

# Inefficiencies in the Financing of Finnish County Governments

## Lessons from the Literature on Fiscal Federalism

---

*Mika Kortelainen*

*Simon Lapointe*

# VATT RESEARCH REPORTS

188

## Inefficiencies in the Financing of Finnish County Governments

Lessons from the Literature on Fiscal Federalism

Mika Kortelainen  
Simon Lapointe

Mika Kortelainen, VATT Institute for Economic Research, Helsinki, Finland,  
mika.kortelainen@vatt.fi

Simon Lapointe, VATT Institute for Economic Research, Helsinki, Finland,  
simon.lapointe@vatt.fi

Background Report

Prepared for the Finnish Economic Policy Council

23 January 2019

ISBN 978-952-274-231-5 (PDF)

ISSN 1795-3340 (PDF)

Valtion taloudellinen tutkimuskeskus  
VATT Institute for Economic Research  
Arkadiankatu 7, 00100 Helsinki, Finland

Helsinki, January 2019

# Inefficiencies in the Financing of Finnish County Governments – Lessons from the Literature on Fiscal Federalism

VATT Institute for Economic Research  
VATT Research Reports 188/2019

Mika Kortelainen – Simon Lapointe

## Abstract

The Finnish regional government reform currently under consideration will create a new tier of regional county governments, which will be responsible mainly for the provision of health and social care services. On the revenue side, counties will be financed mostly through grants from the central government and out-of-pocket payments (i.e. client fees). The funding model of the counties raises a number of questions from the point of view of the fiscal federalism literature. One important question in particular is: what kind of incentives will centrally-allocated funding create for the regional governments? One concern raised is that this type of financing structure will create a soft budget constraint for the counties. In other words, the county governments will expect that the central government will provide them with additional resources if they surpass their allocated budget. This paper discusses the potential for soft budget constraints (SBC) in the newly-created Finnish counties, by reviewing contributions from the fiscal federalism literature. Besides providing the overview of the relevant literature, we highlight the determinants of SBC problem most relevant for the Finnish regional government reform and possible solutions.

One important conclusion from our discussion is that decentralizing spending alone can lead to softer budget constraints and overspending for the regional governments, due to the vertical fiscal imbalances that it creates. In other words, the spending responsibilities of the county governments might be too large for their revenue-generating possibilities. One channel through which the proposed funding system softens the budget constraint is the possibility for local governments to “blame” the central government for the deficits or fiscal troubles. According to the literature, this problem is particularly relevant for the health care services, since it touches a politically sensitive issue. Another interesting conclusion from our discussion is that it might simply be impossible for the central government to commit to a no-bailout policy. In the case of health and social care provision in Finland, the central government might even explicitly

commit to increasing resources ex ante if services are at risk. In this case, the literature suggests having pre-determined mechanisms around the bailouts. Possibilities include mandated austerity measures as conditions for the bailout, or direct central oversight. These measures seem to improve local public finances. Our findings from the fiscal federalism literature also suggest that the reform should proceed with additional tax autonomy at the county level, since that would limit the soft budget constraints and improve the fiscal performance of counties.

**Key words:** Decentralization, fiscal federalism, soft budget constraint, health care

# Table of Contents

1. Introduction .....	1
2. The Soft Budget Constraint Problem in Local Governments .....	2
2.1. The Theory of the Soft Budget Constraint Problem .....	3
2.2. Empirical Evidence on the Soft Budget Constraint .....	5
2.3. Determinants of the Soft Budget Constraint .....	6
2.3.1. Externalities and Size of Jurisdictions .....	6
2.3.2. Assignment of Responsibilities and Dependence on Transfers .....	7
2.3.3. Fiscal Rules .....	9
2.3.4. Central Financial Oversight .....	10
2.3.5. Multi-Tiered Federations .....	12
2.3.6. Political Aspects of the Soft Budget Constraint Problem .....	12
2.3.7. The Role of Credit Markets and Borrowing .....	13
3. Horizontal and Vertical Externalities .....	14
3.1 Horizontal Externalities .....	14
3.3. Vertical Fiscal Externalities .....	16
4. Soft Budget Constraint and Increasing Deficits in the Health Care Sector .....	17
5. Discussion and conclusions .....	20
Acknowledgments .....	22
References .....	22

## 1. Introduction

How should public responsibilities be allocated across the different tiers of government? This decision involves a number of trade-offs regarding economies of scale, accountability, congestion, and matching of preferences and public goods (see, e.g., Oates, 1972). Recently, in OECD countries, we can observe a trend towards increased decentralization and decision power for subnational or local governments (OECD, 2013), illustrating an emerging political consensus that decisions made locally serve populations better. However, some authors also remind us that decentralization is not necessarily a panacea (Prud'homme, 1995; De Mello, 2000; Treisman, 2007).

In Finland, local governments currently have a large degree of autonomy, but this issue is still regularly of relevance to the public debate. Since the turn of the century, there have been several attempts to reorganize the Finnish municipal structure and the coverage of services for which the different tiers of government are responsible. For example, municipalities have undergone several waves of mergers in the past 20 years (Saarimaa and Tukiainen, 2014).<sup>1</sup> More recently, the Finnish regional government reform currently under consideration will create a new tier of regional county governments.<sup>2</sup> These governments will be responsible mainly for health and social care provision, and will have their own elections. On the revenue side, at least in the current incarnation of the reform, they will be financed mostly through grants from the central government and direct funding (e.g., client fees). On the spending side, while counties will have a relatively large degree of autonomy, the central government will still play a large role in an effort to ensure equal access to services across the country. Indeed, as argued by Couffinhall et al. (2016), one motivation for the reform is to reduce inequities in the provision of healthcare services, especially between small rural municipalities and large urban centres. Yet, the relationship between the degree of decentralization and inequity is not that clear according to the literature. For example, Costa-i-Font and Turati (2018) study the decentralization process in Spain and Italy, showing that increased decentralization of healthcare provision did not lead to an increase in regional inequalities in outcomes or outputs. One explanation is that decentralization exerted incentives for policy innovation and diffusion. Therefore, it is also important to account for other aspects when choosing the number of counties for the reform. One aspect highlighted by Couffinhall et al. (2016) is the economies of scale afforded by larger counties.

The reform also raises a number of questions from the point of view of the fiscal federalism literature. One important question in particular comes to mind: what kind of incentives will centrally-allocated funding create for the regional governments? One concern raised is that the type of financing structure chosen will

---

<sup>1</sup> While municipal mergers are often sold on promises of cost efficiency, evidence shows that the Finnish municipal mergers have not decreased costs (Moisio and Uusitalo, 2013). More generally, Fox and Gurley (2006) show that mergers have effects varying according to the type of public goods concerned. Mergers are more effective at reducing costs for infrastructure-heavy services like water and sewage, but less so for those produced in many locations near the target population, like education.

<sup>2</sup> Couffinhall et al. (2016) offer a comprehensive overview of the reform.

create a soft budget constraint for the counties.<sup>3</sup> In other words, the county governments will expect that the central government will provide them with additional resources if they surpass their allocated budget.<sup>4</sup>

This paper will discuss the potential for soft budget constraints (SBC) in the newly-created Finnish counties, by reviewing contributions from the fiscal federalism literature. It will present various determinants of the SBC problem, and how relevant they might be in the context of the Finnish county reform given the choice to finance them mostly through centrally-allocated grants. Then, as increased tax autonomy is one common suggestion to harden the budget constraint of local governments, the paper will discuss how such a choice might affect public finances. For example, increased tax autonomy might create additional horizontal and vertical externalities, including tax competition. Finally, the paper will also discuss the particular relevance of the SBC problem in the health care sector.

The goal of this paper is not to provide an exhaustive review of that vast literature. Instead, we will focus on aspects we believe are most relevant to the Finnish case. Oates (2005) and Weingast (2009) provide a more comprehensive overview of these issues as addressed by the second generation of the fiscal federalism literature. They also contrast this newer literature with the first-generation fiscal federalism literature. In summary, the older literature mostly took the view that governments were benevolent, and that their role was to “fix” market failures. Instead, in the newer literature, governments have their own objective functions and respond to incentives. Our paper will focus on that second-generation literature. Treisman (2007) also offers a comprehensive overview, along with the more common arguments for and against increased decentralization.

## 2. The Soft Budget Constraint Problem in Local Governments

The details of the functioning of county governments are still in flux, but initial reform plans state that regional governments will mostly be responsible for health and social care provision. However, the plan is less clear on the tools they will have at their disposal to pay for these public goods. In the current version of the reform, regional governments are expected to finance their services through transfers from the central government, in addition to client fees. One important lesson from the second-generation fiscal federalism literature is that the choice of financing method for the regional governments has significant implications on

---

<sup>3</sup> Another example of inefficiency due to badly-designed incentives is documented by Liebman and Mahoney (2017). They find that for the US federal government, spending by federal government agencies with expiring budgets is 4.9 times higher in the last week of the year than for the rest-of-the-year weekly average. In addition, their results demonstrate that the end-of-year spending surge does also result in lower quality spending on information technology (IT) services and equipment and thus inefficient use of federal funding. This result is due to the “use-it-or-lose-it” nature of the budget of these agencies, and the impossibility to rollover surplus from low-spending years to use in high-spending ones. Combined with uncertainty on future spending needs for the rest of the year, agencies hold back spending in the beginning of the year, and then spend the whole buffer at the end of the year.

<sup>4</sup> In much of the literature, authors talk about bailouts following deficits or excessive borrowing. However, as in Rodden et al. (2003a), we consider bailouts in a more general sense, which could occur even if local governments have no borrowing authority. Indeed, a bailout can also occur, for example, when a local government decides to underprovide local services due to a lack of resources.



the incentives of these governments. One prominent example of an incentive issue and possible inefficiencies in financing is the Soft Budget Constraint (SBC) problem, which will be discussed at length in this section.

## 2.1. The Theory of the Soft Budget Constraint Problem

The concept of the Soft Budget Constraint (SBC) was first introduced by Kornai (1979, 1986) in the context of state-owned enterprises in socialist or transition economies. In Kornai's work, the enterprise's expectation of increased resources from the government in case of financial troubles softened the enterprise's budget constraint. Knowing that the government cannot commit to a no-bailout policy, the enterprise strategically chooses to be opportunistic, increasing its spending. Maskin (1996:125) offers a similar definition: "A soft budget constraint arises whenever a funding source finds it impossible to keep an enterprise to a fixed budget, i.e., whenever the enterprise can extract *ex post* a bigger subsidy or loan than would have been considered efficient *ex ante*." Since then, the concept has been expanded and applied to a number of different contexts (Dewatripont and Maskin, 1995; Kornai, Maskin, and Roland, 2003; Qian and Roland, 1998), including the relationship between local and central governments (Vigneault, 2005).

Inman (2003) provides a simple model that succinctly explains the Soft Budget Constraint problem in the context of federalism. We summarize that model here. It is a two-stage sequential game between a local government and a central government. In the first period, the local government decides whether to run an unfunded deficit or not. If the local government chooses an unfunded deficit, the central government responds in the second period by choosing whether to bail out the local government or not. For the central government, both actions involve a cost. Indeed, while a bailout implies direct financial costs transferred to the local government in trouble, not bailing out could lead to costly financial or political crises. If the local government instead chooses to fund local goods only with local taxes, then status quo outcomes prevail. Inman (2003) then describes some conditions under which the equilibrium of this game is always a local default followed by a bailout from the central government: the local government must prefer an unfunded deficit, the central government must prefer to bail out when faced with a local deficit (i.e., not bailing out is more costly than the bailout itself), and a default-bailout outcome must be socially inefficient.

For a more intuitive understanding of the SBC problem, Rodden, Eskeland, and Litvack (2003a) provide a simple analogy. Suppose a company (i.e., the central government) owns a fire truck, and asks local residents (i.e., the regional governments) to pay a membership fee for fire protection. The company might commit to only extinguish fires for its members, but households know that this commitment is not credible. Indeed, a fire burning in a non-member's house risks spreading to neighbouring houses. In addition, firefighters might be averse to senseless loss of life and property. Therefore, everyone expects all fires to be extinguished, thus they prefer not to pay the membership fee. In turn, once a fire occurs, the company prefers extinguishing it even for non-members.

This simple model and analogy reveal three important ingredients in creating a SBC problem. First, there is a time-inconsistency problem. It is difficult for the central government to credibly commit *ex ante* to a no-bailout policy. Indeed, *ex post*, it is in the central government's interest to bail out a local government in trouble. Local governments expect this, and thus run a deficit in the first period. Second, there is a common-pool problem. Due to the bailout expectations, local governments have incentives to increase the provision of public goods in their territory, but have them financed by non-residents through a central bailout. The third important component of the SBC problem is externalities. One of the reasons why the central government is unable to commit to not bailing out local governments is that by not bailing out one region, the fiscal troubles might affect neighbouring regions. This is especially true when local spending is characterized by spillovers, or when jurisdictions are too big to fail (as in, e.g., Wildasin, 1997).<sup>5</sup>

The obvious consequence of the SBC problem is that local governments might overspend or waste resources. In addition, it may cause financial troubles at the central level due to the resources spent bailing out local governments. Vigneault (2007) and Bordignon (2004) also point out a less obvious consequence of the SBC: diversion of resources. Local governments might spend more on lower-priority public goods, such as pork-barrel projects, knowing that the central government will eventually come in and provide additional resources to fund the higher-priority services, such as education. A side effect of this consequence is that the composition of public expenditures at the local level can change to include riskier projects (Vigneault, 2007). Indeed, under a SBC, the central government implicitly insures local governments against the risk of a fiscal crisis. Sanguinetti and Tommasi (2004) study this point further, noting that there is a trade-off between commitment to a hard budget constraint and the degree of federal risk-sharing possible.

It is important to note a common misconception of the SBC problem. Bailouts and increased transfers are not synonymous with a soft budget constraint (Rodden, Eskeland, and Litvack, 2003a; Bordignon, 2004). Put differently, observing bailouts of local governments should not immediately lead to the conclusion that these local governments had a soft budget constraint. Instead, they could be explained by bad luck and macroeconomic shocks. An interesting aside here is that central governments often lack the information to know whether the bailout is due to a fiscal shock or the bad behaviour of the local government (Vigneault, 2005). In reality, the SBC problem lies in the time inconsistency in the central government's behaviour, and the expectations formed by local governments. For that reason, even without bailouts, the presence of a SBC could have consequences for public finances: *ex ante* transfers might also be increased (Bordignon, 2004). Indeed, if the credibility cost of providing an *ex post* bail-out is too high, the central government might instead provide excessive *ex ante* transfers.

---

<sup>5</sup> Goodspeed (2002) argues that externalities are not required for the emergence of a SBC. Instead, he argues that a SBC emerges when the central government uses transfers to regions to maintain spending across regions in a way that is politically optimal. Similarly, Crivelli and Staal (2013) argue against the "too-big-to-fail" argument, asserting instead that smaller districts are more likely to demand and obtain a bailout.

Another misconception is that budget constraints can be either hard or soft. However, these two types should be seen as extremes on a scale. Instead, discussions should focus on the degree of softness of the budget constraint (Rodden, Eskeland, and Litvack, 2003a).

Most of the discussion in this literature is concerned by the potential problems associated with a soft budget constraint. However, as a quick note, it is possible for soft budget constraints to actually be optimal. Indeed, Besfamille and Lockwood (2008) suggest that hard budget constraints could discourage investments that are socially efficient. For his part, Treisman (2007) argues that the soft budget constraint problem might be overstated. According to him, many conditions must be respected for the problem to arise. For example, if some rich regions have a strong policy preference for low taxes, they might push back against local bailouts and tie the hands of the central government.

## **2.2. Empirical Evidence on the Soft Budget Constraint**

Empirical analyses of the SBC problem are difficult, partly because researchers are effectively trying to understand what expectations subnational governments have with respect to bailouts (Bordignon and Turati, 2009; Pettersson-Lidbom, 2010). However, despite these difficulties, many authors have shed some light on the extent of the SBC problem in various countries.

In terms of bailout expectations, Pettersson-Lidbom and Dahlberg (2003) show that Swedish local governments increase their debt by 6 to 10 per cent when their expected bailout probability increases from zero to one. They do so using past bailouts as instruments for expectations of future bailouts, assuming that the latter are formed rationally. Pettersson-Lidbom (2010) finds a similar but larger effect in a dynamic framework, also using data on Swedish municipalities, and bailouts of neighbours as an instrument. Padovano (2011) also finds that bailout expectations play an important role in regional spending, using Italian municipalities and a set of proxies of the central government's toughness. More specifically for the healthcare sector, Bordignon and Turati (2009) find that bailout expectations affect regional spending on healthcare provision. They do so using a kind of natural experiment: budgetary constraints imposed by Italy's membership to the EMU in the 1990s.

More generally, von Hagen et al. (2000) present four case studies, showing that bailouts can occur under a wide variety of institutions. They find that the "too-big-to-fail" argument often proposed in the literature does not explain bailouts, but that political favouritism plays a role. Interestingly, they find that mandates for uniform provision of public services across the country also play a role in explaining bailouts. This finding is particularly relevant for the Finnish reform, given the desire of the central government to maintain equal services across Finland. The authors stress, however, that different factors have different roles in different countries or settings, such that different systems must be evaluated individually. This remark is also reflected in the various case studies in Rodden et al. (2003b).

## 2.3. Determinants of the Soft Budget Constraint

A large literature made additions to the simple model described above, refining our understanding of the SBC problem or extending it to more complicated situations. This literature offers a variety of reasons for the occurrence of a SBC problem, and discusses institutions to limit the problem. In this section, we will review some of the theoretical literature and institutional discussions. The objective of this section is not to offer a comprehensive review of the determinants of the SBC, but to focus on the aspects most likely to be relevant for the case of county governments in Finland. For more details, Rodden, Eskeland, and Litvack (2003b) and Vigneault (2005) offer in-depth discussions of the determinants of the SBC problem.

### 2.3.1. Externalities and Size of Jurisdictions

One important determinant of the SBC problem is the presence of externalities. For example, education spending in one jurisdiction can affect residents of another, if students attend schools across the border or if they move after completing their education. Similarly, in healthcare, vaccination programs in one jurisdiction can affect residents of neighbouring jurisdictions. With respect to the SBC problem, the effect of externalities is intertwined with the size of jurisdictions involved. This is central, for example, to Wildasin's (1997) "too-big-to-fail" argument.

In Wildasin's (1997) model, regional governments can decide to under-provide local public goods if they expect the central government to foot the bill. In turn, the centre prefers to offer a bailout if the local public good provides large external benefits (to residents of other jurisdictions), and if these externalities have a high value relative to other national public goods that could be produced with the resources spent on a bailout. Wildasin (1997) then argues that financial troubles or under-provision of public goods in larger jurisdictions can be harder to ignore, due to the larger externalities generated. For example, a default in a large locality might affect the credit rating of the country as a whole.

Wildasin's argument has interesting implications for the design of federal systems. If jurisdictions can be "too-big-to-fail", then it might be preferable to have more small jurisdictions instead of a few large ones. However, bailouts of small jurisdictions are not unheard of (Vigneault, 2007; Crivelli and Staal, 2013). Therefore, it is unclear whether in practice, small jurisdictions protect against the SBC problem. This question is all the more interesting since the fiscal federalism literature also suggests that a larger number of jurisdictions can have other positive effects. For example, yardstick competition between local governments might increase the accountability of local politicians (see, e.g., Besley and Case, 1995).<sup>6</sup>

The linkage between the size and number of jurisdictions and the potential for the SBC problem is particularly topical in the context of Finnish counties. Indeed, there has been some debate on the number of counties that should be created with the reform. At least some papers discussed in this section seem to point

---

<sup>6</sup> Cai and Treisman (2005), however, suggest that, at least in the case of mobile capital, tax competition might not work to discipline governments.

to a large optimal number of counties. However, the discussion so far abstracts from economies of scale in the production of local services (healthcare, in the case of counties), as discussed in, for example, Oates (1972) and Alesina and Spolaore (1997). In particular, in the context of healthcare provision, small counties might be unable to gather enough resources to provide adequate services, or have higher costs due to their size. In turn, this could affect the possibility of financial troubles. Finding an exact optimal number of counties is outside the scope of this paper, but it is clear that these opposing considerations must be taken into account in the decision process.

### **2.3.2. Assignment of Responsibilities and Dependence on Transfers**

Another channel for the occurrence of a SBC problem is the design of the federal system itself, including the assignment of spending responsibilities and taxation powers, and the transfer system. In particular, a SBC problem may occur when that system creates vertical fiscal imbalances (VFI).

Shah (2007) defines a vertical fiscal imbalance as a situation in which the revenue deficiency of (typically) lower tiers of governments (i.e., a vertical fiscal gap) is not properly addressed with either a reassignment of responsibilities or transfers. The author points out that a vertical fiscal imbalance occurs when: responsibilities are inappropriately assigned, taxing powers are centralized, local governments engage in wasteful tax competition, or when local governments suffer from a lack of tax room (i.e., the central government already imposes a heavy tax burden). Eyraud and Lusinyan (2013) offer a slightly different, but simpler definition: “a vertical fiscal imbalance exists when there is a gap between own spending [...] and own revenue [...] at a given level of government.” While definitions may differ, the general idea is similar: there is a mismatch between the responsibilities of local governments and their taxation powers.

Eyraud and Lusinyan (2011, 2013) investigate how vertical fiscal imbalances affect fiscal performance. They list two usual theoretical justifications why vertical fiscal imbalances may lead to overspending by local governments. The first is the common-pool problem. Under vertical fiscal imbalances, local governments are all extracting resources from the same common pool at the central level, without internalizing the full cost of spending. The second is the soft budget constraint problem, as defined in this paper. Of particular interest in Eyraud and Lusinyan (2013) is the channel through which vertical fiscal imbalances and the soft budget constraint interact and create an overspending situation. Faced with a fiscal crisis, in a situation with vertical fiscal imbalances, local governments claim that they are not responsible for the fiscal problems and instead point the blame towards the central government.

Both due to the common-pool and the SBC problems, vertical fiscal imbalances then lead to overspending at the local level. Oates (2006) argues that increasing local taxation powers is therefore essential. However, defining the optimal vertical fiscal gap is not straightforward: there is greater justification for decentralizing spending than revenues (Eyraud and Lusinyan, 2013). In addition, the optimal fiscal gap might be different from zero. In other words, it is possible for transfers to play an important role in local finances, even in an optimally-designed federal system. In that case, as argued by Rodden et al. (2003a), these transfers should be

designed with rules that are not easily manipulated. Moreover, transfers should not depend on local choices unless specifically warranted.

In a similar argument, Rodden et al. (2003a) assert that “if a local government is merely a branch of the central government, then punishing its citizens” with a bailout refusal “is useless at best. It is only as the municipality becomes a body of its own, [...] with powers to match its responsibilities, that the central government might credibly commit to let it face the consequences of ‘its’ actions.” Even more clearly, Rodden et al. (2003a) argue that in cases of “transfer dependence and limited autonomy, subnational politicians will not be held responsible by voters or creditors for local fiscal outcomes.” These concerns are especially true, they say, when the services concerned are important nationally, or if national standards limit local autonomy (as suggested in the current reform in Finland). Similarly, Rattsø (2003) argues that similar concerns exist in the context of Scandinavian welfare states. Indeed, Scandinavian central governments kept control of most of the financing while decentralizing the provision of services, leading to a situation where “local governments can take advantage of the central government concern for welfare service levels across the country” in a strategic game. Other authors make similar argument, including Bordignon (2004) and Baskaran (2012). The latter paper argues that the soft budget constraint problem is potentially worse in cooperative federations, i.e., those where local autonomy is low.

Empirically, the effects of vertical fiscal imbalances on the soft budget constraint, overspending, and bailouts are more difficult to establish, but researchers have still explored whether vertical imbalances can lead to more or less spending. Eyraud and Lusinyan (2013) provide empirical evidence on the link between the degree of vertical fiscal imbalances and the fiscal performance of subnational governments in OECD countries. They define vertical fiscal imbalances as the share of subnational government own spending not financed by their own revenues. First, stylized facts show that Finland had a relatively low level of imbalances on average between 1995 and 2007, but that it increased over the period. Second, they show that large imbalances are associated with poorer fiscal performance. This main result is confirmed with fixed effects estimations. Moreover, the authors show that own-revenue spending decentralization has a positive effect on the fiscal performance. These results are compatible with those of Rodden (2003), who finds that decentralization funded by common-pool resources result in faster increases in government spending, while the opposite is true if decentralization is funded with subnational taxation. They are also consistent with those of Boetti, Piacenza, and Turati (2012), who show, using data on Italian municipalities, that greater fiscal autonomy is associated with less inefficient behaviour. Similarly, using a panel of EU countries, Foremny (2014) finds that tax autonomy can be useful in avoiding sub-national deficits. Finally, Neyapti (2010) studies the more general question of the relationship between decentralization and public finance. Using a panel of 16 countries, she finds that higher revenue and spending decentralization are both associated with lower budget deficits, especially with larger population sizes, and in systems without local elections.

The main take-away from this discussion, with respect to the relationship between vertical fiscal imbalances and the soft budget constraint, is that if a federal system is designed such that local governments have important responsibilities but relatively low taxing power, they can easily blame the central government in case of fiscal troubles, and obtain a bailout.

With respect to the reform proposed for Finland, it is clear from the discussion above that issues of vertical fiscal imbalances must be taken into account. Bordignon (2000) assigns most of the blame for the SBC problem in Italian local governments to the centralization of revenues and decentralization of spending. In addition, the existence of national guidelines in the provision of healthcare services in Finland means that the central government is at risk of receiving a large portion of the blame should fiscal problems arise locally. In this situation, it is important, especially if counties are given no taxation autonomy, for the transfer system to be designed in a way to either prevent bailouts or have clear rules to follow when they do take place.

### **2.3.3. Fiscal Rules**

Faced with an inability to credibly commit to a no-bailout policy, the central government can instead introduce rules designed to increase fiscal stability. These could include fiscal rules at one or more levels of government, or provisions for more direct oversight of local governments by the central government. Examples of these solutions are discussed in Rodden et al. (2003b). The simplest form of such mechanisms are laws that prohibit borrowing by subnational governments, but more refined alternatives instead only prohibit foreign borrowing, restrict it to capital expenditures, or require central approval. Another example is to allow bailouts to happen, but have them followed with reforms that harden the budget constraint, or only under a strict and pre-defined set of rules and penalties.

One common way to increase fiscal stability is introducing fiscal rules. These rules are “laws that constrain fiscal policy” (Grembi, Nannicini, and Troiano, 2016). They can take many forms, such as setting a maximum deficit level, requiring that deficits be paid in a given amount of time, or require balanced budgets over the economic cycle (e.g., some debt brakes). They are studied extensively in the public finance literature, with Poterba (1994) being a classic example of a study of such rules in US states. A more recent example in a European country is Grembi, Nannicini, and Troiano (2016), who study fiscal rules in Italian municipalities using a natural experiment. Foremny (2014) uses a panel of EU countries, and shows that fiscal rules can decrease sub-national deficits, but only in unitary countries. Heinemann et al. (2018) provide a meta-regression analysis, finding that fiscal rules have a constraining effect on fiscal aggregates. In healthcare specifically, Schakel et al. (2018) find that fiscal rules are associated with a reduction in health expenditures of 3 per cent, using a panel of 32 OECD countries.

Fiscal rules might have limited applicability to Finnish counties if the reform gives them only little taxation powers. Indeed, Finnish counties would have only a limited role in determining their revenues. However, Burrett and Feld (2018) draw attention to the fact that fiscal rules might have vertical effects, such that fiscal rules applied to the central government might affect the fiscal performance of counties. They investigate this

argument empirically using Swiss data, finding only limited evidence that debt brakes at a higher level of government lead to improved local finances at the lower level.

#### **2.3.4. Central Financial Oversight**

Instead of fiscal rules, the literature also includes examples of other types of mechanisms that might be more relevant for the case of Finnish counties: central oversight of local finance. Allers and Merkus (2013) describe a mechanism in the Netherlands whereby once a municipality receives a bailout, the central government temporarily places that municipality under direct supervision from a centrally-appointed inspector. Importantly, municipalities themselves must apply for these bailouts, and they can take place even if the municipality is at fault. Contrary to expectations that such a system would lead to excessive amounts of bailouts, Allers and Markus (2013) report that this system is sustainable. After a bailout, municipalities improve their fiscal situation. Since a bailout also takes away all local autonomy, the authors argue that such a system might incentivize local politicians not to actively seek bailouts, at least if their time horizon is long enough.

Ben-Bassat, Dahan, and Flor (2016) describe a similar system of local subordination introduced in 2004 in Israel. Partly to eliminate the SBC problem in municipalities, the central government implemented a reform that gives it the power to i) appoint an accountant to oversee the finances of municipalities, ii) impose recovery programs in case of fiscal troubles, and iii) dismiss local politicians and replace them with a centrally-appointed board. The authors find that this reform improved the fiscal situation of municipalities, and that most of this effect acted through the appointment of an accountant reporting directly to the central government. They argue that this reform was successful in reducing the incentives for local politicians to over-spend, in effect hardening the budget constraint.

In Norway, central oversight is implemented using a “register.” Municipalities that violate the balanced budget rule are placed into that register, and must have their budget and borrowing decisions approved by an agent of the central government. Hopland (2012) finds that municipalities that are placed in this system improve their operating surplus, mainly through cost reductions.

A final example of the use of central oversight as a way to deal with a SBC problem is provided in Baskaran (2014). Using a sample of municipalities in the state of Hesse in Germany, the author shows that the central government imposes austerity measures on municipalities receiving bailouts. As such, the central government is able to shift some of the bailout costs onto residents or firms of the affected region. In contrast to the two examples above, the central government does not appoint an employee to directly oversee local spending following a bailout. Dietrichson and Ellegård (2015) describe a similar system in Sweden, where bailouts are granted conditionally on making efforts to improve finances. They find that conditional bailouts in that country have a positive effect on municipal finances.

In Finland, an oversight mechanism currently exists at the municipal level. Indeed, Section 118 of the Local Government Act outlines a number of conditions which trigger an evaluation of a municipality’s finances.



The conditions state that the procedure can start if the municipality has a deficit that is not covered within four years (and specific plans to cover it). It can also be started if the deficit reaches a certain level two years in a row, if the tax rate is too high compared to other municipalities, or if the debt of the municipality is too high. The evaluation is done by a group of people, among which one member is appointed by the municipality. The chairperson of that committee, however, is appointed by the Ministry of Finance, and should be independent from the ministry and municipality. In contrast to the examples discussed earlier, the group proposes solutions to the municipality, to which the local council provides a response and decides of any further action to take. Interestingly, a mechanism similar to the one described here also applies to joint municipal authorities. Regarding the current reform, there are some plans to have a similar kind of oversight mechanism for counties. Yet, as the details are not yet known or are uncertain, it is difficult to evaluate how the mechanism would in practice affect the counties or softness of their budget constraint. Yet, at least in principle the SBC problem could be diminished using oversight mechanism at the county level.

These examples, and the ones of the previous sub-section, show that the central government, even if it cannot commit to a hard budget constraint, at least has several tools at its disposition to make bailouts easier to manage. They can impose fiscal rules or limit borrowing, or can devise rules such that municipalities get back on track to fiscal stability following a bailout, including overseeing the local governments directly. As argued by Wildasin (1997), “one way to avoid problems of bailouts is to make it less attractive for localities to induce them.” Similarly, in Canada, Bird and Tassonyi (2003) argue that “the softness inherent in municipal dependence on the provinces is [...] largely offset by hierarchical controls.”

Even inside a single country, it is not necessarily the case that only a single set of rules exists to manage soft budget constraints. Bird and Tassonyi (2003) study the case of Canada, showing that the road to good fiscal performance was not necessarily without obstacles. However, their discussion shows that many systems can lead to relatively hard budget constraints, after some adaptation.<sup>7</sup> Relatedly, Singh and Plekanov (2005) use a panel of 44 countries over the 1982-2000 period to study the relative strength of different methods of constraining local borrowing. They find that different rules are more appropriate under different institutional characteristics such as the degree of vertical fiscal imbalances. At low levels of imbalances, subnational fiscal rules can be effective. At high levels, administrative control from the central government can rein in subnational deficits, but only in the short run. In the long run, instead, “the implicit guarantee of subnational debt related to these controls seems to undermine fiscal discipline.”

---

<sup>7</sup> Bird and Tassonyi (2003) present the two interesting inter-governmental relationships in Canada. At the federal-provincial level, provinces have a virtually free hand in deciding policies and tax rates, while also receiving large unconditional transfers from the federal government. Usually, this arrangement would be the perfect setting for a SBC problem. In contrast, at the provincial-municipal level, municipalities have only limited discretion on tax rates, and are essentially creatures of the provincial governments with strong hierarchical controls.

### 2.3.5. Multi-Tiered Federations

The creation of counties will increase the number of tiers of government in Finland to three: central, counties, municipalities. The discussion so far abstracted from this possibility, instead focusing on the relationship between a central government and a number of local governments at the same tier.

Breuilé and Vigneault (2010) discuss the particularities of the SBC problem in a country with overlapping tiers of government. Their model expands on the idea of Qian and Roland (1998) who studied the SBC under federalism, but with state-owned enterprises. Breuilé and Vigneault (2010) build a model with a central government at the top tier, regional governments in the middle tier, and municipal governments at the bottom tier. They use a decentralized leadership framework. The main result is that a softening of the budget constraint at the regional has a snowball effect, softening the budget constraint at the municipal level as well. The intuition is as follows: municipalities have incentives to ask for additional resources from their respective regional governments, knowing that the central government will in turn provide more resources to the regional government if it spends too much.

This conclusion is derived in a model with horizontal regional equalization payments, and with regional governments providing transfers to municipalities. As such, it is not directly applicable to the Finnish county governments. However, the general lesson of the model could apply: the presence of overlapping governments could worsen the SBC problem. One might think of the common-pool dynamics when politicians at the county level, representing constituents from different municipalities (or potentially being members of municipal councils as well<sup>8</sup>), negotiate over closures of services that are located in different parts of the county.

Breuilé and Vigneault's (2010) conclusions are rather pessimistic. Looking at real-world cases, however, might bring a more optimistic view. Bird and Tassonyi (2003), quoted earlier, describe the Canadian experience of a multi-tiered federation, illustrating that a multi-tiered federation can successfully manage the SBC problem. Most interestingly, they describe how the federal-provincial and provincial-municipal levels took different paths, but ended up both with relatively good fiscal performance.

### 2.3.6. Political Aspects of the Soft Budget Constraint Problem

The Soft Budget Constraint is first and foremost a problem of incentives and strategic interactions between different levels of governments. It is thus natural to think that there could be political aspects to it.

One possibility is that regions of different sizes or influence levels might be faced with budget constraints of different degrees of softness. Fink and Stratmann (2011) use data from Germany to show that states with over-representation in the Bundesrat have bigger deficits and worse fiscal performance. They exploit the fact that smaller German states have a high number of seats relative to their population numbers, such that these

---

<sup>8</sup> Fabre (2017) discusses the role of holding multiple offices (dual mandates) in the assignment of regional grants to municipalities. He finds that when a mayor of a town is also in the majority coalition of the regional council, that town receives more grants from the regional government.

states have more bargaining power to attract bailouts, and thus a softer budget constraint. In Sweden, Johansson (2003) finds that municipalities with more swing voters receive larger grants from the central government.

Robinson and Torvik (2009) propose a model where the SBC problem occurs because it provides politicians with potential votes. In other words, soft budget constraints are prevalent because they are desirable from the viewpoint of politicians. In their model, politicians finance public projects even if they know (with perfect information) they will have to be bailed out in the future, because it allows them to credibly commit to redistribute resources to their core supporters in credible ways, and thus positively influence their electoral outcomes. Their model has important implications. Soft budget constraints can be hard to completely eradicate, since the politicians who would be passing laws to harden budget constraints actually have incentives to keep them softer.

Another political phenomenon that might be linked to the SBC problem is the alignment effect studied in the political science literature. Bracco et al. (2015), for example, show using a RDD framework that among Italian municipalities, those with a mayor of the same party as at the central level receive on average 40% more grants than those with “unaligned” mayors. Bracco et al. (2015) do not directly address the SBC problem. However, their result could have implications for the SBC problem in Finland if some counties, for example, tend to elect politicians from parties who are more often part of the central governing coalitions.

Most of the discussion so far emphasizes local politicians trying to extract the maximum amount of resources possible from the central government. However, as argued by Bordignon (2004), local politicians might have national ambitions. In that case, the political system might play a role in hardening the budget constraint. Local politicians want to signal to their national party that they are responsible and “team players.”

Finally, political aspects might interplay with other aspects discussed in this paper. For example, Bordignon et al. (2013) approach the question of vertical fiscal imbalances from a political perspective, considering the channel of politician selection. In their model, when most resources come from the centre, the main goal of local politicians is to keep resources flowing to their community. Therefore, elections select the politicians with skills in bargaining or with rich connections, instead of those with better administrative skills. In turn, this selection effect leads to worse fiscal performance. Bordignon et al. (2013) then provide empirical evidence supporting their argument, using data on politicians in Italian municipalities before and after a decentralization reform in the 1990s.

### **2.3.7. The Role of Credit Markets and Borrowing**

Another solution for dealing with soft budget constraints is relying on credit markets. In many countries, they play an important role in hardening the soft budget constraint. It is the case, for example, for Canadian provinces: “the softness inherent in some aspects of the federal-provincial system—notably the importance of unconditional and equalization transfers—is largely vitiated by the interaction of capital market discipline with political institutions, which makes it difficult for provinces to shift either costs or deficits upward” (Bird

and Tassonyi, 2003). Rodden et al. (2003a) caution, however, that such mechanisms only work if “lenders bear the consequences if a borrower cannot or will not service its loans.” In the case of subnational government, this condition is not necessarily guaranteed. If it is, however, competition for private loans helps constrain sub-national budgets: poor fiscal performance leads to higher borrowing costs for sub-national governments.

In the case of Finnish counties, if they are not allowed any degree of taxation autonomy, providing them with borrowing autonomy is not likely to mitigate the SBC problem. Indeed, in this context, lenders are more likely to believe that any loan is implicitly guaranteed by the central government. In turn, counties would be incentivized to borrow more, thus worsening the SBC problem. Rodden (2001) shows that indeed, increased borrowing autonomy is associated with worse fiscal discipline when it is not accompanied by taxation autonomy. Currently in Finland, municipalities are allowed to make their own borrowing. However, approximately 80 per cent of municipal borrowing is made through MuniFin, a publicly-owned credit institution (OECD, 2016), with all funding guaranteed by Municipal Guaranteed Board. Therefore, importing the municipal system into the functioning of the counties would not reduce the softness of the budget constraint.

### **3. Horizontal and Vertical Externalities**

In a previous section, we discussed the role of taxation autonomy in preventing or mitigating the SBC problem. A potential recommendation is thus to increase taxation autonomy for the counties. In the current reform plan, county governments do not receive full tax-setting and spending autonomy, thus limiting the possibilities for horizontal externalities. However, if more local tax autonomy is ever adopted as a solution to the problem of soft budget constraints, it is important to understand the implications of that choice for local spending.<sup>9</sup> With increased taxation power, for example, there is more room for tax competition between counties. This section will discuss potential externalities between the counties (e.g., strategic interactions), or between the county governments and governments of other tiers.

#### **3.1 Horizontal Externalities**

We already saw an example of horizontal externalities as a determinant of the SBC problem: spending spillovers. Spending spillovers could be particularly relevant in the context of the proposed “freedom of choice” reform in healthcare. Indeed, customers for health services in Finland will be allowed to choose their provider across county borders. Whether spending spillovers will be relevant in the context of the reform

---

<sup>9</sup> Furthermore, even if county governments receive limited tax-setting autonomy, it might be possible for them to compete by providing differentiated services. As argued by Tiebout (1956), this type of competition can lead to public goods better tailored to the local population. Oates (1972) and Alesina and Spolaore (1997) make a similar argument about the matching between preferences and local public goods. They also underline the existence of a trade-off between this better matching and economies of scale that can prevail by having fewer, larger jurisdictions.

depends on a multitude of factors. On the one hand, spending spillovers should be limited since the home county will be responsible for the payment of services. On the other hand, a sizeable proportion of health care costs is fixed, and thus stays in the home county even if customers go to neighbouring counties. Moreover, if counties are geographically large enough, it is unlikely that residents travel to other counties to receive healthcare, thus limiting spillovers.

There is a vast literature on horizontal externalities. Brueckner (2003) offers a brief explanation of spillover models, focusing on the fact that the objective function of a region includes the spending of its neighbours in addition to its own. This assumption gives rise to a fiscal reaction function: one county's spending is affected by the spending of neighbouring counties. Case, Rosen, and Hines (1993) find a positive reaction function, reflecting some mimicking between jurisdictions. Foucault, Madiès, and Paty (2008) study the interactions between neighbouring municipalities in France. They find a similar positive relationship between their spending, especially in the most visible spending categories such as investment. France being a unitary country, they note that such fiscal interactions are relevant even with a lower level of decentralization. Moreover, they show that this interaction remains significant when defining neighbours not geographically, but as towns that have the same political colour.

Another explanation for the inter-jurisdiction interactions, and the fiscal reaction function, is horizontal tax competition. Wilson (1999) provides a review of the vast literature on the topic. Early theoretical papers on capital tax competition (e.g., Zodrow and Mieszkowski, 1989) predict a "race to the bottom." In other words, when governments compete against each other, tax rates go down and public goods are under-provided. A number of authors then investigated this mechanism under various assumptions. Cai and Treisman (2005) also highlight the possible positive outcomes from tax competition: more accountability, less inefficiencies, etc. A discussion of this literature is out of the scope of this paper, but a recent overview is provided by Keen and Konrad (2014).

Finally, another explanation for the positive relationship between the tax policies of neighbouring local jurisdictions is yardstick competition. Briefly, that type of model asserts that under imperfect information, voters re-elect politicians based on a comparison with the outcomes in neighbouring jurisdictions, evaluating whether the incumbent is "bad" or "good." Politicians then have incentives to mimic other jurisdictions to not be perceived as bad incumbents. Besley and Case (1995) explore this question empirically using data on US states, and exploiting term limits for governors. They find that states do not react to their neighbour's tax rates when the governor is a lame duck, a result that is consistent with the yardstick competition model.

Despite the vast literature on the subject, there is disagreement on the importance of horizontal externalities. As Revelli (2005) argues, it is difficult to empirically distinguish between the different explanations for the fiscal reaction functions of subnational governments. Furthermore, for example, Lyytikäinen (2012) argues that the externalities can disappear with a properly-designed causal framework. Using Finnish data, Lyytikäinen (2012) compares results from a natural experiment on property tax rates with results obtained

using the usual spatial econometrics framework. He finds no evidence that municipalities react to each other's property tax rates using the natural experiment, and that the methods used in previous papers suffered from upward bias. Isen (2014) also uses a natural experiment in Ohio, finding no evidence of local spillovers.

### **3.3. Vertical Fiscal Externalities**

Vertical fiscal externalities are another important consideration when discussing the addition of a layer of government. Indeed, decisions at one level of government can affect the governments of other layers. We already discussed an example earlier in this paper, when exploring how vertical fiscal imbalances affected the soft budget constraint. Indeed, in an effort to cut spending or control debt, higher levels of government may decide to reduce transfers to lower levels of government without a corresponding change in spending responsibilities.

One strand of the literature explores the vertical externalities that can arise when both layers of government have taxation powers. Keen and Kotsogiannis (2002), for example, study how taxes can be inefficiently high when two levels of government share the same tax base. Early treatments of that issue also include work by Flowers (1988), Boadway and Keen (1996), and Wrede (1996). The basic argument is simple. When both layers share the same tax base (i.e., there is tax base overlap), it creates a common-pool problem where each government does not take into account the full effect of its tax decisions on the tax base. In terms of solutions to correct the vertical externality problem, Andersson et al. (2004) collect some of the suggestions made in the literature. These include the central government setting its tax rate to zero and collecting revenues directly from local governments instead, or some well-designed transfer schemes.

Vertical tax externalities may also coexist with horizontal tax externalities. A number of authors looked at the effects on taxes and public goods provision under both types of externalities (e.g., Keen and Kotsogiannis, 2002, 2004; Brulhart and Jametti, 2006; Boadway et al., 1998; Andersson et al., 2004; Flochel and Madiès, 2002; Kotsogiannis, 2010). To put it simply, vertical externalities may lead to too-high taxes, while horizontal externalities may lead to too-low taxes. Keen and Kotsogiannis (2002) explore the question of which type of externality dominates. They conclude that the vertical externality dominates if the tax base responds sufficiently to subnational taxes, while the horizontal externality does if the tax base mobility is high enough.

Empirically, there is some evidence of an association between tax rates at different levels of government, although whether the effects are causal is still unclear. Esteller-Moré and Solé-Ollé (2001, 2002) show that in the United States and Canada, provincial or state (sub-national) personal income tax rates respond positively to federal rates. However, Hayashi and Boadway (2001) instead focus on corporate tax rates in Canada, and find a negative relationship between federal and provincial tax rates. Brulhart and Jametti (2006) test whether in Switzerland, horizontal or vertical externalities dominate. They find that the effect of

vertical externalities dominate that of horizontal externalities (i.e., the tax-increasing effect dominates). Andersson et al. (2004) distinguish between vertical *interactions* and *externalities*. Interactions occur when, as discussed above, decisions at one level of government affect the tax base for other levels. Vertical externalities imply that the welfare effects of those interactions have not been internalized. They argue, in particular, that the tax rates of different levels of government can be correlated even if all welfare effects are internalized, such as using intergovernmental grants. They derive a model and test it using Swedish data. Their results show that local and regional tax rates are negatively correlated. They also show that the externalities are not fully internalized.

In the context of the current reform plan, vertical tax externalities are not such an important issue. However, they could become important if county governments receive more taxation autonomy. In particular, the common-pool problem could be exacerbated, and thus taxes too high, if all three levels of government use personal income taxation. One possible solution is to use different types of taxes at different levels, such as making a greater use of land or property taxes.

#### **4. Soft Budget Constraint and Increasing Deficits in the Health Care Sector**

In the previous sections, we discussed a number of factors behind the SBC problem and inter-jurisdiction externalities in general terms. In this section we will review contributions that look specifically at these issues, especially the SBC problem, in the context of healthcare services.

Understanding the SBC problem in the context of healthcare provision is important for two main reasons. First, there is growing concern in many countries, including Finland, over the rising costs of the healthcare system mainly due to rising demand and aging population (Crivelli et al., 2010). Since a SBC problem could translate in higher spending or a less efficient use of resources, it could contribute to this rise in costs. Second, healthcare will be a significant portion of the counties' responsibilities in Finland. Therefore, to prevent a SBC problem in this new government tier, it is important to understand the particular details of a soft budget constraint that apply to this sector. This concern is highlighted by Crivelli et al. (2010), who note that it is shared in many OECD countries following the decentralization trend in healthcare spending.

In health care, the term "soft budget constraint" can refer to various situations, including a public or non-profit hospital that overspends or a local or subnational government that does not balance its accounts when organizing health care services (Levaggi, 2018). Some authors analyze the budget constraints of hospitals and their effects, comparing for example public and private hospitals (e.g., Duggan 2000, Wright, 2016; Brekke et al., 2015). In this section, we will mainly focus on the role of the design of decentralized institutions (central and regional governments) for health care services.

In a paper on the benefits of decentralization in healthcare systems, Costa-i-Font (2012) argues that the SBC is particularly important in this kind of context, since the central government cannot allow local governments to fail in providing a publicly-financed service that is as politically sensitive as health care. In fact, the laws

and the constitution might even explicitly remove the possibility for the central government to not provide additional resources. Costa-i-Font (2012) also highlights the importance of vertical fiscal imbalances in the emergence of SBCs in the healthcare sector, and the importance of allowing the local governments to raise their own resources.

The relevance of the SBC problem in healthcare provision has been examined in several empirical studies. In one of the most relevant papers, Bordignon and Turati (2009) provide quasi-experimental evidence of the SBC using data on Italian local governments<sup>10</sup>. In particular, they argue that the European Commission's role in enforcing fiscal discipline in the early 1990s decreased the bailout expectations of local governments. In turn, they find that this decrease in bailout expectations resulted in a deceleration in the growth of health spending and a reduction in deficits of the governments responsible for healthcare. Moreover, this adjustment did not seem to have negative effects on the quality or quantity of health services.

Interpreting their results, Bordignon and Turati (2009) make the important observation that in the case of healthcare, "the central government can hardly allow local governments to 'fail' in providing essential health care services." In addition, it is "especially true if the central government itself may be blamed for this failure, as it might happen in those countries where political and financial responsibilities for health care across different levels of government and not clearly defined". While in Finland, the responsibilities might be clearly defined, the fact that the financing is mostly coming from central government might convince the voters to put the final blame for an eventual failure to provide proper health care services on the central government, instead of county governments. In that case, the incentives are strong for the central government to bail out local governments. In fact, Bordignon and Turati (2009) add that "regions claim that the central government deliberately under-finances them for the provision of health services which are largely mandated by the central government itself."

Crivelli et al. (2010) make similar conclusions based on aggregate-level data from OECD countries. Their results suggest that a larger dependence on central government financing and a higher degree of local borrowing autonomy are both associated with larger health spending by subnational governments. They argue that this dependence on central government financing is a sign of vertical fiscal imbalances, which would result in higher expectations of bailouts. Interestingly, the OECD data of Crivelli et al. (2010) show that Finland had a large degree of decentralization of health spending, but a relatively low reliance on central government financing (at least until 2007, the period under study). The planned reform would thus reverse this trend with an increased importance of central transfers.

Closer to Finland, both geographically and perhaps institutionally, Tjerbo and Hagen (2009) discuss the soft budget constraint and increasing budget deficits in Norwegian hospital sector in the 1990s and 2000s. They

---

<sup>10</sup> Levaggi and Menoncin (2013) also examine the SBC problem in the Italian healthcare system. Based on a theoretical model and data for Italian regions, they argue that the SBC problem arises from a cooperative game between local authorities that forces the central government to bail them out. This argument is also related to horizontal externalities discussed in the previous section.



start by discussing the events of the 1990s, when the Norwegian hospital sector was exhibiting increased deficits. During that period, local county governments were the owners of the hospitals, but the financing system was largely centralized. The revenues of counties came mostly from block grants and local taxes where the tax rate was set by the central government. In 1997, the block grants were partly replaced by matching grants (activity-based funding), but vertical fiscal imbalances endured. This system led to a “blame game” between the different levels of government, continued expectations of a SBC, and continuously increasing deficits in the hospital sector (also detailed in Hagen and Kaarbøe, 2006). The main reasons behind the SBC and increasing deficits was the vertical fiscal balance with low taxing autonomy of counties and the fact that the central state was not able to resist demand for additional funding requested by counties. In an attempt to remedy this situation, in 2002, a reform was implemented in which the central state took over the ownership of the hospitals from the counties and the administration of healthcare provision was transferred to a low number of regional non-political administrations (five Regional Health Authorities). However, deficits continued to increase despite this reform.

Tjerbo and Hagen (2009) end their discussion of the Norwegian hospital financing reform with a rather pessimistic outlook: the blame game from the initial system was simply replaced by a new blame game involving the regional authorities. They see two main reasons for this failure: the minority government situation at the central level, making the decision-making process difficult to predict, and the nature of the budgetary process in Norway, with revisions each Spring and decentralized decisions. These two features translated in the maintenance of a soft budget constraint for the hospitals. Interestingly, one solution advanced by the authors is to re-decentralize healthcare provision to counties, but with added taxation autonomy to prevent the SBC problem (cf. Oates, 2005). The basic idea behind this suggestion is that decentralization of the responsibility for both the provision of hospital services and their financing to a regional government or elected assembly could positively affect budgetary discipline. On the other hand, they also mention that this solution could potentially increase horizontal inequality of health care services.

The patterns discussed in Tjerbo and Hagen (2009) involve a number of actors. Kornai (2009) offers a more systematic discussion of the roles of patients, doctors, hospitals, and governments in the SBC problem. Kornai’s (2009) discussion makes the point that the SBC problem in the health care sector is deeply rooted: decentralizing or centralizing will not fix the issue. Indeed, each actor has incentives to “pass up” the problem to the level above them. Patients want increased spending for better-quality care. Doctors sympathize with patients and want to keep their jobs, thus pushing hospital managers to spend more. Hospital managers try to push deficits onto the local governments, who then push those to governments at a higher level. The end result is a “blame game,” as suggested by the analysis of Tjerbo and Hagen (2009), and soft budget constraints.

Based on his discussion, Kornai (2009) offers a number of normative discussions, in particular warning against putting too much importance on the possibility of a SBC in healthcare. Indeed, hospitals that feel less threatened by insolvency might find it easier to introduce new technologies that might be more expensive,

but that might increase patients' quality of life. Similarly, using a theoretical model, Brekke et al. (2015) argue that while soft budgets generally decrease cost efficiency of hospitals, their effect on quality of care is ambiguous. Moreover, they show that in the context of second-best price regulation soft budgets might even improve welfare. In the same vein, Shen and Eggleston (2009) also argue that it might be optimal to have some softness in hospitals' budget constraints.

Using data from the U.S., both Shen and Eggleston (2009) and Eggleston and Shen (2011) find that hospitals with softer budget constraints are associated with a lower probability of shutting down services that are less profitable such as safety net services. Moreover, they also find that softer budget constraints are associated with lower mortality rates from heart attacks, suggesting that overly "zealous" cost control under a hard budget constraint might translate in quality deteriorations. Yet, it should be noted that empirical evidence in these studies is based on associations rather than causal effects.

To sum up, this discussion highlights how the Soft Budget Constraint is particularly relevant in the healthcare sector. It also makes the argument that bailouts should be evaluated individually. Indeed, a reasonable degree of softness in the budget constraints of hospitals and regional healthcare authorities can favor the introduction of new and better, but also more expensive, technology. However, going back to our discussion on rules, it is important to accompany the eventual bailouts with clear measures to not create bad incentives.

## **5. Discussion and conclusions**

In creating a new tier of government in Finland, the regional government reform under consideration raises a number of questions regarding the optimal level of decentralization and how to best arrange a federal governance structure for the provision of health and social care services. This question is important, as that structure can have significant effects on both health outcomes and spending. For example, using data on the OECD countries, Arends (2017) found that decentralization of *spending* leads to larger public health sectors and poorer outcomes, while an accompanying decentralization of tax authority leads to better fiscal performance in the health sector. Furthermore, this improved fiscal performance need not come at the expense of health outcomes. Indeed, Piacenza and Turati (2014) provide suggestive evidence, using data from Italy, that increasing fiscal discipline at the local level (i.e., reducing the softness of the budget constraint) reduces wasteful spending without affecting citizens' health outcomes. Finally, devolution of health services to local or regional governments does not necessarily imply inequities in regional outcomes or output. Indeed, Di Novi et al. (2015) and Costa-Font and Turati (2018) provide suggestive evidence that increasing decentralisation does not lead to more regional inequities. In that respect, allowing counties in Finland to retain a higher degree of taxation autonomy does not necessarily go against the reform's goal of reducing regional inequities. Moreover, it is important to note that intergovernmental transfers could be used to reduce possible regional inequities also in the case when counties would have taxation autonomy. In fact,

this is how the system works for municipalities that are currently responsible for the provision of health and social care services.

Despite its benefits, decentralization can also have some negative consequences. An obvious consequence of excess decentralisation is that the units responsible for service provision can be too small, and thus cannot benefit from economies of scale. Yet, this is probably less relevant concern in the Finnish case, as the reform under consideration proposes centralizing the provision of health and social care services to a middle tier of government, instead of the local tier, and centralizing the revenue autonomy to a greater degree, to the central government. The end result is thus a system with less decentralization, but especially on the revenue side. From the point of view of the literature in this paper, the reform thus seems to go against some of the lessons described above.

Another important topic related to decentralization and financing of counties is the Soft Budget Constraint problem. This problem states that while the central government might prefer and announce *ex ante* that it will not hand out additional resources or bail out local governments in fiscal trouble, local governments might act strategically if they expect that commitment not to be credible. In this paper, we provide an overview of that literature, highlighting the determinants of the SBC problem most relevant for the Finnish regional government reform, and possible solutions. We also review the literature on horizontal and vertical tax competition. Indeed, since increasing the tax autonomy of the counties is one possible step in mitigating the SBC problem, it is important to understand how these counties might interact with each other, but also with the other levels of government.

One important conclusion from our discussion is that decentralizing spending alone can lead to softer budget constraints for the regional governments, due to the vertical fiscal imbalances that it creates. One channel through which this softens the budget constraint is the possibility for local governments to “blame” the central government for the deficits. This problem is particularly relevant for the health sector, since it touches a politically sensitive issue. Another interesting conclusion from our discussion is that it might simply be impossible for the central government to commit to a no-bailout policy. In the case of health and social care provision in Finland, the central government might even explicitly commit to increasing resources if services are at risk. In this case, the literature suggests having pre-determined mechanisms around the bailouts. Possibilities include mandated austerity measures as conditions for the bailout, or direct central oversight. These measures seem to improve local public finances.

Our findings suggest that the reform should proceed with additional tax autonomy at the county level, thus limiting the softness of the counties’ budget constraints. This change would also imply looking deeper in possible issues of vertical tax competition (and possibly horizontal tax competition). The reform should also put institutions in place to govern the inevitable bailouts. One example noted in the paper is mechanisms for direct central oversight in case of a bailout. Such a system is already in place for Finnish municipalities, but

while the current county-level reform plans to include a similar system, the details are still unclear. Yet, our paper indicates that it could play an important role in ensuring good financial health for these governments.

## Acknowledgments

The authors would like to thank the members of Finland's Economic Policy Council for their guidance in preparing this report, as well as Thierry Madiès, Mikko Puhakka and Allan Seuri for their helpful comments on previous drafts.

## References

- Alesina, A. & E. Spolaore (1997). "On the Number and Size of Nations," *The Quarterly Journal of Economics*, 112, issue 4, 1027-1056.
- Allers, M. & E. Merkus (2013). "Soft budget constraint but no moral hazard? The Dutch local government bailout puzzle," *Research Report 13014-EEF*, University of Groningen, Research Institute SOM.
- Andersson, L. & T. Aronsson & M. Wikström (2004). "Testing for Vertical Fiscal Externalities," *International Tax and Public Finance*, vol. 11(3), 243-263, May.
- Arends, H. (2017). "More with Less? Fiscal Decentralisation, Public Health Spending and Health Sector Performance," *Swiss Polit Sci Rev*, 23: 144-174.
- Baskaran, T. (2012). "Soft budget constraints and strategic interactions in subnational borrowing: Evidence from the German States, 1975–2005," *Journal of Urban Economics*, Volume 71, Issue 1, 2012, 114-127.
- Baskaran, T., (2014). "Bailouts and austerity," Center for European, Governance and Economic Development Research Discussion Papers No 212, University of Goettingen, Department of Economics.
- Baumann, S. (2017). "Putting It Off for Later: Procrastination and End-of-Fiscal-Year Spending Spikes," *Scandinavian Journal of Economics*, Accepted Author Manuscript.
- Ben-Bassat, A. & M. Dahan & E. F. Klor (2016). "Is centralization a solution to the soft budget constraint problem?," *European Journal of Political Economy*, Volume 45, 2016, 57-75.
- Besfamille, M. & B. Lockwood (2008). "Bailouts In Federations: Is A Hard Budget Constraint Always Best?," *International Economic Review*, 49: 577-593
- Besley, T. & A. Case (1995). "Incumbent Behavior: Vote-Seeking, Tax-Setting, and Yardstick Competition," *American Economic Review*, 85, issue 1, 25-45.
- Bird, R. M. & A. Tassonyi (2003). "Constraining Subnational Fiscal Behavior in Canada: Different Approaches, Similar Results?," in *Fiscal Decentralization and the Challenge of Hard Budget Constraints*, Rodden, Eskeland and Litvack, eds., 85-132.
- Boadway, R. & M. Keen (1996). "Efficiency and the optimal direction of federal-state transfers," *International Tax and Public Finance*, vol. 3, issue 2, 137-155.

- Boadway, R. & M. Marchand & M. Vigneault (1998). "The Consequences Of Overlapping Tax Bases For Redistribution And Public Spending In A Federation," CORE Discussion Papers 1998003, Université Catholique De Louvain, Center For Operations Research And Econometrics (Core).
- Boadway, R., & J.-F. Tremblay. (2006). "A Theory of Fiscal Imbalance," *FinanzArchiv /Public Finance Analysis*, 62(1), 1-27.
- Boetti, L. & M. Piacenza & F. Turati (2012). "Decentralization and Local Governments' Performance: How Does Fiscal Autonomy Affect Spending Efficiency?," *FinanzArchiv: Public Finance Analysis*, vol. 68(3), 269-302, September.
- Bordignon, M. (2000). "Problems of Soft Budget Constraints in Intergovernmental Relationships: The Case of Italy," Research Department Publications No 3099, Inter-American Development Bank.
- Bordignon, M. (2004). "Fiscal Decentralization: how to achieve a hard budget constraint," Paper prepared for the workshop on Fiscal Surveillance in EMU: New Issues and Challenges.
- Bordignon, M. & M. Gamalerio & G. Turati (2013). "Decentralization, Vertical Fiscal Imbalance, and Political Selection," CESifo Working Paper Series 4459.
- Bordignon, M. & G. Turati (2009). "Bailing out expectations and public health expenditure," *Journal of Health Economics*, Volume 28, Issue 2, 2009, 305-321.
- Bracco, E. & B. Lockwood & F. Porcelli & M. Redoano (2015). "Intergovernmental grants as signals and the alignment effect: Theory and evidence," *Journal of Public Economics*, Volume 123, 2015, 78-91.
- Brekke, K. R. & L. Siciliani & O. R. Straume (2015). "Hospital Competition with Soft Budgets," *Scandinavian Journal of Economics*, 117(3), 1019-1048.
- Breuillé, M.-L. & M. Vigneault (2010). "Overlapping soft budget constraints," *Journal of Urban Economics*, Volume 67, Issue 3, 2010, 259-26.
- Brueckner, J. (2003). "Strategic Interaction Among Governments: An Overview of Empirical Studies" *International Regional Science Review*, vol. 26, no. 2, 175-188.
- Brühlhart, M. & M. Jametti (2006). "Vertical versus horizontal tax externalities: An empirical test," *Journal of Public Economics*, Volume 90, Issues 10–11, 2027-2062.
- Burret, H.T. & L. P. Feld (2018). "Vertical effects of fiscal rules: the Swiss experience," *International Tax and Public Finance*, vol. 25(3), 673-721, June.
- Cai, H., & D. Treisman (2005). "Does Competition for Capital Discipline Governments? Decentralization, Globalization, and Public Policy," *American Economic Review*, 95(3), 817-830.
- Case, A. & H. Rosen & J. Hines (1993). "Budget spillovers and fiscal policy interdependence: Evidence from the states," *Journal of Public Economics*, 52, issue 3, 285-307.
- Costa-i-Font, J. (2012). "Fiscal Federalism and European Health System Decentralization: A Perspective," LSE Europe in Question Discussion Paper Series, No. 55/2012.
- Costa-i-Font, J. & G. Turati (2018) "Regional Healthcare Decentralization in Unitary States: Equal Spending, Equal Satisfaction?," *Regional Studies*, 52:7, 974-985.
- Couffinhal, A. & J. Cylus & R. Elovainio & J. Figueras & P. Jeurissen & M. McKee & P. Smith & S. Thomson & U. Winblad (2016). "International Expert Panel Pre-Review of Health and Social Care Reform in Finland," *Reports and Memorandum of the Ministry of Social Affairs and Health*, 2016:66.
- Crivelli, E. & A. Leive & T. Stratmann (2010). "Subnational Health Spending and Soft Budget Constraints in OECD Countries," *IMF Working Papers* No 10/147.
- Crivelli, E. & K. Staal (2013). "Size, spillovers and soft budget constraints," *International Tax and Public Finance*, vol. 20(2), 338-356, April.
- De Mello, L. R. (2000). "Fiscal Decentralization and Intergovernmental Fiscal Relations: A Cross-Country Analysis," *World Development*, vol. 28, no. 2. 365-380.

- Dewatripont, M. & E. Maskin (1995). "Credit and Efficiency in Centralized and Decentralized Economies," *The Review of Economic Studies*, 62:4, 541-55.
- Di Novi, C. & M. Piacenza & S. Robone & G. Turati (2015). "How does Fiscal Decentralization Affect Within-Regional Disparities in Well-Being? Evidence from Health Inequities in Italy," *Health, Econometrics and Data Group Working Paper*, 15/23.
- Dietrichson, J. & L. M. Ellegård (2015). "Assist or Desist? Conditional Bailouts and Fiscal Discipline in Local Governments," *European Journal of Political Economy*, 3, 153-168.
- Duggan, M.G. (2000). "Hospital Ownership and Public Medical Spending." *Quarterly Journal of Economics* 115(4), 1343-1373.
- Eggleston, K. & Y.-C. Shen (2011), "Soft Budget Constraints and Ownership: Empirical Evidence from US Hospitals," *Economics Letters* 110, 7–11.
- Esteller-Moré, A. & A. Solé-Ollé (2002). "Tax Setting in a Federal System: The Case of Personal Income Taxation in Canada," *International Tax and Public Finance*, 9, 235-257.
- Eyraud, L. & L. Lusinyan (2013). "Vertical fiscal imbalances and fiscal performance in advanced economies," *Journal of Monetary Economics*, Volume 60, Issue 5, 571-587.
- Eyraud, L. & L. Lusinyan (2011). "Decentralizing Spending More Than Revenue; Does it Hurt Fiscal Performance?," IMF Working Papers No 11/226.
- Fabre, B. (2017). "Political Colleagues Matter: The Impact of Multiple Office-Holding on Intergovernmental Grants," PSE Working Papers n°2017-43.
- Fink, A. & T. Stratmann (2011). "Institutionalized Bailouts and Fiscal Policy: Consequences of Soft Budget Constraints," *Kyklos*, 64: 366-395.
- Flochel, L. & T. Madiès (2002). "Interjurisdictional Tax Competition in a Federal System of Overlapping Revenue Maximizing Governments," *International Tax and Public Finance*, March, Volume 9, Issue 2, 121–141.
- Flowers, M.R. (1988). "Shared Tax Sources in a Leviathan Model of Federalism," *Public Finance Quarterly*, vol.16, no. 1, 67-77.
- Foremny, D. (2014). "Sub-national deficits in European countries: The impact of fiscal rules and tax autonomy," *European Journal of Political Economy*, 34, issue C, 86-110.
- Foucault, M. & T. Madies & S. Paty (2008). "Public spending interactions and local politics. Empirical evidence from French municipalities," *Public Choice*, vol. 137(1), 57-80, October.
- Fox, W. F. & T. Gurley (2006). "Will Consolidation Improve Sub-National Governments?" *Policy Research Working Paper*, No. 3913. World Bank, Washington, DC.
- Goodspeed, T. (2002). "Bailouts in a Federation," *International Tax and Public Finance*, vol. 9(4), 409-421, August.
- Grembi, V. & T. Nannicini & U. Troiano (2016). "Do Fiscal Rules Matter?" *American Economic Journal: Applied Economics*, 8 (3): 1-30.
- Hagen, T.P. & O. M. Kaarbøe (2006). "The Norwegian hospital reform of 2002: Central government takes over ownership of public hospitals," *Health Policy*, Volume 76, Issue 3, 320-333.
- Hayashi, M. & R. Boadway (2001). "An Empirical Analysis of Intergovernmental Tax Interaction: The Case of Business Income Taxes in Canada," *The Canadian Journal of Economics*, Vol. 34, No. 2, 481-503.
- Heinemann, F. & M.-D Moessinger & M. Yeter (2018). "Do fiscal rules constrain fiscal policy? A meta-regression-analysis," *European Journal of Political Economy*, Volume 51, January 2018, 69-92.
- Hoplan, A.O. (2012). "Central Government Control and Fiscal Adjustment: Norwegian Evidence," *Norwegian University of Science and Technology Working Paper Series*, No. 15/2012.

- Inman, R. (2003). "Transfers and Bailouts: Enforcing Local Fiscal Discipline with Lessons from U.S. Federalism," in *Fiscal Decentralization and the Challenge of Hard Budget Constraints*, Rodden, Eskeland and Litvack, eds., 35-84.
- Isen, A. (2014). "Do local government fiscal spillovers exist? Evidence from counties, municipalities, and school districts," *Journal of Public Economics*, 110, issue C, 57-73.
- Johansson, E. (2003). "Intergovernmental grants as a tactical instrument: empirical evidence from Swedish municipalities," *Journal of Public Economics*, 87, issue 5-6, 883-915.
- Keen, M. & K. A. Konrad (2012). "International Tax Competition and Coordination," Working Papers, Max Planck Institute for Tax Law and Public Finance.
- Keen, M. & C. Kotsogiannis (2002). "Does Federalism Lead to Excessively High Taxes?" *American Economic Review*, 92(1), 363-370.
- Keen, M. & C. Kotsogiannis (2004). "Tax competition in federations and the welfare consequences of decentralization," *Journal of Urban Economics*, Volume 56, Issue 3, 397-407.
- Kornai, J. (1979). "Resource-Constrained Versus Demand-Constrained Systems," *Econometrica* 47:4, 801-19.
- Kornai, J. (1986), "The Soft Budget Constraint," *Kyklos*, 39, 3-30.
- Kornai, J. & E. Maskin & G. Roland (2003). "Understanding the Soft Budget Constraint," *Journal of Economic Literature*, 41, issue 4, 1095-1136.
- Kornai, J. (2009). "The Soft Budget Constraint Syndrome in the Hospital Sector." *International Journal of Health Care Finance and Economics*, 9(2), 117-135.
- Kotsogiannis, C. (2010). "Federal tax competition and the efficiency consequences for local taxation of revenue equalization," *International Tax and Public Finance*, 17, issue 1, 1-14.
- Levaggi, R. (2018). "Public Finance and Soft Budgets." In Oxford Research Encyclopedia of Economics and Finance. Oxford University Press.
- Liebman, J. B. & N. Mahoney (2017). "Do Expiring Budgets Lead to Wasteful Year-End Spending?" Evidence from Federal Procurement." *American Economic Review*, 107 (11): 3510-49.
- Lyytikäinen, T (2012). "Tax competition among local governments: Evidence from a property tax reform in Finland," *Journal of Public Economics*, vol. 96(7-8), 584-595.
- Maskin, E. S. (1996). "Theories of the Soft Budget-Constraint," *Japan & the World Economy* 8:2, 125-33.
- Moisio, A. & R. Uusitalo (2013). "The impact of municipal mergers on local public expenditures in Finland," *Public Finance and Management*, 13(3), 148-166.
- Neyapti, B. (2010). "Fiscal Decentralization and Deficits: International Evidence," *European Journal of Political Economy*, 26, 155-166.
- Oates, W. (1972). *Fiscal Federalism*, New York, Harcourt Brace Jovanovich.
- Oates, W. (2005). "Toward A Second-Generation Theory of Fiscal Federalism," *International Tax and Public Finance*, 12, issue 4, 349-373.
- Oates, E. (2006). "On the Theory and Practice of Fiscal Decentralization," Working Papers 2006-05, University of Kentucky, Institute for Federalism and Intergovernmental Relations.
- OECD (2013). *Fiscal Federalism 2013*. OECD Publishing.
- OECD (2016). *Profile: Finland*. OECD Publishing. Available at: <https://www.oecd.org/regional/regional-policy/profile-Finland.pdf>.
- Padovano, F. (2011). "Causes and Consequences of Bailing out Expectations of Subcentral Governments: Theory and Evidence from the Italian Regions," Economics Working Paper Archive (University of Rennes 1 & University of Caen) 201128, Center for Research in Economics and Management (CREM).

- Pettersson-Lidbom, P. (2010). "Dynamic Commitment and the Soft Budget Constraint: An Empirical Test," *American Economic Journal: Economic Policy*, 2(3), 154-179.
- Pettersson-Lidbom, P. & M. Dahlberg (2003). "An Empirical Approach for Evaluating Soft Budget Constraints," Working Paper Series 2003:28, Uppsala University, Department of Economics.
- Piacenza, M. & G. Turati (2014). "Does Fiscal Discipline Towards Subnational Governments Affect Citizens' Well-Being? Evidence on Health," *Health Economics*, 23: 199-224.
- Poterba, J. (1994). "State Responses to Fiscal Crises: The Effects of Budgetary Institutions and Politics," *Journal of Political Economy*, 102, issue 4, 799-821.
- Prud'homme, R. (1995). "The Dangers of Decentralization," *The World Bank Research Observer*, Vol. 10, No. 2 (Aug., 1995), 201-220.
- Qian, Y. & G. Roland (1998). "Federalism and the Soft Budget Constraint," *The American Economic Review*, 88(5), 1143-1162.
- Rattsø (2003). "Vertical Imbalance and Fiscal Behavior in a Welfare State: Norway," in *Fiscal Decentralization and the Challenge of Hard Budget Constraints*, Rodden, Eskeland and Litvack, eds., 133-160.
- Revelli, F. (2005). "On Spatial Public Finance Empirics," *International Tax and Public Finance*, 12, issue 4, 475-492.
- Robinson, J. A. & R. Torvik (2009). "A political economy theory of the soft budget constraint," *European Economic Review*, vol. 53(7), 786-798, October.
- Rodden, J. (2001). "The Dilemma of Fiscal Federalism: Grants and Fiscal Performance Around the World," *American Journal of Political Science*, Vol. 46, No. 3, 670-687.
- Rodden, J. (2003). "Reviving Leviathan: Fiscal Federalism and the Growth of Government," *International Organization* 57, Fall 2003, 695-729.
- Rodden, J. & G. Eskeland & J. Litvack (2003a). "Introduction and Overview," in *Fiscal Decentralization and the Challenge of Hard Budget Constraints*, Rodden, Eskeland and Litvack, eds., 3-32.
- Rodden, J. & G. Eskeland & J. Litvack (Eds.) (2003b). *Fiscal Decentralization and the Challenge of Hard Budget Constraints*, MIT Press, USA, 476 p.
- Saarimaa, T. & J. Tukiainen (2014). "I Don't Care to Belong to Any Club That Will Have Me as a Member: Empirical Analysis of Municipal Mergers," *Political Science Research and Methods: The Journal of the European Political Science Association*, 2(1), 97-117.
- Sanguinetti, P. & M. Tommasi (2004). "Intergovernmental transfers and fiscal behavior insurance versus aggregate discipline," *Journal of International Economics*, 62, issue 1, 149-170.
- Schakel, H. C. & E. H. Wu & P. Jeurissen (2018). "Fiscal Rules, Powerful Levers for Controlling the Health Budget? Evidence from 32 OECD Countries," *BMC Public Health*, 18:300,
- Shah, A. (2007). "A Practitioner's Guide to Intergovernmental Fiscal Transfers," in *Intergovernmental Fiscal Transfers: Principles and Practice*, Boadway, R. & A. Shah, eds. The World Bank, Washington, DC. 1-52.
- Shen, Y.-C. & K. Eggleston (2009). "The Effect of Soft Budget Constraints on Access and Quality in Hospital Care," *International Journal of Health Care Finance and Economics*, 9:211.
- Singh, R. J. & A. Plekhanov (2005). "How Should Subnational Government Borrowing Be Regulated? Some Cross-Country Empirical Evidence," *IMF Working Papers* 05/54.
- Tiebout, C. (1956). "A Pure Theory of Local Expenditures," *Journal of Political Economy*, 64(5), 416-424.
- Tjerbo, T. and T.P. Hagen (2009). "Deficits, Soft Budget Constraints and Bailouts: Budgeting after the Norwegian Hospital Reform," *Scandinavian Political Studies*, 32: 337-358.



- Treisman, D. (2007). *The Architecture of Government: Rethinking Political Decentralization*. Cambridge University Press, New York, 328 p.
- Vigneault, M. (2005). "Intergovernmental fiscal relations and the soft budget constraint problem," Working Paper IIGR, nr. 2. Queen's University.
- Vigneault, M. (2007). "Grants and Soft Budget Constraints," in *Intergovernmental Fiscal Transfers: Principles and Practice*, Boadway, R. & A. Shah, eds. The World Bank, Washington, DC. 133-172.
- von Hagen, J. & M. Bordignon & B.S. Grewal & P. Peterson, & H. Seitz & M. Dahlberg (2000). "Subnational Government Bailouts in OECD Countries: Four Case Studies," Research Department Publications No 3100, Inter-American Development Bank.
- Weingast, B. R. (2009). "Second generation fiscal federalism: The implications of fiscal incentives," *Journal of Urban Economics*, vol. 65(3), 279-293, May.
- Wildasin, D. (1997). "Externalities and bailouts : hard and soft budget constraints in intergovernmental fiscal relations," Policy Research Working Paper Series 1843, The World Bank.
- Wilson, J. (1999). "Theories of Tax Competition," *National Tax Journal*, 52(2), 269-304.
- Wrede, M. (1996). "Vertical and Horizontal Tax Competition," *FinanzArchiv / Public Finance Analysis*, Bd. 53, H. 3+4, 461-479.
- Wright, D. J. (2016). "Soft Budget Constraints in Public Hospitals," *Health Economics*, 25, 578-590.
- Zodrow, G. & P. Mieszkowski (1986). "Pigou, Tiebout, property taxation, and the underprovision of local public goods," *Journal of Urban Economics*, 19, issue 3, 356-370.