Local governments' fiscal policy as a factor of urban development – evidence from Poland

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Abstract

The paper explores the issue of urban development in the context of fiscal crisis. A model of municipal governance is introduced, explaining how social agents' individual strategies shape the accumulation of debt by local governments. Empirical investigation, in a sample of big Polish cities, is presented as an illustration of the model. The conclusion is twofold. Firstly, the extent of municipal debt should definitely be considered as an indicator of quality in municipal governance, and, that real accumulation of municipal debt is justifiable only on the short run, and when the given city grows significantly in demographic terms. Secondly, the old institutionalism is a good theoretical framework for studying municipal, fiscal policy, as it emphasises the importance of habits and subjective consistency in individual strategies.

Introduction

The quality of municipal governance is a significant factor urban development. The fiscal balance of local governments is an important aspect of municipal governance. Municipalities, just like states, may practice fiscal expansion, or fiscal conservatism, and just like states, they face all the dilemmas connected to this basic choice. Sometimes, fiscal conservatism is no more an option, but an imperative, when municipalities reach the limits of financial solvability, and municipal debt has to be reduced. However, local governments are not entities, they are organized communities, whose decision-making processes are the outcome of complex social interactions. Being fiscally expansive is easy, but going sharply, fiscally conservative means political revolution at any level of government, municipalities included. Carrying this revolution out to a successful final, i.e. to the point of reaching a sustainable, financial position, is not obvious at all. The present paper attempts to model municipal fiscal policy as the outcome of local politics.

The current fiscal crisis that takes place in European Union's countries has implications for local governments too. The part of local governments' debt in the general government's debt is greatly disparate among the countries of Central and Eastern Europe (CEE), ranging from 4% in Bulgaria, through 14% in Poland, up to 54% in Estonia[1]. Regardless their relative fiscal weight in the overall public debt, most CEE municipalities have experienced tighter fiscal conditions, if only for financial markets having become much more cautious when lending money to the public sector. Thus, cities that strive to quickly catch on their homologues of the Western part of EU as for the quality of life have experienced a sudden brake to their ambitious plans. In September 2000, the World Bank published a seminal paper about cities in the transition economies, by Buckley and Mini (Buckley and Mini 2000), the term "transition economies" being applied to countries of the former Soviet Union and the former

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[1] Data: European Commission

Soviet block. Three systemic issues were named in that paper, that urban policies in transition economies had to address, namely: a) allocating resources efficiently, b) managing social safety nets, and c) building strong local institutions.

The question is how these cities will cope with this sudden problem, and, more broadly, what are the modalities of urban development in presence of fiscal conservatism. More specifically, the present paper attempts at answering the following question: what are the odds that over-indebted cities get out of the crisis in a "meaner and leaner" way, through deep and successful change in municipal governance, and, on the other hand, what is the probability for them to fall into just as deep decadence of public mission? In a broader prospect, what are the strategies that local governments, in developing and emerging economies, may adopt as tackling with the nexus of municipal debt on one hand, and the imperative of development on the other hand? These strategies are even most important, as Europe, and maybe the whole global economy might be not leaving but just entering a long period of financial instability, in quite a pessimistic version of the Hayman Minsky's theory (see for example: Minsky 1992).

Urban development across the globe is accompanied by an evolution in the political role of local governments. Economic globalisation contributes to empower local governments in relation to the national ones. That leads to fiscal decentralisation at the level of provinces, but sometimes also at the level of big cities. The process seems to be particularly dynamic in developing and emerging economies (Shah 2004). Cities, especially the big ones, tend to lead their own, individual fiscal policies. These policies are developed against the background of the typical dilemma between fiscal expansionism on one hand, and the necessity to go restrictive when public debt (in this case the municipal one) is too big. Since 2008, i.e. since the start of the global financial crisis, the public sector has absorbed much of the resulting, adverse economic shock. A sharp increase of public debt was the price that many European countries had to pay for the relative alleviation of economic recession. Local governments

have their share of the trouble: although they do not account for a major part of the overall public debt, their budgets frequently, and dangerously approach insolvability. Besides, the concept of "general government", currently applied in fiscal policy within European Union, makes municipal debt enter into the overall public debt, and prudential rules applying to the latter put a limit to the former. Many European cities have recently found themselves in a tight financial spot, either being unable to borrow enough money to finance their current deficits, or facing a contradiction between the suddenly very sharp limits of the municipal debt, imposed by national regulations, and the imperatives of current solvability. The imperative of fiscal discipline changes much, both to municipal governance, and local politics. Both the process of developing significant debt-dependence, and the inevitably resulting call for tighter fiscal discipline are a historically repetitive pattern of change in the broadly spoken public sector. In Europe, whole kingdoms grew and fell in connection to that very process, which, fault of a better name, can be described as the "public debt cycle". A significant body of research, starting with Adam Smith and Jean – Baptiste Say, states that public authorities in Europe have demonstrated a notorious tendency to appease social unrest through excessive public spending, and that in absence of such spending European societies tend to become extremely unstable (Soboul 1974; Acemoglu and Robinson 2000; Doyle 2001; Boix 2003; Ponticelli and Voth 2011).

Three typical rationalisations of local governments' over-indebtedness are to notice in public discourse. Firstly, should the current municipal deficit be attributed mostly to the endogenous conveyance of public goods to the local population, accumulation of municipal debt results from the local governments' strive to assure the highest possible quality of life to their citizens. Local governance is supposed, then, to be nearly perfect in terms of efficiency. Logically, any form of fiscal conservatism in a municipality consists, then, in cutting on the supply of public goods, and is supposed to lead to a worsening of the local population's

quality of life. Especially the ruling mayors frequently use this kind of rationalisation, which can be described as the **hypothesis of perfect governance of public goods**. According to this point of view, fiscal conservatism, necessary in presence of excessive debt, will consist in cutting on public goods, for example in reducing investment in infrastructure, or the expenses on local public aid. On the grounds of this hypothesis, accumulation of municipal debt is closely linked to urban growth, the local government being supposed to react through perfect adaptation.

Still keeping in focus public goods, and switching from endogenous to exogenous, another kind of rationalisation arises, attributing the current municipal deficit to exogenous factors, namely to the delegation of competences from central to local governments, and to tax performance at both the central and the local level, due, in turn, to the way that markets work. This is the **hypothesis of exogenously driven imperfections in the governance of public goods**. Current municipal deficit, in this case, is proportional to a set of exogenous factors. Depending on the kind of factors in question, this rationale may focus either on the institutional, namely on the delegation of competences from the central government to the local ones, and the corresponding flows of subsidies, or on markets, with tax performance being the key variable. This kind of rhetoric is frequently used, too, by the ruling mayors, in the lines of "we do what we can but the central government delegates still more competences to us without corresponding subsidies". In this approach, fiscal conservatism is problematic as such. Had it been for institutional factors, reducing current municipal deficit would require changing the legal rules that govern relations between the central government and the local ones. In such case, it is about "shuffling out" the deficit, between different levels of government. If, on the other hand, the current municipal deficit is attributable mostly to markets and the corresponding tax performance, the only way of improvement is expansionary fiscal policy, thus a further deepening of public deficit.

Switching from the point of view of classical economics, and the corresponding concept of public goods, to the new institutional approach, the key issue is the quality of governance, and, in connection to it, the concept of opportunistic behaviour. This is the **hypothesis of opportunistic governance**, used mostly by local opposition in municipal councils, when criticising the ruling mayors and their partisans. From this point of view, fiscal conservatism requires elimination of opportunistic behaviour from local governance.

The municipal, fiscal performance matters to the extent that it contributes to urban development. Thus, before going further, to empirical evidence, it is important to theorize on urban development as such. Urban development may be approached from two main, distinct angles: urban growth, also defined as urbanisation, on one hand, and the broadly spoken quality of life on the other hand. In other words, the two main concerns of urban economics are: how do cities grow and what are the social and economic outcomes of their growth?

Urban growth seems to be relatively easy to define, in terms of population, infrastructure, housing and physical surface (Glaeser, Shapiro 2001; Mills and Lubuele 1995; Glaeser et al. 1995; Glaeser 1994; Simon and Nardinelli 1996). A significant strand of classical urban economics tends to define urban growth essentially in terms of spatial equilibrium, where urbanisation is seen as the result of migration processes, which lead people to settle down in some places and not in others (for example: Ellison, Glaeser 1997; Glaeser, Kahn 1999, 2001; Glaeser 2008). This approach has developed some typical models of spatial equilibrium, as for example the Alonso-Muth-Mills model (see: Alonso 1964; Mills 1967; Muth 1969), the Rosen-Roback model (ex. Rosen 1979; Roback 1982; Gyourko, Tracy 1991), or the models of hedonic pricing (see for example: Black 1999). The spatial equilibrium approach leads to the conclusion that had it not been for intentional municipal policies, the population would tend to dwell in loose, network-like spatial structures, without significant agglomeration effects. Thus, the quality of municipal governance should be evaluated essentially on the grounds of

the cities' capacity to attract inhabitants and to maintain sound prices of real estate. However, even urban growth proves to be a complex phenomenon, a body of research having signalled that physical growth of city space does not necessarily go along with population (Glaeser et al. 1995; Eaton and Eckstein 1997). Cities grow in space, on the one hand, but they also grow in density, which, in turn, turns out to be a significant factor of further growth in many respects (Katz 1994).

There is some disagreement among economists as for the relationship between urbanisation, i.e. urban growth, and economic growth. The central assumption is that the said relationship is positive (for example: Jacobs 1984), although a body of research suggests that it is more of a U-shaped correlation (Bertinelli and Strobl 2003). Moreover, urbanisation in developing countries seems to have a much more ambiguous influence upon economic growth, than in the developed ones (World Bank 2000; Fay and Opal 2000; Henderson 2002; McCoskey and Kao 1998). Urbanisation has been progressing across the globe and its progress is undeniably speeding up (United Nations 2002). This growing pace of urbanisation has, since long, inspired substantial research connected to the hypothesis of the possible over-urbanisation (Davis and Golden 1954; Sovani 1964; Kamerschen 1969; Gugler 1982). The hypothesis is somewhat contradicted by those who argue that urbanisation is a complex phenomenon, especially as urban concentration plays a special role in both urban and overall economic development (Doranton and Puga 2004; Rosenthal and Strange 2004; Moomaw and Shatter 1993; Henderson 2003).

The model of municipal, fiscal policy

Consistently with the main lines of old institutionalism (ex Hodgson 2006; Searle 1995, 2005; Joas 1996; Twomey 1998; Kilpinen 2000), the present paper assumes that municipalities are

complex social structures, composed of other social structures marked by various degrees of stability[2]. Among these social structures, the most significant, and the easiest to define, are:

a) Local government composed of various administrative and political agents, namely: the mayor, municipal counsellors and their political fractions[3], and municipal clerks.

b) Local, national and regional non-governmental organisations (NGO).

c) The business sector.

Municipal governance is a temporary Harsanyi's game with imperfect information (Harsanyi 1953; 1966; 1967; 1968), and, in the same time, a sub-game of a Selten's extensive game with imperfect recall (Selten 1975). The set of players is structured into subsets consistent with the social structured named above. At any given moment, any given player '*i*' of the municipal governance game plays a mixed Nash's strategy made of pure Nash's strategies (Nash 1950a; 1950b; 1951; 1953), associated with a pay – off function (Equation 1).

Equation 1

$$S(i; t) = [MA(i; t); R(i; t)]$$

- where *S(i;t)* is the mixed strategy of the player *i* at the moment *t, MA(i;t)* is the set of modalities of action of the player *i* at the moment *t*, R(i;t) is the set of results achieved by the player *i* at the moment *t*.

The set of results *R(i;t)* is causally and functionally derived from the set of modalities of action *MA(i;t)*. Both causality and function are expressed by a general ratio *R(i;t)/MA(i;t)*, which varies from player to player, as their individual strategies display different efficiency. *R(i;t)/MA(i;t)* varies in time, too, as players modify and test their modalities of action, evaluating them on the grounds of their own results and other players' results. Any given set

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[2] It is deliberately assumed that they are "other social structures", and not "sub-structures", because some of them are rather adjacent than subjacent to municipalities, for example the business sector or the population of citizens. Each of these adjacent structures displays a specific pace of change.
[3] It is further assumed that of nationwide political parties are present in municipal governance mostly through the local government.

of 'n' strategies S (for the same player at different moments or at the same moment for different players) displays a specific consistency C(S;t), which is the probability that the ratio *R(i;t)/MA(i;t)* falls into a given interval (Equation 2).

$$C(S;t) = \int_{i=1}^{n} R(i;t) \Big/ MA(i;t)$$

At any given moment t in the given set of *'n'* players there is a reference value *C*(S;t)* of *C(S;t)*, which is the critical level and below which strategies become inconsistent. There is dynamic equilibrium in the given game, i.e. the individual strategies are consistent enough to be predictable, when *C(S;t) > C*(S;t)*. In dynamic equilibrium every individual strategy *S(i;t)* is in interaction with the space of the game in the sense that individual strategies of different players mutually shape one another. This, in turn, leads to a certain degree of isomorphism among individual strategies. Modalities of action *MA(i;t)* are imperfectly heterogeneous among players. Mutual observation and imitation make some typical modalities *MA*(x;t)* of action arise, where x is a variable describing the type of modality.

The set of results *R(i;t)* maximized in each individual strategy *S(i;t)* consists of egoistic and altruistic results, namely: net cash flow *Cf(i;t)*, indirect benefits *Bn(i;t)*, and subjective perception of overall urban development *Un(i;t)*. Any of these results may be maximised in connection to objectively defined urban development. Municipal governance is very much about politics: decisions are taken on the grounds of coalitions, which, in turn, may be formed when individual players' strategies are, at least mutually non-rival, synergic at best, whilst being all internally consistent. Thus, if the municipality is to take any enforceable decision, there must be a dominant coalition built around mutually non-rival and internally consistent strategies. On the modalities of action side, the said coalitions may be built around four, basic types of action: current administration *Ad(i;t)*, local taxation *Tl(i;t)*, and investment (public-

private ventures included) *In(i;t)*[4] given to local businesses. Equation 3 gives the general formula of strategies practiced in the game of municipal governance. Sparse matrix means that particular components of the strategy are, a priori, loosely coupled, i.e. for any player there is uncertainty as for causal links between these components[5]. The internal consistency of any given player's individual strategy is subjectively assessed according to how the fact of voting or opting for particular modalities *Ad(i;t), Tl(i;t), In(i;t)*, and *Ic(i;t)* translates into the probability of obtaining a given level of cash-flow *Cf(i;t)*, indirect benefits *Bn(i;t)*, and urban development *Un(i;t)*.

Equation 3

$$S(i;t) = \begin{pmatrix} Ad(i;t) & \cdots & Cf(i;t); Bn(i;t) \\ \vdots & \ddots & \vdots \\ Tl(i;t); In(i;t) & \cdots & Un(i;t) \end{pmatrix}$$

The three basic patterns of debt accumulation, namely: perfect governance of public goods, reaction to exogenous factors, and opportunistic governance, have their counterparts in three types of strategies, applied in the game of municipal governance. Perfect governance of public goods relies on coalitions that maximize *Un(i;t)*, at the detriment of *Cf(i;t)* and *Bn(i;t)*. Opportunistic governance is the opposite, with *Cf(i;t)* and *Bn(i;t)* maximized, *Un(i;t)* being of negligible importance. The strategies of reaction to the exogenous factors do not display any specific weights attached to particular results. Consequently, the set of results in these strategies is amorphous.

Accumulation of public debt results from strategies typical for both perfect and opportunistic governance (so the "maximizing" ones), strategies of reaction to exogenous factors tending to

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[4] In this context, the "X(i;t)" notation means that the given social agent 'i', at the moment 't' votes for the given modality X to be undertaken by the local government.
[5] It is also to note that the fact of grouping some components in this equation, namely into: *Tl(i;t), In(i;t)*, and *Cf(i;t), Bn(i;t)*, has been made mainly for the purpose of presentation, with, however, some underlying logic. A priori, all the components of the strategy are loosely coupled. Nevertheless, taxation, investment, and economic incentives require a vote of the municipal council, in most municipalities, whilst current administration belongs to the sole discretion of the mayor. On the results side, *Cf(i;t)* and *Bn(i;t)* are egoistics motives, whilst *Un(i;t)* is an altruistic motive.

maintain as high solvability as possible, and concentrating at current administration, in order to keep the municipality flexible in financial terms.

Coalition forming is possible only on the grounds of non-rival strategies. Strategies of perfect governance are susceptible to make coalition with those of reaction to exogenous factors, but not with the opportunistic ones. Vice versa, opportunistic strategies may ally with those oriented on reaction to exogenous factors, but not with perfect governance. In any given set of social agents involved in municipal governance, the number and influence social agents playing the strategies of, respectively, perfect governance, and opportunistic governance of public goods, is unpredictable a priori. However, it is possible to assume that there will be a majority of social agents' willing to develop optimal reaction to exogenous factors, and these strategies naturally dominate in municipal governance. Thus, they make the core of municipal governance, with the respective influence of perfect governance, and opportunistic governance changing in time and unstable. The given municipality's current fiscal position and fiscal policy are the result of a process, in which strategies of reaction to exogenous factors have been combined, in various doses and at various moments, with perfect governance, and opportunistic governance. As the said exogenous factors are basically the same for all municipalities in the given country, small, gradual modifications of municipal governance in time, as well as cross-sectional idiosyncrasies result from the influence of strategies oriented on, respectively, perfect governance and opportunistic governance. Moreover, significant idiosyncrasies in municipal governance, fiscal policy included, should be considered as normal.

As the present model is grounded in the old institutional school, it is further assumed that action relies on habit, rather than on experimentation. Social agents strive for subjective consistency in their individual strategies, and they achieve it by relying on previous experience, and, consequently, on well-tested patterns of behaviour. Consequently, changes in

municipal governance may be incremental (within the same set of rules), or revolutionary (change of rules). Incremental changes do not alter significantly the consistency function of players' individual strategies, whilst revolutionary change disrupts the said consistency and requires the formation of new habits (Theorem 1). In the lines of the present model, significant change in exogenous factors, to which municipalities have to adapt, has to occur in order to cause revolutionary change in municipal governance.

Theorem 1

$$\{C(S;t0) \neq C(S;t1)\} \Leftrightarrow \left\{ \left(\int_{i=1}^{n} \frac{\{Cf(i;t0); Bn(i;t0); Un(i;t0)\}}{Tl(i;t0); In(i;t0); Ad(i;t0)} \right) \neq \left(\int_{i=1}^{n} \frac{\{Cf(i;t1); Bn(i;t1); Un(i;t1)\}}{Tl(i;t1); In(i;t1); Ad(i;t1)} \right) \right\}$$

Illustrative case study - major cities in Poland

A small sample of big cities in Poland had been studied, namely Warsaw, the capital (pop. 1,7 mln[6]), and 10 others: Łódź, Kraków, Katowice, Kielce, Poznań, Szczecin, Wrocław, Gdańsk, Gdynia, Olsztyn. Łódź (pop. 0,7 mln), Katowice (pop. 0,3 mln), and Gdynia (pop. 0,25 mln) are relatively young cities, and former industrial hubs. With relatively weak cultural roots, these cities are attempting to create a new, post-industrial pattern of development. Kraków (pop. 0,76 mln), Poznań (pop. 0,55 mln), Wrocław (pop. 0,63 mln) and Gdańsk (0,46 mln) are old cities, some of the eldest in Poland, with a long history and strong cultural identity. Strongly industrialized in the times of communism, they are progressively returning to their historical roots of merchant cities, which means a pattern of development focused on being a business hub, with a significant position of the service sector, outsourcing included. Szczecin (pop. 0,4 mln), Kielce (pop. 0,2 mln), and Olsztyn (pop. 0,18 mln) are the typical, provincial

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[6] All the statistical data quoted in this chapter are sourced from the Local Data Bank of the Central Statistical Office of Poland, http://www.stat.gov.pl/bdlen/app/strona.html?p_name=indeks

capitals, constantly oscillating between the role of satellites to bigger cities, and their local ambitions for growth.

Fiscal performance of the 11 cities, over 2002 – 2010, was studied, encompassing revenues, expenses, and the resulting accumulation of debt. The span of time reflects three distinct periods for the Polish economy: the quick take-off linked to the accession to EU (2002 – 2007), the slowdown due to global financial crisis (2008 – 2009), and the hesitating way out of the global crisis, combined with the gradually growing awareness of the fiscal problems. Before presenting a summary of fiscal analysis, some demographical remarks are to make. Firstly, whilst being representative for various types of municipalities, the 11 cities studied are not really big agglomerations, like Bogota or Mexico City. Thus, they are also representative for medium sized cities. In a general manner, Poland displays a relatively high density of population, and a relatively even spatial distribution of population. Whilst some big conurbations had arisen in the times of communism (for example the region of Warsaw, or Upper Silesia), at present they tend to atomize, with their component cities following quite autonomous paths of development. Secondly, only Warsaw and Olsztyn had grown, in terms of population, over 2002 – 2010 (respectively +1,9%, and +2,3%). The remaining eight cities have been shrinking demographically, with the rate of depopulation ranging from minus 1% for Gdańsk and Wrocław, to around minus 6% for Łódź and Katowice. Summing up, the empirical evidence brought fourth in this chapter is representative for idiosyncratic urban growth of medium-sized urban communities.

Returning to fiscal performance over 2002 - 2010, it has been visibly idiosyncratic, with a clear tendency to accumulating debt (see Table 1, in Appendix). Further decomposition of fiscal performance was made according to the basic categorisation into the current, and the investment activities, commonly used in the Polish, local governments accountancy[7]. The

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[7] Besides Poland, France is another example of this approach, with French cities categorizing both revenues and expenses into, respectively, „fonctionnement", and „investissement".

central assumption is that local governments are like businesses, running both operations and investment. Current activity consists in tax collection on the revenue side, and current administrative, as well as social assistance to local residents, on the expense side. Investment activities consist, on the revenue side, in contracting subventions and loans, and in financing infrastructure (renovation included), on the expense side[8]. The fiscal result on current activity may be defined as net tax performance, whilst the result on investment may be viewed as a financial gap between the outlays and the revenues[9]. Analysis made in these lines revealed that all the 11 cities tend to get a positive fiscal result on current activity, although this net tax performance is highly idiosyncratic, and tends to decrease significantly (Table 2, in Appendix). On the other hand, the result on investment activity is generally negative, and even more disparate that that on current activity, whilst not to demonstrating any clear tendency to change over 2007 – 2010 (see Table 3, in Appendix). Moreover, the financial gap on investment activity had tended to broaden over 2007 – 2009, with a slight decline in 2010. At the bottom line, all the 11 cities in question seem to accumulate municipal debt due to high expenses on infrastructure. In the same time, municipalities are greatly disparate in their net tax performance, and also seem to be greatly idiosyncratic in their capacity to realistically match their infrastructural endeavours with real, financial possibilities.

Further, cities have been studied and compared as for per capita ratios of expenses, and revenues, both aggregate and split into current and investment. The focus was on real growth of these per capita ratios over 2007 - 2010[10] (Table 4, in Appendix). Significant disparities as for real growth of expenses per capita, ranging from minus 2,78% in Kraków, and 1,18% in Łódź, to 49,54% in Kielce. Clearly, there are distinctive, municipal fiscal policies, which is confirmed by the observation of revenues' growth, as well as those of investment expenses,

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[8] Due to limitations of public statistics, fiscal analysis categorized into „current" and"investment" was carried out for the period 2007 - 2010
[9] It is to note that gross tax performance of the Polish, local governments consists of two components: local taxes, and a participation in the income taxes, collected by the State Treasury in the given territory. The latter, whilst being largely exogenous to the local governments' policy, tends to make the major part of their gross tax performance.
[10] „Real dynamics" mean the nominal ones, corrected for the CPI inflation, as reported by the National Bank of Poland. The corresponding rate of inflation over 2007 – 2010 was of 14,639%.

and gross tax performance. However idiosyncratic they would be, most cities display various shades of expansionary, municipal fiscal policy, with expenses per capita growing much faster than the revenues. Taking the example of Warsaw, the capital, one notices a sharp growth of local budget's expenses per capita (+17,3%), and an even sharper growth of investment outlays (+35,55%). As for revenues, they had decreased significantly, by 8,59%, with an almost as significant decrease of gross tax performance per capita (minus 7,6%). Kraków, in the Southern Poland, is the only example of fiscal conservatism, with expenses per capita shrinking at approximately the same pace than gross tax performance, with other revenues, mostly subventions, having had grown significantly[11]. There is no clear relationship between demographic dynamics of the cities studied, and their fiscal policy, although the only municipality that could be categorized as fiscally conservative, namely Kraków, is also the only that is close to demographical standstill (-0,2% change in population over 2002 – 2010). Four types of fiscal policy arise from the case study. Firstly, it is a fiscally expansive, and highly indebted local government in a city, which experiences urban growth, in demographic terms (Warsaw). Secondly, it is a fiscally conservative, highly indebted, and demographically stable municipality (Kraków). Thirdly, it is the type of demographically shrinking city, fiscally expansive, and highly indebted (Łódź, Poznań, Wrocław, Szczecin, Gdańsk). Finally, some cities shrink demographically, and lead an expansive fiscal policy in the context of moderate public debt (Katowice, Kielce, Gdynia, Olsztyn). All four operate in the context of a lowering, net tax performance[12], and abundant infrastructural projects, generating quick accumulation of public debt.

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[11] That Kraków's recent, fiscal conservatism is, among other factors, connected to the fact that in previous years the municipal government had accumulated significant debt. At the end of 2010, total municipal debt (so the one mentioned in the present research, plus the earlier one), was of more than 57% of 2010 revenues.

[12] Reminder: by "net tax performance" the author means the difference between gross tax performance, and expenses on current administration of the city.

Conclusion

The case study, in the context of the model, allows drawing conclusions that should be developed in further, quantitative research. There seems to be a common pattern of debt accumulation, connected to investment in infrastructure. Still, most cities studied invest heavily in infrastructure, and accumulate debt, whilst shrinking demographically. Whatever importance various players of municipal governance assign, in their individual strategies, to the component of urban development, the real outcome is certainly not urban growth. Three hypotheses arise as for this issue. Firstly, investment in infrastructure may be significantly driven by opportunistic strategies, firms and individuals involved in infrastructural projects striving to maximize their egoistic goals. Should it be true, the extent of public debt could be an indicator of governance quality. The greater is the debt in relation to revenues, the poorer is municipal governance, i.e. the greater extent of opportunistic behaviour it allows. Secondly, investment in infrastructure might be needed to maximize qualitative components of urban development, especially quality of life and attractiveness to investors. Thus, there would be a common pattern of municipal, fiscal expansion, without urban growth. With time passing and the debt burden building up, that means the necessity to raise local taxes and fees (the participation in the state – collected ones being largely exogenous), in order to maintain both quality of life and solvability. On the long run, it also means that the extent of public debt is an indicator of sound, municipal governance. The model allows concluding that whatever explanation is taken as true for the accumulation of municipal debt, all kinds of rhetoric in the lines of "we spend more money that we earn in order to give people good quality of life" are utterly false, if the given city does not grow significantly in demographic terms.

Significant idiosyncrasies, to notice in the case of 11 Polish cities studied, indicate that hysteresis plays an important role in their fiscal policy. From the behavioural point of view, it confirms that the old institutionalism is a good theoretical framework for studying municipal,

fiscal policy, as it emphasises the importance of habits and subjective consistency in individual strategies. The case study indicate that local governments are much more likely to behave in opportunistic ways, than to optimize their fiscal decisions. Also, significant hysteresis means that, whatever importance should be assigned to strategies oriented on responding to exogenous factors, the two "maximizing" strategies, namely perfect governance and opportunistic governance of public goods, play a significant role in shaping the local governments' fiscal policy.

References

1. Acemoglu, D., Robinson, J., 2000, Why Did the West Extend the Franchise? Democracy, Inequality, and Growth in Historical Perspective, Quarterly Journal of Economics 115(4), pp. 1167–1199
2. Alonso, W., 1964, Location and Land Use, Cambridge: Harvard University Press
3. Bertinelli L., Strobl E., 2003, Urbanization, Urban Concentration and Economic Growth in Developing Countries, CREDIT Research Paper No. 03/14
4. Black, S., E., 1999, Do Better Schools Matter? Parental Valuation of Elementary Education,Q uarterly Journal of Economics 114(2): 577-599
5. Boix, C., 2003, Democracy and Redistribution, Cambridge University Press, United Kingdom
6. Buckley, R.,M., Mini, F., 2000, From Comissars to Mayors: Cities in the Transition Economies, World Bank Policy Research Working Paper 20941
7. Davis, K., Golden H.,H., 1954, Urbanization and the Development of Pre-Industrial Areas, Economic Development and Cultural Change, 3(1)
8. Doyle, W., 2001, The French Revolution: a Very Short Introduction, Volume 54. Oxford University Press, USA
9. Duranton, G., Puga, D., 2004, Micro-foundations of urban agglomeration economies, in: JF. Thisse J.,F., Henderson J.,V., Handbook of Urban and Regional Economic, Volume 4
10. Eaton, J., Eckstein, Z., 1997, Cities and growth: Theory and evidence from France and Japan, Regional Science and Urban Economics, 27(4-5), pp. 443-474
11. Ellison, G., Glaeser E., 1997, Geographic Concentration in U.S. Manufacturing Industries: A Dartboard Approach, Journal of Political Economy 105 (1997): 889- 927
12. Fay, M., Opal Ch., 2000, Urbanization without Growth: A not so uncommon Phenomenon, World Bank Working Paper 2412
13. Glaeser, E. L., Scheinkman, J., A.; Shleifer A., 1995, Economic growth in a cross-section of cities, Journal of Monetary Economics, 36(1), pp. 117-143
14. Glaeser, E., 2008, The Economic Approach to Cities, Harvard Institute of Economic Research Discussion Paper No. 2149, and John F. Kennedy School of Government Faculty Research Paper No. RWP08-003
15. Glaeser, E., Kahn M., 1999, From Lindsay to Giuliani: The Decline of the Local Safety Net?, Federal Reserve Bank of New York Economic Policy Review 5(2): 117-132
16. Glaeser, E., Kahn M., 2001, Decentralized Employment and the Transformation of the American City, Brookings-Wharton Papers on Urban Affairs 2 (2001)
17. Glaeser, E., L., 1994, Cities, information, and economic growth, Cityscape, A Journal of Policy Development and Research, 1(1), pp. 9-47

18. Glaeser, E.,L., Shapiro, J., 2001, Is There a New Urbanism? The Growth of U.S. Cities in the 1990s?, Harvard Institute of Economic Research. Discussion Paper Number 1925
19. Gugler, J., 1982, Overurbanization Reconsidered, Economic Development and Cultural Change, 31, pp.173-189
20. Gyourko, J., Tracy J., 199, The Structure of Local Public Finance nad the Quality of Life, Journal of Political Economy 99(4): 774-806
21. Harsanyi, J.C., 1953, Cardinal Utility in Welfare Economics and in the Theory of Risk – Taking, The Journal of Political Economy, vol. 61, issue 5, pp. 434 - 435
22. Harsanyi, J.C., 1966, A General Theory of Rational Behavior in Game Situations, Econometrica, vol. 34, no. 3, pp. 613 – 634
23. Harsanyi, J.C., 1967, Games With Incomplete Information Played by "Bayesian" Players. Part I: The Basic Model, Management Science, vol. 14, no. 3, pp. 159 - 182
24. Harsanyi, J.C., 1968, Games With Incomplete Information Played by "Bayesian" Players. Part II: Bayesian Equilibrium Points – Management Science, vol. 14, no. 5, pp. 320 - 334
25. Henderson, J.,V., 2002, Urbanization in Developing Countries, World Bank Research Observer, 17(1), pp.89-112
26. Henderson, J.,V., 2003, The Urbanization Process and Economic Growth: The So-What Question, Journal of Economic Growth, 8(1), pp.47-71
27. Hodgson, G.,M., 2006, Institutional Economics, the Individual Actor and Institutional Change, For the Alexander von Humboldt lecture at the University of Nijmegen, December the 5th, p. 1
28. Jacobs, J., 1984, Cities and the Wealth of Nations, Random House, New York
29. Joas, H., 1996, The Creativity of Action, Chicago: University of Chicago Press
30. Kamerschen, D.,R., 1969, Further Analysis of Overurbanization, Economic Development and Cultural Change, 12 (2), pp.235-53
31. Katz, P. (ed.), 1994, The New Urbanism: Toward an Architecture of Community, New York: McGraw-Hill
32. Kilpinen, E., 2000, The Enormous Fly-Wheel of Society: Pragmatism's Habitual Conception of Action and Social Theory, Helsinki: University of Helsinki
33. McCoskey, S., Kao Ch., 1998, A Panel Data Investigation of the Relationship between Urbanization and Growth, United States Naval Academy and Syracuse University
34. Mills, E., S., Lubuele L' S., 1995, Projecting growth of metropolitan areas, Journal of Urban Economics 37(3), pp. 344-360
35. Mills, E.,S., 1967, An Aggregative Model of Resource Allocation in a Metropolitna Area, American Economic Review 57(2): 197-210
36. Minsky, H.,P., 1992, The Financial Instability Hypothesis, The Jerome Levy Economics Institute of Bard College Working Paper No.74
37. Moomaw, R.,L., Shatter, A.,M., 1993, Urbanization as a Factor of Economic Growth, Journal of Economics, 19(2), pp.1-6
38. Muth, R., 1969, Cities and Housing, Chicago: University of Chicago Press
39. Nash, J.F., 1950, Equilibrium Points in n – Person Games – Proceedings of the National Academy of Sciences of the United States of America, vol. 36, no.1, pp. 48 - 49
40. Nash, J.F., 1950, The Bargaining Problem, Econometrica, vol. 18, no.2, pp. 155 - 162
41. Nash, J.F., 1951, Non – Cooperative Games, The Annals of Mathematics, Second Series, vol. 54, issue 2, pp. 286 - 295
42. Nash, J.F., 1953, Two – Person Cooperative Games – Econometrica, vol. 21, issue 1, pp. 128 - 140
43. Ponticelli, J., Voth, H-J., 2011, Austerity and Anarchy: Budget Cuts and Social Unrest in Europe, 1919-2008, paper available at: http://ssrn.com/abstract=1899287
44. Roback, J., 1982, Wages, Rents, and the Quality of Life, Journal of Political Economy, Vol. 90, no. 4 (December 1982): 1257-78
45. Rosen, S., 1979, Wage-Based Indexes of Urban Quality of Life, in: Mieszkowski P., Straszheim M., (ed.), Current Issues in Urban Economics, Baltimore: Johns Hopkins Univerity Press, 1979

46. Rosenthal, S., Strange, W., 2004, Evidence on the nature and sources of agglomeration economies, in: JF. Thisse J.,F., Henderson J.,V.,, Handbook of Urban And Regional Economic, Volume 4

47. Searle, J., R., 1995, The Construction of Social Reality, London: Allen Lane

48. Searle, J., R., 2005, What is an Institution ?, Journal of Institutional Economics, vol. 1, pp.1-22

49. Selten, R., 1975, Reexamination of the perfectness concept for equilibrium points in extensive games - Journal International Journal of Game Theory, Issue Volume 4, Number 1, reprint: Kuhn, H.W.,(ed.), Classics in Game Theory, Princeton University Press, 1997, pp. 317 – 354

50. Shah A., 2004, Fiscal Decentralization in Developing and Transition Economies Progress, Problems, and the Promise, World Bank Policy Research Working Paper 3282

51. Simon, C.,J., Nardinelli, C., 1996, The talk of the town: Human capital, information, and the growth of English cities, 1861 to 1961, Explorations in Economic History, 33(3), pp. 384-413

52. Soboul, A., 1974, The French Revolution, 1787-1799: from the Storming of the Bastille to Napoleon. Random House

53. Sovani, N.,V., 1964, The Analysis of Over-Urbanization, Economic Development and Cultural Change, 7(2), pp.113-122

54. Twomey, P., 1998, Reviving Veblenian Economic Psychology, Cambridge Journal of Economics, vol. 22, no. 4, July, pp. 433-48

55. United Nations, 2002, World Urbanization Prospects: The 2001 Revision, Population Division

56. World Bank, 2000, World Development Report 1999/2000: Entering the 21st Century, Washington

Appendix

Table 1

City	Total debt at the end of 2010, as % of the 2010 revenues
Łódź	-52,1%
Warszawa	-50,7%
Kraków	-57,2%
Katowice	-24,8%
Kielce	-39,1%
Poznań	-68,2%
Szczecin	-49,0%
Wrocław	-60,7%
Gdańsk	-58,3%
Gdynia	-43,0%
Olsztyn	-42,7%

Source: Central Statistical Office of Poland

Table 2

City	Net tax performance (fiscal result on current activity, as % of tax revenues)			
	2007	2008	2009	2010
Łódź	14,4%	12,2%	6,1%	0,7%
Warszawa	19,6%	12,1%	4,2%	3,4%
Kraków	15,1%	11,6%	7,7%	6,4%
Katowice	27,0%	23,5%	17,7%	15,7%
Kielce	13,6%	12,1%	4,5%	4,4%
Poznań	23,3%	22,2%	12,9%	6,0%
Szczecin	18,5%	20,4%	13,6%	8,9%
Wrocław	13,8%	7,3%	2,4%	5,1%
Gdańsk	15,9%	13,7%	4,2%	9,7%
Gdynia	19,3%	13,5%	5,6%	0,0%
Olsztyn	15,0%	11,8%	6,2%	4,3%

Source: Central Statistical Office of Poland

Table 3

City	Financial gap in investment activity, as % of investment expenses			
	2007	2008	2009	2010
Łódź	-65,0%	-59,4%	-49,0%	-48,6%
Warszawa	-66,1%	-68,0%	-77,7%	-76,7%
Kraków	-81,9%	-79,6%	-68,8%	-30,8%
Katowice	-73,2%	-81,3%	-88,0%	-77,7%
Kielce	-54,1%	-67,5%	-66,1%	-45,0%
Poznań	-52,6%	-63,8%	-81,3%	-72,9%
Szczecin	-60,5%	-76,4%	-75,2%	-81,4%
Wrocław	-34,9%	-68,5%	-71,3%	-28,8%
Gdańsk	-54,6%	-75,2%	-74,4%	-55,1%
Gdynia	-31,8%	-62,4%	-73,5%	-44,1%
Olsztyn	-57,5%	-56,4%	-71,6%	-67,7%

Source: Central Statistical Office of Poland

Table 4

City	Real growth over 2007 – 2010, corrected for CPI inflation, in %			
	Expenses per capita	*Revenues per capita*	*Investment expenses per capita*	*Gross tax performance per capita*
Łódź	1,18%	-3,33%	-39,54%	-5,6%
Warszawa	17,3%	-8,59%	35,55%	-7,6%
Kraków	-2,78%	5,91%	-38,80%	-2,6%
Katowice	27,19%	3,63%	50,64%	0,6%
Kielce	49,54%	28,87%	179,75%	15,5%
Poznań	27,57%	-3,67%	29,83%	-1,3%
Szczecin	20,88%	-3,34%	49,18%	-1,0%
Wrocław	9,47%	4,17%	-6,77%	4,4%
Gdańsk	16,82%	7,68%	22,67%	6,3%
Gdynia	11,19%	-6,78%	-33,52%	2,7%
Olsztyn	24,16%	-0,70%	90,48%	-3,5%