

Intermunicipal Competition – Discussion*

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1 Introduction

The paper “Inter-municipal cooperation in France and related tax issues” by Marie-Laure Breuillé and Pascale Duran-Vigeneron delves into the world of inter-municipal cooperation—an approach that towns and cities adopt to deal with tax competition. Inter-city cooperation takes several forms and involves nearby municipalities joining forces to provide public services and share funds raised from taxes. This practice has garnered significant attention in Europe, where it has evolved into a prevalent approach, and beyond, influencing OECD countries and even making inroads into developed and developing nations such as Brazil, Ecuador, El Salvador, and South Africa.

From soft collaborations like shared-service agreements to more integrated forms like the creation of supra-municipal authorities, inter-municipal cooperation comes in various shapes. The focus of Breuillé and Duran-Vigeneron (2023) (hereafter, BD) is on exploring this cooperation in France, a unique setting with different forms of collaboration and tax raising powers by local entities.

The typical driving force behind municipal collaboration are economies of scale—offering services to a larger population to achieve greater efficiency. Particularly in regions with numerous small municipalities, inter-municipal cooperation acts as a solution to overcome the challenges of municipal boundaries and historical divisions. With communication technologies, service-sector jobs, and increased mobility reshaping societies, inter-municipal cooperation can be expected to evolve substantially over the coming years.

In this discussion paper, I will first summarize, provide some intuition for, and put into context the key theoretical results from the paper and summarize its empirical findings adapted to the French setting. I will then discuss the issue of intermunicipal tax competition and cooperation with the help of a stylized model of coordinated and uncoordinated tax policy and offer some further thoughts.

2 Key Findings and Discussion

I start by providing a summary and discussion of BD’s main setting, theoretical results, and findings.

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2.1 The French Setting

The paper focuses on France, where Intermunicipal cooperation comes in three distinct shapes, with varying levels of integration. It is useful to describe them briefly because they provide an idea of the range of possible arrangements that can exist and co-exist regarding municipal cooperation.

Syndicates. The least integrated form of cooperation are syndicates: single-purpose inter-municipal syndicates (SIVU), multiple-purpose inter-municipal syndicates (SIVOM), and mixed syndicates. SIVUs enable municipalities to collaborate and pool resources for specific public goods, such as electrification and water networks. SIVOMs expanded on this concept by allowing cooperation on multiple competences. Mixed syndicates involve diverse partners, including municipalities, departments (a higher-tier jurisdiction in France), and private bodies, to collaborate on larger projects like public facilities and business parks. Funding for these syndicates generally comes from member municipalities' contributions or fees for industrial and commercial services. Syndicates do not have taxing powers, which is why BD do not focus on them in their analysis.

Municipal mergers. The most integrated form of municipal cooperation is mergers between municipalities. The paper describes multiple historical attempts at integrating municipalities in France through mergers, but with limited success. The emergence of “communes nouvelles” (“new cities”) in a 2010 reform aimed to promote integration with financial incentives, resulted in a 5% decrease in the total number of French municipalities. Yet, a critical report highlighted concerns about the small size and limited benefits. In comparison to other European countries, France's municipal integration progress has been slower, with half of all municipalities having fewer than 500 inhabitants and almost three-quarters having fewer than 1,000 inhabitants.

Establishments for inter-municipal cooperation (EIMCs). Establishments for inter-municipal cooperation with their own tax powers (EIMCs) are a more integrated form of cooperation than syndicates, but less integrated than mergers. They adhere to two governing principles: the principle of specialty, where they operate only in the competences they are entrusted with and within the member municipalities' scope, and the principle of exclusivity, ensuring EIMCs are the sole entities intervening in their designated fields of competence.¹

EIMCs are managed by their own governing body, known as the EIMC council. Seats on this council are allocated to member municipalities based on their population, with proportional representation, ensuring at least one seat per municipality.

These jurisdictions can impose taxes on four main local direct tax bases to fund the responsibilities they take over from member municipalities. These bases encompass the residential tax on secondary homes, the property tax on developed and undeveloped land, and the territorial economic contribution, which includes the business property tax and the value-added tax on businesses.

Importantly, there are two tax systems for EIMCs. In the “additional tax regime,” both EIMCs and municipalities set rates on the four main tax bases, resulting in residents paying both inter-

¹The paper describes four types of EIMCs: i) “Communities of Communes” typically incorporating municipalities from sparsely populated areas. These communities manage both compulsory and optional competences of community interest on behalf of member municipalities, with financial options such as additional taxation; ii) “Agglomeration Communities,” formed in urbanized regions, encompassing over 50,000 inhabitants around a central city manage various competences and aim to foster urban development and coordination; iii) “Metropolitan Areas,” consisting of a central city and surrounding areas that focus on strategic planning, sustainable development, and economic growth; iv) “Metropolitan Urban Communities,” which are larger-scale entities created most recently (2014), concentrating on more extensive development projects and region-wide interests.

municipal and municipal taxes. In the "single business tax regime", the EIMC is allowed to collect the business property tax instead of its individual member municipalities. In addition, while municipalities retain their authority to impose taxes on secondary homes, developed land, and undeveloped land, the EIMC *also* has the capacity to determine supplementary rates for each of these taxes, mirroring the approach of the additional tax regime.

2.2 Theoretical results

To put the theoretical results into context, consider two key optimal policy results established in the literature regarding multi-tier tax competition. The first result suggests that more mobile tax bases should be allocated to the highest administrative tier to minimize distortions caused by taxing mobile factors within larger jurisdictions. The second optimal policy outcome suggests limiting the co-occupancy of tax bases among different tiers to avoid inducing vertical tax externalities.

However, when tax bases are interdependent (i.e., complementary or substitutable), there is a more nuanced picture. Specifically, a complex array of elasticities must be considered, including those within the same and across different bases, both horizontally and vertically. This complex issue forms the focus of an earlier paper by the authors ((Breuillé and Duran-Vigneron, 2021)) and the basis for their adapted investigation in BD.

To understand the core of the model, let me summarize the main effects verbally.

2.2.1 Horizontal and vertical externalities

Imagine, first, that there is only one factor x that is mobile across municipalities. Horizontal tax externalities, i.e., externalities among municipalities, occur because an increase in the tax rate levied on the factor x by a municipality induces an outflow of this factor from that municipality and, thus, an inflow to all other same-tier municipalities.

When there are two jurisdiction tiers, say municipalities and EIMCs, there are also vertical externalities. An increase in the tax rate on factor x by a jurisdiction triggers an outflow of this factor from jurisdictions within the other tier sharing the same tax base, resulting in an inflow to all other jurisdictions in that tier. Thus, a mobile tax base co-occupied by two tiers adds vertical tax externalities to the horizontal ones.

These externalities stemming from municipal taxation are termed "bottom-up tax externalities," while those from EIMC taxation are referred to as "top-down tax externalities." In general, municipalities internalize a portion of the negative vertical bottom-up externalities imposed on their EIMC's tax base, as their concern is primarily for the well-being of their own residents. Conversely, EIMC authorities fully internalize the negative vertical top-down externalities impacting their members' tax base, as their focus is on the welfare of all their members' constituents.

2.2.2 Same and cross-base externalities

Consider now a scenario where tax revenue originates from two co-occupied bases, which could represent factors utilized by firms for production. These bases may be interdependent, with one's mobility affecting the other. In cases of complementarity, higher costs for factor x in a jurisdiction lead to reduced demand for both factors x and y . On the contrary, substitutability between tax bases results in higher factor x costs leading to decreased demand for factor x but increased demand for factor y .

The interdependence between these tax bases gives rise to cross-base tax externalities, alongside same-base tax externalities. Cross-base horizontal tax externalities arise when a jurisdiction's

tax rate adjustment on one factor impacts the availability of the other factor for other same-tier jurisdictions. Typically, jurisdictions primarily concern themselves with the cross-base externality affecting their own tax base, overlooking externalities affecting the tax base of other same-tier jurisdictions.

The direction of cross-base horizontal tax externalities hinges on the interdependence nature between the two tax bases. For complementary tax bases, the externality on a jurisdiction's own tax base is negative, aligning with the same-base horizontal externality. Conversely, for substitutable tax bases, the externality is positive, opposing the direction of the same-base horizontal externality.

The interplay between interdependent factors and shared tax bases also gives rise to "cross-base vertical tax externalities." In scenarios of complementarity, these externalities result in a flow of factors from jurisdictions sharing the same tax base to other jurisdictions. In contrast, substitutability leads to an inflow of factors to jurisdictions sharing the same tax base. These externalities are referred to as "cross-base vertical bottom-up externalities" for municipal taxation and "cross-base vertical top-down externalities" for EIMC taxation.

Similar to same-base vertical externalities, municipalities internalize a fraction of cross-base vertical bottom-up externalities imposed on their EIMC, while EIMCs internalize all cross-base vertical top-down externalities imposed on their member municipalities.

2.2.3 Earlier theory findings

In their earlier theory paper, the authors derived the following key results. In scenarios with independent but mobile tax bases, same-base horizontal and vertical externalities result in lower tax rates compared to those chosen by a social planner, leading to a race-to-the-bottom effect.

The authors discuss how the complementarity of tax bases exacerbates downward tax rate distortions caused by cross-base externalities aligning with same-base externalities. On the contrary, substitutability reduces these distortions, as cross-base externalities counteract same-base externalities.

Interestingly, partial decentralization with exclusive tax bases under certain decentralization levels might lead to inefficiently high tax rates, contrary to expectations. Furthermore, the authors conclude that while full centralization is always superior to partial decentralization in a single state scenario, this no longer holds true when multiple states are involved, as partial decentralization could be a more favorable approach.

2.2.4 Current theory findings

In BD, the authors derive the following theoretical predictions: syndicates should have little effect on tax externalities since they are financed by municipal transfers funded by tax revenues collected on the municipalities usual tax bases. In this context, only same-base and cross-base horizontal tax externalities at the municipal level occur, although scale economies from larger-scale supply could alleviate the tax burden for all municipalities. Municipal mergers instead can lead to increased tax rates and public goods provision as jurisdiction numbers decrease, due to reduced same-base and cross-base horizontal tax externalities.

Within the context of the EIMC using the single business tax regime and assuming no additional taxation on the other tax base, same-base horizontal externalities arise at the EIMC level on the business tax base and at the municipal level on the other tax base. Cross-base horizontal tax externalities and same-base vertical externalities are excluded, yet vertical externalities persist with interdependent tax bases. Lastly, EIMCs operating under the additional tax regime generate all types of externalities due to the co-occupation of all tax bases by municipalities and EIMCs.

2.2.5 Empirical findings

The empirical findings of BD confirm these theoretical predictions. When municipalities join or create EIMCs, there is a significant surge in tax rates. The exception is the single business tax regime, in which the residence and property taxes remain under sole municipal control. In this case, only the business tax sees a small increase. Notably, the additional tax regime sees the highest overall tax increases, as can be expected given that all tax bases are now co-occupied by both municipalities and EIMCs.

3 Discussion of Tax Competition and Cooperation

I would now like to offer a much simpler, stylized framework to think about optimal taxation with tax cooperation and competition. This model is adapted to the intermunicipal setting from (Kleven et al., 2020).

3.1 A simplified model

Imagine two cities, A and B. We consider optimal tax policies under two scenarios: uncoordinated tax policy (i.e., tax competition) and coordinated tax policy (i.e., tax cooperation). The coordinated policy can be viewed as the one arising under a higher-tier jurisdiction that sets tax policy, such as an EIMC with full taxing powers in the French setting, and when municipalities can no longer impose taxes in a competitive way. The uncoordinated policy is what happens when there is no municipal cooperation.

Uncoordinated tax policy. Starting with uncoordinated tax policy, municipality A sets its nonlinear tax rate $T^A()$ without considering the welfare impacts on other municipalities. Assume fixed earnings y_i^A for residents in city A after accounting for residence. A symmetric situation holds for city B.

Let $P^A(c|y^A)$ denote the count of residents earning y^A when disposable income is c , where $c = y^A - T(y^A)$. Let $g^A(y)$ denote the welfare weight on those earning y in city A, which captures how much the city’s government “cares about” those earning y . In other words, the function g^A captures the inequality aversion and redistributive preferences of city A. Formally, $g^A = \frac{\sum_{i \in A} g_i y_i^A}{\sum_i g_i y^A}$ is the average, income-weighted welfare weight over all people i in city A.

The migration elasticity to taxes, $\eta^A(y)$, plays a pivotal role in determining optimal tax policies. It is defined as:

$$\eta^A(y) = \frac{\partial P^A(c|y) y - T^A(y)}{\partial c} \frac{y - T^A(y)}{P^A(c|y)}$$

In this setting, the optimal tax for city A is given by:

$$\frac{T^A(y)}{y - T^A(y)} = \frac{1}{\eta^A(y)} \cdot (1 - g^A(y))$$

The formula shows that, as is standard, the tax rate is lower at income level y when the weight on those earning y , $g^A(y)$ is higher. More interestingly, the optimal tax is lower when the elasticity $\eta^A(y)$ is higher. This migration elasticity depends on several factors. It is higher if the city is smaller (easier to move out) or if there are close, substitutable neighboring cities (i.e., people do not have strong attachment to a given city). Thus, cities which are larger and which have many amenities and other attractive advantages may be able to tax more despite facing tax competition.

Coordinated tax policy with differentiated policies. Assume now that a central tax authority – for instance, the EIMCs above – is setting tax rates in both cities A and B. To simplify the analysis, we focus on the case of linear taxes τ^A and τ^B . We exclude direct spillover effects from foreign immigration on the behavior of domestic agents or the local economy. There are two cases to consider, which sometimes are conflated together: a case in which policy is coordinated but can be differentiated by city (i.e., different cities can have different tax rates even if they cooperate) and a case in which policies are constrained to be uniform.

Let us start with the case of differentiated policies. Within this coordinated framework, we introduce the aggregate incomes y^A and y^B for cities A and B respectively, which are functions of both cities’ net-of-tax rates with $y^A = y^A(1 - \tau^A, 1 - \tau^B)$ and $y^B = y^B(1 - \tau^A, 1 - \tau^B)$.

We define $\eta^A = \frac{dy^A(1-\tau^A)}{y^A(1-\tau^A)}$ to be the elasticity of migration (or income, since incomes are assumed to be inelastic to taxes) in city A to changes in $(1 - \tau^A)$, while $\eta_A^B = \frac{dy^B(1-\tau^A)}{y^B(1-\tau^A)}$ represents the cross-elasticity. The average value to the social planner of transferring one unit of income to individuals in region A is denoted by g^A .

In this setting, the optimal coordinated, differentiated tax for city A is:

$$\tau^A = \frac{1 - g^A - \tau^B \eta_A^B \cdot y^B / y^A}{1 - g^A + \eta^A} \quad (1)$$

A symmetric formula to (1) holds for city B, namely:

$$\tau^B = \frac{1 - g^B - \tau^A \eta_B^A \cdot y^A / y^B}{1 - g^B + \eta^B} \quad (2)$$

A few key results emerge. Relative to the uncoordinated policy, the coordinated policy internalizes the spillovers from one region to the other. This is as suggested in the BD paper, where the EIMC (the higher-tier jurisdiction) internalizes its top-down tax externalities on each municipality. Here, externalities are purely tax externalities, but other ones might be taken into account too (such as positive spillovers on productivity from migration). All else equal, this internalization will tend to make taxes higher in both regions and represent a move away from “beggar-thy-neighbor” tax competition policies.

The formulas also illustrate the value of differentiated tax policy. Importantly, cooperation and coordination need not (always) mean uniform policies. This means that different cities, because of different income distributions and preferences, as embodied in g^A and g^B , or because of different mobility responses, as embodied in the elasticities, may choose to have different tax rates and levels of redistribution.

However, both the degree of progressivity and the divergence between the tax rates of the two cities is limited by mobility responses captured by the elasticities. The elasticities will be lower when the jurisdiction is larger, when there is more tax coordination, or when people’s mobility is restricted due to non-tax factors, such as strong location preferences, the availability of amenities, or other personal or professional concerns.

Coordinated tax policy with uniform policies. A case in which policy is coordinated and constrained to be uniform could be viewed as a deeply integrated inter-municipal cooperation that does not allow for differentiated tax policies across members.² If the policy is constrained to be

²A municipal merger would effectively result in such a tax too, but would involve full integration of all other municipal activities too.

uniform, we need to impose $\tau^A = \tau^B = \tau$ and the optimal, common tax is:

$$\tau = \frac{1 - \alpha^A g^A - \alpha^B g^B}{1 - \alpha^A g^A - \alpha^B g^B + \alpha^A \eta^A + \alpha^B \eta^B} \quad \text{where} \quad \alpha^A = 1 - \alpha^B = \frac{y^A}{y^A + y^B} \quad (3)$$

Thus, the common coordinated tax is set to a level that reflects the average income-weighted welfare weight and migration elasticities. When policies are constrained to be uniform, they cater to the “average” city and are not optimal for any individual city.

Overall, these formulas illustrate that cooperation is more beneficial when there are large mobility responses that create spillovers and that the uncoordinated policy does not internalize. While differentiation is always weakly better than non-differentiation, political or other constraints may impose uniform policies. In that case, the benefits from cooperation are larger, all else equal, if the uncoordinated tax rates are not too different, i.e., if the cities’ fundamentals are not too divergent.

4 Conclusion: Future avenues for research

Both the BD paper and the simple model above miss some key ingredients that are policy-relevant and important in practice. These would be important avenues for future research on the theoretical and empirical sides.

First, one could imagine that there could be different configurations of cooperation in raising taxes and in spending revenues. It is possible to coordinate taxes without coordinating spending for instance. Similarly, there can be coordination or cooperation only for some types of taxes and some spending categories, as is the case in the various schemes described above for France. Thus, cooperation and competition are not an all-or-nothing proposition and instead can be done to varying degrees for different types of taxes and activities.

Second, economies of scale in either tax administration or spending and program administration are key justifications for such cooperation in practice. These could be substantial especially for smaller cities and could be fruitful to explore.

Third, there could be specific political economy constraints and considerations that both shape the formation of cooperation and also affect its impacts. On the one hand, smaller cities might be prone to more informal dealings, corruption, and lobbying, which might be relieved once a higher-tier jurisdiction takes over. On the other other hand, larger jurisdictions with multiple layers of governance may also be less transparent and prone to misuse of funds. Depending on the electoral systems, officials in power may oppose or support more integration, which is another way in which political economy considerations come into play.

Fourth, spillovers other than tax spillovers could be important to take into account when thinking about inter-municipal cooperation and competition. Migration between cities can bring productivity benefits and agglomeration effects. At the same time, negative spillovers could stem from congestion effects and increases in pollution or noise.

Finally, there are fairness concerns that could come into play, as shown clearly in (Stantcheva, 2021) in the context of income tax. People may consider money raised at the level of different jurisdictions to carry different fairness implications and have different preferences on how it should be spent. Such preferences might be difficult to reconcile in larger jurisdictions with heterogeneous groups of people. Equity concerns could also make differentiated coordinated policies infeasible and push towards uniform policies.

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