European Journal of Political Economy 38 (2015) 140–152

Contents lists available at ScienceDirect

European Journal of Political Economy

journal homepage: www.elsevier.com/locate/ejpe

Common pool problems in voluntary municipal mergers

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ARTICLE INFO

Article history:
Received 13 November 2014
Received in revised form 17 February 2015
Accepted 17 February 2015
Available online 24 February 2015

JEL classification:
D72
H72
H74

Keywords:
Common pool
Difference-in-differences
Law of 1/*n*
Municipality mergers

ABSTRACT

We analyze free-riding behavior of Finnish municipalities prior to voluntary municipal mergers. The merger process creates a temporary common pool problem, because of a delay from the initial decision to the actual merger during which municipalities stay autonomous. Using a difference-in-differences strategy, we find that the stronger free-riding incentive a municipality faced the more it increased its debt and spent its cash reserves. These funds were spent mostly on investments and current expenditures.

1. Introduction

The size and number of local governments is a crucial policy decision from the point of view of efficient provision of local public goods and services (e.g., Miceli, 1993; Alesina and Spolaore, 1997; Ellingsen, 1998). Often municipality mergers are seen as an effective way of realizing economies of scale and such reforms are widespread.[2] Major municipal merger reforms have been implemented over time in a number of countries including Canada, Denmark, Germany, Israel, Japan, Sweden and Switzerland (Dafflon, 2012; Hansen, 2012; Hinnerich, 2009; Reingewetz, 2012; Weese, forthcoming). However, a possible and somewhat overlooked cost of municipality mergers is that the merger process itself creates a temporary common pool problem among the municipalities who are about to merge. This problem arises because usually there is a delay (in our case at least one calendar year) from the merger decision to the actual merger. Within this window, a single merging municipality can make autonomous decisions and shift some of the costs of additional expenditures or investments to its merger partners by increasing debt or liquidating assets.

These free-riding incentives are directly related to the "law of 1/*n*" as formalized by Weingast et al. (1981) in the case of multiple identical and geographically distinct jurisdictions.[3] In their model, the total size of the common pool increases in the number of

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[2] Other potential benefits from larger jurisdictions include internalizing externalities, better state capacity and increased capacity to sustain spending or revenue shocks.

[3] Baron and Ferejohn (1987 and 1989) extend this line of argumentation into situations where decision-makers need to bargain over which projects are carried out. In this context, they show that the common pool creates incentives not only to increase spending in own jurisdiction, but also to restrain the spending in other jurisdictions. See also Knight (2008) for further results.

http://dx.doi.org/10.1016/j.ejpoleco.2015.02.006
0176-2680/

districts (n) that form the common pool, which is an appropriate description of the municipal merger case.[4] A single representative speaks for each district and representatives are re-elected (or not) locally. Each jurisdiction can propose a project that is always passed (universalism) and funded through generalized taxation on all n jurisdictions. In this model, the share of the tax burden in each jurisdiction is $1/n$. Weingast et al. (1981) show that, in this setting, inefficiency increases with n because a single jurisdiction receives all the benefits from its project while the costs are shared among all districts.

Municipal mergers are a particularly clean case to test the law of $1/n$, because the universalism assumption holds as each merging municipality can make autonomous decisions before the merger actually takes place. However, there are two important distinctions. First, due to different population sizes and income levels of each municipality, the incentives to free-ride (share of costs) in the case of a merger are not directly related to the number of municipalities in the merger, but rather to the size of the participating municipalities relative to the size of the common pool.

Second, in the merger case, political decision makers may face electoral competition from the other districts and there is more than one decision maker per district. However, the local politicians from municipalities with strong free-riding incentives (typically small municipalities) face relatively low re-election prospects in the post-merger elections and, according to Hyytinen et al. (2014), they seem to be aware of this fact. Furthermore, Saarimaa and Tukiainen (2013) show that after a merger, councilors gain votes mostly from their old pre-merger constituencies. This means that some councilors are lame ducks effectively facing a term limit (e.g., Besley and Case, 1995; Ferraz and Finan, 2011), while others need to please (mostly) voters from their old districts to gain re-election. In both cases, electoral punishment from free-riding is unlikely. In fact, as suggested by Aidt and Shvets (2012), common pool problems may even be exacerbated because of re-election concerns if voters reward the politicians who are able to bring home most pork.[5]

The current empirical evidence of common pool problems related to municipality mergers is somewhat mixed and concerns only forced municipal mergers. Hinnerich (2009) and Jordahl and Liang (2010) study Swedish municipality mergers imposed by the central government in the 1950s, the 60s and the 70s. Hinnerich (2009) finds that the smaller a merged municipality was compared to its merger partners in terms of population the more the municipality increased its per capita debt prior to merging. Jordahl and Liang (2010), on the other hand, find that a merger as such (or the creation of a common pool) had an effect on debt accumulation, but the relative size of merging municipalities did not seem to matter. The latter evidence is somewhat hard to reconcile with free-riding behavior as predicted by the Weingast et al. (1981) model, where the size relative to the common pool is the key element.[6]

In this paper, we analyze free-riding behavior in Finnish municipal mergers. Our institutional setup differs from previous cases in an important way because the Finnish mergers were decided voluntarily at the local level by municipal councils. It is unclear whether we should expect common pool problems to arise in a voluntary setting because one might expect that municipalities can somehow agree or contract not to exploit the common pool or that extensive free-riding would result in a cancelation of the merger.[7]

Somewhat surprisingly though, using difference-in-differences (DID) methods with a continuous treatment, we find large free-riding effects also among voluntary mergers. Consistent with the law of $1/n$, the stronger free-riding incentive a municipality faced the more it increased per capita debt and used up its cash reserves. Overall, due to free-riding, the merged municipalities accumulated about 240 million Euros of debt, corresponding to roughly 20% of their pre-treatment debt stock, and also decreased their cash reserves substantially (140 million Euros). We can also follow the money in much more detail than the previous studies. We find that the extra funds extracted from the common pool were spent mostly on investment and on current expenditures. Municipalities did not lower their local income tax rate nor did they hire new employees. These results are in line with the Weingast et al. (1981) model also in the sense that investment spending can be spatially targeted.[8]

Besides the law of $1/n$, there are two interesting alternative explanations for our findings. The first alternative is that municipalities with strong free-riding incentives can anticipate to have limited political power in the post-merger council.[9] The councilors in these municipalities may want to hastily spend money to the benefit of their citizens while autonomous decisions are possible irrespective of whether the extra spending is funded from the common pool or not. Relatedly, as explained above, some councilors are very unlikely to get elected into the post-merger council, which may have a direct effect on their private incentives to spend. Unfortunately,

[4] Primo and Snyder (2008) present a model where the total population size of the common pool is fixed and the size of each district diminishes as n increases, which is not the case in municipal mergers.

[5] Aidt and Shvets (2012) present theoretical and empirical results in which re-election concerns exacerbate the common pool problem. This link arises in their theoretical model because politicians differ in their ability to bring home the pork and elections are an ex post selection device that voters use to oust politicians who are unable to deliver the pork.

[6] Hansen (2012) analyzes the Danish municipal merger reform of 2007. Due to central government imposed fiscal restrictions, he analyzes only current expenditures and budget overruns and concludes that free-riding took place. While his findings are certainly consistent with free-riding, they are not conclusive. Free-riding takes place only if some of the costs of increased current expenditure can be shifted to the merger partners and Hansen (2012) does not report debt accumulation or changes in asset positions. The common pool problem has been analyzed in a number of other contexts as well and the results from these papers are also somewhat mixed (see e.g., Baqir, 2002; Baskaran, 2013; Borge, 2005; MacDonald, 2008 and Petterson-Lidbom, 2012). In these papers, decisions are not based on universalism, but rather involve e.g., bargaining issues, and thus, these papers cannot be seen as clean tests of the law of $1/n$ proposed by Weingast et al. (1981).

[7] In the Finnish case, the municipalities could decide whether to merge and with whom to merge totally voluntarily. In the mergers analyzed by Hinnerich (2009), both of these decisions were forced by the central government, whereas in the mergers analyzed by Jordahl and Liang (2010) and Hansen (2012) there was some but limited leeway in the choice of the partner, but municipalities had to comply to minimum population thresholds.

[8] Anecdotal evidence and public discussion suggest that smaller merging municipalities typically invested in local services, such as new local schools or health care facilities. See e.g., the main national newspaper in Finland Helsingin Sanomat (in Finnish): 5th October, 2013, http://www.hs.fi/kotimaa/a1380861189136 and 6th August, 2014, http://www.hs.fi/paakirjoitukset/a1407212731455.

[9] This happens because the elections in the new merged municipalities are at-large-elections without any regional quotas. Due to an open-list proportional representation system, candidates from the small municipalities are fully exposed to competition with the candidates from the larger municipalities. See Hyytinen et al. (2014) for details.