MULTINATIONAL RESILIENCE OR DISPENSABLE JOBS? GERMAN FDI AND EMPLOYMENT IN THE CZECH REPUBLIC AROUND THE GREAT RECESSION

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Abstract
This article investigates the employment development in Czech-based firms in German ownership in the years around the Great Recession of 2008/2009. The intense involvement of German firms in the economy of the neighbouring country *via* foreign direct investment (FDI) raises a question whether under the conditions of a historically deep global downturn, the Czech employees in multinational companies were confronted with an increased volatility of their jobs. Using a unique firm-level dataset, we contrast the affiliates of German investors with purely Czech-owned enterprises. Our findings indicate that in the years before the crisis, firms with German capital exhibited a noticeably more positive employment development. The results from the year 2008 onwards give reason to the conclusion that the German-owned firms played a stabilizing role for the Czech labour market during the recession.

Keywords: financial crisis, multinational firms, foreign direct investment, employment volatility, Germany, the Czech Republic
JEL Classification: F23, J21, G01

1. Introduction

When looking at foreign direct investment (FDI) flows from old to new EU member states, Germany and the Czech Republic act as front-runners of economic integration (see Pflüger *et al*., 2013, for example). A central question arising against this background is how secure jobs in the German-owned firms in the Czech Republic are in tougher times, *i.e*. whether German multinationals improve, worsen, or are neutral to the development of Czech employment during recessions. Two contradictory hypotheses can be stated: first, according to a generally higher productivity and competitiveness as supposed by the model of Helpman *et al*. (2004), multinationals may be less vulnerable towards demand shocks and as a consequence are able to hoard labour in anticipation of recovery. Provided that German

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firms manage to secure employment during the crisis years at home, German ownership may also shield employees in their Czech-based affiliates from lay-offs. Second, to the contrary, firms that do not exclusively serve the domestic market but also foreign markets, should be more exposed to the effects of the global recession. Under the assumption that multinational enterprises (MNEs) depend to a higher degree on foreign demand compared to domestic firms, they are supposedly more affected by the international downturn. At that, fluctuations in labour demand can be expected to be more volatile in foreign affiliates than in the home country of FDI (Bergin *et al.*, 2007). Thus, German MNEs may have exploited their opportunity to adjust labour demand across borders and secured jobs in Germany at the cost of jobs abroad including jobs in the Czech Republic (see Peters and Weigert, 2013 for a general analysis).

In this context, the global economic crisis of 2008/2009 can be regarded as an exogenous shock to the labour market, and therefore is a suitable basis for the comparative analysis of employment effects of domestic and foreign ownership. Given the high importance of German FDI, the aim of our study is to assess the role of German firm ownership on employment development in the Czech Republic by considering the period around the Great Recession. It is worth to compare the employment figures of the past years for both countries, which are interestingly fairly different in the crisis period: while Germany saw steady employment growth during the past decade, which merely slowed down in 2009 (Statistisches Bundesamt, 2016), Czech employment, which had grown until 2008, had not yet returned to its pre-crisis level by 2010 (Czech Statistical Office, 2015). In both countries, economic sectors were not equally affected by the downturn, as the manufacturing sector was more exposed to the global demand slump than the service sector, which can be traced back to the greater embedment in international trade structures. In a study on the employment development of Czech manufacturing firms during the Great Recession, Babecký *et al.* (2012) find evidence of a higher sales elasticity, particularly for very large firms, indicating that this group of firms was most negatively affected by the downturn.

By taking a host-country focus rather than a home-country focus of FDI, our study tackles three research issues: first, does employment growth in the German-owned firms in the Czech Republic differ from the development in purely domestic firms before the economic slowdown in 2008? Second, do the German-owned firms show a deviating reaction concerning employment adjustment in response to the Great Recession (2008–2009 and 2009–2010) compared to the firms without foreign capital? And finally, regarding the above-mentioned unequal exposure to foreign demand, can we identify differences between the manufacturing sector and the service sector before and during the crisis years?

We provide detailed evidence based on a unique sample of Czech firms that covers information on foreign capital participation. Our findings indicate that, in comparison to purely Czech-owned firms, German affiliates exhibit an overall positive employment development in the years before the crisis. The results from the year 2008 onwards give reason to the conclusion that while Czech-owned firms in the manufacturing sector were most heavily affected by the crisis, German-owned firms stabilized the economic situation during the recession. The remainder of the paper is organized as follows: Section 2 highlights the background of multinational firm theory and the related empirical evidence. In Section 3 we portray the composition of the dataset and present descriptive statistics

on employment growth of domestic firms and German-owned firms. Section 4 contains the econometric analyses for different subsamples and observation periods. Section 5 discusses the results and concludes the article by setting our findings in a broader context.

2. Theoretical and Empirical Background

By their very nature, MNEs can be regarded as a distinct category of firms. An important issue in this context is firm heterogeneity with respect to size and productivity of MNEs compared to other firms. According to the model by Helpman *et al.* (2004), firms which are actively operating in foreign countries are the most effective type of firms in terms of production and sales, as opposed to exporters, purely domestic firms, and, obviously, firms which try but fail even to operate domestically. Given imperfect markets, the central implication of firm heterogeneity is that MNEs possess greater market power than domestic firms and labour is reallocated towards internationally operating firms through a selection effect. Concerning the Czech Republic, for instance, Jurajda and Stančík (2013) ascribe the higher productivity of foreign-owned firms to the occupational composition, *i.e.* multinationals invest to a higher extent in 'organizational' intangibles in terms of managing and marketing personnel. Looking beyond the supposed advantages of international connectedness, however, jobs in MNEs are generally expected to be more volatile than jobs in domestic firms. Rodrik (1997) stressed early that the broader range of production opportunities available to firms under trade liberalization may raise the volatility of employment. The resulting higher job insecurity of workers reflects, in particular, the stronger exposure of multinationals to the global business cycle and technological change. MNEs are more immediately concerned with such international forces and need to adapt to these circumstances more urgently, where production stages in foreign firm units are more strongly affected by labour demand fluctuations than the activities at the headquarters at home (Bergin *et al.*, 2007; Bergin *et al.*, 2009). Though MNEs react more quickly to labour market shocks than purely domestic firms, empirical evidence on the relative employment volatility of MNEs is rather ambiguous. An increase in offshoring activities tends to go hand in hand with a higher elasticity of labour demand in some specific cases (*e.g.* Görg *et al.*, 2009 for Ireland; Hijzen and Swaim, 2010 for countries with weak labour market institutions; Nilsson Hakkala *et al.*, 2010 for Sweden). The bulk of studies on that issue, however, comes to the conclusion that foreign ownership does not lead to a lower job security of workers in the offshore firm units (*e.g.* Andrews *et al.*, 2012; Barba Navaretti *et al.*, 2003; Buch and Lipponer, 2010; Fabbri *et al.*, 2003).

The literature on the behaviour of multinational firms in the host countries during recessions is rather scarce. As illustratively depicted by Amendola *et al.* (2012), the existing analyses can be classified into three groups with respect to their findings. Some studies conclude that MNEs act as stabilizers in economic downturns (*e.g.* Alfaro and Chen, 2012; Desai *et al.*, 2008; Tong and Wei, 2011). In this group of investigations the employment development of multinational firms is found to be more robust in times of economic crisis compared to domestic firms, which is attributed to cross-border input-output relationships between headquarters in the home country of FDI and affiliates in the host countries and greater financial independence through intra-firm financial linkages. In contrast, other studies assign a destabilizing role to MNEs (*e.g.* Álvarez and Görg, 2009; Görg and Strobl, 2003; Lipsey, 2001), *i.e.* foreign-owned firms turn out to be less resilient to a recession by

showing a higher share of exits or higher employment losses than domestically-owned firms. Finally, a third group of examinations does not find evidence for differences between multinationals and domestic firms regarding their employment reaction to a slowdown (*e.g.* Álvarez and Görg, 2012; Godart *et al.*, 2012; Varum and Rocha, 2011).

Few studies deal with the performance of foreign-owned firms over the recent global economic crisis. Covering 24 emerging countries, Tong and Wei (2011) find that the relatively strong financial position of MNEs alleviates the financial constraints of their foreign affiliates. Using a worldwide dataset, Alfaro and Chen (2012) investigate the response of foreign subsidiaries to the crisis compared to domestic establishments. While they do not observe a significant effect of foreign ownership in non-crisis years, the multinational affiliates exhibited on average a better performance during the global recession. Godart *et al.* (2012) for Ireland, Amendola *et al.* (2012) for Italy and Wagner and Weche Gelübcke (2014) for Germany conclude that foreign-owned firms were not more likely to exit during the recession than purely national firms. Peters and Weigert (2013) analyse the employment development of German multinationals at home and abroad before and during the Great Recession. They suggest that manufacturing MNEs secured jobs in Germany through disproportionate employment adjustment in their foreign subsidiaries during the crisis, but do not investigate domestically-owned firms in the target countries of German FDI. Using a large panel of Czech manufacturing firms with 50 or more employees, Babecký *et al.* (2012) study employment development during the Great Recession. They find evidence of a higher sales elasticity, particularly for very large firms indicating that this group of firms was most negatively affected by the downturn, while ownership issues are not considered in the analysis. To our knowledge, no previous study has investigated the effect of foreign ownership on employment development in the Czech Republic in the course of the 2008/2009 crisis.

The literature on MNEs with respect to their performance during recession times and the employment development in FDI target countries such as the Czech Republic can thus be summarized as follows. Theoretical expectations and empirical findings are ambiguous: on the one hand, it appears that a strong presence of MNEs is good news for Czech workers, as MNEs, due to their cross-border linkages and a higher resilience against financial constraints, are less vulnerable to macroeconomic shocks. Moreover, considering our specific case, the more favourable aggregate employment trend in Germany compared to the Czech Republic suggests that German-owned firms may have lost fewer jobs than domestic firms. On the other hand, considering the findings of Peters/Weigert (2013), one might suppose that German multinationals regard jobs in their Czech affiliates as "dispensable" and jobs in Germany are secured at the cost of their Czech-based employees. In this sense, an increased volatility in employment decisions due to the broader opportunities of multinationals would imply that employees of German-owned firms in the Czech Republic felt the shock more strongly than workers in domestic firms, possibly also in the form of lay-offs. Our paper contributes to filling a research gap by examining the employment development of German-owned firms in comparison to purely Czech-owned firms before and during the Great Recession of 2008/2009. As MNEs are positively selected with regard to productivity and competitiveness it is difficult to isolate the effect of foreign ownership in studies on FDI. However, by focussing on employment in the years around the global economic crisis, we exploit an exogenous source of employment effects, and are primarily interested in the role of foreign-owned firms in mitigating or exacerbating

this shock rather than detecting a causal effect of FDI on employment growth. Our analysis is based on a firm-level dataset which is presented in the following section.

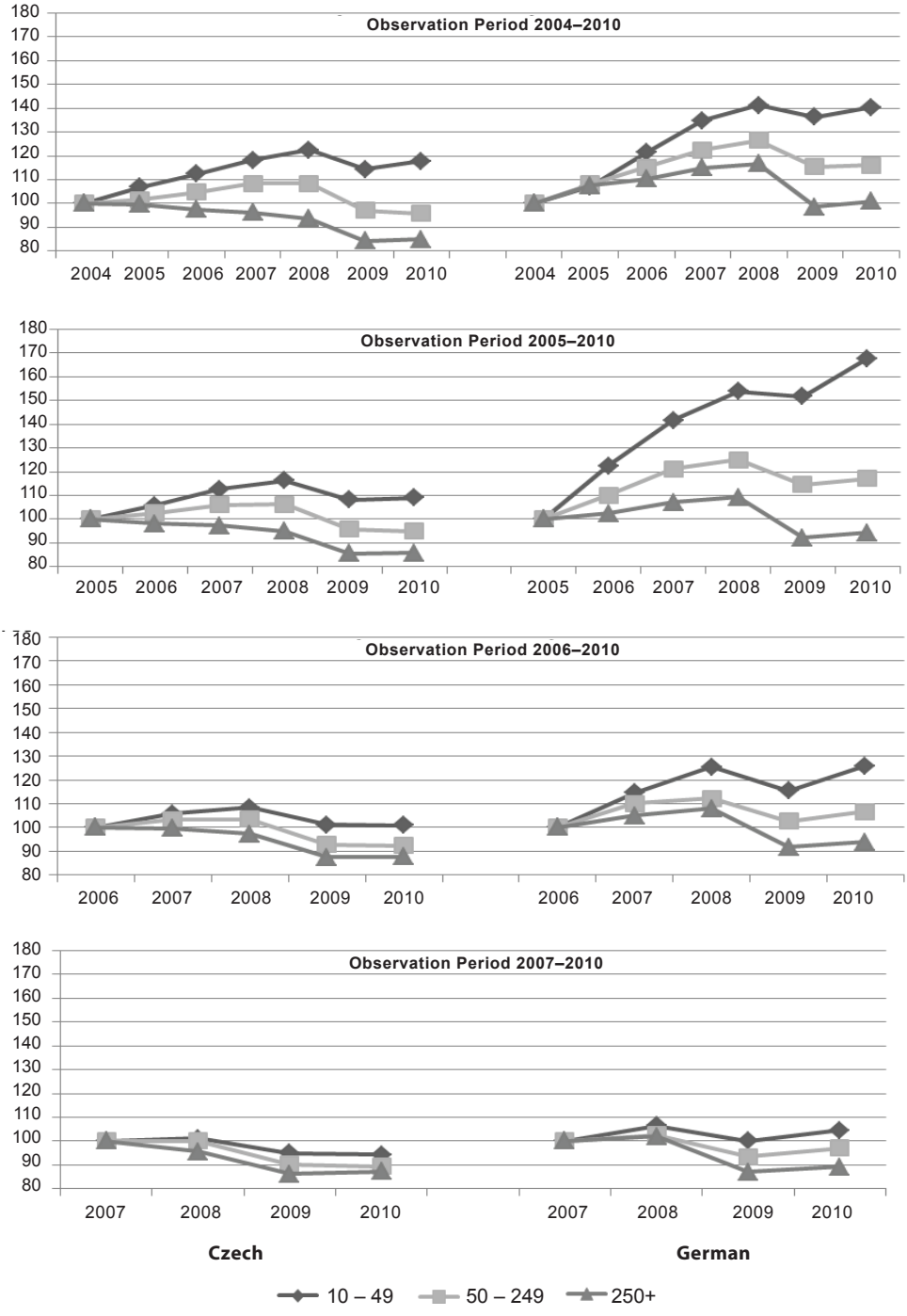
3. Data and Descriptive Analysis

We use a database made available by the Czech Capital Information Agency, ČEKIA (recently renamed Bisnode), which collects information on firms from the register of shareholders, annual reports and further firm-issued sources, surveys, and public media coverage (for detailed information on the dataset, see Bisnode, 2015). Our sample comprises among others information on employment, industry affiliation, and a selection of balance sheet data. Information on the ownership structure of the firms is merged from the Czech Commercial Register. The basis of our dataset is an unbalanced panel of 53,000 firms covering the years from 2004 to 2010. 1,900 firms are partly or entirely German-owned, all others are purely Czech-owned. We restrict our sample to the manufacturing and service sectors, thereby dropping a negligible number of observations. We verify whether a firm actually has no foreign owners at all, up to four levels above the observed firm, so we can rule out that not only the Czech firms themselves, but also their owners up to the fourth property level above the actual firm are owned by non-Czech firms or private persons. For our analysis, we exclude firms whose ownership status switches between purely Czech and (at least partly) German during the period of observation, whereby we lose another negligible number of observations.

As our interest is in changes across the years, and to rule out bias from unobserved heterogeneity within the Czech and German groups, we draw four balanced panels starting from different years, 2004 to 2007, all lasting until the year 2010. Due to improvements in recording balance sheet data the number of firms in the ČEKIA database increased from year to year. In this study we focus on the intensive margin of employment, *i.e*. we track the development of firms that still exist in 2010, the end of the observation period. In this manner we exploit the panel character of the data. In the context of firms' reactions to the global recession, the adjustment along the extensive margin, *i.e*. firm survival or exit during crisis is an important topic too. Unfortunately, we are not able to distinguish real firm exits, *i.e*. leaving the market due to the closure of the firm, from other attrition causes, *e.g.* failure of data collection. Across the observation period, we do not find indications for systematic differences between the exit rates of Czech- and German-owned firms in our analysis.[1] The sample structure does not differ significantly across the four panels with respect to principal firm characteristics, *e.g*. in that 75 to 80 per cent of German-owned firms are 100 per cent daughters of their German owners. In each balanced panel, in more than 90% of the cases the German shareholders are majority owners (with a capital share above 50%). The distribution of ownership shares in our database is fairly close to the figures that are found for Czech companies with a German investor in the MiDi database of the Deutsche Bundesbank.

1 Concerning the raw dataset, the survival rates of German-owned firms are higher than purely Czech-owned firms. From the sample of firms that are recorded in the year 2004, nearly 70% of domestic firms and just below 80% of German-owned firms are also registered in the year 2010. Since a higher survival rate can be observed for bigger firms, a considerable part of the difference can be attributed to the size structure of the firms. Furthermore, our calculations provide evidence that German-owned firms did not leave the market in the crisis years to an above-average extent compared to the domestic group.

Figure 1 | Aggregate Employment Development, Manufacturing



Source: Authors' own calculations from ČEKIA data

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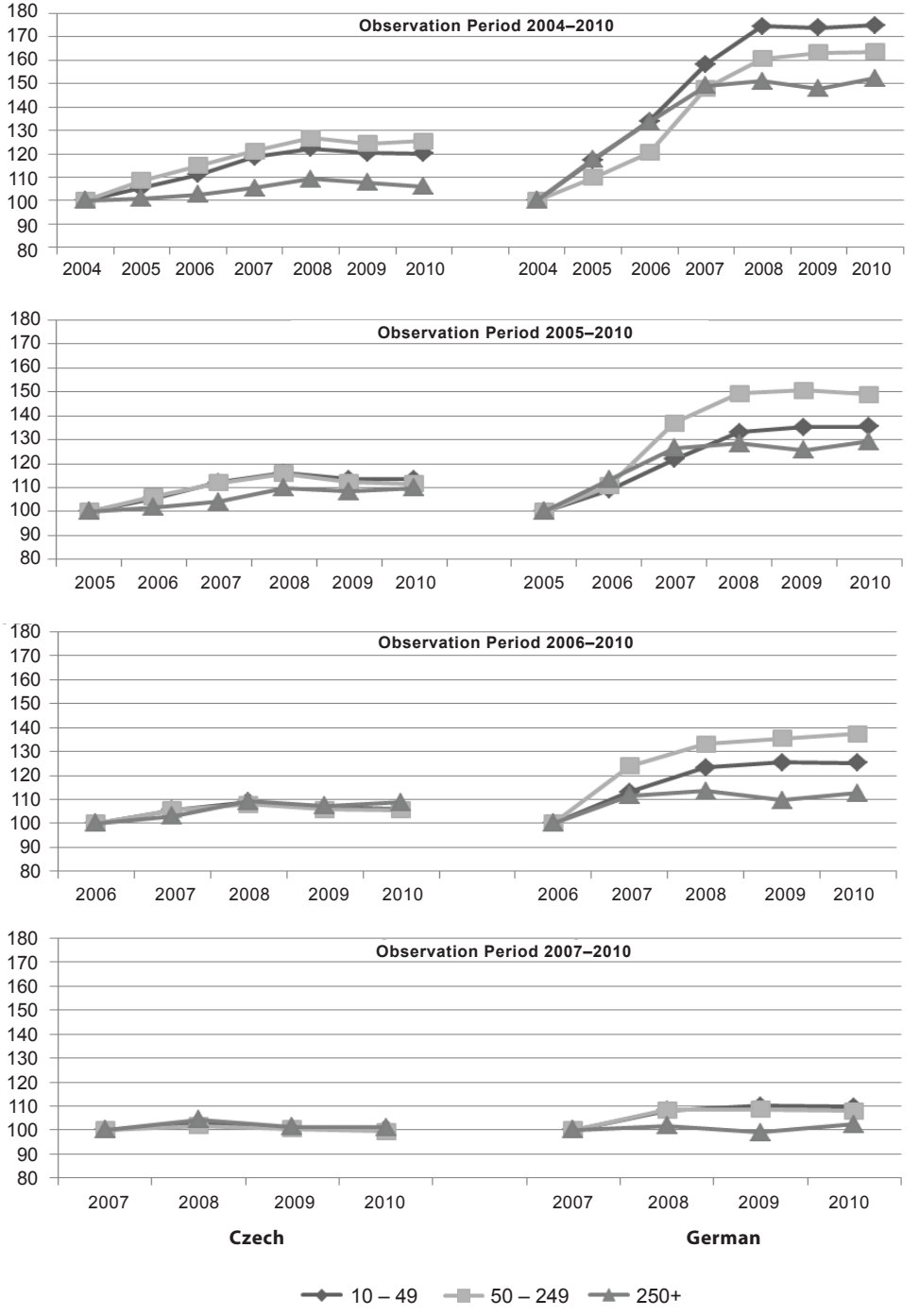
Figure 2 | Aggregate Employment Development, Services



Source: Authors' own calculations from ČEKIA data

Geršl and Hlaváček (2007) identify almost 70% of Czech affiliates to be fully controlled by their German mother firm and another 20% with an ownership share above 50%. Two issues particularly raise our attention and require closer consideration. First, not surprisingly, the shorter the panel, the smaller is the average firm size, as for a longer time span particularly larger firms that are obliged to publish balance sheets are tracked without interruption. In all four panels, the average firm size in the total sample varies distinctively between German-owned and domestically-owned firms. This outcome is not astonishing, as the on average larger size of foreign-owned firms reflects the predictions of multinational firm theory and the findings of the empirical literature (see also Geršl, 2008, a study on Czech manufacturing firms using the Amadeus database provided by Bureau van Dijk). Second, regarding the sectoral structure, the share of manufacturers is much higher in the sample of German-owned firms. Therefore, and due to the above-mentioned differing exposure to international competition, we consider the manufacturing and service sectors separately. Furthermore, we account for structural differences between firms of different sizes by splitting each panel sample. On the basis of the number of employees in the initial year we assign each firm to one of the three firm size classes of 10–49, 50–249, and 250+ employees, where firms stay in their allocated size class for the entire period of observation. In order to reduce bias by outliers in terms of employment growth, we discard the observations below the first and above the 99th percentiles within each year.

Figure 1 (manufacturing) and Figure 2 (services) depict the aggregated total number of employees calculated for each firm size class and ownership group over the period of observation. By indexing the value in the starting year of the respective panel as 100, we are able to compare the relative development of employment across the different subsamples of firms. The figures for the manufacturing sector show the larger employment growth of small and medium-sized enterprises. The downturn in the recession years is particularly visible for large firms where the aggregate number of employees decreases below the value of the initial year. Overall, the picture looks more favourable for German-owned firms. When turning to the service sector we can observe partly tremendous employment gains in the pre-crisis years, especially for the German-owned firms. From 2008 onwards the total level of employment stagnates for all observed classes of service firms.

4. Analysis of Employment Development

The question arises whether our data allow a plausible explanation for the more thriving development of the German-owned firms. Possibly, a systematically superior endowment with physical and human capital in firms with FDI could drive employment growth. Average total assets are markedly higher in firms with German capital participation during our period of observation. Higher average wages can be motivated on diverse grounds, but – given that we are not able to investigate this topic with our data – might also just indicate a higher-qualified workforce. Therefore, we condition on total assets and the wage bill *per* employee regressing the logarithmized number of employees on these two control variables (in logarithmized form, too). Both total assets and the wage bill *per* employee are deflated by the consumer price index (CPI) and given in prices of the respective starting year of the panel. A set of time dummies captures the yearly changes in employment compared to the respective initial year. We include only firms where information on total assets and the wage bill *per* employee is available for every year of observation and use fixed effects in order to control for time-constant unobservable firm characteristics.

Again the results differ between the manufacturing sector (Table 1) and the service sector (Table 2). Independently of the sector and the observation period, we obtain the stable result of positive coefficient values for total assets and negative coefficient signs for the wage bill *per* employee. Though not significant in all cases, the results are plausible and show a robust pattern across the different groups and subsamples. The coefficients for both variables can be interpreted as elasticities, *e.g.* in the case of small Czech-owned manufacturers that are observed since 2004, a rise in total assets by one per cent is correlated with 0.26 per cent higher employment, whereas a rise in the wage bill *per* employee by one per cent is correlated with 0.21 per cent lower employment. Across the board, we observe a significantly positive employment development since the starting year until 2008 for the group of German-owned affiliates. For Czech-owned firms this is only the case for small manufacturing firms and for the service sector, where the absolute coefficient values are frequently far below the values for the corresponding coefficient for firms with German capital. Looking at the manufacturing sector in the following years 2009 and 2010, irrespective of the observation period, the number of employees in medium-sized and large firms in the domestic group decreases significantly below the initial level in the reference year. For the group of German-owned firms, the results are more diverse with significantly negative coefficients only when the panel starts in 2007. Regarding the service sector we do not find a single significantly negative result in both observed groups. The significantly positive coefficients for the years 2009 and 2010 are more widespread for the subsamples of German-owned firms, once more exhibiting higher absolute values.

To sum up, when comparing Czech-owned firms to German-owned firms we can unambiguously state that, even when controlling for total assets and the wage bill *per* employee, employment generally develops more favourably for the latter group. This finding is corroborated both in the cases where German-owned firms have had significantly positive growth rates since the initial year and Czech-owned firms have not, and where the domestically-owned firms have experienced a significant downturn whereas the result for the German-owned firms, if at all negative, is not at a significant level. Of course, we have to keep in mind that all time dummies refer to the respective reference year (from 2004 to 2007), so that the more positive results for the firms with German capital obviously are driven by the overall prosperous development since the base year. However, even if we consider the shorter panels covering fewer pre-crisis years, we find this pattern of results mainly confirmed. Therefore, we can conclude that German-owned firms managed the years of the Great Recession relatively well.

5. Discussion and Conclusions

The aim of this paper was to show differences in employment growth between purely Czech-owned firms and Czech-based firms in German ownership before and during the Great Recession. For this reason we used the ČEKIA database which tracks information on firm employment over the years from 2004 to 2010. After preparing four samples of balanced firm panels starting from 2004 to 2007, we are able to monitor the development of firm employment in the subsequent years. It becomes clear that the groups of Czech-owned and German-owned firms fundamentally differ in two central aspects: first, German-owned firms are on average much larger than Czech-owned firms. Second, the share of manufacturing firms is tremendously higher in the German-owned group. Therefore, we split the dataset into subsamples according to three firm size classes and the affiliation to the manufacturing or the service sector.

Considerable differences in employment development appear between the manufacturing and the service sector. Large firms in the manufacturing sector were most severely affected by the recession, a result that corroborates the findings by Babecký *et al.* (2012). While a sharp downturn can be observed in 2009 on average for manufacturing firms followed by a recovery or at least stabilization in 2010, the setback in the service sector was moderate with slightly slumping or near-zero growth rates in the years 2009 and 2010. Regarding the ownership status we find stable results for a significantly higher employment growth in German-owned firms for the pre-crisis years until 2008, irrespective of the observation period, the firm size and the sector affiliation. Though differences between the two ownership groups are partly insignificant for the years 2009 and 2010, the overall picture strongly suggests that on average German-owned firms overcame the economic crisis better than purely Czech firms. As measured by the employment development since the initial year of observation and controlling for physical capital endowment and labour costs, the bulk of results indicate a more positive trend for German-owned firms. Thus, in summary it can be stated that our findings for the German-Czech case rather support the view of MNEs as stabilizers for the economy during a downturn (Alfaro and Chen, 2012; Desai *et al.*, 2008; Tong and Wei, 2011). This may be due to a generally higher resilience of multinationals to global demand shocks. Albeit not having data on the employment development in the German firm units, there are no indications for a higher volatility of employment in the foreign-owned subsidiaries which should have been the case if the production in the FDI host country was disproportionately concentrated on particular steps that are more exposed to labour demand fluctuations (see Bergin *et al.*, 2009; Peters and Weigert, 2013). During the Great Recession, jobs have not been less secure in affiliates of German multinationals compared to domestic firms. In contrast, considering the whole observation period before and during the crisis, our results provide evidence that German-owned firms fared relatively well by not curbing the number of employees below the pre-crisis level. This outcome is corroborated by using balanced panel samples with different starting years.

Of course, there are some matters setting limits to the interpretation of our findings. Purely Czech-owned firms can be hit by a decreasing labour demand if they supply German firms with their goods and services without being part of a multinational firm. In this way, our study does not provide an answer whether German-owned or Czech-owned firms were more deeply affected by a slowdown in the demand of German customers, as we do not have data on the trade relations of the firms. Furthermore, we lack information on job protection arrangements, so that the impact of potentially systematic differences in dismissal regulations in the two groups observed cannot be evaluated. Finally, we restrict our investigation to the analysis of firms that exist at least until 2010, when the incisive years of the Great Recession were already over. Thus, we do not deal with firms that left the market during the crisis. Taking into account these limitations, however, we can conclude that Czech affiliates of German multinationals definitely cannot be seen as extended workbenches where jobs are cut at an above-average rate in tough economic times. In fact, German-owned firms are obviously well-established in the Czech economy, as reflected in their relatively favourable employment development.

Table 1 | Regression Results for ln Employment, Manufacturing

Balanced panel 2004–2010						
Firm size	**10–49**		**50–249**		**250+**	
Ownership	**Czech**	**German**	**Czech**	**German**	**Czech**	**German**
ln Total assets	0.26***	0.22**	0.37***	0.25***	0.32***	0.27***
ln Wage bill per employee	−0.21***	−0.25	−0.32***	−0.25*	−0.25**	−0.13
Year: 2005	0.04**	0.05	−0.00	0.06***	−0.01	0.04*
Year: 2006	0.07**	0.14**	0.01	0.10***	−0.04	0.06**
Year: 2007	0.09***	0.19***	0.01	0.14***	−0.05	0.09**
Year: 2008	0.12***	0.22***	0.03*	0.18***	−0.05	0.12***
Year: 2009	0.08*	0.18**	−0.07***	0.10**	−0.13***	−0.00
Year: 2010	0.08*	0.20**	−0.09***	0.10*	−0.15***	0.02
Constant	1.63**	2.28	2.14***	3.01***	3.32***	3.35**
Number of observations	728	217	2,317	637	602	588
Number of firms	104	31	331	91	86	84
Balanced panel 2005–2010						
Firm size	**10–49**		**50–249**		**250+**	
Ownership	**Czech**	**German**	**Czech**	**German**	**Czech**	**German**
ln Total assets	0.29***	0.28**	0.38***	0.27***	0.31***	0.25**
ln Wage bill per employee	−0.20**	0.15	−0.31***	−0.26***	−0.25**	−0.10
Year: 2006	0.03**	0.12**	0.00	0.07***	−0.01	0.02*
Year: 2007	0.08***	0.20***	0.01	0.13***	−0.01	0.05**
Year: 2008	0.10***	0.24***	0.03*	0.17***	−0.01	0.09***
Year: 2009	0.06**	0.18**	−0.07***	0.08**	−0.10***	−0.03
Year: 2010	0.06*	0.20*	−0.09***	0.10**	−0.11***	−0.01
Constant	1.36**	−0.69	1.95***	2.86***	3.42***	3.42**
Number of observations	1,026	228	2,376	726	570	522
Number of firms	171	38	396	121	95	87
Balanced panel 2006–2010						
Firm size	**10–49**		**50–249**		**250+**	
Ownership	**Czech**	**German**	**Czech**	**German**	**Czech**	**German**
ln Total assets	0.26***	0.30***	0.37***	0.25***	0.33***	0.20**
ln Wage bill per employee	−0.22***	−0.20	−0.25***	−0.36**	−0.22**	−0.09
Year: 2007	0.05***	0.05	0.01	0.08***	−0.00	0.04**
Year: 2008	0.07***	0.12**	0.02**	0.11***	−0.01	0.09***
Year: 2009	0.02	0.06	−0.07***	0.02	−0.09***	−0.02
Year: 2010	0.00	0.08	−0.10***	0.04	−0.12***	−0.01
Constant	1.77***	1.26	1.75***	3.68***	3.02***	4.08***
Number of observations	1,370	230	2,435	755	510	505
Number of firms	274	46	487	151	102	101
Balanced panel 2007–2010						
Firm size	**10–49**		**50–249**		**250+**	
Ownership	**Czech**	**German**	**Czech**	**German**	**Czech**	**German**
ln Total assets	0.22***	0.11	0.35***	0.25***	0.37***	0.16**
ln Wage bill per employee	−0.19***	−0.50**	−0.27***	−0.36***	−0.39***	−0.11*
Year: 2008	0.02**	0.05*	0.01	0.04***	0.00	0.03*
Year: 2009	−0.04***	−0.01	−0.09***	−0.05**	−0.09***	−0.09***
Year: 2010	−0.06***	0.00	−0.12***	−0.02	−0.11***	−0.07**
Constant	1.99***	4.99***	2.14***	3.72***	3.41**	4.64***
Number of observations	1,852	268	2,616	768	456	484
Number of firms	463	67	654	192	114	121

Notes: Regression with heteroskedasticity–robust standard errors; */**/*** significant at the 10/5/1 per cent level.

Source: Authors' own calculations from ČEKIA data

Table 2 | Regression Results for ln Employment, Services

Balanced panel 2004–2010						
Firm size	**10–49**		**50–249**		**250+**	
Ownership	**Czech**	**German**	**Czech**	**German**	**Czech**	**German**
ln Total assets	0.29***	0.30***	0.38***	0.29***	0.26**	0.23*
ln Wage bill per employee	−0.20***	−0.34*	−0.29**	−0.44***	−0.16	−0.54*
Year: 2005	0.04***	0.09**	0.03*	0.04	0.02	0.09
Year: 2006	0.06***	0.17***	0.05**	0.10**	0.02	0.19**
Year: 2007	0.09***	0.25***	0.06**	0.19***	0.04	0.30***
Year: 2008	0.13***	0.35***	0.09***	0.27***	0.09**	0.37***
Year: 2009	0.11***	0.39***	0.05*	0.27***	0.07*	0.37***
Year: 2010	0.09***	0.37***	0.04	0.25***	0.06	0.39***
Constant	1.13**	1.74	1.70*	3.52**	3.63**	6.15**
Number of observations	1,988	476	1,078	301	182	112
Number of firms	284	68	154	43	26	16
Balanced panel 2005–2010						
Firm size	**10–49**		**50–249**		**250+**	
Ownership	**Czech**	**German**	**Czech**	**German**	**Czech**	**German**
ln Total assets	0.25***	0.21**	0.28***	0.38***	0.28**	0.21**
ln Wage bill per employee	−0.18***	−0.34***	−0.20***	−0.45***	−0.58***	−0.52**
Year: 2006	0.03**	0.07***	0.03**	0.08***	0.06**	0.09**
Year: 2007	0.05***	0.14***	0.05**	0.19***	0.07*	0.19***
Year: 2008	0.09***	0.23***	0.09***	0.29***	0.13**	0.27***
Year: 2009	0.05***	0.25***	0.06**	0.31***	0.12**	0.26***
Year: 2010	0.03*	0.24***	0.05*	0.30***	0.11*	0.28***
Constant	1.42***	2.84**	2.31***	2.55**	5.52***	6.34***
Number of observations	2,406	462	1,140	294	210	108
Number of firms	401	77	190	49	35	18
Balanced panel 2006–2010						
Firm size	**10–49**		**50–249**		**250+**	
Ownership	**Czech**	**German**	**Czech**	**German**	**Czech**	**German**
ln Total assets	0.22***	0.28***	0.23***	0.38***	0.30***	0.14
ln Wage bill per employee	−0.18***	−0.32**	−0.22***	−0.47***	−0.53***	−0.51***
Year: 2007	0.02**	0.09***	0.03**	0.13***	0.05**	0.12***
Year: 2008	0.06***	0.16***	0.06***	0.22***	0.10***	0.19***
Year: 2009	0.03*	0.18***	0.05**	0.24***	0.07*	0.15***
Year: 2010	0.01	0.17***	0.03	0.22***	0.07*	0.17***
Constant	1.73***	1.91	3.06***	2.71***	5.08***	7.30***
Number of observations	2,885	540	1,260	335	240	105
Number of firms	577	108	252	67	48	21
Balanced panel 2007–2010						
Firm size	**10–49**		**50–249**		**250+**	
Ownership	**Czech**	**German**	**Czech**	**German**	**Czech**	**German**
ln Total assets	0.19***	0.23***	0.24***	0.27***	0.43***	0.15
ln Wage bill per employee	−0.19***	−0.37**	−0.25***	−0.66***	−0.42**	−0.51***
Year: 2008	0.04***	0.07***	0.03***	0.09***	0.07***	0.06*
Year: 2009	0.01	0.07***	0.00	0.10***	0.03	0.05
Year: 2010	−0.00	0.06*	−0.02	0.08**	0.02	0.08*
Constant	2.06***	2.74**	3.11***	5.17***	2.79	7.29***
Number of observations	4,024	616	1,416	352	240	108
Number of firms	1,006	154	354	88	60	27

Notes: Regression with heteroskedasticity–robust standard errors; */**/*** significant at the 10/5/1 per cent level.

Source: Authors' own calculations from ČEKIA data

Though our study is limited to foreign firms with German shareholders, the prominent position of German-owned firms in the total population of foreign-owned firms in the Czech Republic allows us to derive some policy implications. Concerning investment assistance measures, the following suggestions should apply at least to this sizeable group of foreign-owned multinationals and to domestic firms in the country. The attraction of foreign capital by fostering a good investment climate including transparency in the awarding of public contracts (see the survey by AHK, 2014) might help absorb the effects of labour demand shocks like global recessions on domestic employment. Small firms, provided that they do not exit during crisis years, perform better in terms of employment development than medium-sized and large firms. Therefore, creating more convenient business conditions for small firms might contribute to making the employment situation more resilient against crisis-driven fluctuations. Finally, measures to improve the capital endowment of domestic firms, particularly in the manufacturing sector, may serve to mitigate the effects of coming economic slowdowns.

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