A QUANTITATIVE APPROACH ON THE DIFFUSION OF NEOLIBERAL TAX POLICIES IN THE POST COMMUNIST NEW-EU MEMBER STATES

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Abstract

Within this paper I employ the OLS PCSE analysis to investigate the relationships between the CIT (Corporate Income Tax) and various potential independent variables testing for competing theories within the 10 post communist New EU Member States. Reforms in the area of CIT reforms, events were triggered immediately after the fall of the communist regimes. I test the degree to which four theories of policy diffusion explain the observed patterns. The OLS PCSE analysis reveals that while FDI represented an important variable in triggering CIT cuts, its directionality does not confirm the competitive diffusion theory.

Keywords: Corporate Income Taxation, diffusion theories, Central and East European countries, competitive diffusion

1. Introduction

The initial Estonian reforms were copied immediately by Latvia, while Lithuania kept its complicated CIT system during the 1990s. Subsequently, advocacy from the IMF accompanied many reforms undertaken during the 1990s, and Latvia's (1992) Bulgaria's (1997), Romania's (1999) and Poland's (1999) initial CIT reforms produced no significant FDI inflows. A quantitative approach allows me to investigate some angles of the policy reforms that cannot be adequately captured by case studies: the relationship between the regional evolutions and one country's propensity to ratify reforms; the year-by-year connection between variables that cannot be analyzed by case studies; the influence of variables such as trade openness, capital account openness or economic growth difficult to be linked directly to the observed strategies, declarations and actions. This analysis aims to illuminate some angles of the phenomena under study that can not be adequately captured by case studies. Especially the relationship between the regional evolutions and some country's

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propensity to enact some reform and the year-by-year relationship between some variables that can not be analyzed by case studies focusing on the most visible part of a reform. Also, the relationship between some economic variables like trade openness, capital account openness or economic growth is difficult to be linked to the strategies, declarations and actions of relevant policy makers. Last but not least this approach would allow comparing my findings with those from other quantitative approaches.

2. Model description

The OLS PCSE analysis parallels the model developed by Swank and Steinmo [1] and further developed by Swank [2] but is adapted to the peculiarities of the universe of study and the suffers from some limitations caused by lack of relevant data. Unlike Swank's models, the database on the 10-NMS contains several limitations given that data for some variables could not be collected. The analysis is realized with STATA 12 software using its Linear regression with panel-corrected standard errors function (no autocorrelation assumed; regression using lags). The database contains info for the 10 countries over the 1991-2010 period (some countries have missing data; the Czech Republic and Slovakia only from 1993), but for some of the variables data exists only from 1995 to 2004. Some models were estimated using variables that cover most of the time span. Thus, some models were estimated with variables that cover the entire time span while the extended models cover the reduced time span.

Unlike, Swank [2], given that the Average Statutory Tax Rate data exists only for 6 years, thus limiting significantly the number of observations, no models using EATR as a dependent variable were tested. Instead I used the 1-year CIT and PIT lagged DV and a 3-year lag to test for the potential difference between the immediate and medium terms of various variables. While the case studies focus on PIT Flat tax reforms, I use the evolution of PIT maximal rate as the operationalisation of this dependent variable. This choice was prompted by the fact that a dichotomous variable would not have been appropriate for OLS PCSE. Nevertheless, since most variation of PIT maximum rate is associated with the Flat tax reform, and any other cut in the PIT maximal rate can be interpreted as a tax cut on higher income citizens, this variable adequately parallels the evolution of neoliberal influence on personal taxation.

I will employ the standard quantitative technique used in contemporary comparative political science, namely the ordinary least square regression analysis with panel corrected standard error regression (OLS with PCSE) with a lagged dependent variable; this is the preferred technique given that it best achieves the objective to "explicitly model temporal dynamics and to minimize serial correlation of errors" [2, p. 863].

3. Theoretical approaches

Three theories can be tested through the OLS PCSE: rational learning, competitive diffusion, and the institutionalist competitive diffusion.
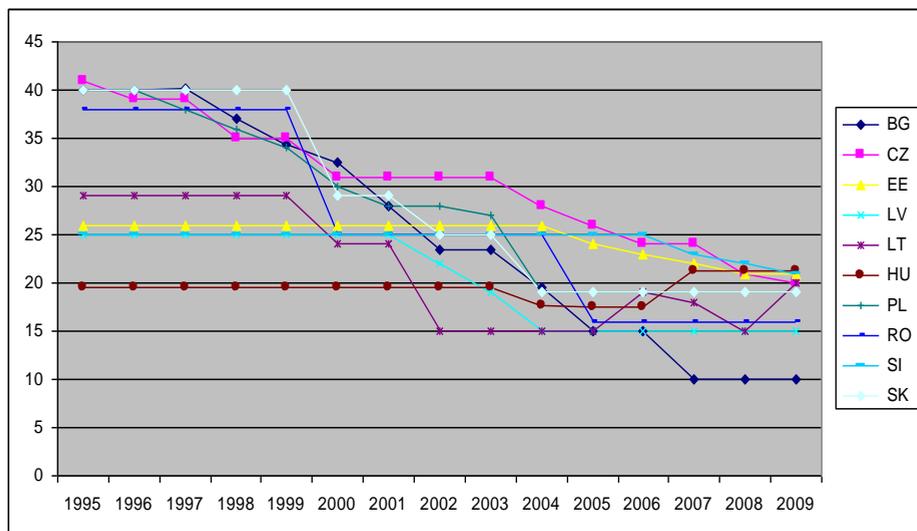

Figure 1. The evolution of the adjusted top statutory tax rate (CIT) on corporate income. Sources: Eurostat, *Taxation trends in the European Union*, European Commission, 2009, Table II-4.1.
* In 2000, Estonia adopted 0 *CIT* on *retained earnings* and 20% tax on (grossed up) profit distributions.
**In Hungary, the standard corporate income tax rate is 16%. As of 1 September 2006, taxpayers are obliged to pay a surtax of 4% on the basis of (adjusted) profit before taxation. The tax rate here was calculated as 16% plus 4%.

To assist the reader in summarizing the maze of facts, in Table 1 I systematize the country-by-country evolution of CIT rates to illustrate the magnitude of these reforms. Within this trend we can identify three waves of reforms, each of them with its peculiar characteristics: (1) the 1992-1997 Baltic wave introducing the first Flat Tax reforms and CIT cuts; (2) the 1995-2002 CIT cuts across the 10-NMS; (3) and the 'Flat Tax revolution,' starting with the 2003 Slovak reforms and followed successful reforms in Romania, Bulgaria, Czech Republic and Hungary; and failed attempts in Poland and Slovenia. The capacity of the process-tracing to test the *competitive diffusion* argument is only partial, and the most relevant analysis will be performed through the OLS PCSE. Nevertheless, most evidence identified so far offers limited empirical support in favour of the AMM. Analyzing the process of CIT cuts, we observe that many reforms do not follow the Asset Mobility Model (AMM) model's logic. To start with, the initial Estonian reform and the emulation of its Flat Tax by Latvia and Lithuania were hardly tax-competitive measures. The AMM model would further predict that these reforms and the Hungarian 1995 CIT cut to 20% should

have determined rapid significant tax cuts across the 10-NMS. Also, because Hungary was one of the most advanced reformers and had already attracted significant amounts of FDI, the AMM model's logic indicates that any competitive tax cuts should have lead to CIT rates similar to or lower than the Hungarian ones. Instead, the next two significant CIT reforms in Romania and Bulgaria were pressured by the IMF; moreover, these reforms were 'uncompetitive' given that Romania decreased its CIT rate from 40% to 25% and Bulgaria form 40% to 33% (by 2000). Those countries least affected by Hungary's policies (because of distance), which in any case were 'ahead' in the 'race to the bottom', enacted a second wave of radical CIT reforms. Between 1999 and 2001, the Baltic republics enacted some of the most radical CIT reforms, transforming them in some of the most competitive in the world. Again, the trigger of this second wave of reforms was the Estonian architect of the Flat tax, Maart Laar, returning to office for a second term as Prime-Minister. Lat but not least, the prediction that CIT cuts would shift the tax burden toward personal taxation is not confirmed since PIT revenues as % of GDP decreased in the 10-NMS from an average of 6% to 4.4%. The case studies identified no case where there was any discussion about a trade-off between corporate and personal taxation.

The competitive diffusion mechanism will be tested through the potential correlation between independent variables and average regional rate, the average EU-15 rate, US CIT rate, the evolution of capital account openness (Chinn index) and trade openness. Nevertheless, given that no systematic data on the trade integration among the 10-NMS could be found, but also because most of these countries have significant trade flows with other countries (EU members or Russia), I used the variable for trade openness (as % of GDP) as the most relevant proxy (also, no data on structural unemployment could be found). Also, because most of the FDI originates outside the 10-NMS and because of the absence of inter-country FDI inflows, I used the total FDI/capita as an alternative measure. Instead of using a spatial lag for tax-policy change in all other developed nations, I used the average tax rates in the EU-15 members, the region that is most relevant for the 10-NMS. To test whether the countries' aggressiveness in direct taxation reforms was influenced by their comparative performance in attracting FDI, a variable measuring the FDI/capita difference from the regional average was introduced into the models. Also the evolution of US tax rates and the EU-15 average are used as potentially relevant independent variables.

The argument advanced by *international trade theory* that small open economies experience strong pressure to increase or maintain high tax/GDP ratios as means to appease the negative effects of their exposure to globalization through redistribution does not appear to be substantiated by the empirical evidence. Data clearly shows that from the onset of transition, post-communist countries decreased their average tax/GDP ratio, and the process tracing reveals that the most globalised post-communist countries, namely Estonia, Hungary and Slovakia (imports and exports of goods and services as a percentage of

GDP), experienced the most radical CIT and Flat Tax reforms. Moreover, they experienced these reforms in 3 totally different patterns. Estonia, undertook these reforms at the beginning of its transition in 1993 and then again in 1999, when its trade openness reached 149% of GDP, making it the most exposed country in the region. Slovakia cut its CIT rates first in 2001. In 2003 it introduced the Flat Tax regime; unified the CIT, PIT and VAT rates at 19%; and drastically cut welfare programs. Ironically, these reforms took place at a time when Slovakia was catching-up in terms of trade openness and the trade openness indicator placed it on the 2nd position in the region by 2003. Hungary by contrast opened up early during the transition period and did not enact any significant reforms of its welfare state. The 2009 and 2010 reforms significantly affected the progressiveness of the Hungarian tax system. Last but not least, some of the most aggressive reformers: Estonia, Latvia and Bulgaria are among the smallest countries in the region.

The institutionalist competitive diffusion will be tested by verifying for the statistical significance of the mediating effect of national level variables. The relevance of multiple veto players [3]) is verified by measures of parliamentary and governmental fractionalization. The relevance of the ideological dominance of the cabinet is tested through three variables: the vote share in the parliament of government parties, the presence of relevant ideological change from left to right from the previous elections (1-5 scale (1 - major shift right to left; 5 - major shift left to right) and the dominant ideology of the cabinet (1-5 scale (1 - right wing domination; 5 - left-wing domination). O'Dwyer and Kovalcik's [4] argument regarding the relevance of political party institutionalization will be tested through the same variable they used: electoral volatility in the last elections. The argument regarding the increased probability of reforms after elections will be tested through two variables: the number of years after the last elections when the reforms were enacted and the number of years in office of the chief of the cabinet at the moment when a reform was enacted. The influence of the type of coordination within the economy was difficult to operationalize in an unambiguous manner. Following Bohle and Greskovits [5] I coded the 10-NMS on a 4-point scale: 1 – Neo-liberal (Baltics); 2 – Romania, Bulgaria; 3 – Embedded liberalism; and 4 – Neo-corporatist Slovenia. While Bohle and Greskovits's analysis omits Romania and Bulgaria, arguing that the previous centralization during communism did not allow for the generating of coordinative capacities, their evolutions in the last decade places them much closer to the neo-liberal end of the scale. Unfortunately, Antalova's [6] argument that the presence of strong unions decreases the probability for radical reforms could not be tested given that no relevant index exists. To test whether the increased electoral volatility combined with a high share of seats in parliament increases the probability for radical reform, the interaction of these variables was computed, and the FDI/capita difference from the regional average. Government dominant ideology interaction was computed in order to test whether the presence of right-wing government and a poor performance in attracting FDI increases the probability for radical reforms.

Instead, testing for diffusion *through social emulation* of policy reforms in countries belonging to the same family of nations is difficult to quantify. Except for the Baltic states, which are geographically separated from the other 10-NMS and have had a different historical path as members of the USSR, the other countries belong to the same family of nations and are confined geographically. Nevertheless, since this mechanism of diffusion has been studied extensively through the process tracing, enough data have been gathered to evaluate the explanatory power of this theory. Moreover, the *cognitive heuristics* cannot be tested using the OLS PCSE.

The *rational learning* argument will be tested through the differential time lag of 1 year and 3 years, as well as several specific variables. One indicator that is employed in virtually all diffusion theories is the *number of years since a neighbour country adopts a reform.* As previously discussed, Gray and Baturo [8] use a 1-year vs. 3-years lag to differentiate between imitations vs. learning. Nevertheless its worth stressing that such an approach may lead to significant distortions, especially when a diffusion phenomenon is concentrated mainly within 7-8 years (between 2003 when Slovakia introduced the flat tax and 2010 when Hungary introduced the flat tax), like in the case of PIT reforms 1-3 years distortions cause any estimator to be inefficient.

4. Results

The results of the OLS PCSE analysis could not confirmed the explanatory power of any of the three theories. Data in Table 2 points against the relevance of the *rational learning* argument. Furthermore, Flat tax reforms were implemented against evidence that they would cause rather negative effects (Estonia and Hungary). Slovenia is the only country where the Ministry of Finance requested independent investigations on the effects of Flat tax reforms in other countries and also studies on the micro-level impact of a potential Flat tax reform did. Nevertheless, no Flat tax proposal even entered in the decisional process in Slovenia. In the rest of the case studies, there is no evidence that policy-makers based their decisions of econometric evaluation of the impact of Flat tax reforms. Gray and Baturo [7] investigated this model's explanatory power on the Flat tax reforms in the post-communist countries. Within my analysis I explain why Gray and Baturo's argument that countries enacted Flat Tax reforms given their effect on FDI flows is erroneous. I argue that even if we take into consideration this causal relationship, the learning argument does not receive significant support for neither the CIT nor Flat Tax reforms. While competitive CIT cuts increased FDI inflows, the FDI/capita regional distribution remained broadly similar, with countries such as the Czech Republic (2nd) and Slovenia (4th) continuing to rank high despite their less than aggressive CIT reforms.

Table 2. OLS PCSE models for CIT and PIT maximal rate evolution (coefficient and standard errors are reported).

		citrate_1year lag	pitmaxrate_1year lag
Competitive diffusion variables	CIT year average in the 10-NMS/	-3.774593 9.419643	
	PIT year average in the 10-NMS		-.362776 0.1837686
	CIT Difference from regional average	-3.563136 9.38768	
	PIT Difference from regional average		0.3664344 0.2036309
	PIT/ CIT EU-15 average	1.461218 0.5728264	0.0431543 0.2604196
	US CIT rate	0.7001767 4.440595	
	Index of capital account openness (chinn)		
	FDI/capita difference from the regional average	-0.0001339 0.0001306	-0.0013176 0.000432
	FDI/capita Regional average for that year	-0.0005933 0.0002879	-0.0006693 0.0003826
	Openness at Current Prices (%)	-0.0054784 0.0048551	-0.0100853 0.0108237
Institutionalist competitive diffusion	Total fractionalization		
	Cabinet Fractionalization		
	Vote share of government parties		
	Electoral volatility at the last election		
	Chief executive years in office	-0.0724692 0.0899289	-0.0110145 0.1229054
	Cabinet dominant ideology	-0.169951 0.2163213	-0.1593889 0.3875075
	Major left-rig shift at previous elections?	0.0218022 0.3424096	-0.026693 0.4381837
Rational learning	Investment Share of PPP Converted GDP Per Capita at 2005 constant prices [rgdpl]	-0.0032602 0.0566932	0.0030929 0.0777345
	GDP, constant prices Annual % change	-0.0769908 0.0653664	-0.1236557 0.0929609
	Tax/GDP ratio - total receipts from taxes and social contributions	-0.0346895 0.0641874	0.1352623 0.1101004
	Direct taxes as % of gdp: CIT/PIT		
	CIT rate PIT rate CIT ev PIT ev	4.523372 9.402088	0.4572272 0.204784
	_cons	12.0291 4.455308	19.58173 8.888524
	Number of observations	**151 (1991-2010)**	**151(1991-2010)**
	R aquare	**0.9122**	**0.5738**

One of the greatest advantages of the *institutionalist competitive diffusion* is its emphasis on the fact that various configurations of national-level variables can play the same mediating role for the competitive pressures, an aspect that fits the observed empirical pattern. As table 1 shows, in explaining variations in CIT tax rates, some variables advanced by scholars within the institutionalist diffusion approach – such as ideology, the interest group, veto player, political party institutionalization and type of coordination variables – appeared as highly relevant in some case studies but not in other.

The qualitative analysis shows that CIT reforms are more likely after elections, and in several occasions these elections rearranged the political scene and bring into government coalitions of parties. In general, after elections, the policy processes to implement CIT cuts were triggered without delay. The length of the policy processes varied. Nevertheless, CIT cuts were implemented relatively fast, while PIT flattening varied from country to country. Given that it is built on the AMM, the institutionalist competitive diffusion approach likewise fails to explain PIT flattening, and thus the results of the quantitative analysis offer limited support for this theory. All these elements will be interpreted in collaboration with the findings of the OLS PCSE.

Instead Furthermore, O'Dwyer and Kovalcik's [4] argument regarding the role of *party-system institutionalization* receives limited support from the empirical record, while Antalova's [6] argument regarding the importance of institutionalization of interest groups (e.g. trade unions) for the feasibility of the Flat Tax appears to be relevant only when comparing Slovakia with the Czech Republic and Germany. In practice, the presumably weak Slovakian trade unions have posed the most relevant opposition to Flat Tax reform and their continuous efforts led to the demise of the government several months after the radical direct taxation reforms were implemented. By contrast to Slovakia, Flat Tax reforms were implemented without significant opposition from trade unions in Hungary and the Czech Republic (countries with the strongest organized labour). In most countries, trade unions posed no significant opposition to such reform (Latvia, Lithuania, Romania, Bulgaria). It is true that the single most coordinated economy, Slovenia, did not implement a Flat Tax, but no empirical evidence that unions played an central role in this process exists..

5. Conclusions

I argue that the limited explanatory capacity of all these diffusion theories is caused by the fact that their model of policy maker is not a good abstraction of the common features shared by real policy makers. Based on the findings of the policy tracing, I advance the following argument: First, policy makers can be modelled as proactive actors looking to use international pressure to leverage their position in their attempt to maximize their chances to enact specific policies. Second, besides the motivations advanced by the other theories, normative motivations are highly important. Thus, the more a policy reform

parallels someone's normative view of the world, the higher that policy actor will rationally invest more resource in promoting that reform.

Third, implicitly or explicitly, the previous theories of diffusion assume that international pressures are felt 'on average' by policy makers, and thus we can model the national policy arena as an 'average' of all policy makers that learn or act competitive homogenously. While this modelling has the advantage that gives us methodological grounds to use country-years in OLS PCSE, it introduces significant biases that may lead to questionable results. I argue, a country view can be used as an approximations only when a specific policy does not represent a significant subject of political contestation – so we can assume that on average a specific international pressure is 'felt' the same. One of the most important implications from this argument is that in highly sensitive areas like direct taxation, the absence of contestation has to be explained, and not just assumed.

CIT reforms are ideas that are part of the neoliberal philosophy in the aria of direct taxation – they are relatively symmetric to the principle of horizontal equity. Nevertheless, the two ideas were evolved differently until the started their diffusion within the 10-NMS. The CIT reform gained a strong formal argument on the work of AMM and it became the leading paradigm in the area of corporate taxation and simultaneously became the part of the IMF's official program – the Washington Consensus. At moment of the US tax reforms it was already one of the background assumptions shared by most US trained economists. The fact that CIT reforms diffused so 'smoothly,' without political contestation, under favourable economic and political conditions is explained by the fact this was 'the only game in town'. Particularistic tax deals for strategic investors were also used, but this did not affect the general characteristics of the tax systems. Throughout the transition period policy maker willing to increase their countries competitiveness on the regional race for the most (believed) precious supply – FDI – enacted aggressive CIT cuts soon after they got into office, but irrespective of their ideological orientation.

Thus, while elements of imitation, learning and competitive pressure were all present and affecting policy makers, the single most important process of diffusion that took place before the actual policy diffusion of the neoliberal tax reforms in the 10-NMS could be characterized as a process of diffusion of rationalizable (that can be defined as the best response given previous evolutions) beliefs in a set of coherent and mutually reinforcing ideas. This set can be split in four broad categories. (1) Moral justification: the principle of horizontal equity is fair; (2) Efficiency: tax reform that shifts the tax burden toward a more horizontal distribution is efficient given that it changes the individual's behaviour so as to increase investments, work more, and have less incentive to hide revenues; (3) AMM: tax bases significantly respond to tax incentives and relocate between different locations.

On this background of ideatic diffusion, CIT and PIT reforms processes had unique forms from country to country, whether they were just CIT reforms or Flat tax reforms (simultaneous CIT cuts and PIT Flattening) and given the

local conditions. As the OLS PCSE reveals, especially after important elections that reshuffled the political scene, new governments looking for solutions to rapidly improve their country comparative competitiveness (the mechanism that change tax policy in a Problem) employed policy reforms proven feasible by their enactment in other countries. In some Flat tax reform cases where the value acceptability within the policy community, the anticipated public acquiescence and the reasonable chance for receptivity among elected decision makers were not guaranteed, the causal gap was met by normatively motivated Policy entrepreneurs employing high risk strategies to push the policy reform through the policy process.

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