Appendix A

Table A1. Main results of previous literature on SF effects applying methods of cross sectional / panel data

Research by	Covered period	Units	Econometric method applied	Outcome variable	Main result
Cappelen et al. (2003)	1980-1997, 1980-1988, 1989-1997	105 EU 9 NUTS 1 and NUTS 2 regions	OLS	Economic growth	Significant and positive impact on economic growth
Puigcerver-Peñalver (2004)	1989-1993 1994-1999	EU-15 countries 41 NUTS 2 regions	OLS	Economic growth	Positive impact on economic growth, but stronger effect detected in first period.
Rodríguez-Pose and Fratesi (2004)	1989-1993 1994-1999	EU 8 regions NUTS 2	OLS/pooled GLS/LSDV	Economic growth	Very weak but positive and significant impact on economic growth
Beugelsdijk and Eijffinger (2005)	1989-1993 1994-1999	EU-15 countries Country-level	One- and two step GMM	Convergence and regional growth	Positive impact on convergence and economic growth, but impact is different regarding institutional quality.
Bouvet (2005)	1975–1999	111 NUTS-1/2 regions (EU-8)	Pooled OLS, FE, IV	Economic growth	Positive impact on regional economic growth
Ederveen et al. (2006)	seven five-year periods from 1960–1995	13 EU countries Country-level	pooled OLS, GMM	Economic growth	Positive impact on economic growth in regions with "right" institutions
Soukiazis and Antunes (2006)	1991 – 2000	30 regions NUTS 3 in Portugal	pooled OLS estimation, the fixed effect method, the random effect GLS	Economic growth	Positive impact on economic growth but the marginal impact is not so substantial.
Puigcerver-Peñalver (2007)	1989-1999, 1989-1993	41 NUTS2 regions (EU10)	Pooled OLS, FE	Economic growth	Positive impact on economic growth, although its impact was stronger during 1989-93.
Bahr (2008)	1975–1980 1990–1995	13 EU countries	Pooled OLS	Economic growth	Negative impact on economic growth
Kyriacou, Roca-Sagalés (2012)	1994-1999 and 2000-2006	14 EU countries Country-level	Feasible General Least Squares (FGLS), Seemingly Unrelated Regression (SUR)	Convergence	Positive impact on convergence, which depends on the level of transfer intensity.
Rodríguez-Pose and Novak (2013)	1994–1999 and 2000–2006	133 (EU15) NUTS-1/NUTS-2 regions	heteroscedasticity-robust fixed effects	Economic growth	Impact of SF on economic growth is insignificant
Pihno et al. (2015)	1995 – 1999, 2000 – 2006 and 2007 – 2009	92 EU 12 NUTS 1 and NUTS 2 regions	growth model by FE with Driscoll and Kraay's correction	Economic growth	Positive impact on economic growth in richer, highly-educated and more innovative regions.
Rodríguez-Pose and Garcilazo (2015)	1996–2007	169 European NUTS-1/NUTS-2 regions	two-way fixed effect panel regression model	Economic growth	Positive impact on regional economic growth, but that above a threshold of cohesion expenditure.
Piętak (2018)	1989–2016	17 Spanish NUTS 2 regions	The first difference GMM method	Economic growth and convergence	Positive but insignificant impact on economic growth and convergence in Spanish regions over analysed period.

Table A2. Main results of previous literature on SF effects applying methods of spatial econometrics

Research by	Covered period	Units	Econometric method applied	Outcome variable	Main result
Dall'erba and Le Gallo (2004)	1989-1999	145 NUTS-2 regions (EU-12)	Spatial weight matrices, OLS estimation of the absolute β - conditional convergence model; GL, GMM estimator	Economic and employment growth	There is no significant impact on economic or employment growth. In some cases, the impact of individual funds (Obj. 1, 3 and 4) has been statistically significant, but pretty low or, sometimes negative.
Dall'erba and Le Gallo (2008)	1989-1999	145 NUTS-2 regions of (EU-12)	Spatial lag model with IV	Economic growth	Positive impact on economic growth, but spillover effects are very small in peripheral regions.
Falk and Sinabell (2009)	1995-2004	1084 NUTS-3 regions (EU-15)	Spatial econometrics, pooled OLS, median regression approach, weighted least squares	Economic growth	Positive and significant impact on economic growth
Mohl and Hagen (2008)	1995-2005	124 NUTS-1 / NUTS-2 regions	Panel: Least Square Dummy Variable estimator (LSDV), GMM, spatial correlation	Economic growth	Positive and significant impact on economic growth. Obj. 2 and 3 payments impact is negative.
Dall'Erba et al. (2009)	1989- 1999	145 NUTS-2 regions (EU 12)	OLS estimation	Productivity growth	Significant, but always negative and very small impact on productivity growth
Mohl and Hagen (2010)	2000-2006	126 NUTS-1/ NUTS-2 regions (EU-6)	Spatial econometric estimator, GMM estimator	Economic growth	Positive and statistically significant impact on the economic growth. Regional spillovers have a significant impact on the regional growth rates irrespective of which Objective and time lag is analysed.
Le Gallo et al. (2011)	1989-1999	145 NUTS-2 regions (EU-12)	Cross-section: Spatial lag model with global and local Bayesian spatial method (MCMC)	Economic growth	Weak impact on the economic growth, but local impact is very diverse, with a positive influence on the growth of British, Greek, and southern Italian regions.
Fratesi and Perucca (2014)	2006-2010	108 NUTS-3 regions of CEE	Cross section regression model, OLS, spatial regression model	Economic growth	The impact on economic growth depends on the type and amount of territorial capital accumulated by the region. The greater impact manifests in regions more endowed with territorial capital.
Bouayad-Agha et al. (2013)	1980-2005	143 EU-14-NUTS-1/NUTS-2 regions	GMM estimator	Economic growth	Positive impact on economic growth, especially Objective 1 programmes

Table A3. Main results of previous literature on SF effects applying quasi-experimental methodology

Research by	Covered period	Units	Econometric method applied	Outcome variable	Main result
Garcia-Milà and McGuire (2001)	1977-1981, 1989-1992	17 NUTS-2 regions of Spain	Panel: OLS and difference-indifference	Economic growth	Grants are not effective in stimulating private investment or improving the overall economies of the poorer regions.
Bussoletti and Esposti (2004)	1989-2000	206 NUTS-2 regions of EU-15	Panel: DIFF-GMM, SYS-GMM	Economic growth	The impact of the Obj. 1 policy on growth depends on the proxy used. An increase of the employment share on agriculture reduces the effect of SF payments.
Esposti and Bussoletti (2008)	1989-1999	206 NUTS-2 regions (EU-15)	Panel: DIFF-GMM, SYS-GMM	Economic growth	Positive impact on economic growth, but it is quite limited for the whole EU. In some regions or groups, it has a negligible or even negative effect.
Becker et al. (2010)	1989-1993, 1994-1999, 2000-2006	NUTS2 (193-285) and NUTS3 (1015-1213) regions (EU-25)	Cross sectional and panel: difference-in-difference regression discontinuity design (DID-RDD)	Economic and employment growth	Small and positive impact on economic growth, which is robust to period choice and estimation methods, applied. The significant positive effect on employment appears only in the 2000-2006 programming period.
Becker et al. (2013)	1989-1993, 1994-1999, 2000-2006	186-251 NUTS 2 regions (EU-25)	Cross sectional: a fuzzy regression discontinuity design (RDD)+HLATE	Economic growth	Positive impact on economic growth only on about 30% of the regions. While the treatment effect is insignificant for regions with a very low level of absorptive capacity.
Pellegrini et al. (2013)	1994-1999, 2000-2006	NUTS-2 regions (EU-15)	Regression discontinuity design (RDD)	Economic growth	Positive impact on economic growth.
Giua (2017)	1988–1999	5 NUTS-2 Italian regions	Regression discontinuity design (RDD)	Employment growth	Positive impact on the employment
Gagliardi and Percoco (2017)	2000-2006	257 NUTS-2 and 1233 NUTS-3 regions (EU-15, EU-10)	OLS	Economic growth	Positive effect on economic growth in lagging regions.
Pellegrini and Cerqua (2016)	1994-1999, 2000-2006, 2007-2013	208 NUTS-2 regions (EU-15)	Counterfactual causal analysis and RDD model	Economic growth	Positive effect on economic growth. However, the effect depends on the intensity of transfers.
Di Cataldo (2017)	1994-1999, 2000-2006, 2007-2013	Two UK NUTS-2 regions: 134 wards of Cornwall and the 94 wards of South Yorkshire	Synthetic control method, difference-in-differences (DID) model	Economic growth and unemployment	Positive impact on reduction of unemployment and on the promotion of economic growth, but this effect depends on funding intensity.
Becker et al. (2018)	1989-1993, 1994-1999, 2000-2006, 2007-2013	NUTS-2 regions (187 in 1989-93, 209 in 1994-99, 253 in 2000-06, and 253 in 2007-2013) of EU-25	A fuzzy regression discontinuity design (RDD)	Economic growth	Positive impact on economic growth is though not very long-lived. The effects on economic growth are weaker during the Crisis than before.

Table A4. Main factors considered by previous studies as conditioning effects of SF payments

Conditioning factor	***The main direction of the impact***	***Source***
Human capital, education	The greater positive effect of SF is observed in regions with a higher level of human capital accumulation or education.	Rodríguez-Pose and Fratesi (2004); Kutan and Yigit (2007); Becker et al. (2013); Kyriacou and Roca-Sagalés (2012); Pinho et al. (2015)
Economic openness	The positive returns from SF transfers are higher in economies that are more open.	Ederveen et al. (2002); Kyriacou and Roca-Sagalés (2012)
Regional microeconomic and macroeconomic environment (territorial capital, absorptive capacity)	The impact of SF support on growth is much stronger in more developed regions more endowed with territorial capital, with bigger absorptive capacity, and characterised by a stable macroeconomic, microeconomic and institutional environment.	Guillaumont and Chauvet (1999); Martin (2003); Cappelen et al. (2003); Becker et al. (2010); Tomova et al. (2013); Fratesi and Perucca (2014); Crescenzi and Giua (2016)
Institutional quality / efficiency	The positive returns from SF transfers are smaller in regions where the institutional quality is lower (corruption is higher). Regions with good institutions distribute SF financial aids more effectively.	Boldrin and Canova (2001); Ederveen et al. (2002, 2006); Beugelsdijk and Eijffinger (2005); Kutan and Yigit (2007); Bradley and Untiedt (2008); Kyriacou and Roca-Sagalés (2012); Becker et al. (2013); Rodríguez-Pose and Garcilazo (2015); Tsani (2015); Dotti (2016); Arbolino and Boffardi (2017)

References that appear in Tables A1-A4 but are not quoted in the main text

BECKER, S., EGGER, P., H., VON EHRLICH, M. (2018). Effects of EU Regional Policy: 1989-2013. *Regional Science and Urban Economics*, 69, 143–152. DOI: https://doi.org/10.1016/j.regsciurbeco.2017.12.001

BOUVET, F. (2005). European Union regional policy: allocation determinants and effects on regional economic growth. Mimeo

BRADLEY, J., UNTIEDT, G. (2008). EU cohesion policy and "conditional" effectiveness: What do cross-section regressions tell us? *Working Papers 4-2008, GEFRA - Gesellschaft fuer Finanz- und Regionalanalysen.* Available: http://www.gefra-muenster.org/downloads/doc/GEFRA-WP-4-2008.pdf. [accessed 4 August 2019].

BUSSOLETTI, S., ESPOSTI, R. (2004). Regional Convergence, Structural Funds and the Role of Agricolture in the EU. A Panel-Data Approach. *Working Papers,* 220, Universita Politecnica delle Marche (I), Dipartimento di Scienze Economiche e Sociali. Avaible: http://docs.dises.univpm.it/web/quaderni/pdf/220.pdf. [accessed 26 November 2018].

CAPPELEN, A., CASTELLACCI, F., FAGERBERG, J., VERSPAGEN, F. (2003). The impact of EU regional support on growth and convergence in the European Union. *Journal of Common Market Studies,* 41, 621–644. DOI: https://doi.org/10.1111/1468-5965.00438

DALL'ERBA, S., LE GALLO, J. (2004). The Impact of EU Regional Support on Growth and Employment, *REAL Discussion Paper,* 04-T-18.

DI CATALDO, M. (2017) The impact of EU Objective 1 funds on regional development: Evidence from the UK and the prospect of Brexit. *Journal of Regional Science,* 57, (5), 814-839. DOI: https://doi.org/10.1111/jors.12337

DOTTI, N., F. (2016). Unwritten Factors Affecting Structural Funds: The Influence of Regional Political Behaviours on the Implementation of EU Cohesion Policy. *European Planning Studies,* 24, (3), 530–550. DOI: https://doi.org/10.1080/09654313.2015.1047328

FRATESI, P., PERUCCA, G. (2014). Territorial Capital and the Effectiveness of Cohesion Policies: an Assessment for CEE Regions, GRINCOH. *Working Paper Series,* 8.05. http://www.grincoh.eu/media/serie_8__cohesion_and_its_dimensions/grincoh_wp8.05_fratesi_perucca.pdf [accessed 26 November 2018].

GIUA, M. (2017). Spatial discontinuity for the impact assessment of the EU regional policy: The case of Italian objective 1 regions. *Journal of Regional Science,* 57, (1), 109-131. DOI: https://doi.org/10.1111/jors.12300

KUTAN, A., M., YIGIT, T., M. (2007). European integration, productivity growth and real convergence. *European Economic Review,* 51, (6), 1370–1395. DOI: https://doi.org/10.1016/j.euroecorev.2006.11.001

LE GALLO, J., DALL'ERBA, S., GUILLAIN, R. (2011). The local versus global dilemma of the effects of structural funds. *Growth Change,* 42, (4), 466-490. DOI: https://doi.org/10.1111/j.1468-2257.2011.00564.x

MARTIN, R. (2003). The Impact of the EU's Structural and Cohesion Funds on Real Convergence in the EU. NBP Conference „Potential Output and Barriers to Growth". Zalesie Górne. Available: http://pki.nbp.pl/konferencje/zalesie/pdf/martin.pdf [accessed 20 November 2018].

MOHL, P., HAGEN, T. (2008). Does EU cohesion policy promote growth? Evidence from regional data and alternative econometric approaches. *ZEW Discussion Paper No. 08-086,* https://doi.org/10.2139/ssrn.1298935

PELLEGRINI, G., BUSILLO, T., MUCCIGROSSO, T., TAROLA, O., TERRIBILE, F. (2013). Measuring the Impact of the European Regional Policy on Economic Growth: a Regression Discontinuity Design Approach. *Papers in Regional Science,* 92, 217–233. DOI: https://doi.org/10.1111/j.1435-5957.2012.00459.x

PELLEGRINI, G., CERQUA, A. (2016). Measuring the impact of intensity of treatment using RDD and covariates: the case of Structural Funds. 57th RSA Annual Conference, Bocconi University, 20-22 October, 2016. Available: http://www.siecon.org/online/wp-content/uploads/2016/09/PELLEGRINI.pdf. [accessed 20 November 2018]

PINHO, C., VARUM, C., ANTUNES, M. (2015). Structural Funds and European Regional Growth: Comparison of Effects among Different Programming Periods. *European Planning Studies*, 23, (7), 1302–1326. DOI: https://doi.org/10.1080/09654313.2014.928674

PUIGCERVER-PEÑALVER, M., C. (2004). The Impact of Structural Funds Policy on European Regions Growth. A Theoretical and Empirical Approach. In Econometric Society 2004 Latin American Meetings 141 pp 1-37.

PUIGCERVER-PEÑALVER, M., C. (2007). The impact of structural funds policy on European regions' growth: A theoretical and empirical approach. *The European Journal of Comparative Economics*, 4, (2), 179-208

RODRÍGUEZ-POSE, A., NOVAK, K. (2013). Learning processes and economic returns in European Cohesion Policy. *Investigaciones Regionales*, 25, 7–26.

TOMOVA, M., REZESSY, A., LENKOWSKI, A., MAINCENT, E. (2013). EU governance and EU funds – testing the effectiveness of EU funds in a sound macroeconomic framework. *European Commission Economic Papers*, 510. Available: http://ec.europa.eu/economy_finance/publications/economic_paper/2013/pdf/ecp510_en.pdf. [accessed 20 October 2018].

TSANI, S. (2015). On the relationship between resource funds, governance and institutions: Evidence from quantile regression analysis. *Resources Policy*, 44, 94–111. DOI: https://doi.org/10.1016/j.resourpol.2015.01.003

Appendix B

Interpretations provided below equation (3) can be proved by rewriting equation (3) for four groups: (i) Financially not supported regions (s_i=*0*) over pre-financial support period (*t2=0*):

$$Y_i = \delta_0 + \delta_1 \cdot (0) + \delta_2 \cdot (0) + \delta_{DID} \cdot (0) \cdot (0) + \varepsilon_i, \quad (3a)$$

$$Y_i = \delta_0 + \varepsilon_i.$$

(ii) SF recipients (s_i=*1*) over pre-financial support period (*t2=0*):

$$Y_i = \delta_0 + \delta_1 \cdot (0) + \delta_2 \cdot (1) + \delta_{DID} \cdot (0) \cdot (1) + \varepsilon_i, \quad (3b)$$

$$Y_i = \delta_0 + \delta_2 + \varepsilon_i.$$

(iii) Financially not supported regions (s_i=*0*) over financial support (or post-financial support) period (*t2=1*):

$$Y_i = \delta_0 + \delta_1 \cdot (1) + \delta_2 \cdot (0) + \delta_{DID} \cdot (1) \cdot (0) + \varepsilon_i, \quad (3c)$$

$$Y_i = \delta_0 + \delta_1 + \varepsilon_i.$$

(iv) SF recipients (s_i=*1*) over financial support (or post-financial support) period (*t2=1*):

$$Y_i = \delta_0 + \delta_1 \cdot (1) + \delta_2 \cdot (1) + \delta_{DID} \cdot (1) \cdot (1) + \varepsilon_i, \quad (3d)$$

$$Y_i = \delta_0 + \delta_1 + \delta_2 + \delta_{DID} + \varepsilon_i.$$

Appendix C

Similarly, as in the case of equation (3) (see Appendix B), we can rewrite equation (4) for four groups:
(i) Financially not supported regions (S_i=0) over pre-financial support period (t2=0):

$$Y_i = \delta_0' + \delta_1' \cdot (0) + \delta_2' \cdot (0) + \delta_{DiD}' \cdot (0) \cdot (0) + \cdots + \varepsilon_i, \quad (4a)$$

$$Y_i = \delta_0' + \cdots + \varepsilon_i.$$

(ii) SF recipients ($fsint_i$>0) over pre-financial support period (t2=0):

$$Y_i = \delta_0' + \delta_1' \cdot (0) + \delta_2' \cdot S_i + \delta_{DiD}' \cdot (0) \cdot S_i + \cdots + \varepsilon_i, \quad (4b)$$

$$Y_i = \delta_0' + \delta_2' \cdot S_i + \cdots + \varepsilon_i.$$

(iii) Financially not supported regions (S_i=0) over financial support (or post-financial support) period (*t2=1*):

$$Y_i = \delta_0' + \delta_1' \cdot (1) + \delta_2' \cdot (0) + \delta_{DiD}' \cdot (1) \cdot (0) + \cdots + \varepsilon_i, \quad (4c)$$

$$Y_i = \delta_0' + \delta_1' + \cdots + \varepsilon_i.$$

(iv) SF recipients (S_i*>0*) over financial support (or post-financial support) period (*t2=1*):

$$Y_i = \delta_0' + \delta_1' \cdot (1) + \delta_2' \cdot S_i + \delta_{DiD}' \cdot (1) \cdot S_i + \cdots + \varepsilon_i, \quad (4d)$$

$$Y_i = (\delta_0' + \delta_1') + (\delta_2' + \delta_{DiD}') \cdot S_i + \cdots + \varepsilon_i.$$

Appendix D

$Y_{i,t}$ is the regional per capita GDP at constant (2010) prices. The main source of the data is *Gross domestic product indicators (reg_eco10gdp)*, subsection for *Gross domestic product (GDP) at current market prices by NUTS3 regions (nama_10r_3gdp)*. To correct the changes at price levels over time, we used *Price index (implicit deflator), 2010=100, euro (PD10_EUR)*. To calculate per capita GDP we used *Average annual population to calculate regional GDP data (thousand persons) by NUTS 3 regions (nama_10r_3popgdp)*. Data for GDP and population in aforementioned Eurostat data sources is not available prior to 2000. Data for 1995–1999 on *Gross domestic product (GDP) at current market prices at NUTS level 3* and *Average annual population* was retrieved from *nama_r_e3gdp* and *demo_r_d3avg* datasets respectively that were available on Eurostat previously and merged with currently available dataset.

Table D1. Period averages of regional per capita GDP at constant prices.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Outcome, *Y*			Pre-financial support period (1995 – 1999)	Financial support period (2000 – 2006)	Post-financial support period (2007 – 2011)	(5)-(4)	(6)-(4)	(5)-(4), %	(6)-(4), %
Period average regional per capita GDP at constant prices (Y)	(a)	Regions that did not received FE payments	26034.5	30616.2	32873.6	4581.7	6839.1	17.6	26.3
	(b)	Regions that received FE payments	19829.2	23012.0	24435.2	3182.8	4606.0	16.1	23.2
	(c)	(b)-(a)	-6205.3	-7604.2	-8438.4	-1398.9[(2)]	-2233.1[(2)]		
	(d)	(b)-(a), %	-23.8	-24.8	-25.7			4.2	7.4
Period average differential-trend-adjusted regional per capita GDP at constant prices (dtaY)[(1)]	(e)	Regions that did not received FE payments	26173.5	31263.1	34090.7	5089.6	7917.2	19.4	30.2
	(f)	Regions that received FE payments	19829.2	23012.0	24435.2	3182.8	4606.0	16.1	23.2
	(g)	(f)-(e)	-6344.3	-8251.1	-9655.5	-1906.8[(2)]	-3311.2[(2)]		
	(h)	(f)-(e), %	-24.2	-26.4	-28.3			8.9	15.5

Notes: [(1)] Average growth rate of regional per capita GDP at constant prices over 1995-1999 was 2.36% and 2.62% for more developed and SF recipients groups, respectively. The difference in growth trends was used for the adjustment. [(2)] Calculated (based on Eq. (2)) diff-in-diffs, i.e. $\hat{\delta}_{DID}$.

Table D2. Control variables[(1)] of the research

Short name	Full name, description and source of data	Measure-ment unit
PDENS	*Population density by NUTS 3 region (demo_r_d3dens)*.	Inhabitants per square kilometre
EDENS	*Employment density*. Calculated as the ratio between total *Employment (thousand persons) by NUTS 3 regions (nama_10r_3empers)* and *Area by NUTS 3 region (reg_area3)*.	Employed per square kilometre
PSTR	*Population structure* calculated as proportion of 15-64 years-old to total number of inhabitants in the region. Calculations are made using data from *Population on 1 January by broad age group, sex and NUTS 3 region (demo_r_pjanaggr3)*.	%
INOV	*Patents per million inhabitants*. Data retrieved from *Patent applications to the EPO by priority year by NUTS 3 regions (pat_ep_rtot)*.	Number of patents per million inhabitants
AGVA	*Agriculture gross value added*. Calculated as the proportion of GVA created in agriculture, forestry and fishing (A in NACE activities). Data retrieved from *Gross value added at basic prices by NUTS 3 regions (nama_10r_3gva)*.	%
IGVA	*Industry gross value added*. Calculated as the proportion of GVA created in industry (except construction, B-E in NACE activities). Data retrieved from *Gross value added at basic prices by NUTS 3 regions (nama_10r_3gva)*.	%

Notes: [(1)] If the data for 1995-1999 according to The European System of National and Regional Accounts (ESA 2010) was missing, it was collected according to ESA 1995 and merged with current dataset.

Appendix E

Table E1. Fixed effects estimates of Eq. (5).

Variable	Para-meter	Financial support period		Post-financial support period	
		Ln(Y)	Ln(dtaY)	Ln(Y)	Ln(dtaY)
Intercept	δ_0''	9.8670***	9.8650***	9.7651***	9.7619***
		(0.0345)	(0.0347)	(0.0405)	(0.0406)
$t2$	δ_1''	0.1372***	0.1410***	0.2120***	0.2199***
		(0.0058)	(0.0059)	(0.0088)	(0.0088)
$t2 \cdot S_{i,t2}$	δ_{DiD1}''	0.0026	0.0010	0.0100	0.0069
		(0.0043)	(0.0044)	(0.0065)	(0.0067)
$t2 \times EQI_{i,t2}$	δ_{DiD2}''	-0.0016	-0.0011	-0.0098	-0.0090
		(0.0059)	(0.0059)	(0.0087)	(0.0088)
$t2 \cdot S_{i,t2} \times EQI_{i,t2}$	δ_{DiD12}''	0.0031	0.0024	0.0128	0.0112
		(0.0074)	(0.0074)	(0.0093)	(0.0093)
$X_{i,t}{}^{(1)}$	β	Est.	Est.	Est.	Est.
Variance-covariance					
$var(\delta_{DiD1}'')$		1.82E-05	1.96E-05	4.17E-05	4.55E-05
$var(\delta_{DiD12}'')$		5.45E-05	5.47E-05	8.59E-05	8.59E-05
$cov(\delta_{DiD1}'', \delta_{DiD12}'')$		3.84E-06	3.74E-06	2.30E-06	1.56E-06
Sample size		2498	2498	2498	2498
Within R-squared		0.6289	0.6355	0.6723	0.6797

Notes: Robust (using HCCME) standard errors presented in parentheses. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

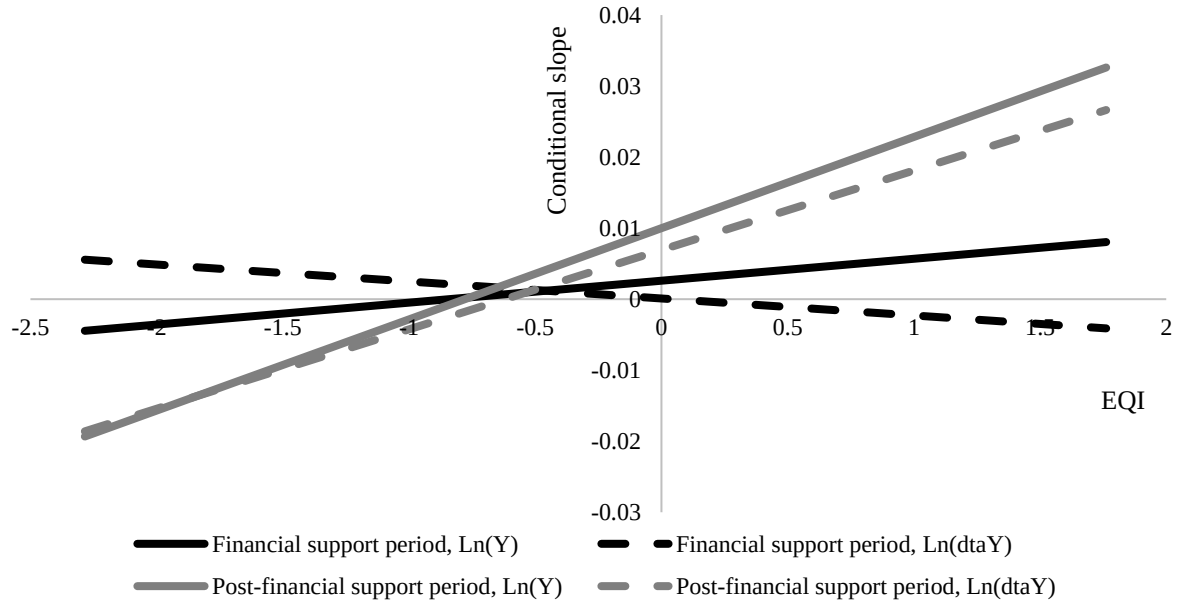
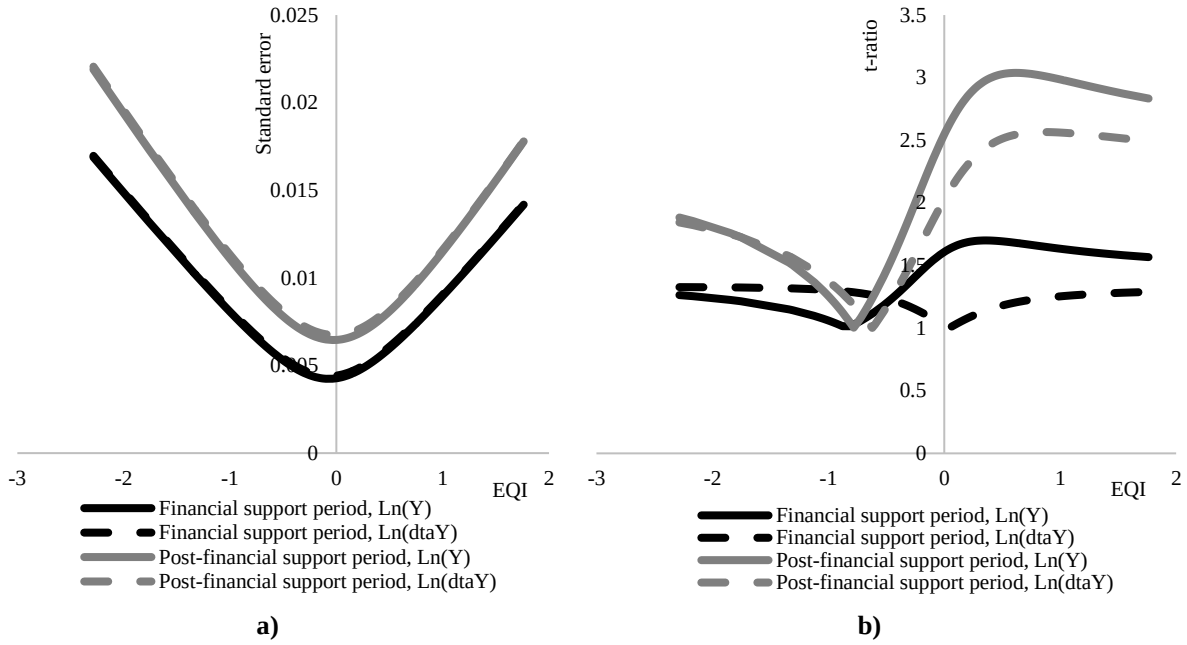


Fig. E1. The estimated conditional effect of SF payments on territorial disparities, conditional slope over the observed ranges of *EQI* values.



a) **b)**

Fig. E2. a) Standard errors and **b)** t-ratios of the estimated conditional slope.

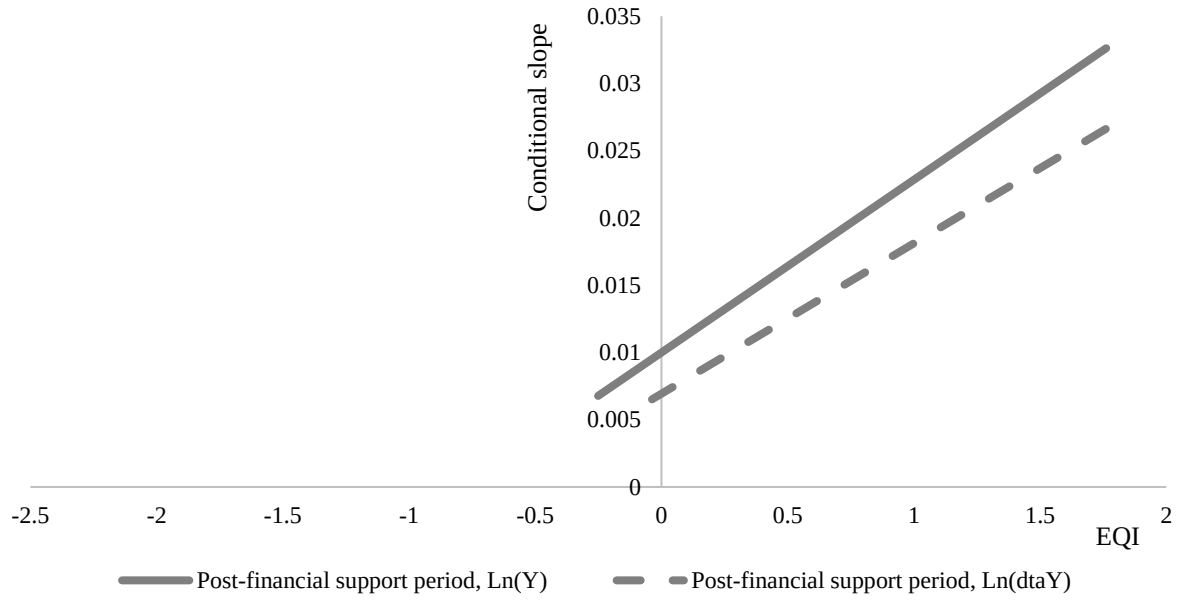


Fig. E3. Estimated conditional slope over the range of *EQI* for which slope is statistically significant.

Appendix F

Table F1. Fixed effects estimates of a diff-in-diffs parameter over the alternative post-financial support period.

Parameter	General post-financial support period (2007-2011)		Alternative post-financial support period (2010-2014)	
	Ln(Y)	Ln(dtaY)	Ln(Y)	Ln(dtaY)
δ''_{DiD1}	0.0222***	0.0188***	0.0248***	0.0208***
	(0.0048)	(0.0044)	(0.0057)	(0.0047)
δ''_{DiD2}	-0.0254***	-0.0242***	-0.0280***	-0.0273***
	(0.0086)	(0.0087)	(0.0100)	(0.0103)
δ''_{DiD12}	0.0102	0.0087	0.0109	0.01
	(0.0090)	(0.0089)	(0.0103)	(0.0101)
β	Not est.	Not est.	Not est.	Not est.
δ''_{DiD1}	0.0100	0.0069	0.0106	0.0074
	(0.0065)	(0.0067)	(0.007)	(0.0079)
δ''_{DiD2}	-0.0098	-0.0090	-0.0106	-0.0095
	(0.0087)	(0.0088)	(0.0094)	(0.0094)
δ''_{DiD12}	0.0128	0.0112	0.0148	0.0126
	(0.0093)	(0.0093)	(0.0100)	(0.0103)
β	Est.	Est.	Est.	Est.

Notes: Robust (using HCCME) standard errors presented in parentheses. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table F2. Fixed effects estimates of the diff-in-diffs parameter for the reduced sample.

Parameter	Fixed effects estimates for the full sample				Fixed effects estimates for reduced sample			
	Financial support period		Post-financial support period		Financial support period		Post-financial support period	
	Ln(Y)	Ln(dtaY)	Ln(Y)	Ln(dtaY)	Ln(Y)	Ln(dtaY)	Ln(Y)	Ln(dtaY)
δ''_{DiD1}	0.0061**	0.0044	0.0222***	0.0188***	0.0063**	0.0042	0.0254***	0.0201***
	(0.0029)	(0.0030)	(0.0048)	(0.0044)	(0.0030)	(0.0030)	(0.0054)	(0.0053)
δ''_{DiD2}	-0.0151***	-0.0145***	-0.0254***	-0.0242***	-0.0157***	-0.0143***	-0.0298***	-0.0263***
	(0.0054)	(0.0054)	(0.0086)	(0.0087)	(0.0054)	(0.0058)	(0.0102)	(0.0108)
δ''_{DiD12}	-0.0011	-0.0018	0.0102	0.0087	-0.0010	-0.0018	0.0109	0.0091
	(0.0079)	(0.0079)	(0.0090)	(0.0089)	(0.0080)	(0.0073)	(0.0103)	(0.0094)
β	Not est.	Not est.	Not est.	Not est.	Not est.	Not est.	Not est.	Not est.
δ''_{DiD1}	0.0026	0.0010	0.0100	0.0069	0.0028	0.0010	0.0117	0.0074
	(0.0043)	(0.0044)	(0.0065)	(0.0067)	(0.0044)	(0.0041)	(0.0078)	(0.0067)
δ''_{DiD2}	-0.0016	-0.0011	-0.0098	-0.0090	-0.0014	-0.0010	-0.0094	-0.0088
	(0.0059)	(0.0059)	(0.0087)	(0.0088)	(0.0063)	(0.0054)	(0.0099)	(0.0086)
δ''_{DiD12}	0.0031	0.0024	0.0128	0.0112	0.0029	0.0026	0.0136	0.0141
	(0.0074)	(0.0074)	(0.0093)	(0.0093)	(0.007)	(0.0071)	(0.0098)	(0.0096)
β	Est.	Est.	Est.	Est.	Est.	Est.	Est.	Est.

Notes: Robust (using HCCME) standard errors presented in parentheses. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.

Table F3. Estimates based on Eq. (8).

Variable	Parameter	Fixed effects estimates				Fixed effects estimates			
		Financial support period		Post-financial support period		Financial support period		Post-financial support period	
		Ln(Y)	Ln(dtaY)	Ln(Y)	Ln(dtaY)	Ln(Y)	Ln(dtaY)	Ln(Y)	Ln(dtaY)
Intercept	δ'''_0	9.8458***	9.7378***	9.8453***	9.7366***	9.8193***	9.8203***	9.8193***	9.8203***
		(0.0363)	(0.0409)	(0.0361)	(0.0408)	(0.0023)	(0.0023)	(0.0017)	(0.0017)
$t2$	δ'''_1	0.1313***	0.2041***	0.1271**	0.1950***	0.2147***	0.2223**	0.1506***	0.1544***
		(0.0061)	(0.0085)	(0.0060)	(0.0085)	(0.0067)	(0.0069)	(0.0046)	(0.0047)
$t2 \cdot S_{i,t2}$	δ'''_{DiD1}	0.0004	0.0057	0.0017	0.0081	0.0029	0.0039	0.0032	0.0012
		(0.0052)	(0.0076)	(0.0051)	(0.0073)	(0.0093)	(0.0094)	(0.0040)	(0.0043)
$t2 \times dh_{i,t2}$	δ'''_{DiD2}	0.0130*	0.0171*	0.0125	0.0163*	0.0259***	0.0231***	0.0279***	0.0184***
		(0.0078)	(0.0096)	(0.0078)	(0.0095)	(0.0059)	(0.0057)	(0.0076)	(0.0076)
$t2 \cdot S_{i,t2} \times dh_{i,t2}$	δ'''_{DiD12}	0.0032	0.0097	0.0610**	0.0781**	0.0283	0.0158	0.0342**	0.0404**
		(0.0205)	(0.0247)	(0.0252)	(0.0252)	(0.0188)	(0.0183)	(0.01737)	(0.0173)
	$\delta'''_{DiD1} + \delta'''_{DiD12}$	0.0036	0.0154	0.0627**	0.0862**	0.0312	0.0197	0.0474***	0.0522***
$X_{i,t}$	β	Not est.	Not est.	Not est.	Not est.	Est.	Est.	Est.	Est.
	Sample size	2498	2498	2498	2498	2498	2498	2498	2498
	Within R-squared	0.6722	0.6978	0.6675	0.6925	0.6694	0.6769	0.6263	0.6334

Notes: Robust (using HCCME) standard errors presented in parentheses. *, **, *** indicate statistical significance at the 10%, 5%, and 1% levels, respectively.