

# Determinants and Effects of Foreign Direct Investment in Austria: Spillovers to Novel Innovative Environmental Technologies

Mahdi Ghodsi and Branimir Jovanovic

5 July 2022

FIW - BMDW



## Literature

- 1. Foreign direct investment (FDI) has become a **driver of growth** in both developed and developing countries (Balasubramanyam et al., 1996; Gao, 2005; Mottaleb, 2007; Alfaro et al., 2010; Iamsiraroj, 2016).
- 2. Technological upgrading and knowledge spillovers are the main channels through which FDI can affect long-run growth in the host economy (De Mello, 1999).
- 3. As the OECD (2021) reports, FDI can have a substantial impact on the UN Sustainable Development Goals (SDGs) through various channels. FDI can foster innovation and productivity, improve the quality of jobs and skills, ensure a more gender-equal labour market and reduce CO2 emissions to satisfy global climate goals.
- 4. These could be achieved because a multinational ownership network can facilitate sourcing intermediate inputs by opening up global value chains, diversifying managerial techniques (Javorcik, 2020) that can comprise various environments and markets, and most importantly, ensuring better access to various financial resources in several countries.



## Aims of the study

- 1. This study investigates the determinants and effects of FDI using firm-level data for Austria, with a special focus on positive spillovers to innovation of novel environmental technologies.
- 2. One part of this study analyses the **determinants of FDI** in Austria at the firm-level to observe which factors at the firm-, regional-, and industry-level stimulate FDI in Austria.
- 3. The other part analyses **FDI's effects on employment, labour productivity, and innovation** in all technologies and environmental technologies in Austria.
- 4. Environmental technology classes from OECD (Haščič and Migotto, 2015):
  - 1. Environmental management
  - 2. Water-related adaptation technologies
  - 3. Climate change mitigation technologies related to energy generation
  - 4. Capture, storage, sequestration or disposal of GHG
  - 5. Climate change mitigation technologies related to transportation
  - 6. Climate change mitigation technologies related to buildings



## This study uses two types of measurements of FDI

- 1. Technological measurements of FDI using number of patents:
  - granted patents in all technology classes
  - published patents in all technology classes
  - granted patents in environmental technology classes
  - **published** patents in **environmental** technology classes
- 2. Financial measurements of FDI:
  - the total assets of foreign-owned firms
  - the number of greenfield (GF) or brownfield (BF) investment projects
  - the investment value of GF and BF projects
  - the number of mergers and acquisitions (M&A)
  - the investment value of M&A deals



### Databases used

- A major part of the data is compiled from firm-level databases provided by the **Bureau van Dijk** (BvD), owned by Moody's Analytics.
  - 1. Information on GF and BF projects and M&A deals are from the **Orbis Crossborder Investment** database provided by BvD.
  - 2. Financial and balance sheet data of firms from **Orbis** provided by BvD.
  - 3. Data on patents linked with firm identifiers from **Amadeus** provided by BvD. 213,000 patents owned by Austrian firms that are linked with their BvD identifiers.
- Sector-level variables are collected from several sources.
  - 1. Structural Business Statistics provided by Eurostat on wages and employment.
  - 2. EU KLEMS (Stehrer et al., 2019) on capital stocks, employment, gross output and value added.
  - 3. Data on graduates at different levels, such as tertiary education Eurostat.
  - 4. Regional and sectoral-level data, such as GDP, tertiary education, employment, wages, R&D expenditure and personnel, also come from Eurostat.
  - 5. Import tariffs are collected from WITS and TRAINS.
  - 6. Annual bilateral AVEs of NTMs taken from Adarov and Ghodsi (2021).



## Financial measures of FDI

Figure 1 / Foreign-owned firms in Austria, total assets (USD bn)

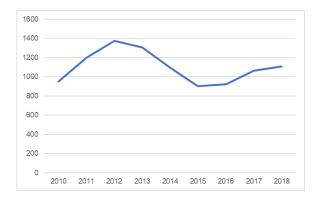


Figure 3 / Number of all completed GF and BF projects and M&A deals in Austria

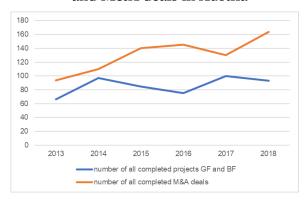


Figure 2 / Foreign-owned firms in Austria, total assets (% of all firms)

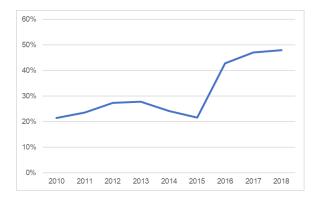


Figure 4 / Value of all completed GF and BF projects and M&A deals in Austria (USD m)





## Financial measures of FDI across Austrian NUTS2 regions

Figure 5 / Foreign-owned firms in Austria, by regions, total Figure 6 / Foreign-owned firms in Austria, by regions, total assets (USD bn, 2017)

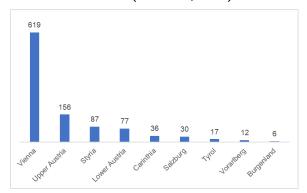
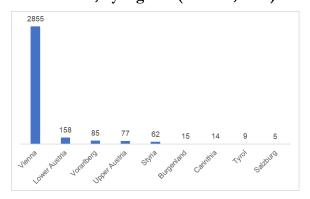


Figure 7 / Value of all completed GF and BF projects in Austria, by regions (USD m, 2017)



assets (% of all firms, 2017)

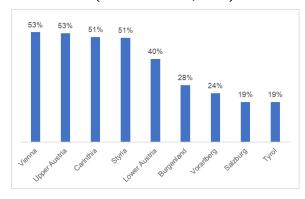
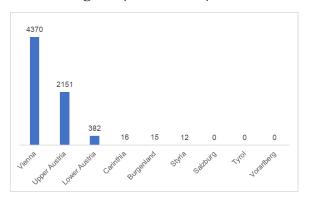


Figure 8 / Value of all completed M&A deals in Austria, by regions (USD m, 2017)





## Financial measures of FDI across industries

Figure 9 / Foreign-owned firms in Austria, top 10 sectors, total assets (USD bn, 2017)

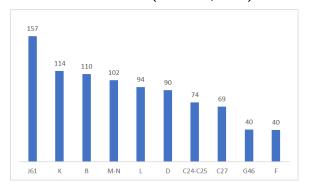


Figure 11 / Value of all completed GF and BF projects in Austria, top 10 sectors (USD m, 2017)

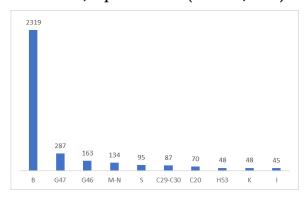


Figure 10 / Foreign-owned firms in Austria, top 10 sectors, total assets (% of all firms, 2017)

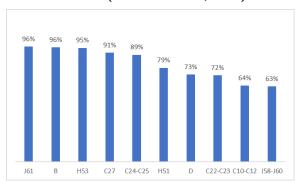
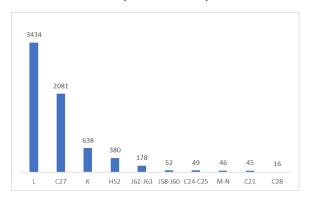


Figure 12 / Value of all completed M&A deals in Austria, top 10 sectors (USD m, 2017)





# Technological measures of FDI

Figure 13 / Number of published and granted patents of foreign-owned firms in Austria

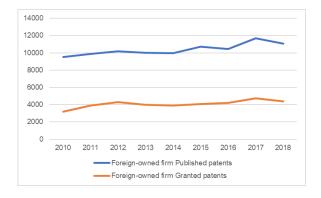


Figure 15 / Number of published and granted patents by GUO of foreign-owned firms in Austria

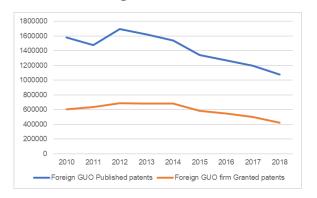


Figure 14 / Number of published and granted environmental patents of foreign-owned firms in Austria

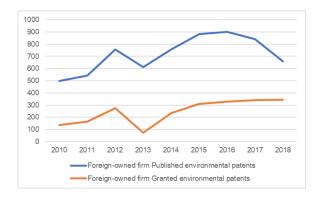
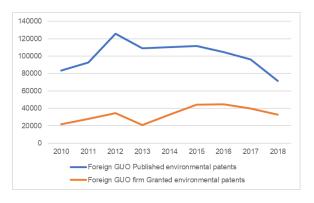


Figure 16 / Number of published and granted environmental patents by GUO of foreign-owned firms in Austria





# Patenting activities by domestic-owned firms in Austria

Figure 17 / Number of published and granted patents by domestic-owned firms in Austria

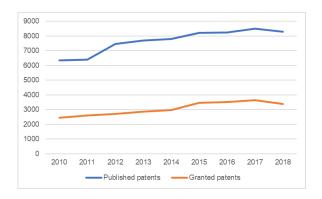
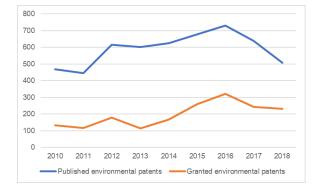


Figure 18 / Number of published and granted environmental patents by domestic-owned firms in Austria





## Determinants of FDI at the firm level – trade costs

#### $K_{frgjs\varrho t+1}$

$$=exp\big[\gamma+\gamma_{1}S_{ft}+\gamma_{2}profit_{ft}+\gamma_{3}cl_{ft}+\gamma_{4}ncl_{ft}+\gamma_{5}cf_{ft}+\gamma_{6}\operatorname{arc}T_{Ajst}+\gamma_{7}\operatorname{arc}T_{jAst}+\gamma_{8}prod_{st}+\gamma_{9}kl_{st}+\gamma_{10}wage_{rst}\\+\gamma_{11}HHI_{rst}+\gamma_{12}agg_{rst}+\gamma_{13}GDP_{rt}+\gamma_{14}edu_{rt}^{0-2}+\gamma_{15}edu_{rt}^{3-4}+\gamma_{16}RD_{rt}+\gamma_{f}+\gamma_{g}+\gamma_{js}+\gamma_{t+1}\big]\times\varepsilon_{frgjs\varrho t+1}$$

- The dependent variable  $K_{frgjs\varrho t+1}$  could be either of these five financial FDI measurements:
  - 1) total assets of foreign-owned firms located in Austria as a measurement of FDI stocks; 2) the number of GF and BF projects; 3) GF and BF invested capital; 4) the number of M&A deals; 5) M&A capital for acquired firms.
- S<sub>ft</sub> is the operating revenue in US dollars of the Austrian subsidiary to control for the size of firms (in logarithmic form).
- $profit_{ft}$ ,  $cl_{ft}$ ,  $ncl_{ft}$ ,  $cf_{ft}$  are respectively current profit-loss after tax, current liabilities relative to total assets, non-current liabilities relative to total assets, and cash flow relative to total assets of firm f in year t that are used as proxies for financial constraints of the subsidiary.
- arc  $T_{Ajst}$  is the hyperbolic sine transformation of average tariffs imposed by Austria against the imports of six-digit products in sector s from country j in year t; arc  $T_{iAst}$  is the hyperbolic sine transformation of average tariffs imposed by country j against the imports of six-digit products from Austria in sector s in year t.
- $prod_{st}$  is the logarithm of labour productivity calculated using the value added in sector s in year t in Austria;  $kl_{st}$  is the logarithm of capital to labour intensity in sector s in year t in Austria;  $kl_{st}$  is the Herfindahl-Hirschman Index in sector s in region t in year t that is calculated using the sum of the squared market share of Austrian firms in their sectors in their regions, which measures the concentration or diversification of the market in each regional sector in a given year;  $kl_{st}$  indicates the agglomeration of employed labour in sector t in year t relative to the total employed labour in that region.
- GDP<sub>rt</sub> measures the logarithm of GDP of the Austrian region r in year t;  $edu_{rt}^{0-2}$  measures the share of the population with less than primary and lower secondary education (levels 0-2) relative to all graduates in region r in year t;  $edu_{rt}^{3-4}$  measures the share of the population with upper secondary and post-secondary non-tertiary education (levels 3-4) relative to all graduates in region r in year t;  $RD_{rt}$  measures gross domestic expenditure on R&D (GERD) in all sectors of activity in the region r of the Austrian firm.



## Determinants of FDI at the firm level – trade costs

- Trade cost is a major driver of FDI in Austria, in line with the existing literature (Blonigen and Piger, 2014; Ghodsi, 2020; Adarov and Ghodsi, 2022).
- Tariffs imposed at the EU level (Austria) also reduce the value and number of M&A deals in Austria.
- Tariffs are less important for the total assets of foreign-owned subsidiaries.
- Trade costs related to the **TBTs imposed by the EU or by Austria reduce the total assets** of foreign-owned subsidiaries, and the **value and number of M&A deals**.
- However, the opposite is the case for the cost of trade from Austria to the home of the MNE for both trade policy measures for M&A deals.
- This suggests that these subsidiaries and such M&A deals are mostly with importing Austrian firms that are **participating heavily in global value chains**, whose imports are operating better with lower trade costs to Austria. Austrian firms replace those firms at home in the GVC.
- **BF** and **GF** projects are not affected by either tariffs or technical barriers to trade imposed by Austria or faced by Austrian exports.



## Determinants of FDI at the firm level – other factors

- FDI in Austria occurs primarily in more capital-intensive industries.
- Accumulation of stock of FDI in Austria in the form of total assets of foreign-owned firms is driven by their higher revenues and profits.
- Government R&D expenditure crowds out M&A deals in Austria.
- Sectors with **lower labour productivity** are found to have **larger investment values in GF and BF** projects and **larger total assets** of foreign-owned firms.
- **Regional GDP** has a positive impact on FDI in some cases, which indicates demand-driven FDI in Austria.
- Higher wages in regional industries are associated with larger values of investment in **M&A deals and** larger total assets in foreign-owned firms, which is in line with the theories of efficiency wage models.
- Regions with a **higher** share of population with **upper secondary and post-secondary non-tertiary education** have **larger total assets**.
- The stock of FDI in foreign-owned firms increases with externalities associated with **agglomeration and specialisation** of regional industries.



## Technological spillovers at the regional industry

$$\begin{aligned} P_{srt+1} \\ &= exp \big[ \beta_0 + \beta_{1,ne} \operatorname{arc} P_{g,srt}^{non-env} + \beta_{1,e} \operatorname{arc} P_{g,srt}^{env} + \beta_{1,FDI} k_{rst}^{FDI} + \beta_{1,GF} \operatorname{arc} n, v_{srt}^{GF} + \beta_{1,M&A} \operatorname{arc} n, v_{srt}^{M&A} + \beta_2 prod_{srt} \\ &+ \beta_3 k l_{srt} + \beta_4 wage_{srt} + \beta_5 H H I_{srt} + \beta_6 agg_{srt} + \beta_7 G D P p c_{rt} + \beta_8 e du_{rt}^{3-4} + \beta_9 e du_{rt}^{5-8} + \beta_{10} R D_{rt} + \beta_{10} R D p_{rt} \\ &+ \omega_{sr} + \omega_{t+1} \big] \times \varepsilon_{srt+1} \end{aligned}$$

- Four measurements of innovation are used:
  - 1) number of published patents in all technologies, which includes both granted and still non-granted patents;
  - 2) number of granted patents in all technologies;
  - 3) number of published patents in environmental technologies (including both granted and still non-granted patents);
  - 4) number of granted patents in environmental technologies.
- arc  $P_{g,srt}^{non-env}$  is the hyperbolic sine transformation of the number of non-environmental patents (granted or published depending on the dependent variable) owned by the GUO that is investing in sector s in region r in year t; arc  $P_{g,srt}^{env}$  is the hyperbolic sine transformation of the number of environmental patents (granted or published depending on the dependent variable) owned by the GUO that is investing in sector s in region r in year t.
- $k_{rst}^{FDI}$  is the total assets of foreign-owned firms in the regional industry; arc n,  $v_{srt}^{GF}$  is the hyperbolic sine transformation of the number or value of GF and BF projects in Austria in sector s in region r in year t; arc n,  $v_{srt}^{M\&A}$  is the hyperbolic sine transformation of the number or value of M&A deals in Austria in sector s in region r in year t.
- GDP pcr capita in the region;  $RDp_{rt}$  is the log of full-time equivalent R&D personnel in all sectors in that region;  $\omega_{sr}$  and  $\omega_{t}$  are respectively regional sector and year fixed effects;  $\varepsilon_{srt}$  is the error term; and the rest of the variables are defined as above.



## Technological spillovers at the regional industry

- There are indeed technological spillovers. The relationship is found to be complex.
- Positive spillover from granted environmental patents by GUOs, the total assets of foreign-owned firms, the value of BF and GF investment projects to granted patents in all technologies.
- Negative spillovers from the number of M&A deals to granted patents in all technologies: transfer of patent rights through M&A deals.
- Negative spillovers from the non-environmental patents of foreign GUOs to all published patents.
- Negative spillovers from granted non-environmental patents by GUOs, while positive spillovers from granted environmental patents by GUOs to granted environmental patents.
- Positive spillovers from published environmental patents by GUOs, as well as the total FDI assets and the value of brownfield and greenfield investment to all published environmental patents. Negative spillover from the number of M&As. However, only novel innovations are granted.
- Intrinsic nature of environmental technologies: their use and transmission are not purely local and do not depend either on local market demand or the institutional environment of the invention. Environmental technologies are in high demand almost everywhere. This makes them even more transmittable through regional spillovers to other agents of the economy in close proximity.



# FDI spillovers to domestic firms

- Labour productivity of domestic-owned firms:
  - Positive spillovers from the number of M&A deals, but no spillovers from other forms of financial measurements of FDI.
  - **Positive spillovers** from the **number of non-environmental patents** published by **foreign-owned firms**.
  - Gross domestic expenditure on R&D (GERD) in all sectors of activity in the region has also a positive impact of labour productivity of domestic firms in Austria.
- **Employment** of domestic-owned firms:
  - Positive spillovers from the larger total assets of foreign-owned firms in a regional industry
  - Negative spillovers from BF and GF projects, crowding out effects of new projects.
  - Larger total assets of a domestic firm means also larger employment of that firm.
  - GDP per capita in a region, regional fund, and agglomeration of labour in a regional industry contribute positively.



## FDI spillovers to domestic firms

$$\begin{split} P_{fsrt+1} \\ &= exp \big[ \delta_0 + \delta_{1,fne} \operatorname{arc} P_{fo,srt}^{non-env} + \delta_{1,fe} \operatorname{arc} P_{fo,srt}^{env} + \delta_{1,gne} \operatorname{arc} P_{g,srt}^{non-env} + \delta_{1,ge} \operatorname{arc} P_{g,srt}^{env} + \delta_{1,fpl} k_{rst}^{FDI} \\ &+ \delta_{1,GF} \operatorname{arc} n, v_{st-1}^{GF} + \delta_{1,M\&A} \operatorname{arc} n, v_{st}^{M\&A} + \delta_2 prod_{fsrt-1} + \delta_3 k l_{fsrt-1} + \delta_4 wage_{fsrt} + \delta_5 H H I_{rst} + \delta_6 agg_{rst} \\ &+ \delta_7 G D P_{rt} + \delta_8 e du_{rt} + \beta_9 R D_{rt} + \omega_f + \omega_{sr} + \omega_{t+1} \big] \times \varepsilon_{fsrt+1} \end{split}$$

- arc  $P_{fo,srt}^{non-env}$  is the hyperbolic sine transformation of the number of non-environmental patents (granted or published depending on the dependent variable) owned by foreign-owned firms operating in sector s in region r in year t;
- arc  $P_{fo,srt}^{env}$  is the hyperbolic sine transformation of the number of environmental patents (granted or published depending on the dependent variable) owned by foreign-owned firms that are investing in sector s in region r in year t;
- $\omega_f$ ,  $\omega_{rs}$  and  $\omega_t$  are respectively firm, regional sector, and time FEs; and  $\varepsilon_{fsrt}$  is the error term.



# Technological spillovers of FDI to domestic firms

- Patents in all technologies by domestic-owned firms:
  - Positive spillovers to both published and granted patents of all types from non-environmental innovations patented by subsidiaries of foreign MNEs rather than through foreign MNEs (GUOs).
  - Negative spillovers from total assets of foreign-owned companies in a regional sector: this might indicate negative competitive pressure of FDI in a given regional sector.
  - Total assets of domestic firms, full-time equivalent R&D personnel in all sectors in a region, concentration of firms' turnover (HHI) in a regional industry have also a positive impact on innovation of domestic firms.
- **Patents in environmental technologies** by domestic-owned firms :
  - Positive spillovers to both published and granted patents of all types from non-environmental innovations patented by subsidiaries of foreign MNEs rather than through foreign GUOs.
  - Positive spillovers from novel environmental technologies of foreign GUOs to novel innovation that are granted to domestic firms in environmental technologies.
  - Positive spillovers from number and value of GF and BF projects.
  - Educated population in a region, concentration of firms' turnover (HHI), lower capital to labour ratio in an industry, and lower regional fund have also a positive impact on innovation of domestic firms in environmental technologies.



# Summary and conclusion

- FDI in Austria heavily involves firms that participate in global value chains. Lower costs of trade to Austria leads to higher total assets of foreign-owned firms and M&A deals in Austria. Moreover, the larger cost of exporting from Austria to the home leads to higher M&A deals. Austrian firms substitute firms in the home country to participate in GVCs.
- Insignificant spillovers from FDI using traditional financial measures (except for GF ana BF projects), while some significant spillovers using technological measures: **Positive spillovers** from **non-environmental patents of foreign-owned firms** to all types of innovations are evident. Moreover, **positive spillovers** from **environmental patents of foreign GUO** to granted patents in environmental technologies by domestic firms are evident.
- Not every innovative activity leads to novel innovation and technologies. The successful granting of patents could be interpretated as a major breakthrough that can fundamentally support climate change mitigation.
- Thus, domestic Austrian firms should become more innovative. This could be best supported at the firm-level by supporting the **total assets and investment of domestic firms**, improving the **share of the population with higher levels of education and employment of R&D personnel**, and most importantly with the **active presence of innovative foreign MNEs** that enjoy large technological capacities, high-skilled labour, experienced management, and large-scale resources that lead to innovative activities.

# Thank you for your attention





Table 1 / Results of the econometric analysis for the determinants of FDI, for total assets of foreign-owned firms in Austria

	1	2	3	4	5	6
Log of tariffs imposed by host on home in sector s	0.12	0.12	0.12	0.12	0.12	0.12
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)
Log of tariffs imposed by home on host in sector s	-0.20*	-0.21*	-0.22*	-0.21*	-0.22*	-0.22*
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
Log of AVE of TBTs imposed by host on home in sector s	-0.23***	-0.26***	-0.23***	-0.23***	-0.23***	-0.23***
	(0.035)	(0.037)	(0.035)	(0.035)	(0.035)	(0.034)
Log of AVE of TBTs imposed by home on host in sector s	-0.040	-0.053	-0.041	-0.041	-0.041	-0.041
	(0.032)	(0.033)	(0.032)	(0.032)	(0.032)	(0.032)
Log of Industrial capital to labour ratio nominal m	2.27***	2.24***	2.32***	2.31***	2.32***	2.32***
	(0.24)	(0.25)	(0.24)	(0.24)	(0.24)	(0.24)
Log of Industrial value-added productivity nominal m	-0.95***	-0.84***	-1.06***	-1.00***	-1.06***	-1.06***
	(0.18)	(0.16)	(0.18)	(0.18)	(0.18)	(0.18)
Log of regional industrial wage in EUR	0.36**	0.18	0.23	0.21	0.23	0.23
	(0.14)	(0.16)	(0.14)	(0.14)	(0.15)	(0.15)
Regional industrial HHI sum of squared market share	0.31*	0.25	0.32*	0.33**	0.32*	0.32*
of firms	(0.16)	(0.21)	(0.17)	(0.17)	(0.17)	(0.17)
Labour agglomeration of industry in the region	13.9***	15.4***	14.2***	13.9***	14.2***	14.1***
	(4.47)	(4.23)	(4.25)	(4.24)	(4.27)	(4.38)
Log of regional GDP in EUR million	0.038	0.026	0.045	0.044	0.045	0.051
	(0.19)	(0.19)	(0.18)	(0.18)	(0.18)	(0.18)
PC of Less than primary and lower secondary education	-0.0020	-0.00086	-0.0072	-0.0071	-0.0072	-0.0073
(levels 0-2)	(0.017)	(0.016)	(0.017)	(0.017)	(0.017)	(0.017)
PC of Upper secondary and post-secondary non-tertiary	0.018*	0.027***	0.017*	0.016*	0.017*	0.017*
education (levels3 4)	(0.0096)	(0.0097)	(0.0094)	(0.0094)	(0.0093)	(0.0093)
Log of GERD all sectors in EUR million	0.13	0.18	0.13	0.12	0.13	0.13
	(0.12)	(0.12)	(0.11)	(0.11)	(0.11)	(0.12)
Log of operating revenue of firms in Austria	0.052***		0.053***	0.055***	0.053***	0.052***
	(0.0067)		(0.0075)	(0.0076)	(0.0071)	(0.0076)
Log of cash flow relative to total assets of firms in Austria	-0.35***			-0.25***		
	(0.072)			(0.063)		
Log of current liabilities relative to total assets of	0.065				0.0011	
firms in Austria	(0.10)				(0.094)	
Log of non-current liabilities relative to total assets of	0.099					0.028
firms in Austria	(0.085)					(0.074)
Log profit-loss after tax	0.0031***					
	(0.00069)					
Constant	3.18	5.12*	5.07*	5.12*	5.07*	5.02*
	(2.79)	(2.95)	(2.84)	(2.79)	(2.81)	(2.83)
Observations	14913	14913	14913	14913	14913	14913
Pseudo R-squared	0.975	0.974	0.975	0.975	0.975	0.975
AIC	5.50162e+11	5.77845e+11	5.55913e+11	5.53694e+11	5.55913e+11	5.55865e+11



Table 2 / Results of the econometric analysis for the determinants of FDI, for GF and BF investment projects in Austria, number of projects and investment value

	Number of GF and BF projects	Investment value GF and BF proje
Log of tariffs imposed by host on home in sector s	1.18	0.42
	(0.96)	(1.40)
Log of tariffs imposed by home on host in sector s	-1.83	-2.46
	(1.21)	(4.05)
Log of AVE of TBTs imposed by host on home in sector s	0.34	0.33
	(0.42)	(0.53)
Log of AVE of TBTs imposed by home on host in sector s	0.15	0.050
	(0.43)	(0.68)
Log of Industrial capital to labour ratio nominal m	4.23**	-1.22
	(1.95)	(3.22)
Log of Industrial value-added productivity nominal m	0.11	-7.65***
	(1.51)	(2.72)
Log of regional industrial wage in EUR	0.26	0.13
	(0.61)	(2.73)
Regional industrial HHI sum of squared market share of firms	0.21	-0.77
	(0.55)	(1.17)
Labour agglomeration of industry in the region	13.4*	11.9
	(7.39)	(17.2)
Log of regional GDP in EUR million	0.25	1.36*
	(0.42)	(0.77)
PC of Less than primary and lower secondary education (levels 0-2)	-0.0077	0.037
	(0.055)	(0.20)
PC of Upper secondary and post-secondary non-tertiary education (levels3 4)	-0.024	-0.0026
	(0.022)	(0.056)
Log of GERD all sectors in EUR million	0.26	0.16
	(0.25)	(0.41)
Constant	-32.1**	48.0
	(15.9)	(31.1)
Observations	2292	2274
Pseudo R-squared	0.095	0.680
AIC	2275.0	2.15829e+10



Table 3 / Results of the econometric analysis for the determinants of FDI, for the number of M&A deals in Austria

	1	2	3	4	5	6
Log of tariffs imposed by host on home in sector s	-1.96***	-2.07***	-2.07***	-2.07***	-2.04***	-2.05*
	(0.74)	(0.77)	(0.77)	(0.77)	(0.75)	(0.76
Log of tariffs imposed by home on host in sector s	2.31***	2.45***	2.44***	2.45***	2.40***	2.43**
	(0.76)	(0.76)	(0.77)	(0.76)	(0.75)	(0.76
Log of AVE of TBTs imposed by host on home in sector s	-2.49***	-2.43***	-2.47***	-2.46***	-2.58***	-2.44*
	(0.76)	(0.70)	(0.70)	(0.70)	(0.76)	(0.70
Log of AVE of TBTs imposed by home on host in sector s	1.10***	1.14***	1.15***	1.15***	1.15***	1.15*
	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)	(0.37
Log of Industrial capital to labour ratio nominal m	2.42	3.01	2.84	2.85	2.65	2.73
	(1.90)	(1.88)	(1.88)	(1.88)	(1.89)	(1.87
Log of Industrial value-added productivity nominal m	-3.14	-2.71	-2.81	-2.79	-3.09	-2.81
	(2.15)	(2.19)	(2.16)	(2.16)	(2.14)	(2.16
Log of regional industrial wage in EUR	1.63	1.62	1.63	1.63	1.66	1.67
	(1.43)	(1.49)	(1.46)	(1.46)	(1.46)	(1.46
Regional industrial HHI sum of squared market share of firms	0.99	0.66	0.82	0.82	0.97	0.82
	(0.97)	(0.90)	(0.95)	(0.95)	(0.97)	(0.94
Labour agglomeration of industry in the region	83.6	88.2	90.5	90.2	89.7	83.2
	(61.0)	(58.8)	(59.7)	(59.7)	(60.0)	(60.2
Log of regional GDP in EUR million	0	0	0	0	0	0
	(.)	(.)	(.)	(.)	(.)	(.)
PC of Less than primary and lower secondary education (levels 0-2)	-0.0091	-0.0013	-0.0010	-0.00056	0.0045	0.004
	(0.14)	(0.14)	(0.14)	(0.14)	(0.14)	(0.14
PC of Upper secondary and post-secondary non-tertiary education (levels3 4)	0.072	0.054	0.070	0.071	0.073	0.075
	(0.10)	(0.10)	(0.10)	(0.10)	(0.10)	(0.10
Log of GERD all sectors in EUR million	-0.20	-0.26	-0.31	-0.34	-0.24	-0.41
	(1.75)	(1.73)	(1.73)	(1.75)	(1.72)	(1.73
Log of operating revenue of firms in Austria	-0.054		-0.071	-0.069	-0.055	-0.06
	(0.044)		(0.045)	(0.049)	(0.039)	(0.05
Log of cash flow relative to total assets of firms in Austria	0.14			-0.059		
	(0.31)			(0.25)		
Log of current liabilities relative to total assets of firms in Austria	-0.90				-1.01*	
	(0.61)				(0.61)	
Log of non-current liabilities relative to total assets of firms in Austria	0.21					0.30
	(0.30)					(0.25
Log profit-loss after tax	-0.0050					
	(0.0064)					
Constant	-21.4	-26.9	-24.7	-24.7	-23.5	-24.2
	(24.4)	(25.0)	(24.6)	(24.6)	(24.6)	(24.7
Observations	1397	1397	1397	1397	1397	1397
Pseudo R-squared	0.113	0.109	0.111	0.111	0.113	0.111
AIC	1363.4	1359.6	1359.3	1361.3	1358.4	1360.



Table 4 / Results of the econometric analysis for the determinants of FDI, for the investment value of M&A deals in Austria

	1	2	3	4	5	6
Log of tariffs imposed by host on home in sector s	-5.27	-14.8*	-18.6*	-17.4*	-14.7	-11.0
	(8.46)	(8.89)	(9.96)	(9.78)	(.)	(8.58)
Log of tariffs imposed by home on host in sector s	1.29	4.19	4.26	4.21	3.84	2.66
	(4.39)	(3.87)	(4.42)	(4.10)	(.)	(4.15)
Log of AVE of TBTs imposed by host on home in sector s	-5.66**	-2.19	-2.28	-2.46	-5.42	-4.28**
	(2.45)	(1.52)	(1.58)	(1.55)	(.)	(1.77)
Log of AVE of TBTs imposed by home on host in sector s	1.55	2.05	2.26	2.31	2.72	1.93
	(1.89)	(1.78)	(2.06)	(1.87)	(.)	(1.83)
Log of Industrial capital to labour ratio nominal m	-2.86	-5.93	-7.39	-6.76	-7.78	-3.43
	(5.10)	(7.44)	(6.89)	(6.78)	(.)	(5.29)
Log of Industrial value-added productivity nominal m	4.58	0.31	4.40	5.13	6.41	3.58
	(5.11)	(5.54)	(5.80)	(5.22)	(.)	(5.21)
Log of regional industrial wage in EUR	15.8***	13.7**	14.6**	14.5**	13.6	16.5***
	(5.30)	(5.41)	(6.37)	(5.79)	(.)	(5.37)
Regional industrial HHI sum of squared market share	-6.32	-6.81*	-8.71*	-8.83*	-6.71	-6.91
of firms	(4.59)	(3.96)	(4.45)	(4.60)	(.)	(4.30)
Labour agglomeration of industry in the region	53.0	-6.91	75.8	165.5	173.3	-111.4
	(280.7)	(250.7)	(248.9)	(253.3)	(.)	(240.1)
Log of regional GDP in EUR million	31.1	0.78	8.01	-0.21	37.4	20.4
	(38.5)	(25.6)	(28.0)	(31.2)	(.)	(28.8)
PC of Less than primary and lower secondary education	-1.93***	-1.59***	-1.80***	-1.92***	-1.96	-1.87***
(levels 0-2)	(0.51)	(0.42)	(0.46)	(0.47)	(.)	(0.45)
PC of Upper secondary and post-secondary non-tertiary	-0.095	-0.16	-0.052	-0.034	0.035	-0.19
education (levels3 4)	(0.34)	(0.30)	(0.31)	(0.28)	(.)	(0.30)
Log of GERD all sectors in EUR million	-11.9*	-9.53*	-9.69*	-9.83*	-10.4	-11.3**
	(6.92)	(5.25)	(5.80)	(5.63)	(.)	(5.61)
Log of operating revenue of firms in Austria	-0.23		-0.30**	-0.30**	-0.22	-0.26**
	(0.14)		(0.15)	(0.15)	(.)	(0.13)
Log of cash flow relative to total assets of firms in Austria	-5.00			-6.25*		
	(3.25)			(3.61)		
Log of current liabilities relative to total assets of firms	-4.05				-6.62	
in Austria	(3.07)				(.)	
Log of non-current liabilities relative to total assets	3.46					4.87**
of firms in Austria	(2.29)					(2.03)
Log profit-loss after tax	0.011					
	(0.018)					
Constant	-393.1	18.1	-87.7	2.95	-434.5	-259.1
	(447.8)	(306.9)	(340.1)	(365.6)	(.)	(339.5)
Observations	554	554	554	554	554	554
Pseudo R-squared	0.692	0.636	0.658	0.672	0.675	0.677
AIC	4.638e+10	5.476e+10	5.147e+10	4.940e+10	4.889e+10	4.868e+10



Table 5 / Results of the econometric analysis for the FDI spill-overs, for regional sectors, for granted patents of all type

	1	2	3	4	5	6	7
Log Number of granted non-environmental patents by	-0.041	-0.045	-0.033	-0.038	-0.045	-0.045	-0.034
GUOs investing in RS	(0.046)	(0.045)	(0.046)	(0.045)	(0.046)	(0.045)	(0.045)
Log Number of granted environmental patents by	0.10*	0.12*	0.088	0.10*	0.11*	0.12*	0.100*
GUOs investing in RS	(0.060)	(0.060)	(0.058)	(0.058)	(0.060)	(0.060)	(0.059)
Log VA productivity in number of employees	-0.16	-0.16	-0.14	-0.11	-0.11	-0.16	-0.11
in thousands	(0.61)	(0.63)	(0.61)	(0.63)	(0.62)	(0.63)	(0.62)
Log Real capital to labour ratio	1.40***	0.95**	1.33***	0.92**	0.97**	0.95**	0.92**
	(0.36)	(0.40)	(0.38)	(0.43)	(0.40)	(0.40)	(0.43)
Log of wage in RS	0.46	0.45	0.34	0.32	0.42	0.45	0.32
	(0.53)	(0.55)	(0.52)	(0.54)	(0.54)	(0.55)	(0.54)
Log of GDP per capita in region in EUR	5.13**	5.51**	5.16**	5.74**	5.47**	5.51**	5.64**
	(2.14)	(2.30)	(2.17)	(2.35)	(2.32)	(2.30)	(2.35)
Log of total regional fund	0.037	0.019	0.040	0.024	0.025	0.019	0.030
	(0.064)	(0.064)	(0.064)	(0.066)	(0.067)	(0.064)	(0.066)
PC of 25-64 Tertiary education (levels 5-8)	0.060	0.055	0.061	0.054	0.050	0.055	0.051
	(0.044)	(0.046)	(0.044)	(0.046)	(0.045)	(0.046)	(0.046)
PC of 25-64 Upper secondary and post-secondary	0.066*	0.061	0.064*	0.060	0.063	0.061	0.055
non-tertiary education (levels 3 and 4)	(0.038)	(0.040)	(0.038)	(0.040)	(0.040)	(0.040)	(0.040)
Log of Full-time equivalent R&D personnel	-2.97***	-3.54***	-2.94**	-3.49***	-3.48***	-3.54***	-3.59***
in all sectors	(1.13)	(1.20)	(1.14)	(1.19)	(1.19)	(1.20)	(1.20)
Log of GERD all sectors in EUR million	0.80	1.00	0.66	0.88	0.99	1.00	0.95
	(0.92)	(0.96)	(0.93)	(0.96)	(0.95)	(0.96)	(0.97)
Agglomeration of labour in regional industry	46.9***	40.3**	46.0***	41.1**	37.7**	40.3**	36.5**
relative to region	(17.5)	(18.2)	(17.5)	(18.4)	(18.4)	(18.2)	(18.2)
HHI of firm's sales in the regional industry	-0.27*	-0.26*	-0.22	-0.22	-0.28*	-0.26*	-0.22
	(0.14)	(0.14)	(0.14)	(0.14)	(0.15)	(0.14)	(0.14)
Log of foreign-owned total assets in RS as FDI stock	0.014*	0.014*			0.014*	0.014*	
	(0.0080)	(0.0082)			(0.0081)	(0.0082)	
Number of M&A deals in RS	-0.17***		-0.17***				
	(0.047)		(0.048)				
Log Number of GF or BF projects in RS	0.067			0.061			
	(0.062)			(0.061)			
Log of USD value of all completed projects GF					0.0100**		
and BF in RS					(0.0047)		
Log value of M&A deals in RS					-0.0061		-0.0067
					(0.0055)		(0.0054)
Constant	-60.5***	-54.2**	-57.7**	-55.0**	-54.9**	-54.2**	-52.9**
	(22.7)	(23.7)	(22.7)	(24.0)	(23.8)	(23.7)	(23.9)
Observations	1634	1634	1634	1634	1634	1634	1634
Pseudo R-squared	0.773	0.771	0.773	0.771	0.772	0.771	0.771
AIC	7402.7	7464.9	7415.7	7476.6	7449.5	7464.9	7472.3



Table 6 / Results of the econometric analysis for the FDI spillovers, for regional sectors, for all published patents (including non-granted)

1 2 3 4 5 6 7

	1	2	3	4	5	6	7
Log Number of non-environmental patents	-0.056**	-0.057**	-0.058**	-0.056**	-0.059**	-0.057**	-0.058**
published by foreign GUO investing in RS	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)	(0.025)
Log Number of environmental patents published	0.023	0.021	0.022	0.022	0.020	0.021	0.021
by foreign GUO investing in RS	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)	(0.019)
Log VA productivity in number of employees	-0.49*	-0.49*	-0.48*	-0.50**	-0.49*	-0.49*	-0.49*
in thousands	(0.25)	(0.25)	(0.25)	(0.25)	(0.25)	(0.25)	(0.25)
Log Real capital to labour ratio	0.60***	0.65***	0.60***	0.64***	0.64***	0.65***	0.64***
	(0.20)	(0.18)	(0.20)	(0.18)	(0.18)	(0.18)	(0.18)
Log of wage in RS	-0.19	-0.19	-0.19	-0.19	-0.18	-0.19	-0.18
	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)
Log of GDP per capita in region in EUR	0.064	0.11	0.15	0.025	0.11	0.11	0.099
	(1.10)	(1.10)	(1.10)	(1.10)	(1.09)	(1.10)	(1.10)
Log of total regional fund	-0.040	-0.038	-0.040	-0.038	-0.038	-0.038	-0.039
	(0.034)	(0.035)	(0.034)	(0.034)	(0.035)	(0.035)	(0.034)
PC of 25-64 Tertiary education (levels 5-8)	0.024	0.024	0.023	0.025	0.025	0.024	0.025
	(0.022)	(0.021)	(0.021)	(0.022)	(0.022)	(0.021)	(0.022)
PC of 25-64 Upper secondary and post-	0.0041	0.0048	0.0043	0.0046	0.0068	0.0048	0.0060
secondary non-tertiary education (levels 3 and 4)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)	(0.020)
Log of Full-time equivalent R&D personnel in	0.099	0.14	0.093	0.15	0.20	0.14	0.18
all sectors	(0.63)	(0.63)	(0.63)	(0.63)	(0.63)	(0.63)	(0.64)
Log of GERD all sectors in EUR million	0.13	0.14	0.15	0.12	0.099	0.14	0.11
	(0.49)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)	(0.50)
Agglomeration of labour in regional industry	49.5***	51.1***	50.3***	50.3***	52.1***	51.1***	51.9***
relative to region	(8.95)	(9.20)	(9.25)	(8.76)	(9.28)	(9.20)	(9.17)
HHI of firm's sales in the regional industry	0.028	0.025	0.024	0.029	0.025	0.025	0.028
	(0.068)	(0.068)	(0.065)	(0.065)	(0.068)	(0.068)	(0.065)
Log of foreign-owned total assets in RS as	-0.00022	0.00017			0.00032	0.00017	
FDI stock	(0.0038)	(0.0038)			(0.0038)	(0.0038)	
Number of M&A deals in RS	0.032		0.033				
	(0.028)		(0.027)				
Log Number of GF or BF projects in RS	-0.038			-0.040			
	(0.039)			(0.039)			
Log of USD value of all completed projects					0.0019		
GF and BF in RS					(0.0031)		
Log value of M&A deals in RS					0.0027		0.0027
					(0.0026)		(0.0026)
Constant	1.79	-0.038	0.63	1.20	-0.37	-0.038	-0.0010
	(10.5)	(10.6)	(10.6)	(10.5)	(10.5)	(10.6)	(10.6)
Observations	3234	3234	3234	3234	3234	3234	3234
Pseudo R-squared	0.927	0.927	0.927	0.927	0.927	0.927	0.927 (
AIC	26271.4	26315.6	26285.1	26295.8	26294.8	26315.6	26297.3



Table 7 / Results of the econometric analysis for FDI spillovers, for regional sectors, for granted environmental patents

	1	2	3	4	5	6	7
Log Number of granted non-environmental patents	-0.12*	-0.13*	-0.13*	-0.13*	-0.13*	-0.13*	-0.13*
by GUOs investing in RS	(0.072)	(0.072)	(0.072)	(0.072)	(0.072)	(0.072)	(0.072)
Log Number of granted environmental patents	0.30***	0.31***	0.30***	0.31***	0.31***	0.31***	0.31***
by GUOs investing in RS	(0.074)	(0.074)	(0.073)	(0.073)	(0.073)	(0.074)	(0.073)
Log VA productivity in number of employees	0.75	0.77	0.75	0.77	0.76	0.77	0.76
in thousands	(0.90)	(0.91)	(0.90)	(0.91)	(0.92)	(0.91)	(0.92)
Log Real capital to labour ratio	0.70	0.47	0.70	0.47	0.46	0.47	0.47
	(0.50)	(0.48)	(0.49)	(0.48)	(0.48)	(0.48)	(0.48)
Log of wage in RS	0.67	0.67	0.68	0.68	0.68	0.67	0.68
	(0.66)	(0.66)	(0.66)	(0.67)	(0.66)	(0.66)	(0.67)
Log of GDP per capita in region in EUR	4.19	4.44	4.19	4.43	4.42	4.44	4.42
	(3.38)	(3.45)	(3.36)	(3.46)	(3.44)	(3.45)	(3.45)
Log of total regional fund	0.074	0.066	0.074	0.066	0.063	0.066	0.062
	(0.085)	(0.084)	(0.084)	(0.084)	(0.085)	(0.084)	(0.085)
PC of 25-64 Tertiary education (levels 5-8)	0.041	0.038	0.041	0.038	0.039	0.038	0.039
	(0.054)	(0.055)	(0.054)	(0.055)	(0.055)	(0.055)	(0.055)
PC of 25-64 Upper secondary and post-secondary	0.064	0.062	0.064	0.062	0.063	0.062	0.064
non-tertiary education (levels 3 and 4)	(0.047)	(0.048)	(0.047)	(0.048)	(0.048)	(0.048)	(0.048)
Log of Full-time equivalent R&D personnel	-1.69	-2.02	-1.70	-2.02	-2.00	-2.02	-1.99
in all sectors	(1.45)	(1.50)	(1.45)	(1.49)	(1.50)	(1.50)	(1.49)
Log of GERD all sectors in EUR million	0.10	0.24	0.12	0.24	0.22	0.24	0.23
	(1.06)	(1.08)	(1.06)	(1.08)	(1.08)	(1.08)	(1.08)
Agglomeration of labour in regional industry	43.3*	39.1	43.3*	39.1	40.5	39.1	40.8
relative to region	(26.2)	(26.2)	(26.2)	(26.1)	(26.3)	(26.2)	(26.4)
HHI of firm's sales in the regional industry	0.12	0.12	0.12	0.12	0.13	0.12	0.12
	(0.21)	(0.21)	(0.21)	(0.21)	(0.21)	(0.21)	(0.21)
Log of foreign-owned total assets in RS as FDI stock	-0.0018	-0.0015			-0.0013	-0.0015	
	(0.011)	(0.011)			(0.011)	(0.011)	
Number of M&A deals in RS	-0.087		-0.087				
	(0.054)		(0.054)				
Log Number of GF or BF projects in RS	-0.0033			-0.0036			
	(0.099)			(0.10)			
Log of USD value of all completed projects GF					-0.0016		
and BF in RS					(0.0077)		
Log value of M&A deals in RS					0.0028		0.0029
					(0.0066)		(0.0066)
Constant	-62.7**	-60.4*	-63.0**	-60.4*	-60.3*	-60.4*	-60.6*
	(31.9)	(32.2)	(31.7)	(32.5)	(32.2)	(32.2)	(32.3)
Observations	1435	1435	1435	1435	1435	1435	1435
Pseudo R-squared	0.670	0.670	0.670	0.670	0.670	0.670	0.670
AIC	3975.7	3977.5	3971.8	3977.5	3980.9	3977.5	3977.1



Table 8 / Results of the econometric analysis for FDI spillovers, for regional sectors, for published environmental patents (including non-granted)

	1	2	3	4	5	6	7
Log Number of non-environmental patents published	-0.052	-0.056	-0.049	-0.056	-0.059	-0.056	-0.053
by foreign GUO investing in RS	(0.046)	(0.046)	(0.047)	(0.046)	(0.046)	(0.046)	(0.046)
Log Number of environmental patents published	0.18***	0.20***	0.18***	0.19***	0.19***	0.20***	0.20***
by foreign GUO investing in RS	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)
Log VA productivity in number of employees in thousands	-0.17	-0.16	-0.16	-0.13	-0.12	-0.16	-0.12
	(0.60)	(0.63)	(0.61)	(0.63)	(0.61)	(0.63)	(0.62)
Log Real capital to labour ratio	1.38***	0.96**	1.31***	0.92**	0.98**	0.96**	0.92**
	(0.36)	(0.39)	(0.37)	(0.41)	(0.39)	(0.39)	(0.41)
Log of wage in RS	0.42	0.41	0.31	0.30	0.38	0.41	0.29
	(0.53)	(0.54)	(0.52)	(0.53)	(0.54)	(0.54)	(0.53)
Log of GDP per capita in region in EUR	4.97**	5.30**	5.05**	5.55**	5.25**	5.30**	5.49**
	(2.16)	(2.30)	(2.19)	(2.34)	(2.31)	(2.30)	(2.34)
Log of total regional fund	0.028	0.0094	0.030	0.014	0.016	0.0094	0.021
	(0.064)	(0.065)	(0.064)	(0.066)	(0.067)	(0.065)	(0.066)
PC of 25-64 Tertiary education (levels 5-8)	0.062	0.058	0.062	0.056	0.052	0.058	0.053
	(0.045)	(0.046)	(0.045)	(0.046)	(0.046)	(0.046)	(0.046)
PC of 25-64 Upper secondary and post-secondary	0.062*	0.057	0.059	0.056	0.058	0.057	0.049
non-tertiary education (levels 3 and 4)	(0.038)	(0.040)	(0.038)	(0.039)	(0.039)	(0.040)	(0.040)
Log of Full-time equivalent R&D personnel in all sectors	-2.94***	-3.49***	-2.91**	-3.43***	-3.45***	-3.49***	-3.55***
	(1.14)	(1.21)	(1.15)	(1.20)	(1.21)	(1.21)	(1.21)
Log of GERD all sectors in EUR million	0.95	1.16	0.81	1.04	1.17	1.16	1.12
	(0.89)	(0.93)	(0.90)	(0.93)	(0.92)	(0.93)	(0.94)
Agglomeration of labour in regional industry relative	47.0***	40.8**	46.1***	41.5**	37.5**	40.8**	36.2**
to region	(17.2)	(17.8)	(17.2)	(18.0)	(17.9)	(17.8)	(17.8)
HHI of firm's sales in the regional industry	-0.28**	-0.27*	-0.24*	-0.24*	-0.30**	-0.27*	-0.24*
	(0.14)	(0.14)	(0.14)	(0.14)	(0.15)	(0.14)	(0.14)
Log of foreign-owned total assets in RS as FDI stock	0.013*	0.012			0.013	0.012	
	(0.0076)	(0.0078)			(0.0078)	(0.0078)	
Number of M&A deals in RS	-0.16***		-0.16***				
	(0.047)		(0.048)				
Log Number of GF or BF projects in RS	0.061			0.054			
	(0.061)			(0.060)			
Log of USD value of all completed projects GF and					0.0091*		
BF in RS					(0.0047)		
Log value of M&A deals in RS					-0.0072		-0.0077
					(0.0053)		(0.0053)
Constant	-59.4***	-53.3**	-57.1**	-54.0**	-53.5**	-53.3**	-52.4**
	(22.7)	(23.6)	(22.8)	(23.9)	(23.6)	(23.6)	(23.7)
Observations	1634	1634	1634	1634	1634	1634	1634
Pseudo R-squared	0.774	0.772	0.774	0.772	0.773	0.772	0.772 (
AIC	7373.7	7430.8	7384.1	7440.5	7415.3	7430.8	7433.3



Table 8 / Results of the econometric analysis for FDI spillovers, for regional sectors, for published environmental patents (including non-granted)

	1	2	3	4	5	6	7
Log Number of non-environmental patents published	-0.052	-0.056	-0.049	-0.056	-0.059	-0.056	-0.053
by foreign GUO investing in RS	(0.046)	(0.046)	(0.047)	(0.046)	(0.046)	(0.046)	(0.046)
Log Number of environmental patents published	0.18***	0.20***	0.18***	0.19***	0.19***	0.20***	0.20***
by foreign GUO investing in RS	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)	(0.059)
Log VA productivity in number of employees in thousands	-0.17	-0.16	-0.16	-0.13	-0.12	-0.16	-0.12
	(0.60)	(0.63)	(0.61)	(0.63)	(0.61)	(0.63)	(0.62)
Log Real capital to labour ratio	1.38***	0.96**	1.31***	0.92**	0.98**	0.96**	0.92**
	(0.36)	(0.39)	(0.37)	(0.41)	(0.39)	(0.39)	(0.41)
Log of wage in RS	0.42	0.41	0.31	0.30	0.38	0.41	0.29
	(0.53)	(0.54)	(0.52)	(0.53)	(0.54)	(0.54)	(0.53)
Log of GDP per capita in region in EUR	4.97**	5.30**	5.05**	5.55**	5.25**	5.30**	5.49**
	(2.16)	(2.30)	(2.19)	(2.34)	(2.31)	(2.30)	(2.34)
Log of total regional fund	0.028	0.0094	0.030	0.014	0.016	0.0094	0.021
	(0.064)	(0.065)	(0.064)	(0.066)	(0.067)	(0.065)	(0.066)
PC of 25-64 Tertiary education (levels 5-8)	0.062	0.058	0.062	0.056	0.052	0.058	0.053
	(0.045)	(0.046)	(0.045)	(0.046)	(0.046)	(0.046)	(0.046)
PC of 25-64 Upper secondary and post-secondary	0.062*	0.057	0.059	0.056	0.058	0.057	0.049
non-tertiary education (levels 3 and 4)	(0.038)	(0.040)	(0.038)	(0.039)	(0.039)	(0.040)	(0.040)
Log of Full-time equivalent R&D personnel in all sectors	-2.94***	-3.49***	-2.91**	-3.43***	-3.45***	-3.49***	-3.55***
	(1.14)	(1.21)	(1.15)	(1.20)	(1.21)	(1.21)	(1.21)
Log of GERD all sectors in EUR million	0.95	1.16	0.81	1.04	1.17	1.16	1.12
	(0.89)	(0.93)	(0.90)	(0.93)	(0.92)	(0.93)	(0.94)
Agglomeration of labour in regional industry relative	47.0***	40.8**	46.1***	41.5**	37.5**	40.8**	36.2**
to region	(17.2)	(17.8)	(17.2)	(18.0)	(17.9)	(17.8)	(17.8)
HHI of firm's sales in the regional industry	-0.28**	-0.27*	-0.24*	-0.24*	-0.30**	-0.27*	-0.24*
	(0.14)	(0.14)	(0.14)	(0.14)	(0.15)	(0.14)	(0.14)
Log of foreign-owned total assets in RS as FDI stock	0.013*	0.012			0.013	0.012	
	(0.0076)	(0.0078)			(0.0078)	(0.0078)	
Number of M&A deals in RS	-0.16***		-0.16***				
	(0.047)		(0.048)				
Log Number of GF or BF projects in RS	0.061			0.054			
	(0.061)			(0.060)			
Log of USD value of all completed projects GF and					0.0091*		
BF in RS					(0.0047)		
Log value of M&A deals in RS					-0.0072		-0.0077
					(0.0053)		(0.0053)
Constant	-59.4***	-53.3**	-57.1**	-54.0**	-53.5**	-53.3**	-52.4**
	(22.7)	(23.6)	(22.8)	(23.9)	(23.6)	(23.6)	(23.7)
Observations	1634	1634	1634	1634	1634	1634	1634
Pseudo R-squared	0.774	0.772	0.774	0.772	0.773	0.772	0.772 (
AIC	7373.7	7430.8	7384.1	7440.5	7415.3	7430.8	7433.3



Table 9 / Results of the econometric analysis for FDI spillovers, for labour productivity of domestically owned firms

J	1	2	3	4	5	6	7
Log total assets of domestically-owned	-0.040	-0.042	-0.042	-0.041	-0.040	-0.042	-0.041
firms	(0.039)	(0.040)	(0.040)	(0.040)	(0.040)	(0.040)	(0.041)
Log Number of non-environmental patents	0.057**	0.058**	0.056**	0.061**	0.060**	0.058**	0.060**
published by foreign-owned firms in RS	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
Log Number of environmental patents	0.0076	0.0013	-0.0040	0.010	-0.0032	0.0013	-0.0071
published by foreign-owned firms in RS	(0.032)	(0.031)	(0.030)	(0.033)	(0.029)	(0.031)	(0.029)
Log Number of non-environmental patents	-0.035	-0.022	-0.024	-0.030	-0.031	-0.022	-0.026
published by foreign GUO investing in RS	(0.039)	(0.038)	(0.038)	(0.040)	(0.040)	(0.038)	(0.039)
Log Number of environmental patents	-0.055	-0.062	-0.056	-0.061	-0.065	-0.062	-0.065
published by foreign GUO investing in RS	(0.050)	(0.049)	(0.050)	(0.049)	(0.049)	(0.049)	(0.049)
Log VA productivity in number of employees	1.25*	1.20*	1.19*	1.25*	1.18*	1.20*	1.16*
in thousands	(0.71)	(0.70)	(0.71)	(0.72)	(0.70)	(0.70)	(0.70)
Log Real capital to labour ratio	-2.10***	-1.83**	-1.87**	-2.07***	-1.99***	-1.83**	-1.87**
	(0.78)	(0.74)	(0.74)	(0.78)	(0.76)	(0.74)	(0.73)
Log of wage in RS	-0.76	-0.78	-0.77	-0.77	-0.76	-0.78	-0.77
	(0.70)	(0.70)	(0.70)	(0.70)	(0.70)	(0.70)	(0.70)
Log of total regional fund	0.016	0.020	0.022	0.020	0.018	0.020	0.023
ů ů	(0.037)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)	(0.038)
PC of 25-64 Tertiary education (levels 5-8)	-0.0047	-0.0024	-0.0043	-0.0056	-0.0047	-0.0024	-0.0079
• • • •	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)	(0.034)
PC of 25-64 Upper secondary and post-	-0.042	-0.037	-0.042	-0.035	-0.036	-0.037	-0.038
secondary non-tertiary education (levels 3 and 4)	(0.038)	(0.037)	(0.038)	(0.038)	(0.037)	(0.037)	(0.038)
Log of Full-time equivalent R&D personnel	-1.21	-1.38	-1.27	-1.35	-1.34	-1.38	-1.36
in all sectors	(0.97)	(1.03)	(1.01)	(1.01)	(1.00)	(1.03)	(1.03)
Log of GERD all sectors in EUR million	2.99***	3.04***	2.96***	3.09***	3.06***	3.04***	3.04***
	(0.91)	(0.94)	(0.94)	(0.95)	(0.93)	(0.94)	(0.95)
Agglomeration of labour in regional industry	-6.56	-6.91	-8.49	-4.93	-8.32	-6.91	-8.42
relative to region	(15.0)	(15.0)	(14.8)	(15.3)	(15.7)	(15.0)	(15.8)
HHI of firm's sales in the regional industry	0.56	0.59	0.59	0.58	0.57	0.59	0.59
	(0.37)	(0.37)	(0.37)	(0.37)	(0.37)	(0.37)	(0.37)
Log of foreign-owned total assets in RS as	0.034	0.035			0.034	0.035	
FDI stock	(0.027)	(0.027)			(0.027)	(0.027)	
Number of M&A deals in RS	0.071**		0.066**				
	(0.033)		(0.032)				
Log Number of GF or BF projects in RS	0.063			0.053			
, ,	(0.039)			(0.037)			
Log of USD value of all completed projects					0.0032		
GF and BF in RS					(0.0030)		
Log value of M&A deals in RS					-0.0034		-0.0036
					(0.0043)		(0.0044)
Constant	26.7**	25.0*	26.1*	27.3**	26.7**	25.0*	26.7**
	(13.3)	(13.6)	(13.3)	(13.3)	(13.3)	(13.6)	(13.2)
Observations	89523	89523	89523	89523	89523	89523	89523
Pseudo R-squared	0.948	0.947	0.948	0.947	0.948	0.947	0.947
·	1 32221e+10	1 32913e+10	1 32675e+10	1.32897e+10	1.32696e+10	1 32913e+10	1 32972e+1



Table 10 / Results of the econometric analysis for FDI spillovers, for employment of domestically owned firms

	1	2	3	4	5	6	7
Log total assets of domestically-owned firm	0.22***	0.22***	0.22***	0.22***	0.22***	0.22***	0.22***
	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)	(0.017)
Log Number of non-environmental patents published	-0.014	-0.015	-0.014	-0.015	-0.015	-0.015	-0.014
by foreign-owned firms in RS	(0.0091)	(0.0095)	(0.0091)	(0.0095)	(0.0095)	(0.0095)	(0.0095
Log Number of environmental patents published	-0.0040	-0.0029	-0.0029	-0.0039	-0.0030	-0.0029	-0.0029
by foreign-owned firms in RS	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Log Number of non-environmental patents published	-0.0067	-0.0078	-0.0081	-0.0070	-0.0068	-0.0078	-0.0080
by foreign GUO investing in RS	(0.0051)	(0.0052)	(0.0051)	(0.0051)	(0.0051)	(0.0052)	(0.0051
Log Number of environmental patents published	0.0030	0.0019	0.0018	0.0026	0.0023	0.0019	0.0016
by foreign GUO investing in RS	(0.0052)	(0.0052)	(0.0052)	(0.0052)	(0.0052)	(0.0052)	(0.0052
Log VA productivity in number of employees in thousands	-0.35***	-0.32***	-0.33***	-0.35***	-0.34***	-0.32***	-0.33**
	(0.081)	(0.077)	(0.077)	(0.078)	(0.078)	(0.077)	(0.076)
Log Real capital to labour ratio	0.10	0.042	0.048	0.098	0.10	0.042	0.043
3	(0.098)	(0.088)	(0.091)	(0.095)	(0.094)	(0.088)	(0.088)
Log of wage in RS	-0.24	-0.24	-0.23	-0.23	-0.25	-0.24	-0.23
	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)
Log of GDP per capita in region in EUR	1.50***	1.56***	1.64***	1.58***	1.49***	1.56***	1.64***
3	(0.39)	(0.39)	(0.39)	(0.39)	(0.38)	(0.39)	(0.39)
Log of total regional fund	0.013*	0.012*	0.013*	0.013*	0.014**	0.012*	0.013*
	(0.0069)	(0.0070)	(0.0070)	(0.0070)	(0.0068)	(0.0070)	(0.0069
PC of 25-64 Tertiary education (levels 5-8)	-0.0033	-0.0033	-0.0041	-0.0048	-0.0043	-0.0033	-0.0044
( ,	(0.0067)	(0.0066)	(0.0067)	(0.0066)	(0.0066)	(0.0066)	(0.0066
PC of 25-64 Upper secondary and post-secondary	0.0060	0.0062	0.0056	0.0045	0.0052	0.0062	0.0051
non-tertiary education (levels 3 and 4)	(0.0052)	(0.0051)	(0.0054)	(0.0051)	(0.0050)	(0.0051)	(0.0052
Log of Full-time equivalent R&D personnel in all sectors	-0.52**	-0.53**	-0.56**	-0.55**	-0.52**	-0.53**	-0.56**
	(0.22)	(0.22)	(0.23)	(0.23)	(0.22)	(0.22)	(0.23)
Log of GERD all sectors in EUR million	-0.056	-0.028	-0.046	-0.064	-0.045	-0.028	-0.041
•	(0.083)	(0.083)	(0.083)	(0.083)	(0.082)	(0.083)	(0.083)
Agglomeration of labour in regional industry relative to region	4.52**	4.38**	4.50**	4.15*	4.65**	4.38**	4.29**
	(2.07)	(2.12)	(2.09)	(2.14)	(2.10)	(2.12)	(2.15)
HHI of firm's sales in the regional industry	-0.053	-0.055	-0.066	-0.062	-0.050	-0.055	-0.064
,	(0.087)	(0.088)	(0.089)	(0.089)	(0.088)	(0.088)	(0.089)
Log of foreign-owned total assets in RS as FDI stock	0.010***	0.011***			0.010***	0.011***	
	(0.0034)	(0.0034)			(0.0034)	(0.0034)	
Number of M&A deals in RS	-0.010		-0.0099	•			
	(0.011)		(0.011)				
Log Number of GF or BF projects in RS	-0.025**		,	-0.026**			
, ,	(0.011)			(0.011)			
Log of USD value of all completed projects GF and BF in RS					-0.0025**		
					(0.0010)		
Log value of M&A deals in RS					-0.00017		-0.0003
					(0.0012)		(0.0011
Constant	-5.56	-5.93*	-6.13*	-5.72*	-5.41	-5.93*	-6.08*
	(3.46)	(3.47)	(3.48)	(3.47)	(3.37)	(3.47)	(3.43)
Observations	274658	274658	274658	274658	274658	274658	274658
Pseudo R-squared	0.937	0.937	0.937	0.937	0.937	0.937	0.937
AIC	1563719.0	1564304.2	1564774.5	1564357.5	1563576.7	1564304.2	1564862



Table 11 / Results of the econometric analysis for FDI spillovers, for domestic firms, for granted patents of all types

	1	2	3	4	5	6	7
Log total assets of domestically-owned firm	0.41***	0.41***	0.42***	0.42***	0.41***	0.41***	0.42***
	(0.067)	(0.067)	(0.071)	(0.071)	(0.067)	(0.067)	(0.071)
Log Number of granted non-environmental patents	0.078***	0.084***	0.085***	0.088***	0.083***	0.084***	0.087**
by foreign-owned firms in RS	(0.029)	(0.029)	(0.030)	(0.029)	(0.029)	(0.029)	(0.029)
Log granted environmental patents published	-0.059	-0.057	-0.055	-0.057	-0.055	-0.057	-0.053
by foreign-owned firms in RS	(0.037)	(0.037)	(0.037)	(0.037)	(0.038)	(0.037)	(0.038)
Log Number of granted non-environmental patents	-0.070	-0.070	-0.072	-0.073	-0.070	-0.070	-0.072
by GUOs investing in RS	(0.047)	(0.047)	(0.048)	(0.048)	(0.047)	(0.047)	(0.048)
Log Number of granted environmental patents	0.047	0.048	0.050	0.053	0.048	0.048	0.052
by GUOs investing in RS	(0.040)	(0.041)	(0.040)	(0.040)	(0.040)	(0.041)	(0.041)
Log VA productivity in number of employees in thousands	0.14	0.11	0.35	0.33	0.12	0.11	0.33
	(0.47)	(0.47)	(0.46)	(0.46)	(0.47)	(0.47)	(0.47)
Log Real capital to labour ratio	0.24	0.31	0.29	0.32	0.31	0.31	0.34
	(0.42)	(0.42)	(0.45)	(0.44)	(0.41)	(0.42)	(0.44)
Log of wage in RS	-0.36	-0.34	-0.36	-0.38	-0.34	-0.34	-0.36
	(0.31)	(0.31)	(0.33)	(0.33)	(0.31)	(0.31)	(0.33)
Log of GDP per capita in region in EUR	0.34	0.39	0.17	-0.0047	0.40	0.39	0.091
	(1.66)	(1.65)	(1.65)	(1.64)	(1.65)	(1.65)	(1.65)
Log of total regional fund	-0.078	-0.078	-0.079	-0.075	-0.079	-0.078	-0.078
	(0.053)	(0.055)	(0.054)	(0.054)	(0.055)	(0.055)	(0.055)
PC of 25-64 Tertiary education (levels 5-8)	0.055	0.055	0.048	0.050	0.055	0.055	0.049
	(0.034)	(0.033)	(0.034)	(0.034)	(0.034)	(0.033)	(0.034)
PC of 25-64 Upper secondary and post-secondary	0.0058	0.0064	0.00034	0.0012	0.0070	0.0064	0.0020
non-tertiary education (levels 3 and 4)	(0.031)	(0.031)	(0.032)	(0.032)	(0.031)	(0.031)	(0.032)
Log of Full-time equivalent R&D personnel in all sectors	1.49*	1.56*	1.41	1.55*	1.57*	1.56*	1.54*
	(0.88)	(0.87)	(0.89)	(0.89)	(0.87)	(0.87)	(0.89)
Log of GERD all sectors in EUR million	0.091	0.079	0.28	0.20	0.076	0.079	0.23
	(0.76)	(0.75)	(0.76)	(0.76)	(0.75)	(0.75)	(0.76)
Agglomeration of labour in regional industry relative to region	18.5	19.6	19.0	18.9	20.0	19.6	20.0
	(13.0)	(13.2)	(13.7)	(13.5)	(13.2)	(13.2)	(13.8)
HHI of firm's sales in the regional industry	0.26*	0.24	0.40**	0.41**	0.24	0.24	0.40**
	(0.15)	(0.16)	(0.18)	(0.18)	(0.16)	(0.16)	(0.18)
Log of foreign-owned total assets in RS as FDI stock	-0.038**	-0.038**			-0.038**	-0.038**	
	(0.016)	(0.016)			(0.016)	(0.016)	
Number of M&A deals in RS	0.031		0.030				
	(0.038)		(0.038)				
Log Number of GF or BF projects in RS	-0.042			-0.043			
	(0.050)			(0.048)			
Log of USD value of all completed projects GF and BF in RS					0.00073		
			***************************************		(0.0041)		
Log value of M&A deals in RS					0.00099		0.0015
		•			(0.0032)		(0.0032
Constant	-24.8	-26.6	-27.1	-26.0	-26.9	-26.6	-27.6
	(17.9)	(18.1)	(18.2)	(18.1)	(18.1)	(18.1)	(18.3)
Observations	11854	11854	11854	11854	11854	11854	11854
Pseudo R-squared	0.772	0.772	0.771	0.771	0.772	0.772	0.771
AIC	27543.9	27549.5	27634.2	27633.7	27552.9	27549.5	27637.



Table 12 / Results of the econometric analysis for FDI spill-overs, for domestic companies, for published patents of all types (including non-granted)

	1	2	3	4	5	6	7
Log total assets of domestically-owned firm	0.30***	0.30***	0.30***	0.30***	0.30***	0.30***	0.30***
	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)	(0.041)
Log Number of non-environmental patents	0.076***	0.076***	0.080***	0.081***	0.076***	0.076***	0.080**
published by foreign-owned firms in RS	(0.024)	(0.024)	(0.024)	(0.024)	(0.023)	(0.024)	(0.024)
Log Number of environmental patents published	-0.017	-0.018	-0.021	-0.020	-0.017	-0.018	-0.021
by foreign-owned firms in RS	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)
Log Number of non-environmental patents	-0.027	-0.028	-0.030	-0.028	-0.028	-0.028	-0.030
published by foreign GUO investing in RS	(0.032)	(0.032)	(0.031)	(0.031)	(0.032)	(0.032)	(0.031)
Log Number of environmental patents published	-0.030	-0.031	-0.033	-0.032	-0.031	-0.031	-0.033
by foreign GUO investing in RS	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)	(0.027)
Log VA productivity in number of employees	0.35	0.34	0.46	0.47	0.34	0.34	0.46
in thousands	(0.34)	(0.34)	(0.33)	(0.33)	(0.34)	(0.34)	(0.33)
Log Real capital to labour ratio	-0.097	-0.085	-0.088	-0.095	-0.087	-0.085	-0.085
	(0.29)	(0.29)	(0.31)	(0.30)	(0.29)	(0.29)	(0.30)
Log of wage in RS	-0.26	-0.25	-0.26	-0.27	-0.25	-0.25	-0.26
	(0.26)	(0.26)	(0.25)	(0.25)	(0.26)	(0.26)	(0.25)
Log of GDP per capita in region in EUR	-2.65*	-2.57*	-2.77**	-2.85**	-2.59*	-2.57*	-2.78**
	(1.36)	(1.34)	(1.38)	(1.35)	(1.34)	(1.34)	(1.35)
Log of total regional fund	-0.077	-0.079	-0.079	-0.077	-0.079	-0.079	-0.079
	(0.048)	(0.049)	(0.049)	(0.048)	(0.048)	(0.049)	(0.049)
PC of 25-64 Tertiary education (levels 5-8)	0.023	0.022	0.019	0.020	0.023	0.022	0.019
	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
PC of 25-64 Upper secondary and post-secondary	0.0018	0.0018	-0.0019	-0.0018	0.0016	0.0018	-0.0016
non-tertiary education (levels 3 and 4)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)	(0.023)
Log of Full-time equivalent R&D personnel	1.72**	1.69**	1.64**	1.68**	1.70**	1.69**	1.66**
in all sectors	(0.67)	(0.66)	(0.67)	(0.66)	(0.66)	(0.66)	(0.66)
Log of GERD all sectors in EUR million	0.21	0.25	0.37	0.33	0.24	0.25	0.36
	(0.55)	(0.55)	(0.54)	(0.54)	(0.55)	(0.55)	(0.54)
Agglomeration of labour in regional industry	11.5	12.2	11.9	11.2	12.1	12.2	12.0
relative to region	(10.3)	(10.5)	(10.6)	(10.4)	(10.5)	(10.5)	(10.7)
HHI of firm's sales in the regional industry	0.28**	0.28**	0.37***	0.37***	0.28**	0.28**	0.37***
	(0.13)	(0.13)	(0.14)	(0.14)	(0.13)	(0.13)	(0.14)
Log of foreign-owned total assets in RS	-0.025**	-0.025**			-0.025**	-0.025**	
as FDI stock	(0.011)	(0.011)			(0.011)	(0.011)	
Number of M&A deals in RS	0.00074		0.0015				
	(0.031)		(0.030)				
Log Number of GF or BF projects in RS	-0.039			-0.037			
	(0.043)			(0.042)		•	
Log of USD value of all completed projects					-0.00092		
GF and BF in RS					(0.0033)	•	
Log value of M&A deals in RS					0.000054		0.00030
					(0.0026)		(0.0026
Constant	10.5	9.56	9.71	10.6	9.74	9.56	9.74
	(14.6)	(14.6)	(14.6)	(14.5)	(14.6)	(14.6)	(14.6)
Observations	13907	13907	13907	13907	13907	13907	13907
Pseudo R-squared	0.838	0.838	0.838	0.838	0.838	0.838	0.838
AIC	46468.7	46473.4	46559.6	46551.9	46476.8	46473.4	46559.€



Table 13 / Results of the econometric analysis for FDI spillovers, for domestic companies, for granted environmental patents

	1	2	3	4	5	6	7
Log total assets of domestically-owned firm	0.094	0.094	0.094	0.10	0.10	0.094	0.098
	(0.082)	(0.077)	(0.079)	(0.084)	(0.084)	(0.077)	(0.079)
Log Number of granted non-environmental patents	0.14**	0.14**	0.13*	0.14**	0.15**	0.14**	0.13*
by foreign-owned firms in RS	(0.069)	(0.069)	(0.070)	(0.069)	(0.069)	(0.069)	(0.070)
Log granted environmental patents published	0.0093	-0.015	-0.017	0.0097	0.0046	-0.015	-0.018
by foreign-owned firms in RS	(0.088)	(0.089)	(0.089)	(0.087)	(0.096)	(0.089)	(0.096)
Log Number of granted non-environmental patents	0.034	0.031	0.029	0.047	0.034	0.031	0.036
by GUOs investing in RS	(0.068)	(0.070)	(0.071)	(0.067)	(0.068)	(0.070)	(0.070)
Log Number of granted environmental patents	0.18*	0.18*	0.18*	0.18*	0.18*	0.18*	0.18*
by GUOs investing in RS	(0.098)	(0.099)	(0.100)	(0.098)	(0.098)	(0.099)	(0.099)
Log VA productivity in number of employees in thousands	-0.60	-0.40	-0.51	-0.60	-0.48	-0.40	-0.45
	(1.15)	(1.22)	(1.23)	(1.15)	(1.17)	(1.22)	(1.22)
Log Real capital to labour ratio	-2.47***	-2.32***	-2.45***	-2.16***	-2.21***	-2.32***	-2.28***
	(0.82)	(0.78)	(0.81)	(0.76)	(0.79)	(0.78)	(0.76)
Log of wage in RS	-0.35	-0.44	-0.42	-0.37	-0.41	-0.44	-0.44
	(0.77)	(0.75)	(0.75)	(0.77)	(0.76)	(0.75)	(0.75)
Log of GDP per capita in region in EUR	3.49	2.44	3.11	3.11	2.61	2.44	2.69
	(4.54)	(4.48)	(4.60)	(4.36)	(4.57)	(4.48)	(4.49)
Log of total regional fund	-0.19**	-0.16	-0.17*	-0.18*	-0.20**	-0.16	-0.16
	(0.097)	(0.10)	(0.10)	(0.099)	(0.099)	(0.10)	(0.10)
PC of 25-64 Tertiary education (levels 5-8)	0.084	0.11	0.10	0.093	0.098	0.11	0.11
	(0.071)	(0.073)	(0.074)	(0.070)	(0.071)	(0.073)	(0.073)
PC of 25-64 Upper secondary and post-secondary	0.13*	0.15**	0.14*	0.14*	0.14**	0.15**	0.15**
non-tertiary education (levels 3 and 4)	(0.074)	(0.072)	(0.075)	(0.072)	(0.073)	(0.072)	(0.072)
Log of Full-time equivalent R&D personnel in all sectors	2.00	2.78	2.32	2.40	2.67	2.78	2.66
	(2.88)	(2.77)	(2.90)	(2.81)	(2.84)	(2.77)	(2.78)
Log of GERD all sectors in EUR million	-0.16	-0.95	-0.69	-0.51	-0.60	-0.95	-0.92
	(1.72)	(1.68)	(1.75)	(1.70)	(1.70)	(1.68)	(1.70)
Agglomeration of labour in regional industry relative to region	-81.0**	-64.7	-61.9	-66.6*	-70.9*	-64.7	-58.5
	(40.3)	(40.5)	(39.8)	(38.0)	(40.7)	(40.5)	(39.9)
HHI of firm's sales in the regional industry	1.26***	1.25***	1.18**	1.14**	1.22***	1.25***	1.17**
	(0.47)	(0.47)	(0.46)	(0.46)	(0.47)	(0.47)	(0.46)
Log of foreign-owned total assets in RS as FDI stock	0.045	0.042			0.040	0.042	
	(0.041)	(0.043)			(0.042)	(0.043)	
Number of M&A deals in RS	0.089		0.060				
	(0.067)		(0.070)				
Log Number of GF or BF projects in RS	0.43***			0.41***			
	(0.13)			(0.13)			
Log of USD value of all completed projects GF and BF in RS					0.032*** (0.012)		
Log value of M&A deals in RS					0.00070		-0.00092
					(0.0088)		(0.0087)
Constant	-21.4	-16.9	-17.7	-22.9	-20.1	-16.9	-18.0
	(38.9)	(40.0)	(40.0)	(38.4)	(39.9)	(40.0)	(40.2)
Observations	1512	1512	1512	1512	1512	1512	1512
Pseudo R-squared	0.661	0.658	0.658	0.660	0.660	0.658	0.658
AIC	2654.5	2674.0	2674.4	2654.7	2660.7	2674.0	2675.5
AIO .	2004.0	2014.0	2014.4	2054.7	2000.7	2014.0	2013.3



Table 14 / Results of the econometric analysis for FDI spillovers, for domestic companies, for published environmental patents (including not granted)

	1	2	3	4	5	6	7
Log total assets of domestically-owned firm	0.22***	0.22***	0.22***	0.22***	0.22***	0.22***	0.22***
	(0.083)	(0.083)	(0.083)	(0.084)	(0.084)	(0.083)	(0.084)
Log Number of non-environmental patents published	0.11**	0.11**	0.11**	0.11**	0.12**	0.11**	0.12**
by foreign-owned firms in RS	(0.050)	(0.051)	(0.050)	(0.051)	(0.050)	(0.051)	(0.051)
Log Number of environmental patents published	-0.039	-0.028	-0.031	-0.033	-0.042	-0.028	-0.029
by foreign-owned firms in RS	(0.055)	(0.054)	(0.054)	(0.054)	(0.054)	(0.054)	(0.053)
Log Number of non-environmental patents published	-0.079	-0.081	-0.074	-0.080	-0.081	-0.081	-0.072
by foreign GUO investing in RS	(0.060)	(0.059)	(0.059)	(0.060)	(0.062)	(0.059)	(0.060)
Log Number of environmental patents published	-0.011	0.00012	-0.0020	-0.0083	-0.0054	0.00012	0.0041
by foreign GUO investing in RS	(0.078)	(0.078)	(0.078)	(0.078)	(0.077)	(0.078)	(0.078)
Log VA productivity in number of employees	0.10	0.091	0.11	0.050	0.087	0.091	0.11
in thousands	(0.85)	(0.86)	(0.85)	(0.85)	(0.82)	(0.86)	(0.82)
Log Real capital to labour ratio	-1.29**	-1.44**	-1.32**	-1.39**	-1.44**	-1.44**	-1.50***
	(0.63)	(0.61)	(0.63)	(0.60)	(0.59)	(0.61)	(0.58)
Log of wage in RS	-0.36	-0.38	-0.38	-0.35	-0.34	-0.38	-0.36
	(0.79)	(0.81)	(0.81)	(0.82)	(0.81)	(0.81)	(0.83)
Log of GDP per capita in region in EUR	1.74	1.91	1.76	2.16	1.88	1.91	2.02
	(3.50)	(3.53)	(3.52)	(3.45)	(3.44)	(3.53)	(3.46)
Log of total regional fund	-0.22***	-0.22***	-0.21**	-0.23***	-0.22***	-0.22***	-0.20**
	(0.085)	(0.085)	(0.085)	(0.085)	(0.084)	(0.085)	(0.085)
PC of 25-64 Tertiary education (levels 5-8)	0.088*	0.089*	0.093*	0.086*	0.071	0.089*	0.074
	(0.051)	(0.051)	(0.051)	(0.051)	(0.052)	(0.051)	(0.052)
PC of 25-64 Upper secondary and post-secondary	0.10*	0.099*	0.10**	0.098*	0.081	0.099*	0.081
non-tertiary education (levels 3 and 4)	(0.053)	(0.053)	(0.053)	(0.052)	(0.055)	(0.053)	(0.055)
Log of Full-time equivalent R&D personnel in all sectors	1.02	0.89	1.12	0.71	0.63	0.89	0.67
	(1.96)	(1.95)	(1.96)	(1.93)	(1.94)	(1.95)	(1.94)
Log of GERD all sectors in EUR million	0.28	0.26	0.066	0.43	0.60	0.26	0.41
	(1.40)	(1.38)	(1.40)	(1.38)	(1.40)	(1.38)	(1.40)
Agglomeration of labour in regional industry relative	-11.1	-12.4	-5.80	-10.4	-22.9	-12.4	-19.5
to region	(31.8)	(31.2)	(30.8)	(30.1)	(31.8)	(31.2)	(31.1)
HHI of firm's sales in the regional industry	0.27	0.28	0.23	0.23	0.24	0.28	0.23
	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)
Log of foreign-owned total assets in RS as FDI stock	0.018	0.017			0.013	0.017	
	(0.024)	(0.023)			(0.024)	(0.023)	
Number of M&A deals in RS	-0.040		-0.049				
	(0.052)		(0.053)				
Log Number of GF or BF projects in RS	0.17**			0.17**			
Land (UCD value of all associated assistance	(0.084)			(0.084)	0.040**		
Log of USD value of all completed projects GF					0.018**		
and BF in RS					(0.0076)	••••••	0.040
Log value of M&A deals in RS					-0.0100 (0.0069)		-0.010 (0.0070)
Constant	-17.9	-16.1	_17 1	-18.3	-14.4	-16.1	
Constant	(34.6)	(35.3)	-17.1 (35.0)	(34.7)	(34.2)	(35.3)	-14.5 (34.7)
Observations		2013		2013			2013
Observations  Paguage R. aguared	2013		2013		2013	2013	
Pseudo R-squared	0.737	0.736	0.736	0.736	0.737	0.736	0.736
AIC	5711.4	5717.5	5716.4	5709.9	5702.4	5717.5	5711.2