45	5,2	11	8,2	7	3,0
Havelland-Fläming	44	5,1	6	4,5	7	-0,6
Lausitz-Spreewald	25	2,9	9	6,7	4	3,8
Magdeburg	53	6,2	6	4,5	8	-1,7
Mecklenburgische Seenplatte	15	1,7	1	0,7	2	-1,0
Mittelthüringen	51	5,9	11	8,2	8	2,3
Mittleres Mecklenburg/Rostock	27	3,1	4	3,0	4	-0,2
Nordthüringen	16	1,9	5	3,7	2	1,9
Oberes Elbtal/Osterzgebirge	73	8,5	9	6,7	11	-1,8
Oberlausitz-Niederschlesien	30	3,5	4	3,0	5	-0,5
Oderland-Spree	16	1,9	3	2,2	2	0,4
Ostthüringen	55	6,4	12	9,0	9	2,6
Prignitz-Oberhavel	11	1,3	2	1,5	2	0,2
Südsachsen	104	12,1	12	9,0	16	-3,1
Südthüringen	35	4,1	8	6,0	5	1,9
Uckermark-Barnim	9	1,0	2	1,5	1	0,4
Vorpommern	7	0,8	1	0,7	1	-0,1
Westmecklenburg	26	3,0	2	1,5	4	-1,5
Westsachsen	45	5,2	9	6,7	7	1,5
<b>Total</b>	<b>860</b>	<b>100</b>	<b>134</b>	<b>100</b>	<b>134</b>	<b>0</b>
Missing	0					
<i>Chi-Square-Test</i>	26,346					
<i>DF</i>	21					
<b>asymptotic significance</b>	<b>0,1935</b>					

Source: IWH FDI-micro-database 2012

**Table A7 Number of East German enterprises investing abroad per federal state**

Enterprises per Bundesland	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Berlin	238	40,8	13	18,1	29	-22,8
Brandenburg	59	10,1	11	15,3	7	5,2
Mecklenburg-Vorpommern	22	3,8	0	0,0	3	-3,8
Saxony	146	25,0	28	38,9	18	13,8
Saxony-Anhalt	37	6,3	4	5,6	5	-0,8
Thuringia	81	13,9	16	22,2	10	8,3
<b>Total</b>	<b>583</b>	<b>100</b>	<b>72</b>	<b>100</b>	<b>72</b>	
Missing	0					
<i>Chi-Square-Test</i>	22,930					
<i>DF</i>	5					
<b>asymptotic significance</b>	<b>0,0003</b>					

Source: IWH FDI-micro-database 2012

**Table A8 Number of East German enterprises investing abroad per region (ROR)**

Enterprises per ROR	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Altmark	3	0,5	0	0,0	0	-0,5
Anhalt-Bitterfeld-Wittenberg	7	1,2	1	1,4	1	0,2
Berlin	238	40,8	13	18,1	29	-22,8
Halle/S.	9	1,5	2	2,8	1	1,2
Havelland-Fläming	23	3,9	4	5,6	3	1,6
Lausitz-Spreewald	18	3,1	4	5,6	2	2,5
Magdeburg	18	3,1	1	1,4	2	-1,7
Mecklenburgische Seenplatte	5	0,9	0	0,0	1	-0,9
Mittelthüringen	21	3,6	2	2,8	3	-0,8
Mittleres Mecklenburg/Rostock	4	0,7	0	0,0	0	-0,7
Nordthüringen	9	1,5	2	2,8	1	1,2
Oberes Elbtal/Osterzgebirge	40	6,9	5	6,9	5	0,1
Oberlausitz-Niederschlesien	19	3,3	5	6,9	2	3,7
Oderland-Spree	7	1,2	3	4,2	1	3,0
Ostthüringen	31	5,3	10	13,9	4	8,6
Prignitz-Oberhavel	9	1,5	0	0,0	1	-1,5
Südsachsen	58	9,9	11	15,3	7	5,3
Südthüringen	20	3,4	2	2,8	2	-0,7
Uckermark-Barnim	2	0,3	0	0,0	0	-0,3
Vorpommern	1	0,2	0	0,0	0	-0,2
Westmecklenburg	12	2,1	0	0,0	1	-2,1
Westsachsen	29	5,0	7	9,7	4	4,7
<b>Total</b>	<b>583</b>	<b>100</b>	<b>72</b>	<b>100</b>	<b>72</b>	<b>0</b>
Missing	0					
<i>Chi-Square-Test</i>	41,366					
<i>DF</i>	21					
<b>asymptotic significance</b>	<b>0,0051</b>					

Source: IWH FDI-micro-database 2012

**Table A9: Number of East German enterprises with a multination investor per employment size**

Enterprises per Sizeclass	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Very small (1 to 9)	515	18,58	71	16,86	78	-1,7
Small (10 to 49)	1.058	38,17	168	39,90	161	1,7
Medium (50 to 249)	935	33,73	146	34,68	142	0,9
Large (250 plus)	264	9,52	36	8,55	40	-1,0
<b>Total</b>	<b>2.772</b>	<b>100,0</b>	<b>421</b>	<b>100,0</b>	<b>421</b>	
Missing	8					
Chi-Square-Test	1,530					
DF	3					
<b>asymptotic significance</b>	<b>0,6755</b>					

Source: IWH FDI-micro-database 2012

**Table A10: Number of East German enterprises with a foreign investor per employment size**

Enterprises per Sizeclass	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Very small (1 to 9)	431	22,53	52	18,12	65	-4,4
Small (10 to 49)	744	38,89	124	43,21	112	4,3
Medium (50 to 249)	573	29,95	91	31,71	86	1,8
Large (250 plus)	165	8,63	20	6,97	25	-1,7
<b>Total</b>	<b>1.913</b>	<b>100,0</b>	<b>287</b>	<b>100,0</b>	<b>287</b>	
Missing	7					
Chi-Square-Test	5,060					
DF	3					
<b>asymptotic significance</b>	<b>0,1674</b>					

Source: IWH FDI-micro-database 2012

**Table A11: Number of East German enterprises with a West German investor per employment size**

Enterprises per Sizeclass	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Very small (1 to 9)	84	9,78	19	14,18	13	4,4
Small (10 to 49)	314	36,55	44	32,84	49	-3,7
Medium (50 to 249)	362	42,14	55	41,04	56	-1,1
Large (250 plus)	99	11,53	16	11,94	15	0,4
<b>Total</b>	<b>859</b>	<b>100,0</b>	<b>134</b>	<b>100,0</b>	<b>134</b>	
Missing	1					
Chi-Square-Test	3,218					
DF	3					
<b>asymptotic significance</b>	<b>0,3592</b>					

Source: IWH FDI-micro-database 2012

**Table A12: Number of East German enterprises investing abroad per employment size**

Enterprises per Sizeclass	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Very small (1 to 9)	199	34,31	15	20,83	25	-13,5
Small (10 to 49)	116	20,00	20	27,78	14	7,8
Medium (50 to 249)	172	29,66	25	34,72	21	5,1
Large (250 plus)	93	16,03	12	16,67	12	0,6
<b>Total</b>	<b>580</b>	<b>100,0</b>	<b>72</b>	<b>100,0</b>	<b>72</b>	
Missing	3					
Chi-Square-Test	6,631					
DF	3					
<b>asymptotic significance</b>	<b>0,0847</b>					

Source: IWH FDI-micro-database 2012

**Table A13 Number of enterprises with a multinational investor per branch**

Enterprises per branch	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Services	1.497	53,8	196	46,6	227	-7,3
Manufacturing	1.283	46,2	225	53,4	194	7,3
<b>Total</b>	<b>2.780</b>	<b>100</b>	<b>421</b>	<b>100</b>	<b>421</b>	
Missing	0					
Chi-Square-Test	9,010					
DF	1					
<b>asymptotic significance</b>	<b>0,0027</b>					

Source: IWH FDI-micro-database 2012

**Table A14 Number of enterprises with a multinational investor per sector (WZ 2008)**

Enterprises per sector (WZ 2008)	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
05	2	0,07	1	0,24	0	0,2
07	1	0,04	0	0,00	0	0,0
08	29	1,04	4	0,95	4	-0,1
10	69	2,48	11	2,61	10	0,1
11	8	0,29	0	0,00	1	-0,3
12	1	0,04	0	0,00	0	0,0
13	31	1,12	5	1,19	5	0,1
14	7	0,25	0	0,00	1	-0,3
15	1	0,04	0	0,00	0	0,0
16	33	1,19	7	1,66	5	0,5
17	42	1,51	8	1,90	6	0,4
18	21	0,76	5	1,19	3	0,4
19	3	0,11	0	0,00	0	-0,1
20	69	2,48	16	3,80	10	1,3
21	23	0,83	5	1,19	3	0,4
22	91	3,27	16	3,80	14	0,5
23	87	3,13	18	4,28	13	1,1
24	47	1,69	14	3,33	7	1,6
25	191	6,87	33	7,84	29	1,0
26	146	5,25	24	5,70	22	0,4
27	68	2,45	13	3,09	10	0,6
28	169	6,08	26	6,18	26	0,1
29	45	1,62	4	0,95	7	-0,7
30	20	0,72	2	0,48	3	-0,2
31	8	0,29	1	0,24	1	-0,1
32	52	1,87	6	1,43	8	-0,4
33	19	0,68	6	1,43	3	0,7
35	72	2,59	18	4,28	11	1,7
36	5	0,18	1	0,24	1	0,1
37	3	0,11	0	0,00	0	-0,1
38	53	1,91	13	3,09	8	1,2
39	2	0,07	1	0,24	0	0,2
46	373	13,42	47	11,16	56	-2,3
49	53	1,91	8	1,90	8	0,0
50	3	0,11	0	0,00	0	-0,1
51	4	0,14	0	0,00	1	-0,1
52	84	3,02	16	3,80	13	0,8
53	3	0,11	0	0,00	0	-0,1
58	26	0,94	2	0,48	4	-0,5
59	30	1,08	0	0,00	5	-1,1
60	11	0,40	1	0,24	2	-0,2
61	12	0,43	0	0,00	2	-0,4
62	139	5,00	13	3,09	21	-1,9
63	13	0,47	3	0,71	2	0,2
64	28	1,01	1	0,24	4	-0,8
65	5	0,18	0	0,00	1	-0,2
66	17	0,61	0	0,00	3	-0,6
68	101	3,63	7	1,66	15	-2,0
69	7	0,25	0	0,00	1	-0,3
70	168	6,04	14	3,33	25	-2,7
71	120	4,32	26	6,18	18	1,9
72	84	3,02	17	4,04	13	1,0
73	43	1,55	2	0,48	7	-1,1
74	38	1,37	6	1,43	6	0,1
<b>Total</b>	<b>2.780</b>	<b>100</b>	<b>421</b>	<b>100</b>	<b>421</b>	<b>0</b>
Missing	0					
Chi-Square-Test	75,808					
DF	53					
<b>asymptotic significance</b>	<b>0,0216</b>					

Source: IWH FDI-micro-database 2012

**Table A15 Number of enterprises with a foreign investor per branch**

Enterprises per branch	Population		Sample		Expected Sample	Deviation in %
	Frequency	%	Frequency	%		
Services	1.098	57,2	144	50,2	164	-7,0
Manufacturing	822	42,8	143	49,8	123	7,0
<b>Total</b>	<b>1.920</b>	<b>100</b>	<b>287</b>	<b>100</b>	<b>287</b>	
Chi-Square-Test	5,766					
<b>DF</b>	<b>1</b>					
Asymptotic significance	0,0163					

Source: IWH FDI-micro-database 2012

**Table A16 Number of enterprises with a foreign investor per sector (WZ 2008)**

**Frequency of Enterprises per sector (WZ2008) FDI Inward**

Enterprises per sector (WZ 2008)	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
05	2	0,10	1	0,35	0	0,2
07	1	0,05	0	0,00	0	-0,1
08	14	0,73	2	0,70	2	0,0
10	40	2,08	9	3,14	6	1,1
11	7	0,36	0	0,00	1	-0,4
12	1	0,05	0	0,00	0	-0,1
13	21	1,09	2	0,70	3	-0,4
14	6	0,31	0	0,00	1	-0,3
15	0	0,00	0	0,00	0	0,0
16	29	1,51	6	2,09	4	0,6
17	31	1,61	6	2,09	5	0,5
18	12	0,63	2	0,70	2	0,1
19	3	0,16	0	0,00	0	-0,2
20	49	2,55	15	5,23	7	2,7
21	21	1,09	4	1,39	3	0,3
22	52	2,71	8	2,79	8	0,1
23	55	2,86	12	4,18	8	1,3
24	31	1,61	11	3,83	5	2,2
25	119	6,20	19	6,62	18	0,4
26	101	5,26	16	5,57	15	0,3
27	39	2,03	8	2,79	6	0,8
28	101	5,26	12	4,18	15	-1,1
29	22	1,15	1	0,35	3	-0,8
30	15	0,78	2	0,70	2	-0,1
31	5	0,26	1	0,35	1	0,1
32	37	1,93	4	1,39	6	-0,5
33	8	0,42	2	0,70	1	0,3
35	29	1,51	6	2,09	4	0,6
36	3	0,16	0	0,00	0	-0,2
37	1	0,05	0	0,00	0	-0,1
38	30	1,56	8	2,79	4	1,2
39	1	0,05	1	0,35	0	0,3
46	272	14,17	36	12,54	41	-1,6
49	34	1,77	7	2,44	5	0,7
50	1	0,05	0	0,00	0	-0,1
51	3	0,16	0	0,00	0	-0,2
52	61	3,18	12	4,18	9	1,0
53	2	0,10	0	0,00	0	-0,1
58	16	0,83	2	0,70	2	-0,1
59	24	1,25	0	0,00	4	-1,3
60	8	0,42	1	0,35	1	-0,1
61	8	0,42	0	0,00	1	-0,4
62	102	5,31	10	3,48	15	-1,8
63	7	0,36	3	1,05	1	0,7
64	20	1,04	0	0,00	3	-1,0
65	2	0,10	0	0,00	0	-0,1
66	10	0,52	0	0,00	1	-0,5
68	88	4,58	6	2,09	13	-2,5
69	5	0,26	0	0,00	1	-0,3
70	149	7,76	11	3,83	22	-3,9
71	90	4,69	21	7,32	13	2,6
72	61	3,18	14	4,88	9	1,7
73	38	1,98	2	0,70	6	-1,3
74	33	1,72	4	1,39	5	-0,3
<b>Total</b>	<b>1.920</b>	<b>100</b>	<b>287</b>	<b>100</b>	<b>287</b>	<b>0</b>
Missing						
Chi-Square-Test	77,127					
DF	52					
asymptotic significance	0,0134					

Chi-Square-Test: Test for difference in the distribution of the population and the sample. It is tested whether both distributions are identical (null hypothesis). If the significance level is below 5%, the assumption of an identical distribution can be rejected.

Source: IWH FDI-micro-database 2012

**Table A17 Number of enterprises with a West German investor per branch**

Enterprises per branch	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Services	399	46,4	52	38,8	62	-7,6
Manufacturing	461	53,6	82	61,2	72	7,6
<b>Total</b>	<b>860</b>	<b>100</b>	<b>134</b>	<b>100</b>	<b>134</b>	
Missing	0					
Chi-Square-Test	3,103					
DF	1					
<b>asymptotic significance</b>	<b>0,0781</b>					

Source: IWH FDI-micro-database 2012

**Table A18 Number of enterprises with a West German investor per sector (WZ 2008)**

Enterprises per sector (WZ 2008)	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
05	0	0,00	0	0,00	0	0,0
07	0	0,00	0	0,00	0	0,0
08	15	1,74	2	1,49	2	-0,3
10	29	3,37	2	1,49	5	-1,9
11	1	0,12	0	0,00	0	-0,1
12	0	0,00	0	0,00	0	0,0
13	10	1,16	3	2,24	2	1,1
14	1	0,12	0	0,00	0	-0,1
15	1	0,12	0	0,00	0	-0,1
16	4	0,47	1	0,75	1	0,3
17	11	1,28	2	1,49	2	0,2
18	9	1,05	3	2,24	1	1,2
19	0	0,00	0	0,00	0	0,0
20	20	2,33	1	0,75	3	-1,6
21	2	0,23	1	0,75	0	0,5
22	39	4,53	8	5,97	6	1,4
23	32	3,72	6	4,48	5	0,8
24	16	1,86	3	2,24	2	0,4
25	72	8,37	14	10,45	11	2,1
26	45	5,23	8	5,97	7	0,7
27	29	3,37	5	3,73	5	0,4
28	68	7,91	14	10,45	11	2,5
29	23	2,67	3	2,24	4	-0,4
30	5	0,58	0	0,00	1	-0,6
31	3	0,35	0	0,00	0	-0,3
32	15	1,74	2	1,49	2	-0,3
33	11	1,28	4	2,99	2	1,7
35	43	5,00	12	8,96	7	4,0
36	2	0,23	1	0,75	0	0,5
37	2	0,23	0	0,00	0	-0,2
38	23	2,67	5	3,73	4	1,1
39	1	0,12	0	0,00	0	-0,1
46	101	11,74	11	8,21	16	-3,5
49	19	2,21	1	0,75	3	-1,5
50	2	0,23	0	0,00	0	-0,2
51	1	0,12	0	0,00	0	-0,1
52	23	2,67	4	2,99	4	0,3
53	1	0,12	0	0,00	0	-0,1
58	10	1,16	0	0,00	2	-1,2
59	6	0,70	0	0,00	1	-0,7
60	3	0,35	0	0,00	0	-0,3
61	4	0,47	0	0,00	1	-0,5
62	37	4,30	3	2,24	6	-2,1
63	6	0,70	0	0,00	1	-0,7
64	8	0,93	1	0,75	1	-0,2
65	3	0,35	0	0,00	0	-0,3
66	7	0,81	0	0,00	1	-0,8
68	13	1,51	1	0,75	2	-0,8
69	2	0,23	0	0,00	0	-0,2
70	19	2,21	3	2,24	3	0,0
71	30	3,49	5	3,73	5	0,2
72	23	2,67	3	2,24	4	-0,4
73	5	0,58	0	0,00	1	-0,6
74	5	0,58	2	1,49	1	0,9
<b>Total</b>	<b>860</b>	<b>100</b>	<b>134</b>	<b>100</b>	<b>134</b>	<b>0</b>
Missing	0					
Chi-Square-Test	36,869					
DF	49					
<b>asymptotic significance</b>	<b>0,8989</b>					

Source: IWH FDI-micro-database 2012

**Table A19 Number of East German enterprises investing abroad per branch**

Enterprises per branch	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Services	363	62,3	38	52,8	45	-9,5
Manufacturing	220	37,7	34	47,2	27	9,5
<b>Total</b>	<b>583</b>	<b>100</b>	<b>72</b>	<b>100</b>	<b>72</b>	
Missing	0					
Chi-Square-Test	2,758					
DF	1					
<b>asymptotic significance</b>	<b>0,0968</b>					

Source: IWH FDI-micro-database 2012

**Table A20 Number of East German enterprises investing abroad per sector (WZ 2008)**

Enterprises per sector (WZ 2008)	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
05	0	0,00	0	0,00	0	0,0
07	0	0,00	0	0,00	0	0,0
08	1	0,17	0	0,00	0	-0,2
10	5	0,86	1	1,39	1	0,5
11	2	0,34	0	0,00	0	-0,3
12	0	0,00	0	0,00	0	0,0
13	11	1,89	1	1,39	1	-0,5
14	5	0,86	0	0,00	1	-0,9
15	0	0,00	0	0,00	0	0,0
16	3	0,51	1	1,39	0	0,9
17	4	0,69	0	0,00	0	-0,7
18	6	1,03	1	1,39	1	0,4
19	1	0,17	0	0,00	0	-0,2
20	11	1,89	1	1,39	1	-0,5
21	5	0,86	2	2,78	1	1,9
22	16	2,74	2	2,78	2	0,0
23	8	1,37	3	4,17	1	2,8
24	7	1,20	3	4,17	1	3,0
25	24	4,12	4	5,56	3	1,4
26	34	5,83	5	6,94	4	1,1
27	19	3,26	2	2,78	2	-0,5
28	33	5,66	6	8,33	4	2,7
29	7	1,20	0	0,00	1	-1,2
30	2	0,34	0	0,00	0	-0,3
31	2	0,34	0	0,00	0	-0,3
32	14	2,40	2	2,78	2	0,4
33	0	0,00	0	0,00	0	0,0
35	6	1,03	0	0,00	1	-1,0
36	0	0,00	0	0,00	0	0,0
37	1	0,17	0	0,00	0	-0,2
38	4	0,69	0	0,00	0	-0,7
39	1	0,17	1	1,39	0	1,2
46	60	10,29	8	11,11	7	0,8
49	3	0,51	1	1,39	0	0,9
50	0	0,00	0	0,00	0	0,0
51	3	0,51	0	0,00	0	-0,5
52	12	2,06	1	1,39	1	-0,7
53	1	0,17	0	0,00	0	-0,2
58	6	1,03	2	2,78	1	1,7
59	7	1,20	0	0,00	1	-1,2
60	0	0,00	0	0,00	0	0,0
61	2	0,34	0	0,00	0	-0,3
62	34	5,83	1	1,39	4	-4,4
63	1	0,17	0	0,00	0	-0,2
64	19	3,26	3	4,17	2	0,9
65	0	0,00	0	0,00	0	0,0
66	4	0,69	1	1,39	0	0,7
68	20	3,43	2	2,78	2	-0,7
69	3	0,51	0	0,00	0	-0,5
70	99	16,98	9	12,50	12	-4,5
71	31	5,32	4	5,56	4	0,2
72	16	2,74	3	4,17	2	1,4
73	11	1,89	2	2,78	1	0,9
74	19	3,26	0	0,00	2	-3,3
<b>Total</b>	<b>583</b>	<b>100</b>	<b>72</b>	<b>100</b>	<b>72</b>	<b>0</b>
Missing	0					
Chi-Square-Test	38,893					
DF	44					
<b>asymptotic significance</b>	<b>0,6898</b>					

Source: IWH FDI-micro-database 2012

**Table A21 Number of enterprises with a multinational investor per ownership structure**

Enterprises per ownership	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Minority ownership (10-49.9%)	297	10,68	55	13,06	45	2,4
Majority ownership (50-99.9%)	734	26,40	118	28,03	111	1,6
Whole Ownership (100%)	1.749	62,91	248	58,91	265	-4,0
<b>Total</b>	<b>2.780</b>	<b>100,0</b>	<b>421</b>	<b>100,0</b>	<b>421</b>	
Missing	0					
Chi-Square-Test	3,729					
DF	2					
<b>asymptotic significance</b>	<b>0,1550</b>					

Source: IWH FDI-micro-database 2012

**Table A22 Number of enterprises with a foreign investor per ownership structure**

Enterprises per ownership	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Minority ownership (10-49.9%)	229	11,93	41	14,29	34	2,4
Majority ownership (50-99.9%)	449	23,39	72	25,09	67	1,7
Whole Ownership (100%)	1.242	64,69	174	60,63	186	-4,1
<b>Total</b>	<b>1.920</b>	<b>100,0</b>	<b>287</b>	<b>100,0</b>	<b>287</b>	
Missing	0					
Chi-Square-Test	2,425					
DF	2					
<b>asymptotic significance</b>	<b>0,2974</b>					

Source: IWH FDI-micro-database 2012

**Table A23 Number of enterprises with a West German investor per ownership structure**

Enterprises per ownership	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Minority ownership (10-49.9%)	68	7,91	14	10,45	11	2,5
Majority ownership (50-99.9%)	285	33,14	46	34,33	44	1,2
Whole Ownership (100%)	507	58,95	74	55,22	79	-3,7
<b>Total</b>	<b>860</b>	<b>100,0</b>	<b>134</b>	<b>100,0</b>	<b>134</b>	
Missing	0					
Chi-Square-Test	1,467					
DF	2					
<b>asymptotic significance</b>	<b>0,4801</b>					

Source: IWH FDI-micro-database 2012

**Table A24 Number of East German enterprises investing abroad per ownership structure**

Enterprises per ownership	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
Minority ownership (10-49.9%)	51	8,75	6	8,33	6	-0,4
Majority ownership (50-99.9%)	136	23,33	16	22,22	17	-1,1
Whole Ownership (100%)	396	67,92	50	69,44	49	1,5
<b>Total</b>	<b>583</b>	<b>100,0</b>	<b>72</b>	<b>100,0</b>	<b>72</b>	
Missing	0					
Chi-Square-Test	0,076					
DF	2					
<b>asymptotic significance</b>	<b>0,9625</b>					

Source: IWH FDI-micro-database 2012

**Table A25 Number of East German enterprises investing abroad per ownership structure**

Enterprises per ownership	Population		Sample		Expected Frequency	Deviation (in % points)
	Frequency	%	Frequency	%		
with foreign investor	175	30,0	26	36,1	22	6,1
with West German investor	7	1,2	1	1,4	1	0,2
without any multinational investor	401	68,8	45	62,5	50	-6,3
<b>Total</b>	<b>583</b>	<b>100,0</b>	<b>72</b>	<b>100,0</b>	<b>72</b>	
Missing	0					
Chi-Square-Test	1,325					
DF	2					
<b>asymptotic significance</b>	<b>0,5155</b>					

Source: IWH FDI-micro-database 2012