SPILLOVER EFFECTS THROUGH WORKER MOBILITY: EVIDENCE FROM SLOVENIAN SMEs

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Abstract: The paper tests for potential productivity spillovers arising through worker mobility from foreign owned firms to domestic SMEs using Slovenian data, covering the period from 2002 to 2010. Separate analyses were done for the service and manufacturing sector. My paper contributes to a segment of literature, that is relatively scarce, since it requires the use of linked employer-employee databases, which emerged only recently. I find robust evidence in support of the hypothesis, that flows of highly educated workers from foreign owned firms to domestic SMEs boost total factor productivity growth of domestic service SMEs.

Key-words: *spillovers, worker mobility, FDI, total factor productivity, foreign firms, SMEs*
JEL: C23, D24, F21
DOI: 10.15458/85451.42

1. INTRODUCTION

Economic theory predicts that foreign owned firms have an advantage over domestic firms in terms of productivity. Several empirical studies have found evidence to support this claim (e.g. Arnold & Javorcik (2009), Damijan, Kostevc & Rojec (2012) among recent ones). This is the reason why foreign owned firms are largely seen as a potential source of knowledge and technology diffusion for the host economy. Extensive research has already been done when it comes to productivity spillovers in general. The results are mixed. A number of studies confirm their existence. Keller & Yeaple (2009) for example analysed U.S. data. They found that productivity spillovers accounted for about 14% of productivity growth in U.S. manufacturing firms in the period from 1987 to 1996. Smarzynska-Javorcik (2004) analysed Lithuanian firm-level data and confirmed the existence of positive spillovers effects taking place between firms across different industries. Girma & Wakelin (2000) further established that domestic firms benefit in terms of productivity if multinational firms operate in the same sector and region. Their study was based on UK data for manufacturing firms. They also find, that domestic firms are worse off if MNEs are located in the same sector but different region. According to them, regions that are less developed gain less from spillovers, whereas sectors with higher competition and sectors with a low technology gap between foreign owned and domestic firms gain more.

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Many studies, on the other hand, find no evidence for the existence of productivity spillovers or even detect negative spillovers. Aitken & Harrison (1999) for example used panel data on Venezuelan plants and documented the existence of negative productivity spillovers. Aslanoğlu (2000) further analysed data for Turkish manufacturing firms and found no evidence that domestic firms benefit in terms of productivity when foreign owned firms are present.

As far as the case of Slovenia is concerned, positive productivity spillovers have been documented by Damijan et al (2003) for manufacturing sector. Horizontal productivity spillover effects in Slovenian manufacturing sector are also confirmed by Zajc Kejžar (2011), however, they tend to offset only a minor part of the competition pressure which results from foreign firm entry within the industry. Zajc Kejžar and Ponikvar (2014) further confirm the important role of absorptive capacity of domestic firms for productivity gains by showing that as a result of inward FDI the least efficient incumbent firms are experiencing job destruction and the most efficient ones productivity gains, while firms from the middle part of the TFP distribution are faced with both effects. The existence of productivity spillovers has, however, not yet been tested on Slovenian data for service firms.

Productivity spillovers can occur through different mechanisms. One of them is worker mobility. In this case a person is hired by a foreign owned company and subsequently receives firm training. The employee may acquire knowledge regarding superior managerial practices, process innovations, high quality intermediate inputs etc. pertaining to the foreign owned firm (Poole, 2013). In the next step the worker, regarded as a knowledge carrier, is hired by a domestic company. This way the knowledge is transferred between companies, boosting domestic firm's productivity.

The literature in the management field agrees about the importance of expatriates for the technology transfer from the mother company to the local affiliates and their learning process. But can a MNE fully retain its technological advantages in case of worker mobility between its affiliates and local companies? Both theoretical and empirical studies examine the potential for productivity spillovers to domestic firms through the mobility of workers, who were previously employed and trained in MNE affiliates. According to Fosfuri, Motta, & Rønde's (2001) model technological spillovers arise due to the mobility of workers previously trained and employed in MNE affiliates, while pecuniary spillovers arise when the foreign affiliate pays the trained worker a higher wage to prevent him/her from moving to a local competitor. Further, technological spillovers are more likely to arise when the local firm and the MNE do not compete fiercely in the product market, when they sell in independent or vertically related markets, in the case when on-the-job training is general rather than specific and when the absorptive capability of the local firm is high. A model describing a similar setup was also derived by Glass & Saggi (2002), who additionally shed some light on government incentives to attract or discourage FDI.

The presence of spillovers through worker mobility has been empirically tested only recently with the emergence of matched employer-employee databases. Consequentially,

research on this topic is relatively scarce. However, in general they seem to confirm the role of worker mobility as a channel for spillover effects. A study by Balsvik (2011) found that in case of Norwegian manufacturing firms, during the 1990s, workers with MNE experience contributed 20% more to the productivity of their plant than workers without such experience. Since the private return to mobility is found to be smaller than the productivity effect at the plant level, labour mobility from MNEs to non-MNEs seems to represent a true knowledge externality. However, Maliranta, Mohnen, & Rouvinen (2009) found that workers transmit knowledge that can readily be copied and implemented without much additional R&D effort. Namely, only hiring workers previously in R&D to one's non-R&D but not to one's own R&D activities, boosts both productivity and profitability. Görg & Strobl (2005) further confirmed, that firms, which are run by owners who worked for multinationals and in the same industry immediately prior to opening up their own firm, are more productive than other domestic firms. Their research was done for the case of Ghana. Poole (2013) provided evidence for positive multinational wage spillovers through worker mobility in Brazil, i.e. when workers leave multinationals and are rehired at domestic establishments, continuing-workers' wages increase. Martins (2005) further examined Portuguese data and found, that employees who switched from foreign to domestic firms, have higher wages than workers in domestic firms, who have no prior experience in foreign firms. The wages of switchers also increase with the length of their past tenure at foreign firms. However, in case of Portugal, flows of workers between foreign owned and domestic firms prove to be relatively small. Finally, the author concludes, that the evidence found, at best, provides only moderate support for the role of labour mobility as a knowledge transfer channel. Hakkala & Sembenelli (2014) on the other hand show, that spillovers can only be detected in the case, when workers move from multinationals to purely domestic firms in high-tech sectors. Their analysis was conducted using Finnish data. They also report that competition reduces inter-firm worker flows. Pesola (2011) also based her findings on Finnish data and discovered that highly educated workers earn a wage premium for their previous experience at a foreign firm, which is higher than the premium for other types of experience.

The aim of my paper is to study the effects of worker flows, from foreign owned firms to domestic SMEs, on the productivity growth of domestic SMEs. I will therefore try to establish whether worker mobility indeed functions as a channel for productivity spillovers using Slovenian data. To my knowledge, this paper is in fact the first one to test for productivity spillovers through worker mobility on Slovenian data. In contrast to previously mentioned papers it analyses data for service and manufacturing sectors separately. I focus my research on domestic SMEs, since spillovers may be a relatively more important source of TFP growth for smaller firms than for larger ones. Due to the dynamic nature of the empirical model I use a system GMM estimator developed by Arellano & Bover (1995) and Blundell & Bond (1998) to conduct my analysis.

The remainder of the paper is structured as follows: Section 2 presents the data, its sources and the descriptive statistics. It is followed by a description of methodology and related issues in Section 3. Section 4 consists of empirical results, while the paper ends with Section 5, containing concluding remarks.

2. DATA AND DESCRIPTIVE STATISTICS

For the purpose of my analysis I combined three different databases covering the period from 2002 to 2010. First is the matched employer-employee database provided by the Slovenian Statistical Office. It contains data on economically active population, among other things information on a person's education, profession, identification of a current employer and their position in the firm. Second database was obtained from the Bank of Slovenia and consists of data on inward foreign direct investment. Since a 10% threshold is applied, only firms with foreign ownership exceeding 10% are included in the database. In the reminder of my paper these firms are defined as foreign owned firms. The two databases were then merged with Slovenian firms' financial data provided by AJPES (The Agency of the Republic of Slovenia for Public Legal Records and Related Services) using firm identifiers. The full merged database contains roughly 30000 firms on average per year. Firms simultaneously having negative capital and zero employees were identified as inactive and excluded. The linked data provides us with the information needed to determine firm characteristics, including total factor productivity, age, export status, employment dynamics and characteristics of its workers. Based on the full database we were also able to determine how many of the newly employed workers at a firm each year came from foreign owned firms. As already stated, my study focuses on the effects of knowledge brought by workers with previous experience at foreign owned firms on domestic SMEs' productivity growth. According to the findings of Keller & Yeaple (2009) small firms benefit more in terms of FDI spillovers than larger firms. One possible explanation for this result may be that small firms have less money available for their own R&D activities and are consequently more reliant on other sources of TFP growth. In light of the conclusion by Keller & Yeaple (2009) it seems reasonable to focus on SMEs, since the effects of spillovers may be relatively more important for them than for larger firms. My econometric analysis was therefore finally conducted based on the data for the population of domestic SMEs, covering the period from 2002 to 2010, including almost 28000 firms on average per year.

Table 1 shows some basic summary statistics for foreign owned firms and domestic SMEs. The data in the table reveal, that the number of domestic SMEs grew by 35% in the period from 2002 to 2010, namely from 23,740 to 32,002. The number of foreign owned firms on the other hand increased by merely 8% between 2002 and 2010, peaking in 2008 with 1751 foreign owned firms.

Table 1: Descriptive statistics for domestic SMEs and foreign owned firms from 2002 to 2010

Year	No. of domestic SMEs	No. of foreign owned firms	No. of workers at domestic SMEs	No. of workers at foreign owned firms	No. of switchers*	No. of switchers with h.e.**
2002	23740	1514	301978	64207	1573	685
2003	24397	1483	303717	59146	2615	842
2004	25223	1512	297381	60495	2643	1046
2005	26314	1585	300046	67304	3265	1154
2006	27352	1537	297557	63302	4130	1367
2007	28911	1638	254816	73019	4563	1746
2008	30587	1751	266434	78975	4759	1895
2009	31358	1737	257357	73142	3582	1435
2010	32002	1634	250285	72935	3858	1619

Notes: *Switchers are defined as workers who switched jobs from foreign owned firms to domestic SMEs
**h.e. stands for higher education
Source: Own calculations

On average the number of domestic SMEs was roughly 17 times the number of foreign owned firms during the period in question. The number of workers that domestic SMEs employed, on the other hand, dropped from 301,978 in 2002 to 250,285 in 2010, namely by 17%. Since the number of SMEs increased during the period, whereas the number of workers they employed decreased, it seems, that the SMEs have become smaller on average in terms of employees. The number of workers at foreign owned firms, on the other hand, increased by roughly 14% in the period, peaking at 78,975 in 2008. On average domestic SMEs employed about four times more people than foreign owned firms during 2002-2010. The latter indicates, that foreign owned firms are considerably larger on average when compared to domestic SMEs. The first necessary, but not sufficient condition for the emergence of productivity spillovers via worker mobility is of course the existence of worker flows. The data in table 1 show that the number of workers who switched jobs from foreign owned firms to domestic SMEs (switchers) in a given year, increased from 1573 in 2002 to 3858 in 2010. The number of switchers peaked in 2008, when it reached triple the number from 2002. Similar conclusions can be drawn when describing developments in the number of switchers with higher education. On average the share of switchers with higher education in the total number of switchers is 38%.

Table 2 presents the number of domestic SMEs employing at least 1 new switcher from a foreign owned firm in a given year. As can be seen from the table, the annual number of SMEs employing at least one new switcher, has more than doubled, when comparing 2002 with 2010. On average the number of SMEs employing new switchers represents roughly 7% of all domestic SMEs.

Table 2: Number of SMEs employing at least one worker, who switched from a foreign owned firm, in a given year

Year	No. of SMEs
2002	959
2003	1388
2004	1571
2005	1848
2006	2136
2007	2528
2008	2697
2009	2032
2010	2006

Source: Own calculations

Further summary statistics, presented separately for domestic SMEs and foreign owned firms, is reported in table 3.

Table 3: Descriptive statistics for foreign owned and domestic firms 2002-2010

	Domestic SMEs		Foreign owned firms	
Variable	Mean	s.d.	Mean	s.d.
Age	9.98	6.62	9.13	6.64
Export share (%)	8.43	21.86	32.34	38.69
Employment	10.26	41.45	42.30	160.22
Value added per employee (EUR)	25,611.7	162,683	40,997.6	345,742.6
Capital intensity (EUR)	123,987.1	4,520,724	390,534.2	1.43e+7
Share of highly educated employees (%)	21.38	33.49	32.54	33.87
TFP[2]	9.18	35.61	16.54	88.81

Source: Own calculations

The data indicate that on average there is not much age difference between domestic SMEs and foreign owned firms, while other indicators exhibit significant gaps. As can be seen, the average export share for domestic SMEs is 8.43%, whereas for foreign owned firms it is 32.34%. Foreign owned firms tend to be bigger, on average employing four times as many people as domestic SMEs. The latter lag behind foreign owned firms in terms of value added per employee as well as capital intensity. Capital intensity is 3.1 times higher with foreign owned firms compared to domestic SMEs, whereas value added per

2 The methodology behind TFP calculation is described in section 3.

employee is 1.6 times higher. Foreign owned firms also employ a higher share of highly educated workers. In domestic SMEs, workers with higher education on average represent 21.4% of the total workforce, compared to 32.5% in foreign owned firms. Further, another indicator crucial for my study is total factor productivity or TFP which is my chosen measure of productivity. An existence of a gap in terms of TFP, between foreign owned firms and domestic SMEs, would imply that there is potential for productivity spillovers to take place. As can readily be calculated using data in table 3, TFP is 80% higher for foreign owned firms than for domestic SMEs. Based on summary statistics at hand, we can therefore conclude, that the potential for productivity spillovers from foreign owned firms to domestic SMEs indeed exists.

I have decided to conduct my analysis separately for SMEs in the service sector and for SMEs in the manufacturing sector, since the nature of work process in the two groups of firms is very different. In order to enable comparison between service and manufacturing SMEs, table 4 presents summary statistics for both sets of firms separately. As can be seen from table 4, service SMEs tend to be slightly younger on average. For manufacturing SMEs the average export share amounts to 16.12%, whereas for service SMEs it is only 6.81%. This can of course be explained by the fact that some services cannot be exported, as well as the fact that barriers for international trade with services are greater than barriers for trade in goods. On average service firms employ 7.61 workers, whereas manufacturing firms on average employ 23.29 workers. Value added per employee seems to be slightly higher for the service sector. Surprisingly, capital intensity turns out to be greater for service firms than for manufacturing firms. This, however, may be a consequence of the way I defined capital intensity. Namely, my definition of capital includes all firm fixed assets, tangible as well as intangible. Further, in service SMEs the average share of employees with higher education is 23.3% which is roughly double the share for manufacturing SMEs. Finally, on average service firms have a slightly lower TFP.

Table 4: Descriptive statistics for domestic SMEs in service and manufacturing sector in the period from 2002 to 2010

	Service SMEs		Manufacturing SMEs	
Variable	Mean	s.d.	Mean	s.d.
Age	9.61	6.38	11.38	7.08
Export share (%)	6.81	20.00	16.12	27.87
Employment	7.61	32.89	23.29	70.32
Value added per employee (EUR)	25,756.9	171,394.8	24,419.5	72,902.0
Capital intensity (EUR)	124,143.5	3,082,028	62,217.6	543,940.1
Share of highly educated employees (%)	23.31	35.01	11.62	22.22
TFP	9.15	37.13	9.93	16.91

Source: Own calculations

3. METHODOLOGY AND EMPIRICAL ANALYSIS

3.1 Empirical model specification

In order to conduct my empirical analysis I use firm growth models. As previously indicated, my chosen dependent variable is TFP growth. As far as the specification of the models is concerned, I start by including a few factors proposed by models of firm dynamics (e.g. Ericson & Pakes, 1995; Jovanovic, 1982): firm age, firm size, capital intensity, annual dummies and industry dummies. I then further enhance them by adding some specific variables that I find important for this particular case. An empirical model specification akin to mine was for example used by Koymen & Sayek (2009), who test for productivity spillovers through forward, backward and horizontal linkages. They too use TFP growth as the dependent variable, while controlling for firm size, export status and the share of skilled workers in the firm, among other things. They base their empirical strategy on a paper by Smarzynska-Javorcik (2004), also pertaining to the spillovers literature. However, as an upgrade, my model specifications also test for TFP dynamics, since they include lags of TFP. They are specified as follows:

$$grTFP_{it} = \beta_0 + \beta_1 \ln TFP_{it-1} + \beta_2 \ln TFP_{it-2} + \beta_3 \ln TFP_{it-3} + \beta_4 ShFrHE_{it-2} + \beta_5 \ln Age_{it} + \\ + \beta_6 \ln Empl_{it-1} + \beta_7 \ln Empl^2_{it-1} + \beta_8 \ln K\,\mathrm{int}_{it-1} + \beta_9 dExporter_{it-1} + \beta_{10} ShHE_{it-1} + \\ + \beta_{11} ShNwHE_{it-2} + \sum \beta_{12,t} dyear_t + \sum \beta_{13,j} dindustry_j + u_{it} \quad (1)$$

$$grTFP_{it} = \beta_0 + \beta_1 \ln TFP_{it-1} + \beta_2 \ln TFP_{it-2} + \beta_3 \ln TFP_{it-3} + \beta_4 ShFr_{it-2} + \beta_5 \ln Age_{it} + \\ + \beta_6 \ln Empl_{it-1} + \beta_7 \ln Empl^2_{it-1} + \beta_8 \ln K\,\mathrm{int}_{it-1} + \beta_9 dExporter_{it-1} + \beta_{10} ShHE_{it-1} + \\ + \beta_{11} ShNw_{it-2} + \sum \beta_{12,t} dyear_t + \sum \beta_{13,j} dindustry_j + u_{it} \quad (2)$$

$$grTFP_{it} = \beta_0 + \beta_1 \ln TFP_{it-1} + \beta_2 \ln TFP_{it-2} + \beta_3 \ln TFP_{it-3} + \beta_4 ShFrSs_{it-2} + \beta_5 \ln Age_{it} + \\ + \beta_6 \ln Empl_{it-1} + \beta_7 \ln Empl^2_{it-1} + \beta_8 \ln K\,\mathrm{int}_{it-1} + \beta_9 dExporter_{it-1} + \beta_{10} ShHE_{it-1} + \\ + \beta_{11} ShNwSs_{it-2} + \sum \beta_{12,t} dyear_t + \sum \beta_{13,j} dindustry_j + u_{it} \quad (3)$$

$$grTFP_{it} = \beta_0 + \beta_1 \ln TFP_{it-1} + \beta_2 \ln TFP_{it-2} + \beta_3 \ln TFP_{it-3} + \beta_4 ShFrDs_{it-2} + \beta_5 \ln Age_{it} + \\ + \beta_6 \ln Empl_{it-1} + \beta_7 \ln Empl^2_{it-1} + \beta_8 \ln K\,\mathrm{int}_{it-1} + \beta_9 dExporter_{it-1} + \beta_{10} ShHE_{it-1} + \\ + \beta_{11} ShNwDs_{it-2} + \sum \beta_{12,t} dyear_t + \sum \beta_{13,j} dindustry_j + u_{it} \quad (4)$$

The first model is used to test for the effects of employing highly educated workers with immediate prior work experience in a foreign owned firm, on company TFP growth. The second model, on the other hand, is used to test for the effects of employing workers with immediate prior work experience in a foreign owned firm in general, regardless of their education, on firm TFP growth. The third model is further used to test for the effects of

employing workers with immediate prior work experience in a foreign owned firm from the same sector and the fourth model focuses on the case when the foreign owned firm is located in a different sector.

The dependent variable in all cases is therefore growth of total factor productivity. It is defined as $lnTFP_t$-$lnTFP_{t-1}$, where $lnTFP_t$ and $lnTFP_{t-1}$ are the natural logarithms of TFP at time t and t-1, respectively. When calculating TFP via production function estimation, one needs to account for simultaneity bias. As noted by Marschak and Andrews (1944) the amounts of inputs in the production function are not exogenous. Among other things, they depend on the efficiency of the firm which is a consequence of firm-level profit maximization. Simultaneity bias arises because of correlation between unobserved productivity shocks and the level of inputs chosen (De Loecker, 2007). A firm may have prior knowledge of the productivity shock unobservable to the econometrician and adapt input choices accordingly (Olley & Pakes, 1996). In order to account for this problem I decided to follow the approach developed by Levinsohn & Petrin (2003). Using Stata levpet procedure, I selected fixed assets as a proxy for capital, labour costs as a proxy for labour and energy costs as a proxy for intermediate inputs. TFP was estimated separately for manufacturing sector, service sector and agricultural sector. Revenue version of the production function was chosen as the basis of my estimation.

In the model, *Age* represents a firm's age, *Empl* is firm size, which is defined as the number of employees in a firm, whereas *Kint* represents capital intensity. The latter was defined as fixed assets per employee. *dExporter* is a dummy variable taking the value 1 if company engages in export activities and 0 if it does not, whereas *ShHE* denotes the share of employees with higher education in a firm. *dyear* and *dindustry* refer to year and industry dummies. The latter are based on Nace Rev.2 two-digit level classification. *TFP*, *Age*, *Empl* and *Kint* enter the empirical models in logarithmic values. In case of *Empl*, *Kint*, *dExporter* and *ShHE* first lags are used. Further, for TFP, the first, the second and the third lag are included into the regression.

ShFrHE is my main variable of interest in the first model, as it represents highly educated employees with immediate prior working experience at a foreign firm. It is structured as follows:

$$ShFrHE = \frac{NwFrHE}{NoEmpl}$$

where *NwFrHE* is the number of highly educated workers with immediate prior working experience at a foreign owned firm, employed by the company in the current and previous year, whereas *NoEmpl* is the number of all employees in the firm. The second lag of *ShFrHE* was used in the model. In order to check whether employing new highly educated workers (without immediate prior experience in a foreign owned firm) alone enhances TFP growth, I included a control variable, *ShNwHE*. The latter is defined as the share of highly educated workers employed by the firm in the current or

previous year in the total number of company employees. Again the second lag of the variable was used.

In the second model my main variable of interest is *ShFr*. It is defined as

$$ShFr = \frac{NwFr}{NoEmpl}$$

where *NwFr* is the number of all workers with immediate prior working experience at a foreign owned firm, regardless of their education, employed by the company in the current and previous year. As in the first model, the second lag of the core variable was used. Since the latter was changed with respect to the first model, the control variable also needed to be adjusted. The control variable constructed for the second model, *ShNw*, thus encompasses the share of all workers employed by the firm in the current and previous year in the total number of company employees.

Further, in the third model my main variable of interest is *ShFrSs*. It is defined as

$$ShFrSs = \frac{NwFrSs}{NoEmpl}$$

where *NwFrSs* is the number of all workers with immediate previous working experience at a foreign owned firm from the same sector, employed by the company in the current and previous year. Again the second lag of the core variable was used. The control variable constructed for this case is *ShNwSs*. It encompasses the share of all workers employed by the firm in the current and previous year, who previously worked in the same sector, in the total number of company employees.

Finally, the main variable of interest in the fourth model is *ShFrDs*. It is defined as

$$ShFrDs = \frac{NwFrDs}{NoEmpl}$$

where *NwFrDs* is the number of all workers with immediate previous working experience at a foreign owned firm from a different sector, employed by the company in the current and previous year. As before, the second lag of the core variable was used. The control variable included in the last model is *ShNwDs*. It encompasses the share of all workers employed by the firm in the current and previous year, who previously worked in a different sector, in the total number of company employees.

Due to the dynamic nature of my empirical model and the fact that my panel consists of a large number of firms and a small number of time periods, I use a system GMM estimator

developed by Arellano & Bover (1995) and Blundell & Bond (1998). As can be seen from the model specification equations, three lags of the dependent variable were used as instruments. Further, all regressors listed in the model specification equations, except firm age, industry dummies and annual dummies enter the model flagged as endogenous variables.

4. RESULTS

In this section I first present the base line results obtained by estimating models (1), (2), (3) and (4) using the system GMM estimator. In the next step I proceed with presenting secondary results, which serve as a robustness check.

4.1 Main results

Table 5 gives my base line results for service SMEs. In columns (1), (2), (3) and (4) I report results obtained by estimating models (1), (2), (3) and (4) respectively. The null hypothesis of Wald test is rejected for all model specifications. Sargan test of over-identifying restrictions confirms the validity of instruments used in models (1), (2), (3) as well as model (4). Further, Arellano–Bond test for serial correlation confirms the absence of a serial correlation of order 2 for all model specifications. Three lags of the dependent variable in the specification were found to be appropriate in order to yield efficient estimates.

In table 5 the coefficient on the first lag of the dependent variable is negative and statistically significant for all four specifications. In the case of model (1) it amounts to approximately -0.24, which implies that a 1 percent increase in TFP growth in the previous year leads to a 0.24 percent decrease in TFP growth in the current period. The first lag coefficients for the remaining models are very similar in size. Further, second lag coefficients are as well negative and statistically significant for all models, however smaller, amounting to roughly -0.075 for model (1), -0.084 for model (2), -0.082 for model (3) and -0.076 for model (4). The statistical insignificance of the third lag coefficients implies, that the persistence effect fades within a 3-year period.

Table 5: Spillover effects in Slovenian service SMEs, base line results

	(1)	(2)	(3)	(4)
VARIABLES	Model 1	Model 2	Model 3	Model 4
grTFP(-1)	-0.239***	-0.244***	-0.245***	-0.241***
	(0.0204)	(0.0202)	(0.0203)	(0.0204)
grTFP(-2)	-0.0745***	-0.0838***	-0.0816***	-0.0760***
	(0.0193)	(0.0195)	(0.0192)	(0.0191)
grTFP(-3),	-0.0151	-0.0172	-0.0151	-0.0138
	(0.0136)	(0.0139)	(0.0136)	(0.0135)
lnEmpl(-1)	0.144**	0.156**	0.147**	0.164**
	(0.0600)	(0.0627)	(0.0614)	(0.0636)
$lnEmpl^2$ (-1)	-0.0410***	-0.0438***	-0.0392***	-0.0433***
	(0.0143)	(0.0160)	(0.0152)	(0.0158)
lnKint(-1)	-0.0149	-0.0130	-0.0160	-0.0119
	(0.0135)	(0.0129)	(0.0144)	(0.0124)
dExporter (-1)	0.180***	0.170**	0.172**	0.188***
	(0.0675)	(0.0710)	(0.0800)	(0.0676)
ShHE(-1)	0.00142*	0.000581	0.000544	0.000445
	(0.000854)	(0.000754)	(0.000820)	(0.000755)
ShFrHE (-2)	0.423*			
	(0.218)			
ShNwHE(-2)	-0.113*			
	(0.0578)			
lnAge	0.0754	0.0122	0.0795	0.140**
	(0.0566)	(0.0448)	(0.0517)	(0.0558)
ShFr(-2)		0.397***		
		(0.106)		
ShNw(-2)		-0.0804***		
		(0.0263)		
ShFrSs(-2)			0.379**	
			(0.187)	
ShNwSs(-2)			-0.133**	
			(0.0670)	
ShFrDs(-2)				0.384***
				(0.122)
ShNwDs(-2)				-0.0558
				(0.0370)
Constant	-9.872	-0.815	-19.75	-2.074
	(27.78)	(12.97)	(37.12)	(10.69)
Observations	35,352	35,352	35,352	35,352
Number of n7	12,317	12,317	12,317	12,317
Year dummies	YES	YES	YES	YES
Industry dummies	YES	YES	YES	YES

To be continued…

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VARIABLES	(1) Model 1	(2) Model 2	(3) Model 3	(4) Model 4
(df)	(66)	(66)	(66)	(66)
Wald χ^2	1157.4***	95960.4***	8406.5***	15439.02***
(df) Sargan χ^2	(100) 110.00	(100) 105.48	(100) 105.37	(100) 104.56
(p)	(0.23)	(0.33)	(0.34)	(0.36)
AR(1) z(p)	-17.063(0.00)	-17.011(0.00)	-16.989(0.00)	-17.027(0.00)
AR(2) z(p)	-0.917(0.36)	-0.812(0.42)	-0.843(0.40)	-0.860(0.39)

Notes: z-statistics are in parentheses, ***,**,* denote significance at 1%, 5% and 10%, respectively
Source: Own calculations

All four sets of estimates imply that firm size has a non-monotonic effect on service firms' TFP growth. This means that TFP growth increases with firm size when companies are small, however, at a certain point, the correlation becomes negative and productivity growth starts decreasing with size. One part of the explanation probably stems from the fact that generally, larger firms are more productive than smaller ones. In turn, big productivity leaps are much harder to achieve for firms operating at high levels of productivity to start with, than for firms that have much space for improvement. Further, my results for the first three models show no evidence of a significant impact of age on TFP growth, whereas the estimated coefficient for age is positive and significant in case of the fourth model. Additionally, the effect of capital intensity on TFP growth is statistically insignificant in all versions of the specification. A partial explanation for this result may perhaps be found in conclusions obtained by Zajc Kejžar & Ponikvar (2014), which suggest, that capital intensity is important for TFP growth only in case of least productive firms, but not for those achieving higher levels of productivity. In line with my expectations, exporting firms seem to grow faster in terms of TFP than firms engaging in domestic sales only. Further, the share of workers with higher education, which is a proxy for skill structure of labour, has a statistically significant positive effect on TFP growth according to results for model (1), but not according to results for models (2), (3) and (4). Finally and most importantly, estimates for my main variables of interest, *ShFrHE*, *ShFr*, *ShFrSs* and *ShFrDs* confirm the existence of knowledge spillovers through worker mobility. Positive and statistically significant coefficient for variable *ShFr* obtained by estimating model (2) implies that knowledge spillovers indeed occur through mobility of workers with experience from a foreign owned firm. The negative and statistically significant coefficient for the control variable *ShNw* shows that the knowledge spillovers detected are not a result of an increase in the share of newly hired workers alone. Further, in line with my expectations given the results pertaining to model (2), estimates for model (1), that focuses on the mobility of highly educated workers with experience from foreign owned firms, also confirm the existence of productivity spillovers. The results show that the share of workers with higher education and immediate previous working experience at a foreign owned firm, newly employed by the firm within the current and previous year, positively and significantly influences firm TFP growth. In addition to that, the coefficient

for the control variable *ShNwHE* is negative and statistically significant which means that an increase in the share of newly employed workers with higher education per se cannot be considered a driver behind TFP growth. Finally, positive and statistically significant coefficients for variables *ShFrSs* and *ShFrDs* in models (3) and (4) respectively, indicate that the share of workers with immediate previous working experience at a foreign firm from either same or different sector, newly employed by the firm within the current and previous year, positively and significantly influences firm TFP growth. I can therefore conclude that, workers' experience in foreign owned firms indeed plays a role as a driver behind service SMEs TFP growth. The negative and statistically significant coefficients for ShNw, ShNwHE and ShNwSs may perhaps seem unintuitive at first glance. However, one possible explanation for this phenomenon is that firms, who employ more new workers may also have a greater turnover when it comes to their workforce. Greater fluctuation of workers could, on the other hand, have a negative effect on TFP growth.

Table 6 presents my core results for manufacturing SMEs. Again columns (1), (2), (3) and (4) report results obtained by estimating models (1), (2), (3) and (4) respectively.

Table 6: Spillover effects in Slovenian manufacturing SMEs, base line results

	(1)	(2)	(3)	(4)
VARIABLES	Model 1	Model 2	Model 3	Model 4
grTFP(-1)	-0.214***	-0.214***	-0.210***	-0.219***
	(0.0345)	(0.0350)	(0.0345)	(0.0345)
grTFP(-2)	-0.0858***	-0.0857***	-0.0833***	-0.0904***
	(0.0315)	(0.0327)	(0.0319)	(0.0323)
grTFP(-3)	-0.0162	-0.0103	-0.00877	-0.0138
	(0.0213)	(0.0216)	(0.0218)	(0.0221)
lnEmpl(-1)	0.0662	0.0478	0.0347	0.0476
	(0.0922)	(0.0843)	(0.0868)	(0.0863)
$lnEmpl^2$ (-1)	-0.0137	-0.0106	-0.00315	-0.00863
	(0.0206)	(0.0174)	(0.0192)	(0.0195)
lnKint(-1)	0.0215	0.000828	0.00528	0.00122
	(0.0247)	(0.0264)	(0.0292)	(0.0261)
dExporter (-1)	0.0109	-0.00410	0.0245	-0.00125
	(0.0682)	(0.0620)	(0.0695)	(0.0665)
ShHE(-1)	0.00106	0.000319	8.77e-05	0.000203
	(0.00147)	(0.00155)	(0.00171)	(0.00168)
ShFrHE (-2)	-0.0874			
	(0.610)			
ShNwHE (-2)	-0.207*			
	(0.115)			
lnAge	0.213**	0.162**	0.196**	0.235***
	(0.0889)	(0.0685)	(0.0815)	(0.0774)

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ShFr(-2)		0.254		
		(0.165)		
ShNw(-2)		-0.0232		
		(0.0392)		
ShFrSs(-2)			0.277	
			(0.422)	
ShNwSs(-2)			-0.0652	
			(0.114)	
ShFrDs(-2)				0.262
				(0.187)
ShNwDs(-2)				-0.0353
				(0.0636)
				(8.492)
Constant	-3.271	-5.198	-0.741	-1.362
	(6.950)	(6.786)	(8.839)	(2.017)
Observations	8,692	8,692	8,692	8,692
Number of n7	3,018	3,018	3,018	3,018
Year dummies	YES	YES	YES	YES
Industry dummies	YES	YES	YES	YES
(df)	(36)	(36)	(36)	(36)
Wald $\chi 2$	447.63***	736.08***	699.13***	883.94***
(df) Sargan $\chi 2$	(105) 132.09	(105)126.17	(105) 121.23	(105) 125.52
(p)	(0.04)**	(0.08)*	(0.13)	(0.08)*
AR(1) z(p)	-3.29(0.00)	-3.31(0.00)	-3.33(0.00)	-3.31(0.00)
AR(2) z(p)	-0.58(0.56)	-0.51(0.61)	-0.62(0.53)	-0.47(0.64)

Notes: z-statistics are in parentheses, ***,**,* denote significance at 1%, 5% and 10%, respectively
Source: Own calculations

As in the case of service SMEs, the Wald test rejects the joint insignificance of the independent variables for all model specifications, whereas Arellano–Bond test for serial correlation shows there is no serial correlation of order 2. Again, three lags of the dependent variable in the specification were found to be appropriate in order to yield efficient estimates. However, all specifications except (3) fail to pass the Sargan test of over-identifying restrictions, which rejects the null hypothesis that the moment conditions are legitimate. Further, the statistical insignificance of the majority of coefficients may also imply that the given model specifications are not entirely suitable for the case of manufacturing firms. However, estimation results for coefficients pertaining to lags of the dependent variable are still in line with results obtained for service firms. The coefficients for the first and second lag are negative and statistically significant for all versions of model specification, whereas the coefficient pertaining to the third lag is already statistically insignificant. As opposed to my results for service SMEs, the estimated coefficient for firm

age is significant (and positive) in all models. However, variables testing for the presence of spillovers through worker mobility *ShFrHe*, ShFr, ShFrSs and ShFrDs in models (1), (2), (3) and (4) respectively, all turn out to have statistically insignificant coefficient estimates. The results obtained by estimating empirical models (1), (2), (3) and (4) using data on manufacturing SMEs are therefore largely inconclusive.

4.2 Robustness check

In this subsection I provide a robustness check for my base line results presented in subsection 4.1. Since meaningful results were only obtained estimating models (1), (2), (3) and (4) using data on service SMEs, I will not further elaborate on the auxiliary set of results for manufacturing SMEs. However, the latter can be found in the Appendix B. In order to test the robustness of results presented in table 5, I reformulate my main variables of interest *ShFrHE*, *ShFr, ShFrSs* and *ShFrDs* by extending the time period during which new employments are included into the analysis from two years to three years. Namely, the shares now include newly employed workers in the current and two previous years. Consequentially, the control variables for each model are modified in the same way.

Table 7 gives results obtained by estimating model specifications (1), (2), (3) and (4) modified by using the reformulated core and control variables. Results for modified specifications (1), (2), (3) and (4) are presented in columns (1), (2), (3) and (4) respectively. In line with my base line results, the null hypothesis of Wald test is rejected for all model specifications. Sargan test of over-identifying restrictions again confirms the validity of moment conditions in all cases. Arellano–Bond test for serial correlation confirms the absence of a serial correlation of order 2 for all four specifications. Three lags of the dependent variable in the specification are once again found to be appropriate in order to obtain efficient estimates. Coefficient estimates for lags of the dependent variable, firm size and dummy variable identifying exporters are quite close to initial results for service SMEs. Again, capital intensity seems to have no significant effect on TFP growth, which is in line with base line results, with the exception of model (2), where the coefficient estimate for capital intensity is negative and statistically significant. The estimated coefficient for firm age is statistically significant only in specification (3), whereas with base line results it was significant only with specification (4). All four sets of results imply, that the share of employees with higher education has no statistically significant effect on firm TFP growth. This is generally in line with the base line results, with the exception of specification (1), where the coefficient for *ShHE* proved to be positive and statistically significant.

When it comes to my main variables of interest, the results show, that estimated coefficients for *ShFr*, *ShFrSs* and *ShFrDs* are statistically insignificant. This means that the results obtained failed to confirm the existence of productivity spillovers due to mobility of workers with recent experience at a foreign firm in general, at a foreign firm from the same sector or different sector. However, results obtained for model (1) once again confirm the existence of knowledge spillovers through mobility of highly educated workers from foreign owned firms to domestic SMEs. One possible explanation for this outcome is that

sophisticated knowledge brought into the firm by workers with higher education has a more persistent effect on TFP growth, whereas the effect of less sophisticated knowledge attributed to the general population of workers fades away more quickly. Further, according to results in columns (1), (2), (3) and (4), control variables have no significant effect on TFP growth.

Table 7: Spillover effects in Slovenian service SMEs, robustness check

	(1)	(2)	(3)	(4)
VARIABLES	Model 1	Model 2	Model 3	Model 4
grTFP(-1)	-0.243***	-0.246***	-0.242***	-0.244***
	(0.0205)	(0.0205)	(0.0210)	(0.0205)
grTFP(-2)	-0.0771***	-0.0768***	-0.0791***	-0.0773***
	(0.0192)	(0.0192)	(0.0195)	(0.0193)
grTFP(-3)	-0.0159	-0.0140	-0.0122	-0.0141
	(0.0136)	(0.0138)	(0.0137)	(0.0135)
lnEmpl(-1)	0.148**	0.145**	0.160**	0.162***
	(0.0602)	(0.0585)	(0.0682)	(0.0617)
$lnEmpl^2$ (-1)	-0.0423***	-0.0397***	-0.0429**	-0.0421***
	(0.0147)	(0.0135)	(0.0174)	(0.0144)
lnKint(-1)	-0.0162	-0.0212*	-0.0154	-0.0194
	(0.0148)	(0.0127)	(0.0141)	(0.0135)
dExporter (-1)	0.204***	0.181***	0.187***	0.182***
	(0.0683)	(0.0621)	(0.0684)	(0.0653)
ShHE (-1)	0.00123	0.000362	0.000372	0.000388
	(0.000847)	(0.000702)	(0.000829)	(0.000732)
ShFrHE(-2)	0.786*			
	(0.401)			
ShNwHE(-2)	-0.0851			
	(0.0575)			
lnAge	0.100	0.0476	0.146**	0.113
	(0.0628)	(0.0603)	(0.0592)	(0.0729)
ShFr(-2)		0.125		
		(0.122)		
ShNw(-2)		-0.0238		
		(0.0208)		
ShFrSs(-2)			-0.0723	
			(0.290)	
ShNwSs(-2)			0.0120	
			(0.0568)	
ShFrDs(-2)				0.159
				(0.154)

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ShNwDs(-2)				-0.0190
				(0.0442)
Constant	-9.410	15.29	-18.13	5.582
	(31.93)	(17.32)	(35.63)	(20.89)
Observations	35,352	35,352	35,352	35,352
Number of n7	12,317	12,317	12,317	12,317
Year dummies	YES	YES	YES	YES
Industry dummies	YES	YES	YES	YES
(df)	(66)	(66)	(66)	(66)
Wald $\chi 2$	2088.30***	2739.74***	11533.74***	1274.44***
(df) Sargan $\chi 2$	(92) 101.35	(92) 104.76	(92) 107.58	(92)103.10
(p)	(0.24)	(0.17)	(0.13)	(0.20)
AR(1) z(p)	-17.10 (0.00)	-17.07(0.00)	-17.00(0.00)	-17.07(0.00)
AR(2) z(p)	-0.96(0.34)	-0.94(0.35)	-0.84(0.40)	-0.93(0.35)

Notes: z-statistics are in parentheses, ***,**,* denote significance at 1%, 5% and 10%, respectively
Source: Own calculations

5. CONCLUDING REMARKS

The paper tests for potential productivity spillovers arising through worker mobility from foreign owned firms to domestic SMEs. Generally, research on spillover effects through worker mobility is relatively scarce due to only recent emergence of linked employer-employee databases. To my knowledge, no such study has yet been done for Slovenia. In contrast to previous research I analyse data for service and manufacturing sectors separately. I estimate the impact of knowledge brought by new workers with experience from foreign owned firms on domestic SMEs' TFP growth using Slovenian data covering the period from 2002 to 2010. Since my empirical model is dynamic in nature and my panel consists of a small number of time periods and a large set of firms, I conduct my analysis using the GMM estimator developed by Arellano & Bover (1995) and Blundell & Bond (1998). My results confirm the existence of spillover effects in the service sector. I find robust evidence in support of the hypothesis that flows of highly educated workers from foreign owned firms to domestic SMEs boost total factor productivity growth of domestic service SMEs. There is also some indication that hiring new workers with experience from foreign owned firms in general, as well as hiring new workers coming from foreign owned firms in the same or different sector, has a positive effect on service SMEs' TFP growth. However, these results are not robust when the period in which new employments are accounted for is prolonged. One possible explanation for this outcome is that sophisticated knowledge brought into the firm by workers with higher education has a more persistent effect on TFP growth, whereas the effect of less sophisticated knowledge attributed to the

general population of workers fades away more quickly. This finding is also in line with Poole (2013), who concludes that higher skilled former multinational workers are better able to transfer knowledge to domestic firms than less skilled ones. Analyses done for the manufacturing sector, on the other hand, provide no conclusive evidence.

The findings of this paper bear important policy implications. For starters, they may represent an additional incentive for greater effort in terms of FDI promotion policy. Perhaps making the labour market in Slovenia more flexible would also be a path worth considering in light of these results. The current legislation in Slovenia offers strong protection to the employees with permanent work contract. Hence, it is hard for firms to lay off workers. As a consequence they consider every new employment very carefully. From the job seekers' perspective that makes it harder to get a new job. If the job market was more flexible, more people would consider leaving the safety of their current job and move to another employer, potentially enabling knowledge spillovers.

The work done opens a lot of new interesting questions for further research. For example, although the results of this paper indirectly confirm the existence of absorbtive capacity for the Slovenian SMEs, it would be interesting to test for it directly. Further, it would be possible to test whether the spillovers coming from the same sector effect the intensity of competition and market structure in this sector. The impact of spillovers on market concentration in the presence of endogeneous sunk costs was for example studied by Senyuta & Žigić (2016), using a theoretical model. On the other hand, the existence of spillovers may induce protective measures by the source firms (intellectual property protection, higher wages, special contracts etc.) The behaviour of firms in the presence of spillovers was for example analysed by Gersbach & Schmutzler (2003), Zabojnik (2002) as well as Senyuta & Žigić (2016) using theoretical framework. It would, however, be interesting to explore these issues empirically, as an extension of research done in this paper. Finally, it would also be intriguing to repeat the study described in this paper for the data pertaining to the financial crisis period.

REFERENCES

Aitken, B. J., & Harrison, A. E. (1999). Do Domestic Firms Benefit from Direct Foreign Investment ? Evidence from Venezuela. *The American Economic Review*, *89*(3), 605–618.

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error-components models. *Journal of Econometrics*, *68*(1), 29–51.

Arnold, J. M., & Javorcik, B. S. (2009). Gifted kids or pushy parents? Foreign direct investment and plant productivity in Indonesia. *Journal of International Economics*, *79*(1), 42–53.

Aslanoğlu, E. (2000). Spillover Effects of Foreign Direct Investments on Turkish Manufacturing Industry. *Journal of International Development*, *12*(8), 1111–1130.

Balsvik, R. (2011). Is Labor Mobility a Channel for Spillovers from Multinationals? Evidence from Norwegian Manufacturing. *Review of Economics and Statistics*, *93*(1), 285–297.

Blundell, R., & Bond, S. (1998). Initial conditions and moment restrictions in dynamic panel data models. *Journal of Econometrics*, *87*(1), 115–143.

Damijan, J., Knell, M. S., Majcen, B., & Rojec, M. (2003). *Technology Transfer Through FDI in Top-10 Transition Countries: How Important are Direct Effects, Horizontal and Vertical Spillovers?* (William Davidson Institute Working Papers Series).

Damijan, J., Kostevc, Č., & Rojec, M. (2012). *Growing lemons and cherries ? Pre- and post-acquisition performance of foreign-acquired firms in new EU member states* (LICOS Discussion Papers No. 31812). Leuven.

De Loecker, J. (2007). *Product Differentiation, Multi-product Firms and Estimating the Impact of Trade Liberalization on Productivity* (No. 13155). Cambridge, MA.

Ericson, R., & Pakes, A. (1995). Markov-Perfect Industry Dynamics: A Framework for Empirical Work. *The Review of Economic Studies*, *62*(1), 53–82.

Fosfuri, A., Motta, M., & Rønde, T. (2001). Foreign direct investment and spillovers through workers ' mobility. *Journal of International Economics*, *53*(1), 205–222.

Gersbach, H., & Schmutzler, A. (2003). Endogenous spillovers and incentives to innovate. *Economic Theory*, *21*(1), 59–79.

Girma, S., & Wakelin, K. (2000). Are There Regional Spillovers from FDI in the UK ? In D. Greenaway, R. Upward, & K. Wakelin (Eds.), *Trade, Investment, Migration and Labour Market Adjustment* (pp. 172–186). Palgrave Macmillan UK.

Glass, A. J., & Saggi, K. (2002). Multinational Firms and Technology Transfer. *The Scandinavian Journal of Economics*, *104*(4), 495–513.

Görg, H., & Strobl, E. (2005). Spillovers from Foreign Firms through Worker Mobility : An Empirical Investigation *. *The Scandinavian Journal of Economics*, *107*(4), 693–709.

Hakkala, K. N., & Sembenelli, A. (2014). *Multinationals , Competition and Productivity Spillovers through Worker Mobility* (VATT Working Papers No. 54). Helsinki.

Jovanovic, B. (1982). Selection and the Evolution of Industry. *Econometrica*, *50*(3), 649–670.

Keller, W., & Yeaple, S. R. (2009). Multinational Enterprises, International Trade, and Productivity Growth: Firms Level Evidence from the United States. *The Review of Economics and Statistics*, *91*(4), 821–831.

Koymen, S., & Sayek, S. (2009). *The role of human capital in productivity spillovers from FDI: An empirical analysis on Turkish manufacturing firms* (2009 Meeting Papers No. 919). *2009 Meeting Papers*. Retrieved from https://economicdynamics.org/meetpapers/2009/paper_919.pdf

Levinsohn, J., & Petrin, A. (2003). Estimating Production Functions Using Inputs to Control for Unobservables. *Review of Economic Studies*, *70*(2), 317–341.

Maliranta, M., Mohnen, P., & Rouvinen, P. (2009). Is inter-firm labor mobility a channel of knowledge spillovers? Evidence from a linked employer-employee panel. *Industrial and Corporate Change*, *18*(6), 1161–1191.

Marschak, J., & Andrews, W. H. (1944). Random Simultaneous Equations and the Theory of Production. *Econometrica*, *12*(3/4), 143–205.

Martins, P. S. (2005). Inter-Firm Employee Mobility , Displacement , and Foreign Direct Investment Spillovers. *Mimeo*.

Olley, S., & Pakes, A. (1996). The Dynamics of Productivity in the Telecommunications Equipment Industry. *Econometrica*, *64*(6), 1263–1297.

Pesola, H. (2011). Labour mobility and returns to experience in foreign firms. *Scandinavian Journal of Economics*, *113*(3), 637–664.

Poole, J. P. (2013). Knowledge Transfers from Multinational to Domestic Firms: Evidence from Worker Mobility. *Review of Economics and Statistics*, *95*(2), 393–406.

Senyuta, O., & Žigić, K. (2016). Managing spillovers : An endogenous sunk cost approach. *Information Economics and Policy*, *35*, 45–64.

Smarzynska-Javorcik, B. (2004). Does Foreign Direct Investment Increase the Productivity of Domestic Firms? In Search of Spillovers through Backward Linkages. *The American Economic Review*, *94*(3), 605–627.

Zabojnik, J. (2002). A theory of trade secrets in firms. *International Economic Review*, *43*(3), 831–855.

Zajc Kejžar, K. (2011). The role of foreign direct investment in the host-country firm selection process : firm-level evidence from Slovenian manufacturing. *Review of World Economics*, *147*(1), 169–193.

Zajc Kejžar, K., & Ponikvar, N. (2014). Job Destruction and Productivity Gains in Heterogeneous Incumbent Firms : Comparing the Effects of Imports and Inward Foreign Direct Investment. *Emerging Markets Finance and Trade*, *50*(6), 154–173.