Local Government Performance in Rural Poland: The Roles of Local Government
Characteristics and Inherited Conditions

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During the 1990s, countries in Asia, Africa and Latin America, as well as the former socialist countries of East-Central Europe and Eurasia, decentralized government, moving more decision-making to the local level. In former socialist economies, where governance had been extremely centralized, decentralization had particular resonance as a method of quickly improving public sector performance (Polishchuk, 2004: 308).

A growing body of empirical work now suggests, however, that decentralization may not provide a simple means of improving efficiency and service delivery. Research points to problems in the design of policies (Dabla-Norris, 2006; Rodriguez-Pose and Kroijer; 2009), but performance has also varied significantly among governments operating within a uniform institutional framework (Besley and Burgess, 2002; Grindle, 2007; Pickering, 2012). Outcomes have improved in some localities, while others have fallen further behind.

Bardhan (2002) provides an analytical framework for explaining differing performance, linking it to the characteristics of local governments, especially differing levels of skill and accountability. In empirical studies of developing countries in Latin America and Asia, authors have linked performance to these and other local government characteristics, including networking skill and entrepreneurship, and electoral competition and voter participation (Angell, Lowden and Thorp, 2001; Besley and Burgess, 2002; Grindle, 2007). However, findings are not consistent. An alternative explanation (Golley, 2002) is that factors outside the control of local government, including history and geography, may explain outcomes. Empirical work examining this link likewise finds mixed results (Angell, Lowden and Thorp, 2001; Besley and Burgess, 2002; Grindle, 2007). Looking at a post-socialist case, Meurs (2007) shows that, in Bulgaria, outcomes of decentralization were related to the specific characteristics of local governments, but that history and location had a bigger impact on performance.
Understanding the relative impact of these factors is important. If more skilled, active, and accountable local governments have a significant relationship to local performance, policies to train local government officials and increase their accountability to the local population may help lagging areas to catch up. If history and geography outweigh the efforts of local government to improve outcomes, there may be an important continued role for transfers to poorly performing municipalities, even considering the negative impact such transfers can have on the motivation and accountability of local governments.

In this paper, we use unique survey data to analyze the link between local government characteristics and performance in another post-socialist case: Poland. We describe the extent to which local governments vary in key characteristics and outcomes after decentralization and analyze the link between these. In doing so, we contribute to both theoretical and empirical work on the relationship of local government characteristics and inherited conditions to performance, and to policy debates about improving outcomes.

Poland is an important case for understanding the links between local government conditions and outcomes because it offered strong conditions for success. Decentralization benefited from strong traditions of local government prior to socialism, fairly consistent policy implementation, strong macroeconomic performance (providing resources, so that decentralization did not simply shift central government deficits to localities), and early EU membership (providing technical and financial assistance). This within-country study allows us to control for important variables, including pace and type of liberalization, the degree and form of decentralization, and the mode of local government financing, to focus on the impact of variations in local context. We look specifically at rural municipalities, where conditions important to effective local government may be less well developed.

Using an OLS framework and three measures of performance, we find that some characteristics of local government (some measures of mayoral networking and electoral
accountability) are significantly related to local outcomes. But the relationships are not consistent, and historical and locational factors often have a more consistent, and important, impact on outcomes. On exception is where local governments successfully apply for EU funds and have other favorable characteristics. These activist governments can overcome the impact of negative inherited conditions. Overall, our findings support emerging patterns in the literature and have important implications for debates about how to implement the conditions for successful performance of decentralized government.

II) Why Decentralize?

Decentralizing decision making from central to local governments should improve allocative efficiency, as local government will have superior information about, and incentive to fulfill, local demands. Political participation may be facilitated by the smaller scale and better access to relevant information, and the resulting monitoring may reduce government waste and raise technical efficiency.

However, a number of conditions may limit the potential of decentralization to improve local outcomes. If there is little heterogeneity of preferences across localities, decentralization may yield few allocational benefits, while raising organizational costs. Too little heterogeneity seems an unlikely problem in most developing and transition economies, characterized by uneven development and, often, ethnic diversity. Another problem is spillover effects from one locality onto another. Where these occur, more aggregated decision-making units are needed to address them (Seabright, 1996).

Problems in the design of fiscal rules and incentives often undermine decentralization. Centralization of resources and limits on local decision making leave governments unable to respond to local demands. Highly constrained local governments cannot be held accountable for outcomes by voters. Dabla-Norris outlines such design failures in a range of post-socialist cases (2006). Using panel data of 16 Central and East European countries,
Rogriguez-Pose and Kroijer (2009) find a negative relationship between decentralization and economic growth, although greater revenue autonomy (better design) is related to better response to local demands. Zhuravskaya, comparing Chinese and Russian fiscal design, also shows a link between design (revenue autonomy) and performance (2000).

Finally, the ability of local government to improve performance may depend on the specific characteristics of the local government itself. This is the relationship we examine below. Some local administrations may lack the skills to respond effectively to local demands (Bardhan, 2002; Bardhan and Mookherjee, 2006). A study of local government and outcomes in Latin American cities found that cities with innovative mayors, skilled at networking, outperformed other cities (Angell, Lowden and Thorp, 2001). Looking at smaller municipalities in Mexico, Grindle (2007) also found that entrepreneurial skills of local officials were important in outcomes. Studying local government performance in rural Bulgaria, Meurs (2007) found no evidence that mayors’ level of education was related to better outcomes, but did confirm that mayoral networking was correlated with greater reductions in the local unemployment rate. Pickering (2012) found that entrepreneurial, consensus-building skills contributed to mayors’ success in Bosnia-Herzegovina.

Differences in government accountability may also have an important impact on outcomes. Although decentralization is meant to improve government responsiveness to voters, Bardhan and Mookherjee (2006) argue that local government may be more susceptible to capture than central government, because potential captors are fewer and thus better organized at the local level. The authors argue that the problem will be more severe where the local population lacks the education and time to monitor effectively.

The importance of effective monitoring has been tested in a variety of ways. Meurs (2007) found voter turnout rates in Bulgaria to be significantly positively related to levels of net migration into rural localities (but not with improvements in local revenue generation
or unemployment). A study of local government in India found voter turnout unrelated to effective local government disaster response, although levels of electoral competition (number of competing candidates) were significantly positively related to response (Besley and Burgess, 2012). In small Mexican municipalities, Grindle (2007) found no relationship between the level of electoral competition and performance, while electoral competition seemed to be important in Bosnia-Herzegovina (Pickering, 2012). The India study also examined the impact of newspaper circulation, as a measure of local voters’ information, and found a significant relationship (Besley and Burgess, 2012).

Citizen monitoring of local government might also be more direct, especially in small and rural municipalities. It might occur in meetings with local officials. Grindle found such activity to be unrelated to outcomes in Mexico, however, and argued that meetings are often focused on the extraction of very specific resources, and not broad accountability (2007), a dynamic also described by Regulska for Poland (2009).

Localities also differ in their infrastructure and resource bases, and this may affect the performance of local government (mediated by the form of fiscal decentralization). The local resource base, while partly the result of local government decisions, is also affected by a number of factors outside local government control, including history (agglomeration effects), location, and natural resource endowments. Studying regional inequality in China, Jane Golley found a significant impact of agglomeration effects on regional economic outcomes, arguing that “nature” (history) may require as much attention as “nurture” (policy) in explaining outcomes (2002:786). Angell, Lowden and Thorp (2001), studying Latin American cities under decentralization, also find an important role for economic starting point in explaining relative performance. Meurs (2007) finds that regional dummies outweigh all other factors in explaining differences in local government performance in Bulgaria. In Mexico, however, Grindle (2007) finds that per capita local
government resources are not related to performance, and Besley and Burgess find no impact of income or central government transfers on local government disaster relief in India\(^1\) (2012).

These studies vary significantly in the outcome measures used, variables controlled for, and measurement techniques—including the degree to which they address the complex (endogenous) relationships between local government performance and its determinants. The Latin American studies (Angell, Lowden and Thorpe, 2001; Grindle, 2007) rely on case studies or simple correlations, while the Bulgarian (Meurs, 2007) and Indian (Besley and Burgess, 2012) studies use multivariate regressions and, for India, panel data. With such diverse approaches and findings, there is not yet a consensus on the impact of local conditions and behavior on decentralization outcomes. Leaders’ networking skills and effort seem to matter consistently, but the effect of electoral conditions and inherited conditions is less clear.

In section IV, we examine the characteristics of rural mayors elected in the 2002 local elections in Poland and interviewed in 2005 and a range of local economic factors over which mayors have little immediate control, including infrastructure and inherited patterns of economic development. In section V, we examine the relationship between these factors and three measures of local government performance. First, we review the framework of Polish decentralization.

III) Polish Decentralization

Historical precedents in Poland provide a mix of institutional reference points for the reform. From 1569-1772 provinces of the Polish Crown were divided into counties, each with its own courts, administration, and elected assembly. However, from 1815-1918,

\(^1\) This finding controls for state-level effects, which might be picking up some of the effect of income differences.
Poland was partitioned between Russia, Austria and Prussia, and while local government continued to function, different forms of governance were practiced, and many of these regional differences remained in place until 1939 (Kerlin, 2005). After 1950, a uniform system of elected peoples’ councils was established. These were heavily subordinated to national Communist Party structures and had no fiscal autonomy, lasting until 1989.

The return of greater autonomy to local government began in March 1990. Initially, decentralization involved two tiers of local administration--regions (województwo) and municipalities (gmina). Counties (powiat), an intermediate level of administration, were established in 1999 (when regions were also reorganized).2

Regional Councils are responsible for regional development policy, but have no supervisory authority over the lower-tier of administration. Country-level governments manage secondary schools, hospitals and inter-municipality roads (Regulski, 2003) as well as other activities that “spill over” from one municipality to another.

Municipality-level governments are the focus of this study, and we describe the role and functioning of municipal governments for the period covered by our study. In 2005, there were just under 2500 Polish municipalities, of which approximately 1584 are rural municipalities. Municipal councils are directly elected for a term of four years as are, since 2002, rural mayors (Levitas, 1999; (Swianiewicz, 2006).

Local governments have a broad range of responsibilities, including public transport, water and sewer systems, waste management, power and heating, libraries and local cemeteries, and pre- and (since 1996) primary schools on their territory. They also share responsibility (with higher levels of government) for health care, public welfare, public order, environmental protection, and management of other public spaces (Levitas, 1999).

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2 We will rely on these English language translations throughout the text. Gmina is also translated as “commune,” but we use “municipality” as it is more familiar to English-speaking readers.
Structures of fiscal decentralization affect the local government’s ability and incentive to fulfill these responsibilities. Municipalities raise locally a significant share of the revenue needed to fulfill their functions. Revenue comes from fees: for services, like water and waste collection, for stamps on official documents, and for real estate transfers. Local revenue also comes from locally set and collected taxes--on property, dogs, and some large vehicles, as well as farms and inheritance. The Ministry of Finance sets limits on the tax rates (with the exception of the dog tax) (Filas, Levitas, and Piszczek, 2002), but municipalities may set rates below the limit, and many municipalities, especially smaller municipalities, do. Municipalities may also grant exemptions to local taxes, and do so. Swianiewicz (2006:316-18) found municipal tax revenue to be more than 10% below the level expected given centrally-set limits, and smaller, rural municipalities to be more likely to grant tax exceptions and exemptions than their larger, more urban counterparts. Municipalities also receive revenue from rental or sale of municipal property. Overall, local revenue accounted for about 38% of local budgets in 2004, but for a significantly lower share in rural municipalities—27% (Table 1).

Table 1: Structure of Revenue in Different Types of Municipalities, 2004

<table>
<thead>
<tr>
<th>Revenue Source (%)</th>
<th>Type of Municipality</th>
<th>Other Cities</th>
<th>Rural Municipalities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Revenue</td>
<td>Cities with County Status</td>
<td>35.4</td>
<td>38.6</td>
</tr>
<tr>
<td>Shares in Central Taxes</td>
<td>Other Cities</td>
<td>27.5</td>
<td>26.6</td>
</tr>
<tr>
<td>General Grants</td>
<td>Other Cities</td>
<td>23.6</td>
<td>18.7</td>
</tr>
<tr>
<td>Conditional Grants</td>
<td>Other Cities</td>
<td>13.5</td>
<td>14.5</td>
</tr>
<tr>
<td>Total</td>
<td>Other Cities</td>
<td>100</td>
<td>100</td>
</tr>
</tbody>
</table>


Another revenue source for municipalities is the sharing of national taxes collected on their territory. The local share of personal income tax has been revised upward repeatedly, from 15% in 1993 to over 39% from 2004-2006. The share of corporate income tax returned to local governments also rose after 2003, from 5% to 6.7% for 2004-2006.
Despite this increased sharing of tax revenue, the importance of shared taxes in the local budget has fallen over time (partly due to rising grant income—see below). In 2004, shared taxes made up about 10% of revenue of rural municipalities, a lower share than in urban municipalities (Table 1). Rural municipalities also have fewer corporate entities, and less corporate tax revenue, than their urban counterparts (Swianiewicz, 2006: 315-323). Perhaps more importantly, farmers pay no personal income tax.³

A third source of local revenue is subsidies from the central budget and, especially after 2006, from the European Union. The 1997 Polish Constitution assures local governments “public funds adequate for the performance of the duties assigned to them” (Kerlin, 2005). Subsidies help satisfy this requirement, offsetting differences in local revenues. The subsidy formula was significantly revised in 2003, to account for the increased sharing of income taxes (which, as noted, are significantly lower in rural areas) and to better address expenditure needs. An education subsidy is calculated separately, and was also adjusted 2003. It is based on the number of pupils at different types of schools, but rural municipalities get more per pupil than urban municipalities (Swianiewicz, 2006: 315, 327).

Local governments also receive earmarked funds to cover or subsidize costs of specific investments or devolved responsibilities (Levitas, 1999:15), although this source of funding has become less important over time (Swianiewicz, 2006). These funds tend to be allocated to needy rural governments (Kopanska and Levitas, 2002:7; 10).

A newer source of investment funds has been European Union pre-accession and then structural and cohesion funds. Local governments can apply for funds for infrastructure improvement (including transportation, social and information infrastructure) as well as environmental protection, tourism and cultural development, for up to 80% of the value of the project (the municipality must provide at least 20% of the funds) (Mis, 2009). The

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³ They will begin to pay income tax in 2014 (http://www.thenews.pl, august 13, 2012)
process is competitive. In 2004, EU funds made up 20% of investment in rural municipalities (Swianiewicz, 2006:334).

Finally, Polish local governments have access to financial markets (although their borrowing is limited to 60% of their annual revenue, and some other some nationally-set regulations) (Swianiewicz, 2006: 337). Initially, the majority of investment borrowing by municipalities came from the Environmental Fund and Bank for Environmental Protection, especially for water infrastructure (Levitas, 1999:27). But municipalities rely increasingly on commercial banks and international lending agencies. They may also issue securities (Kopansk and Levitas, 2002). By 1998, municipal bond issues were relatively common, even relatively small municipalities. In 2005, an estimated 20% of rural municipal debt was issued for matching funds required for EU-funded projects (Danilowska, 2011).

In sum, local governments in Poland have, and exercise, a fair degree of autonomy in raising revenue. Municipalities have even greater freedom to decide how to use the money they raise. This autonomy is the basis for local government characteristics and behavior (skill, networking and accountability) to affect local outcomes, and the basis for populations to hold local governments accountable for addressing of local preferences.

However, there are still significant limitations on local autonomy, and these limit to the extent to which local government can influence, and be held accountable for, local outcomes. Statutory limits on local tax rates, and central control over some local policy, including fairly detailed control of education policy, limit the ability of local governments to affect certain outcomes. Further, as many authors have noted, the share of municipal revenue coming from the municipalities themselves has fallen over time (Kerlin, 2005; Swianiewicz, 2006), as education transfers have grown and equalization transfers have been used to protect poorer municipalities from dependence of local budgets on (shared) taxes revenue. The transfers are an important way to offset inequality, but at the same time,
they reduce the link between local government behavior and local outcomes, and thus limit the ability of the local electorate to hold government accountable. The magnitude of this “wedge” between local government actions and outcomes is likely to vary across municipalities, with a closer link being possible in wealthier municipalities, and a weaker link existing in poorer, often rural, municipalities, which are more dependent on transfers.

IV) Characteristics of Governments of Rural Polish Gminas

A) The Data:

The majority of the data on local government characteristics and activities comes from a unique survey of 160 rural mayors carried out in the spring of 2005. The survey sample is nationally representative, drawn from a list of all rural municipalities. Survey enumerators worked with mayors and specialists in the municipal government offices collect data on mayoral behavior and opinions and the characteristics of the local economy and infrastructure. For data on the skill levels of municipal staff, sewer lines, population, the local budgets, as well as unemployment rates and migration, we use Local Data Bank of Central Statistical Office in Poland (CSO, 2012). Election data for 2002 come from the National Electoral Commission (http://wybory2002.pkw.gov.pl/index.html).

B) Local Government Skills, Networking Initiative, and Accountability

The survey data indicates that the majority of rural Polish mayors had significant skills related to their job. Seventy-four percent of rural Polish mayors serving in 2005 had higher education (a completed associate or university degree). Only 3% of mayors had only a non-specialized secondary education. The majority of mayors also had previous managerial experience—65% had worked in white collar, managerial positions, 14% had owned their own company, and 9% had been independent professionals. Further, many of the mayors had previous experience as mayor. Only 25% of respondents were in their first
term as mayor. Twenty seven percent were in their second term, 19% in their third term, 27% in their fourth term, and two mayors reported being in their 5\textsuperscript{th} and 9\textsuperscript{th} terms.

These mayors were supported by municipal staff with varied levels of skill. On average, 32% of staff had higher education, but the share varied from 0% to 92%. Educated staff did not offset weak educational backgrounds of mayors. Rather, mayors with higher education had more staff with higher education than did less educated mayors.

Mayors tended to be in their middle- to late middle-age (90% of them were 40 years old or older), but there was a broad range, from 28 to 67 years. Possibly, age reflects the type of skill set which an individual might have—with mayors over 40 having received most of their education in the previous system, and younger mayors possibly having skills more appropriate to the current context. However, very few mayors were young enough to have had a mainly post-socialist education. The vast majority of mayors were male (91%).

Mayoral networking probably reflects a mix of skill and motivation (possibly linked to accountability). There was significant variation in reported networking initiative among mayors—both in the kind of activities and the level of engagement. One common activity was interaction with other levels of government. Twenty-nine percent of mayors reported meeting with national government officials at least monthly, while a slightly smaller share reported never having such meetings. Meetings with regional governments (in charge of regional development planning) were more consistent, with only 3% of mayors reporting no such meetings and one third reporting meeting least monthly. Most common was meeting with county governments, which may serve to coordinate municipal government activities or influence direction of country-managed services, including secondary schools and some health care institutions. Almost half of mayors reported having such meetings at least once a month, and most of the rest reported meeting every few months.
Networking with the private sector was less frequent. The vast majority of mayors met with representatives of private business, but only 60% reported meeting at least every few months. Most municipalities created an information center or offered some other support for private entrepreneurs. Designating a special municipal agent for supporting private sector entrepreneurs and having a European Union Information Center were common forms of outreach. A few municipalities provided legal or other technical assistance to businesses.

Work with NGOs was another important local government initiative, as found by Regulska in the late 1990s (2009). A few mayors (9%) reported meeting with international NGOs at least every few months, while most met with local NGOs. Only 16% did not meet with NGOs. The various associations of municipalities were not actively used by most rural mayors, however. For example, only 13% of mayors reported participating in the National Association of Rural Municipalities. Those mayors who did participate worked actively in this organization, however, attending more than 10 meetings in the past year.

Mayors who met more frequently with one type of NGO often met frequently with other types, and mayors who met with country officials often also met with region officials. But overall, networking activities were not highly correlated—mayors networking with NGOs, for example, were often not networking with the private sector or other levels of government. Mayors concentrated on certain types of networking (Table 2).

Mayoral initiative might also be measured by projects implemented (networking outputs rather than inputs). Municipal governments support training courses for the local population. While 28% of municipalities offered no such courses, 18% were very active in this area, organizing 3 or more such courses in 2005. Most common were computer and internet training, offered in more than half of municipalities. Also common were language, entrepreneurship and re-qualification courses.
Nearly all municipalities had infrastructure projects underway in 2005, and most of these had been initiated by the municipality. Many of these were related to water treatment (an EU priority) and transportation, while fewer were for social infrastructure or roads. Half of all projects were funded at least partially out of municipal revenue, but these usually received additional financial support from the national government or foreign (including EU) sources. Three quarters of municipalities had applied for and secured EU funding by 2005. In 2006-2008, municipalities received average annual EU project funds (in real 2005 zlotys) of 2-8000 zlotys per thousand people. A few projects were supported by NGOs.

Mechanisms holding local officials accountable also varied significantly across municipalities. Contact with citizens was generally high, with mayors reporting multiple forms of contact with local populations. Almost all mayors held open visiting hours, and over 65% had regular periodic meetings. The majority of mayors were also available to be contacted directly by phone and 43% by email. Half reported receiving people at home. Individual citizens took advantage of these opportunities, as over three-quarters of mayors reported daily meetings with individuals, and 91% reported meeting individuals at least
weekly. Issues raised at such meetings might have involved the sort of particularistic lobbying described by Grindle (2007). Meetings with citizens groups were less frequent. Thirty-nine percent of mayors met daily with citizens’ groups, while 35% met weekly.

Local elections provide a more formal means of holding local officials accountable, and some research associates higher turnout with higher levels of monitoring (Meurs, 2007). In the 2002 local elections (which provided the mandate for interviewed mayors and may have influenced their expectations of monitoring), turnout varied widely—from 30% to 80%.

Another common measure of electoral accountability is the level of competition in local elections (Grindle, 2007). In rural Poland, slates often include independent candidates or groupings of small parties. An average of 12 slates competed in rural elections in 2002, and the number varied little between municipalities. The level of real contestation varied greatly, however. The three slates garnering the most votes captured 91% of votes in the least contested election, but only 41% of the votes in the most broadly contested race.

Overall, the data suggests that most mayors were educated and experienced, and in frequent contact with the local population. Local officials varied more in level and type of networking they did, and the apparent level of monitoring by the local population. These variations may be important to local economic and social outcomes.

C) Resource Constraints

Outcomes may also be affected by factors which even the most skilled and motivated government cannot change. Revenue constraints may be one such factor, to the extent that these are affected by factors exogenous to or predating the local government decisions. Such factors include location, the level and type of inherited economic and social development, and other inherited assets. In this section, we examine the budgetary resources of rural municipalities and developmental differences contributing to variations.
Total per capita budgets varied widely from 1376 zlotys to 4143 zlotys in 2005 (1 Polish zloty equaled about .3 USD in June 2005). Revenue generated by the municipality (net of transfers and taxes shared by the central state) varied more widely, with total own revenue varying from 93 to 2159 zlotys, making up 19% of the budget on average. Shared national taxes generated an additional 13% of total revenue, with the vast majority coming from personal, not corporate, taxes. But again there were wide variations, with shared personal income taxes ranging from 27 zlotys per person to 1810 zlotys. Some municipalities enjoyed significant income from property rental or sale or providing services although, on average, these provided only small amounts of income (Table 3).

These highly unequal revenue bases were offset by transfers from the national government. On average, municipalities received 721 zlotys per person in untargeted transfers and 304 zlotys in targeted transfers (to support education and other centrally-mandated services). These were augmented with the funds raised from non-governmental sources (77 zlotys per person). EU funds are reported in municipal budget data starting only in 2006, but in 2005 three quarters of mayors reported some support from EU sources.

Table 3 illustrates the importance of own income and transfers in 2005 municipal budgets, and the difference in their relative weights between richer and poorer gminas (defined as those with own revenue above the 75th percentile or below the 25th percentile). Poorer municipalities have smaller per person budgets overall, reducing the amount of services and activities local government can undertake. Poorer municipalities also relied less own their own resources, potentially undermining accountability.

Local government revenue generation is influenced by local government actions, but also by inherited factors which can be changed only slowly, at best. One such factor is infrastructure, which varied greatly across rural municipalities in 2005. Kilometers of sewer line per square kilometer of territory, for example, ranged from 0 to .4, with a mean
of .035. Officials reported no rail station in 47% of municipalities, while in 34% they reported two or more rail stations. Almost one-fifth reported no highway access.

Table 3: Per Person Budget Shares of Revenues and Transfers for Three Rural Gmina Types: Average, below 25th Percentile Own Revenue, above 75th Percentile Own Revenue

<table>
<thead>
<tr>
<th>Budget Category</th>
<th>Average Gmina</th>
<th>Gmina below 25th percentile own revenue</th>
<th>Gmina above 75th percentile own revenue</th>
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<tbody>
<tr>
<td>Zloty</td>
<td>Percent Budget</td>
<td>Zloty</td>
<td>Percent Budget</td>
</tr>
<tr>
<td>Total Budget</td>
<td>1874</td>
<td>1609</td>
<td>1973</td>
</tr>
<tr>
<td>Untargeted Transfers</td>
<td>721</td>
<td>39</td>
<td>54</td>
</tr>
<tr>
<td>Targeted Transfers</td>
<td>304</td>
<td>16</td>
<td>595</td>
</tr>
<tr>
<td>Local Taxes</td>
<td>358</td>
<td>19</td>
<td>17</td>
</tr>
<tr>
<td>Shared National Tax</td>
<td>245</td>
<td>13</td>
<td>7</td>
</tr>
<tr>
<td>Non-government source</td>
<td>79</td>
<td>4</td>
<td>74</td>
</tr>
<tr>
<td>Property, Service Income</td>
<td>87</td>
<td>5</td>
<td>177</td>
</tr>
<tr>
<td>Other</td>
<td>80</td>
<td>4</td>
<td>211</td>
</tr>
</tbody>
</table>

Municipalities also differed in their productive orientation, reflecting differing tax bases and growth potential. Seventy percent of surveyed municipalities listed agriculture as their most important sector in 2005. Thirteen percent listed industry, while 7% listed trade. Most listed more than one important sector, however. About half of agriculturally-oriented municipalities listed trade as the second important sector, while other municipalities were evenly divided between public sector and industry. Few municipalities reported a change in orientation since 1995. These orientations indeed change slowly.

Finally, important locational differences may affect performance. One impact of location may be relative proximity to Germany and the Czech Republic, rather than the less dynamic economies of Ukraine and Belarus. A second influence of location may be the persistence of differences, including political behavior and economic development, which developed during the period of partition of Poland between Austria-Hungary, Prussia and Russia from 1815 to 1918 (Davies, 2005; Grosfeld and Zhuravskaya, 2013).
D) Performance:

Measuring the performance of local government is complex. A common theoretical approach is to evaluate the match between goods and services and citizen desires (Tiebout, 1956), but this requires extensive data on local preferences, which is rarely available (see Kimenyi and Meagher, 2004 for an example of such an approach). Like other recent work (Besley and Burgess, 2012), we rely on more general measures of performance, in this case: net migration, local revenue generation, and local unemployment rate. We measure average outcomes separately for the periods 2003-2005 and 2006-2008. The first period covers the first three years of the mandate of mayors elected in 2002, while the second period allows more time for a mayor’s policy to have been felt by the population. The second period also reflects entrance into the EU, which brought significant changes to the economic context, and is the period in which we have data on the weight of EU funding in local budgets.

In the presence of varying services provided by local government, theory predicts that populations will “vote with their feet,” migrating from localities where governments fail to meet their demands, to localities where their preferences will be better satisfied (Tiebout, 1956). In this case, out-migration might suggest dissatisfaction with performance. We calculate average net migration per member of the population over the two periods. Average annual net migration per person varied from a loss of .014 people to a gain of .061 people for the period 2003-2005, and -.012 to .051 for the period 2006-2008.

A second measure of performance of local government is the ability of local government to raise its own revenues. Greater revenue may signal success in local economic development, and will provide resources with which to meet local demands. We use average own municipality revenue per capita, including both local taxes and fees and national income taxes which are collected from the local population and shared with
municipalities. As seen in section IV, local governments differ significantly in their ability to raise revenue. Average annual own revenue per capita in 2005 zlotys varied from 189 zlotys to 2730 zlotys for the period 2003-2005, and 185 zlotys to 3339 zlotys for 2006-2008. Because of the wide dispersion, we use the natural log of revenue in the regressions. Of course, as noted, the variations in revenue may be influenced by inherited factors than from the actions of local governments.  

As a third measure of performance, we use the unemployment rate. Bardhan and Mookerjee (2006) argue that, if accountability is weak, decentralization of government may result in the capture of government by powerful local groups and reduced attention to the needs of disadvantaged households. By 2003, post-socialist economic restructuring and firm closures had been long concluded. Falling unemployment rates might reflect the ability or willingness of local governments to promote job creation through networking and local development efforts. For the period 2003-2005, average unemployment rate varied from 4% to 35%. Rates fell slightly by 2006-2008, varying from 2% to 30%.

These three measures of performance are positively correlated, as can be seen in Table 4. While the level of correlation is not high--performance differs across these three measures suggesting that they capture different aspects of local government performance--the measures do become more highly correlated in the second period.

Table 4: Correlation in Performance Measures

<table>
<thead>
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<th>2003-2005</th>
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</thead>
<tbody>
<tr>
<td>Unemployment</td>
<td>(ln)Own Revenue per Capita</td>
</tr>
</tbody>
</table>

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4 A measure of revenue net of expenditure might be a proxy for local government efficiency. However, local governments face significant differences in expenditure needs due to factors which they do not control, including demographic factors. Therefore, we focus on government success in generating revenue to meet local demands.
V) Performance and Local Characteristics

To test whether the measures of overall performance are related to the differences in local government characteristics, we use OLS regressions on the basic model:

$$W_{it} = f (A_i, S_i, N_i, EU_i, P_i, R)$$

Where $W_{it}$ is a 3-year average outcome measure, for municipality i for the three outcomes, net migration, own revenue per capita, and unemployment rate separately.

$A_i = a$ vector of measures of accountability of local government in 2005

$S_i = a$ vector of measures of skill of the mayor and municipal Staff in 2005

$N_i = a$ vector of measure of networking by the mayor (with national, regional and county government, local and international NGOs, and business) in 2005

$EU_i = total$ per person revenue from EU 2006-2008 (for 2006-2008 outcomes only).

$P_i = a$ vector of inherited developmental conditions

$R = is$ a regional dummy, 1=Western Poland and the Warsaw region.

The model is run separately for years 2003-2005 and 2006-2008. As in previous work on this topic, our ability to determine the direction of influence between mayoral and

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5 The increased tax sharing will be an exogenous source of variation of local revenue from 2002 levels (not caused by local characteristics), but this should affect all gminas equally.

6 Previous work has attempted to deal with this problem to varying degrees. Case study approaches and simple correlation analyses have mainly ignored the problem (Grindel, 2007; Angell, Lowden and Thorp,
electoral characteristics and local outcomes is limited by the lack of panel data, the strong impact of previous levels on all three outcome variables, and the varying length of mayors’ terms in office. To better evaluate the impact of current mayoral and local characteristics on current performance, we control for economic orientation, infrastructure, and population density, and revenue per capita at the end of the previous mandate (2002).

For the period 2003-2005, the possibility of reverse causality between government behavior (measured in 2005) and outcomes is a particular concern. Reverse causality is less a concern when examining outcomes in 2006-2008, but in this case some outcomes might already be influenced by the actions of a new mayor, taking office in 2007. As will be seen below, the results for the two periods are quite consistent, indicating that the results are neither driven purely by reverse causality nor by the actions of mayors elected in 2006.

The characteristics of local governments are measured as follows: Accountability is measured in three ways: voter turnout in the 2002 local elections, electoral concentration (the share of votes received by the three most popular slates) during the 2002 election, and the frequency of mayoral meetings with citizen groups (6 indicates daily meetings and 0 indicates no meetings). Higher levels of voter turnout and greater mayoral interaction with citizen groups may positively affect performance. Higher levels of votes obtained by the three largest parties are expected to be negatively correlated with performance.

Government skill is measured by a dummy variable for whether of mayor has higher (post-secondary) education, and by age of the mayor although, as seen above, there is little variation in the first of these measures. The share of municipal staff with higher education provides a third measure. Skill is expected to improve performance.

The mayor’s networking is measured by the level of networking with three key groups—the business community, local and international NGOs, and representatives of

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2001), while some econometric work controls for historic levels of outcomes (Meurs, 2007). Only Besley and Burgess (2002) use panel data, but they do not address the problem in detail.
national, regional and county government. Networking with business is measured as a count of all reported forms of formal and informal outreach to business, as well as a dummy variable for whether the municipality has an information center serving the business community. Networking with government and NGOs is measured by frequency of meeting with those organizations, on a scale of 0-6 (6 indicates daily meetings and 0 indicates no meetings). For 2006-2008, we include EU project funds per capita as an additional measure of government initiative.7 Networking is expected to improve outcomes.

In addition to local government characteristics, we consider the impact of inherited conditions: a dummy for whether agriculture is identified as the main productive sector in 2005, and a dummy for whether the municipality is located in a region in the Western part of Poland or the Warsaw region,8 compared to one in the Eastern part of the country. Sewer lines per square kilometer (2005) measure availability of infrastructure, and population per square kilometer gives a rough measure of urbanization. Finally, we include own revenue per capita in 2002 to control for the expected correlation between past and current economic performance. Variable means and standard deviations are given in Table 5.

As can be seen from the regression results presented in Tables 6a and b, characteristics of local government are related to outcomes, but the significant characteristics are not consistent across outcome measures or over time. Only historical factors outside the control of local governments, specifically the region dummy and population density, show a consistent relationship with all three performance measures. Municipalities located in

7 While these transfers occurred in the last year of the mandate for mayors elected in 2002, and the two following years, they likely reflect projects proposed by mayors we interviewed. A project applied for in 2004, by a mayor who took office in 2003, might be funded starting in 2005 and take a year or more to complete, particularly in the case of the targeting infrastructure projects.

8 Region 1 includes regions of Pomorskie, Kujawsko-Pomorskie, Wielkopolskie, Slaskie, Dolnoslaskie, Lubuskie, Zachodno-Pomorskie, Opolskie, and Mazowieckie.
Western Poland or the region around the capital Warsaw consistently perform better, controlling for characteristics of local government and other historical factors.

Table 5: Means and Standard Deviations, Local Government Characteristics and Outcomes

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>Mean</th>
<th>s.d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mayor Age</td>
<td>54.7</td>
<td>8.25</td>
</tr>
<tr>
<td>Mayor Education</td>
<td>0.72</td>
<td>0.45</td>
</tr>
<tr>
<td>Share Staff with Higher Education</td>
<td>5.33</td>
<td>4.77</td>
</tr>
<tr>
<td>Meet Citizens Groups</td>
<td>2.90</td>
<td>1.49</td>
</tr>
<tr>
<td>Meet Local NGOs</td>
<td>3.03</td>
<td>1.24</td>
</tr>
<tr>
<td>Meet International NGO</td>
<td>1.38</td>
<td>0.68</td>
</tr>
<tr>
<td>Meet Country Government</td>
<td>3.92</td>
<td>0.95</td>
</tr>
<tr>
<td>Meet Region Government</td>
<td>3.83</td>
<td>0.85</td>
</tr>
<tr>
<td>Meet National Government</td>
<td>2.06</td>
<td>0.83</td>
</tr>
<tr>
<td>Forms Communication Business</td>
<td>2.30</td>
<td>0.91</td>
</tr>
<tr>
<td>Information Center Business</td>
<td>0.35</td>
<td>0.48</td>
</tr>
<tr>
<td>Share Voter Turnout</td>
<td>0.54</td>
<td>0.11</td>
</tr>
<tr>
<td>Share Votes Top 3 Parties</td>
<td>0.71</td>
<td>0.09</td>
</tr>
<tr>
<td>Agricultural Gmina</td>
<td>0.72</td>
<td>0.45</td>
</tr>
<tr>
<td>Sewer per km²</td>
<td>0.04</td>
<td>0.05</td>
</tr>
<tr>
<td>Region</td>
<td>0.55</td>
<td>0.50</td>
</tr>
<tr>
<td>EU Funds</td>
<td>0.50</td>
<td>1.31</td>
</tr>
</tbody>
</table>

For the period 2003-2005, government initiative in providing an information center for business was positively associated with net in-migration, although having an information center was surprisingly negatively related to own revenue per capita. Active communication with business and networking with local NGOs were positively associated with own revenue per capita, but not with other outcomes. Meetings with national government were associated with lower own revenue per capita, while meetings with regional government and local NGOs were negatively associated with unemployment improvements and migration outcomes. These relationships suggest a possible reverse causality—poorly performing municipalities met more frequently with these agents. Considering measures of government accountability, higher levels of voter turnout in 2002 were positively associated with own revenue per capita 2003-2005. These findings provide
some evidence that more active and better monitored governments also performed better. Measures of local government skill had no relationship to outcomes.

Conditions inherited by local governments were more consistently related to outcomes. Having agriculture as the predominant economic activity was associated with lower revenue per capita, while better infrastructure was associated with higher revenue. Higher population density was negatively associated with all three outcomes, while location in Western Poland or the Warsaw region was positively associated with all three. Starting with higher income per capita in 2002 was associated with greater in-migration and higher own revenue per capita, but not with better unemployment outcomes.

The period 2006-2008 provides some additional evidence that variation in government behavior is related to economic and social outcomes. High voter turnout in the 2002 election continues to be associated with higher per capita local revenue in 2006-2008, while in-migration over this period is positively related to both electoral competition and mayoral contact with citizens’ groups. Mayoral interaction with business in 2005 continues to be positively associated with local revenue in 2006-2008, while the availability of an information center continues to have the surprising negative association. Meeting with representatives of the region government in 2005 is negatively associated with migration outcomes in 2006-2008—perhaps such meetings took place where conditions were poor or worsening. Meeting with local NGOs is no longer negatively associated with revenue, however, suggesting that causality in the earlier relationship might have been reverse. In this period, we are able to include inflow of EU funds as a measure of mayor initiative, and these have a positive impact on a municipality’s generation of own revenue. The transfers to support infrastructure development appear to help municipalities to generate revenue.

Again, inherited factors are more consistently related to outcomes. Having agriculture as the predominant economic sector in 2005 had a negative impact on both local revenue
generation and migration in the period 2006-2008, while better infrastructure in 2005 continued to have a positive impact only on local revenue. Higher population density continued to have a negative relationship to all outcomes, while location in Western Poland or the Warsaw region had a positive impact. As before, higher income per capita in 2002 was associated with greater in-migration and higher own revenue per capita, but not with better unemployment outcomes.

Marginal effects in these models often appear small. To give a sense of the relative impact of variations in governance and historical factors, in Tables 7a and 7b we construct representative cases, contrasting a representative municipality with strong (at the 75th percentile) performance on the significant variables reflecting characteristics of local government and weak (at the 25th percentile) (significant) inherited and locational factors, and one with poor local government characteristics but strong exogenous conditions.

For the period 2003-2005, having an activist local government could not outweigh the impact of poor local conditions. A municipality with poor local conditions but a more activist mayor would rank at the 37th percentile on migration performance and the 19th percentile on unemployment performance, compared to a ranking at the 87th and 68th percentiles for one with good inherited conditions but a less active mayor.