SUMMARY OF DISCUSSIONS

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SUMMARY

1. INTRODUCTION

With cyclical variations in its importance, decentralisation continues to remain on the agenda of research and policy discussions. The decentralisation of transport policies forms part of this general discussion. Much of the recent impetus of the discussion is derived from the generally critical review of economic activities which have traditionally been assigned to the public sector. The need for such a review was often claimed on the basis of the expectation that the private organisation of these activities would lead to productivity gains and a reduction of the burden for the taxpayer.

That major parts of the transport sector were located in the public sector seemed to have a solid foundation in traditional public economics. The results of the allocation theoretic part of public economics -- trying to identify conditions under which free markets would not lead to the supply of goods and services at least costs -- were often held to suggest that the production associated with such conditions should not be left to the market but assigned to public production, with governments taking production and pricing decisions. If the market failures extended to the whole population of nation states, their correction would call for solutions by a central state. If this is not the case, a number of arguments have been put forward to argue the superiority of a decentralisation of public goods provision.

One type of public good with much relevance to the transport sector, is that whose cost per user decreases with an increase in demand. A first argument for the decentralisation of the provision of these goods, for example infrastructure facilities, can be made if the costs per user do not decrease for all use levels but at some level of demand the facility or the service becomes congested. In many of these cases of "public goods", governments could provide services (for example in the transport sector) like private producers, implementing supply regimes that mimic well-functioning markets.

If such user groups are identified as the population of a certain geographic space or through the occupancy of land, they are interpreted as communities or jurisdictions below a central, national or even supra-national level. If the residents or firms in these jurisdictions are mobile, governments will try to compete for the improvement of their economies, solving many of the problems governments face in providing public goods. The most far-reaching hypothesis on the benefits of such competition claims that the mobility of citizens would over time lead to a sorting of households and firms into distinct communities according to their preferences and costs of production, entailing a differentiation of jurisdictions according to population types. Residents' "voting with their feet" would force governments to act in the interest of the local population, much reducing the danger of distortions resulting from political processes. In such an idealised world, there is also a particularly straightforward answer to the question of how transport policies should be financed. With a perfectly functioning land market (and under a number of other conditions), the quality of government policies in general, including transport policies, would drive up land rents due to immigration pressures. Land taxes would be the ideal means of financing, *inter alia*, transport policies.

Nowhere have developments towards such a completely decentralised government system been observed. In fact, in most countries a hierarchy of jurisdictional levels exists with differences in the distribution of powers across the different tiers. The main argument in favour of decentralisation in such a system of "fiscal federalism" is a political one. If transport policy solutions have to be found for different sub-regions, a central government would have less precise information about the local needs of the individual regions and less reason to care politically about the well-being of the local population. That is, without residents revealing their preferences by migrating to the region whose government best serves their demands, local political processes would reveal the interest of the local population, leading to a supply of services that would specifically serve the interests of that population. A central government, in contrast, would tend to follow the average interest of the national population, with the consequence of implementing identical policies across regions even if they differ substantially in demand and production conditions of service.

However, with a central legislature consisting of locally elected representatives, there is no reason to presume that central governments necessarily tend to provide identical services across different jurisdictions. A political argument can still be made in favour of decentralisation if the members of a winning coalition strongly favour the constituencies whose representatives are in that coalition, and if the election process creates a high degree of uncertainty in the public services, due to the unknown identity of the winning coalition. Even a co-operative legislature would not necessarily lead to a desirable distribution of services across regions, as voters, anticipating the interregional conflict within the legislature, might tend to vote for delegates with high demands for local public goods. Such a strategic voting behaviour could, in turn, lead to an overprovision of public goods. A centralised system of public policy might still be superior if services in one region have consequences for the services in other regions, i.e. if there are interregional spillovers. Without co-ordination between lower-rank jurisdictions through central governments or through co-operation, decentralisation will lead to an under-provision of services (if other regions benefit from local services) or an over-provision (if other regions suffer from the negative effects of local services).

In contrast to these political economy models, much of the literature in favour of decentralisation contains the view that the electorate cannot perfectly control the policymakers and that decentralisation reduces the belief that policymakers use informational advantages to act in their personal interest. The hypothesis that the local electorate is in a better position to control the behaviour of its community's government officials than central politicians, has been studied rigorously only recently. It is based on the argument that local citizens are often able to make inferences concerning the accountability of local government officials by using observations of local conditions and behaviours which cannot be used as hard evidence in a court of law.

Others see local decision-makers as not necessarily less susceptible to capture. Depending on a high industry and/or wealth concentration at the local level, low industry productivity and a lack of local political competition, local governments might protect local industries against entry, federal tax payments and bankruptcy proceedings in return for campaign contributions and other forms of support in local elections. Only with a strong central government, implying high costs for local government actions against the interest of the central government, can these dangers be avoided. The possibility of political capture also throws new light on the discussion of fiscal relations between the central and local governments in financing transport policies. With political influence depending on wealth, complete fiscal autonomy at the local level will lead to the highest level of public services; services which are, however, expected to be biased towards the interests of the wealthier groups of citizens and to be a strong fiscal burden for the less wealthy. In terms of the local population's welfare, restrictions on fiscal powers at the local level, with the permission to level user charges, will lead to a superior outcome, associated with lower service levels.

The Round Table discussed in detail the implications of these general points for the decentralisation of transport policies. "Transport policy" entails a large number of heterogeneous elements, differing according to the transport mode (road, rail, air, maritime, inland waterways, pipelines), the usage (passenger, freight) and to whether it concerns the provision of inputs for the transport sector (infrastructure, maintenance) or final transport services.

Overall, there are two characteristics of the transport sector which limit the opportunities for decentralisation. A large number of transport policy measures taken at the local level do not only affect the local populations but also those of other jurisdictions. As local decision-makers are not liable to the citizens of other than their own jurisdictions, they will not take account of all the benefits (or costs) of the transport policy decisions taken at the local level. From this it follows that a completely decentralised, well-functioning transport policy is difficult to conceive of. The question is rather: which tasks should be assigned to different levels of decision-making in a multilevel system of transport policy making. In a decentralised system, a central level has to ensure that interjurisdictional spillovers that are relevant for transport policy will be internalised. This depends on either a central co-ordination by a suitable system of fiscal redistribution or by the supervision of a system of self-co-ordination of lower-level jurisdictions to ensure that it follows constitutional rules.

2. TRANSPORT POLICY OUTCOMES AND PUBLIC GOODS

2.1. The case for centralisation

In all societies, the public sector plays a major if not dominant role in providing the goods needed to produce transport services and in providing transport services themselves. While this might to some extent be due to historical accident, many of the activities in the transport sector have characteristics that have in general justified a role for government to provide goods and services. The most important of these characteristics is what is termed "non-rivalrousness" in consumption. This is an important feature of many of the services that were traditionally provided by transport policy. At low levels of demand, the number of infrastructure facility users can be increased without mutually limiting the benefits. Technical standards help to reduce transport sector costs, independent of the number of users who apply these standards. The supply of such goods to private markets and the ownership by individuals who could exclude others from the use of such goods would lead to an increase in the resources required to produce those goods or services. If owners could not exclude other potential users from consuming a collective consumption good, it would be underprovided as there would be a tendency to "free ride" on the supply and consumption of other individuals. The domain and the extent of collective consumption form part of the basis of the debate on decentralisation in general and on transport policy in particular.

As long as nothing but the joint consumption characteristic enters the picture, economic efficiency, i.e. the provision of goods and services for all citizens at the least costs per head, derives strong advantages from centralisation. However, not all goods and services provided by the transport sector are consumed collectively by the entire population.

2.2. The case for decentralisation

While for most transport policy services the characteristic of collective consumption by a relatively large share of the population is valid, there are limits to their "non-rivalrousness". In all these cases a decentralisation argument can be made. The Round Table looked into the economic arguments for decentralising transport policies as well as arguments that deal with problems of political decision-making resulting from centralisation. The welfare economic arguments, abstracting from the policy process, refer to limits to increasing the number of users of a transport system and the consequences of citizens' mobility. They differ according to whether the interaction of transport policies with the land market is taken account of and whether the jurisdictional boundaries are considered to be given.

Many proponents of decentralisation implicitly or explicitly base their analysis on the assumptions that local policies do only impact on the local community for which they are planned and implemented. Additionally, all local communities are assumed to be small, i.e. policy action in one jurisdiction does not change the policymaking environment of others. These are restrictive assumptions in the transport policy context. In subsection 2.3, we summarize how the decentralisation arguments are altered if the assumptions of the basic analysis are not met. In section 3, political economy arguments for the decentralisation of transport policy will be discussed.

2.2.1. Congestion and decentralisation

A basic argument for the decentralisation of transport policies is derived from the fact that there are limits to the "non-rivalrousness" of individual consumption of the services provided by transport policies (cf. Starrett, 1988, on the classification of public services). These limits emerge if the admission of additional users reduces the benefits of those who used the service earlier (Buchanan, 1965). A transport policy example of such a good may be seen in a local road infrastructure link, connecting two geographic points within a jurisdiction and being used by the local population. At low levels of demand, the use of this link by an additional car will reduce the benefits of other users very little or not at all. At high levels of demand, additional users may reduce the travel speed of other users. The reduced travel speed translates into time costs for all users. For "pure" public goods, an increase in the number of users simply leads to a subdivision of their total costs on more heads, and therefore to lower costs per citizen. With congestion, two opposing effects occur. On the one hand, the increase in the number of users reduces, as before, the cost per user but it also increases the congestion costs. When congestion sets in, a further increase in the number of users will increase the additional costs of congestion. This implies that the decrease of individual user costs resulting from a greater number of consumers will at some point be matched by the simultaneous increase in congestion costs. When demand increases beyond this level, the sum of user costs and congestion costs will increase. A basic and abstract notion of a "jurisdiction" is then a group of users of transport or other public policies, organising membership to consume public services at least costs. In the presence of congestion costs such a group would be smaller than the national population.

While the idea of organising some of the transport policy services as if they were organised by the users is a useful concept of user orientation, and is for example applicable to the provision of infrastructure services (Round Table Report 135, forthcoming; Kopp, 2005), it might also be seen as a background to the link between decentralisation and privatisation (Prud'homme, 2006). "Jurisdictions" are, however, not normally formed to provide special transport policy services.

Even if this were the case, it is not to be expected that a collection of these decentralised groups would interact in a way that preserves the efficiency of its internal organisation. Pauly (1970a, 1970b) studied whether the outcome of citizens maximising their joint benefits from collective consumption

leads to an allocation where no group of agents can enrich itself using only its own resources. Pauly's main observations were that group formations and their internal organisation lead to minimum costs but that the system of groups will not be stable: the group formation process will be unstable in the sense that some groups will have an incentive to form a new group. For example, if not all groups are alike, some groups will feel motivated to induce a new assignment of members, in a process that will not settle down to equilibrium.

A different interpretation of this decentralisation argument sees local governments in the role of an entrepreneur, competing with other jurisdictions for citizens by providing high-quality services at minimum costs. As the number of jurisdictions will be small, unlike an infinite number of suppliers in a perfectly competitive market, the competition between communities will be oligopolistic rather than perfectly competitive. The "price" for the services would be an accession fee to the services of the jurisdiction. Such a price would not be like that in a competitive market for private goods, as the quality of the services would change with the price. A reduction of the accession fee would attract more members of the group and add to congestion. A limited competition intensity follows from the fact that the supply of the highest quality services and the lowest price by one jurisdiction would not lead to serving the whole population, due to the congestion costs (Scotchmer, 1985).

2.2.2. Decentralisation and the free mobility of citizens

As argued in the previous section, to derive support for transport policy decentralisation from the models of user group formation meets with a number of difficulties. In contrast to these models, jurisdictions are typically defined geographically. The boundaries of these jurisdictions are normally fixed. A first consequence of these facts is that to enjoy the local services provided by a local government, a "user" has to be a resident of that particular community. He or she can normally belong only to one jurisdiction. A second consequence is that there is not only a possible direct interaction between the citizens of a jurisdiction due to congestion, but also an indirect one resulting from the fact that migration between jurisdictions might change the demand for land and, as the land area is fixed, change the price for land.

Tiebout (1956) conjectured that the mobility of households would exert political pressure to improve the quality of public services and ensure their cost-effective supply. The mobility of households was epitomised as "voting with their feet" and as a shopping act. As Tiebout put it, "*just as a consumer may be visualised as walking to a private market to buy his goods, the prices of which are set, we place him in the position of walking to a community where the prices (taxes) of community services are set. Both trips take the consumer to market… Spatial mobility provides the local public goods counterpart to the private market's shopping trip* (p. 422)."

Based on this model, local governments are seen as entrepreneurs in a market for a differentiated good. Not only would the competitive pressure resulting from the mobility of citizens make sure that public services were supplied to citizens at minimum costs, but they would also induce a sorting of households and firms into different communities, according to their preferences and production technologies. The mobility of households and supply reactions of local governments would ultimately lead to the formation of communities with citizens having identical preferences for public services. Given different perceived costs of local environmental damage, for example, the ultimate outcome of the sorting process would lead to some communities with high transport costs and low levels of environmental damage and others with lower transport costs and higher environmental costs. The self-selection of voters into different communities would reduce the importance of the political (voting) process. If the local community members' political preferences were homogeneous, there would be no need to aggregate heterogeneous preferences by a political process.

Whether decentralisation may help transport policy depends on whether the idealising Tiebout model can be applied to transport policy and whether the characteristics of the transport sector agree with those of the Tiebout model. It is clear that some areas of transport policy predominantly or exclusively serve local user groups, residing in the low-level jurisdiction in question. If a road is predominantly used by these groups, its construction and maintenance can be left to local transport policy decisions. The same may hold for urban light rail or bus systems. On a larger geographical scale, decentralisation may even be possible for railways. The Japanese National Railway has been divided into six geographical entities for passenger transport, responsible for both infrastructure and operations. In some cases, as in the UK, operating railway companies have a limited geographical scope. For many other transport policies, it is more difficult to argue that they are of strictly local interest: local roads will be used by some interregional traffic, for example. Where this leaves the decentralisation argument will be discussed below (Prud'homme, 2006). In this section we discuss under which conditions the connotations raised by the Tiebout conjecture hold where transport policies are indeed almost exclusively of interest to the local population. This mainly concerns the question of the types of costs associated with implementing the transport policies and how they are financed.

Local transport policies with fixed costs

Whether the decentralisation of transport policies is indeed associated with efficiency, as suggested by the Tiebout argument, depends – even if the resulting services are strictly local – on whether their financing provides the right incentives for both the residential choices of potential users and for the use of the services provided. This depends a) on the tax and pricing system at the local level, and b) on the behaviour or objectives of local governments.

Finance

Given the fact that jurisdictional boundaries, and therefore the community's land area, are fixed and if the population is rather mobile between jurisdictions, transport policies will have an effect on attracting or determining firms and residents to locate in the respective jurisdiction. This does not only depend on the benefits of the policies but also on the direct and indirect charges for the resulting services plus the consequences for land prices. The intuition is that migrating firms and households will bid for places in jurisdictions, and places will be allotted to the highest bidders. The bid process capitalises public services into the land prices in different jurisdictions (Scotchmer, 1994). If the costs of providing the transport services are fixed, i.e. they do not depend on the number of residents in a certain jurisdiction, the only tax to finance the services should be land taxes. Consider, for example, the case of local road infrastructure being provided. If no congestion is to be expected and if the (routine) maintenance were independent of the (relatively low) level of demand, any tax but a land tax would distort the dual role of the land price, to guide location decisions and to allocate space to households and firms (Brueckner, 1979).

If the costs of transport policies depend on the number of residents, i.e. if a rise in the number of residents increases the costs of its services, a head tax should cover the variable costs (Scotchmer, 1994). To extend the above example, if a rise in the number of users requires that road maintenance efforts be intensified, a head tax would have to be implemented to avoid too many residents using the infrastructure. If the maintenance costs rather depend on vehicle-km, a per-km charge would have to make sure that users overuse the public facility for want of an indication of the real user costs.

If there are other costs related to transport policy services resulting from interaction between users, these should be corrected by using fiscal instruments as well. If local road use is associated with congestion, the value of time losses resulting from additional road use should be charged, to signal to the residents of that jurisdiction the direct and indirect costs of using the services.

Limits to the market analogy

These arguments following from the Tiebout model have a long history (Pines, 1991). The literature has focussed on characterising efficient equilibria, i.e. situations in which firms and households no longer want to relocate. What is less studied is the question of how local governments arrive at such states. But if, for example, a cross-section of local governments implements policies that could be improved upon, a move towards efficiency requires pro-active governments which risk experimenting with innovative policies. Benchmarking, looking at the cross-section of communities, would be uninformative. Moreover, unless local governments could predict induced relocation decisions by firms, they will not be able to predict the reaction of land prices and with them the financial basis of their policy projects.

A closely related problem is how to think about the local government's constituency. Will they respond to the political interest of the existing local population or do they (correctly) anticipate the local population after policy changes and induced relocation movements have taken place? Postulating that local governments should anticipate welfare changes, not only of the local population but of future immigrant populations (or of other jurisdictions) to some extent contradicts the idea of "decentralisation".

The Tiebout argument of decentralisation does rely on the notion of "perfect competition", alluding to the efficiency properties of perfect private goods markets. This is reflected by the modelling assumption that the action of a single local government has negligible effects on the economic opportunities of residents in other jurisdictions. If jurisdictions are "large", improvements in public services will lead to induced emigration of other jurisdictions to the extent that the price for land falls. In such a case, these jurisdictions enjoy an external benefit. As the active local government has little reason to take these benefits into account, there could be the risk of an under-provision of public services. As transport policy is trying to ensure mobility for citizens at the least social costs, the "perfect competition" arguments which depend on the absence or unimportance of transport and migration costs are hard to reconcile. With non-negligible mobility costs, the competition between jurisdictions would be a variant of "spatial competition" rather than "perfect competition".

Given that major parts of transport policies do not just affect the jurisdiction where they are implemented; there is the possibility that transport policies are used to shift the financial burden to other jurisdictions. In this context, the issue of "tax exporting" has received much attention (Arnott and Grieson, 1981; Crane, 1990). However, the decentralisation argument being based on a high level of mobility of the citizens' successful attempts to export fiscal burdens, will lead to immigration and an increase in land prices, removing much of the advantages expected from shifting the tax burden to neighbouring communities.

Even restricting the discussion to purely local services, there are limits to a purely economic argument for decentralisation. The question arises then how to organise transport policy to take account of the fact that local policies have spillovers to neighbouring communities. Two basic solutions are conceivable and have been touched upon in the Round Table discussions. The first one is to create a hierarchy of jurisdictions where higher level governments correct for interregional spillovers. A second solution consists of the implementation of constitutional rules to ensure that

lower level governments will co-ordinate among themselves. The first approach is discussed in the literature under the label of "fiscal federalism", and the second one as "co-ordination mechanism design".

2.3. Fiscal federalism

Most of the discussion on "fiscal federalism" does not juxtapose decentralised and centralised systems of policy making. It rather takes a hierarchical, multi-level jurisdictional order for granted As Oates put it: "But the proper goal of restructuring the public sector cannot simply be decentralisation. The public sector in nearly all countries consists of several different levels. The basic issue is one of aligning responsibilities and fiscal instruments with the proper level of government." (Oates, 1999, p. 1120).

For the road sector, the hierarchical multiplicity of levels often manifests itself in a classification system that defines roads as being of national, regional or local interest. The distinction is normally based on an assessment of the road being "mainly" used by local or regional users and to a "small" extent by outsiders. If the delimitation is precise, a full decentralisation of road infrastructure provision, i.e. the local construction, maintenance and financing of roads, avoids over- or under-provision of road infrastructure.

Similar classes are defined for airports and ports. Arguments against decentralisation are perhaps strongest for the railway sector. The inter-jurisdictional co-ordination costs of rail operations and network economies are held to outweigh the advantages of a decentralised railway system. There is, however, the example of the Japan National Railway, subdivided into six regional entities for passenger traffic, with responsibilities for both rail infrastructure and operations. In France, a model has been implemented with regions negotiating contracts for the operation of services with the SNCF.

In practice, these categorisations tend to be somewhat arbitrary due to much of the traffic on national roads being, in fact, regional or local. On the other hand, outsiders and long-distance transport use local or regional roads. There might even be some sort of "tax exporting" game going on between the different levels of road administrations, in that congestion in the system of one level will lead to a shift of demand to another level (Prud'homme, 2006). The decentralisation of transport policy functions which do have strong effects on superior jurisdictional levels, has the tendency to lead to an underprovision of services.

The problem of inter-jurisdictional spillovers is not confined to the regional or local level. The background paper of Sikow-Magny (2006) on the subsidiarity principle and transport policy co-ordination in the European Union introduced the discussion on the international consequences of national transport policies, in particular of transport infrastructure provision and charging policies for infrastructure services.

Specifically, national infrastructure policies need support to take account of benefits accruing to foreign countries. Even in the planning phase of infrastructure policies, co-ordination of project identification has to help to avoid a bias against serving international transport demand and the identification of projects of common interest across national borders.

Moreover, with the promotion of charging schemes for transport infrastructure, there is the concern that national charging schemes could be dominated by fiscal interests, leading to an underutilisation of transport infrastructure in general and negative effects on the movements of goods being equivalent to trade policy barriers to trade. Particularly distorting effects would result in the use

of infrastructure charging schemes to discriminate against foreign users, turning what was intended to improve the tax structure and the efficiency of infrastructure services provision into a vehicle to "export" taxes.

Taxation

Corresponding to the assignment of tasks to different jurisdictional levels, there is a discussion of how the different jurisdictional levels should tax finance their activities. Echoing the discussion on taxes under free mobility, the literature on the "tax assignment problem" (McLure, 1983) differentiates the tax instruments recommended for the different levels of a hierarchical system of jurisdictions according to the mobility of their residents. "Mobility" is basically interpreted as the taxpayers' ability to shift their "purchases" of public services away from taxed goods. In the spatial setting of transport policy, such distortions would take the form of locational inefficiencies, as citizens would tend to migrate to jurisdictions with favourable tax treatment. At decentralised levels of government, the taxation of highly mobile units (final goods, capital or mobile households) should be avoided. More precisely, at low levels of jurisdiction, mobile units should be taxed with benefit levies. Differences in taxes would then reflect differences in the volume or quality of the public services of which transport policy is a part.

A concrete example of reform in the sense of these recommendations is the replacement of the general tax financing of transport infrastructure by infrastructure user charges. Non-benefit taxes should rather be employed by higher level jurisdictions with less mobility of the tax base. In practise, non-benefit taxes are used at all levels of jurisdiction. The distortions resulting from non-benefit levies have been analysed in an optimal taxation framework (Gordon, 1983; Inman and Rubinfeld, 1996). The inefficiencies include tax exporting, external congestion effects and impacts on the level of other jurisdictions. The dynamics of these interactions have recently received much attention as part of proposals to harmonize taxes to avoid a "race to the bottom", i.e. a process of competitive tax cuts that leads to an under-provision of transport policy. At the international level, these concerns have manifested themselves in the expectation that globalisation erodes the basis of tax financing transport infrastructure. Recent research has shown that tax competition does not necessarily lead to a reduction in government activities. Competition in providing benefits to attract households or firms might well lead to a "race to the top" (Wilson, 1996).

Fiscal grants

In view of the network character of many infrastructure facilities and the spatial geographical dimension of inter-jurisdictional competition mentioned above, a major part of transport policy measures will lead to inter-jurisdictional spillovers. The important fiscal policy question is then which instruments governments of higher level jurisdictions should use to correct for these co-ordination failures. If, for example, a local infrastructure investment project leads to benefits for neighbouring communities, fiscal transfers from higher-level jurisidictions should help to give the right signals for the capacity choices of lower-level governments. Such "matching grants", which can possibly be negative, are designed to internalise the external effects of local government action in the same way as Pigou taxes are used to contain the external effects of individual behaviour. Additionally, fiscal grants can have the purpose of correcting for local fiscal policies which violate the prescriptions of optimal local taxes. In many cases, these will be corrections for non-benefit levies on mobile economic units (Inman/Rubinfeld, 1996).

In short, transport policy measures, even if they mainly serve the local population, will often have strong effects on other local communities. One way of correcting these "decentralisation failures" is to install a system of (positive or negative) fiscal grants to give to local governments, in order to take the

costs and benefits arising in other communities into account when deciding on local transport policy measures. If there are no fiscal measures to correct for co-ordination failures at the level of low-level governments, either because of policy mistakes by higher level governments or because of the absence of a higher jurisdictional level, co-ordination between lower level governments has to be self-organised. In general it is unlikely that co-operation between jurisdictions emerges when there are no outside mechanisms to ensure reciprocal co-operative behaviour in a non-co-operative setting. The question then arises whether constitutional rules, either decided by a higher-level jurisdiction or self-imposed, could help the co-operation between low-level communities. If this were the case, transport policies could be decentralised, despite considerable spillovers of transport policies at the lower end of a hierarchy of jurisdictions.

2.4. Rules for self-organised jurisdictional co-ordination: mechanism design

All the arguments discussed above, for assessing costs of decentralisation due to interdependencies of low-level jurisdictions, would be obsolete if we could conceive rules which constrained all local governments to take account of the effects local policies have on other jurisdictions. If such self-coordination by quasi-constitutional rules were feasible, the need for higher-level jurisdictions to co-ordinate lower-level communities could become obsolete. All jurisdictions could, for example, agree to renounce transport policies that shift fiscal burdens to neighbouring communities, and self-impose sanctions should a member of the group of communities violate such an accepted obligation.

Through rational behaviour on the part of the local governments and complete knowledge about their objectives, the relevant characteristics of the local economies and the response of governments to actions taken by other local governments, the outcome of the interaction between the public policies of the collection of local governments could be predicted. An agreement on the best outcome of such interaction would allow restrictions to be obtained on the actions of individual governments in order to arrive at the collectively desired policy outcome (see introductions in Starrett, 1988 and Laffont/Martimort, 2002). Perhaps not surprisingly, the theoretical work on identifying such mechanisms has been largely negative:

If local governments have less than full information on each others' objectives and constraints, the agreed set of co-ordination rules must offer an array of possible actions to local governments which are consistent with those of individual policymakers. Two types of mechanism have been studied in this respect: one seeks to find rules that imply incentives to the co-ordinating partners to reveal private information, independent of the actions of the co-ordinating partners (Gibbard, 1973). The results of the literature on the existence of such a set of rules, called a "straightforward, direct revelation mechanism", are negative. Various authors have shown that an outside planner with dictatorial powers is needed for the implementation of such a mechanism when the number of co-ordinating partners is finite (Dasgupta/Hammond/Maskin, 1979).

If the co-ordination rules also took account of the reactions of local governments to the announcements and actions of other jurisdictions' governments, the enormous information collection and processing requirements by the co-operating partners would become even greater. Each partner would have to truthfully announce not only its own decision parameters but also the beliefs about those of other local governments (Maskin, 1999). To summarise, in view of the current discussion on self-organised co-ordination between local governments, it seems unlikely that rules ensuring such co-ordination could be easily found and implemented.

3. THE POLITICAL ECONOMY OF DECENTRALISATION

Much of the support for decentralisation of transport policy, however, as with other public policies, does not derive from the purely economic argument discussed so far. The Round Table exposed political arguments supporting decentralisation, some of which parallel the economic arguments. This sub-topic was introduced by a background paper from Ivan Barankay (2006).

The decentralisation argument -- which is based on the assumption of the limited geographic impact of local policies and/or the crowding characteristic of public service provision -- explicitly and sometimes implicitly associated statements about the characteristics of public goods with claims of benefits from reducing the role of the State. The metaphor of a local government as a club manager invokes analogies to the theory of the firm which obviate the consideration of a distinct political process contrasting with the market mechanism. Brennan and Buchanan (1980), for example, adopt a universal "Leviathan assumption", i.e. the assumption that all governments seek to maximise the surplus of tax revenues over expenditure on public goods supply for their own benefit. Policymakers' pursuit of self-interest is limited by the mobility of tax-payers and users of public policies: the abuse of tax power for the self-interest of policymakers is either contained by citizens' "consumption decisions" concerning public goods or by the migration of residents to other communities, responding to differences or emerging differences in land values, which reflect the differences in the quality of public policies through capitalisation.

The assignment of tasks to various hierarchical layers of jurisdiction was based on the "decentralisation theorem" (Oates, 1972). This "theorem" consists of the proposition that "…*in the absence of cost savings from the centralised provision of a [local public] good and of inter-jurisdictional externalities, the level of welfare will always be as high (and typically higher) if Pareto-efficient levels of consumption are provided in each jurisdiction than if any single, uniform level of consumption is maintained across all jurisdictions* (ibid. p. 54)."

What had long received little attention is the fact that "the presumption in favour of decentralised finance is established by simply assuming that centralised provision will entail a uniform level of output across all jurisdictions. In a setting of perfect information, it would obviously be possible for a benevolent central planner to prescribe the set of differentiated local outputs that maximises overall social welfare; there would be no need for fiscal decentralisation…(Oates, 1999, p. 1123)."

Without the costs of acquiring and processing information, or without an explicit discussion of limits to accountability, both elements which were absent from the early literature on decentralisation, it remained unclear which centralised transport policies should suffer from a "one size fits all" bias across jurisdictions or different socio-economic settings. An empirical example of transport policies provided unequally by a central government in a federal system is the US Federal Highway Aid Program. Funds from this programme are earmarked by legislators for specific projects in their districts. Moreover, while the remaining funds are allocated according to a formula, the formula is manipulated toward target spending in particular favoured states (Knight, 2002).

The concerns about decentralised policymaking have recently been picked up in the political economics literature without making the assumption of a uniform provision of public goods.

Whether decentralisation is indeed improving the process of political decision-making and reducing "political failures", by reducing opportunities for politicians and other actors in the political decision-making process to capture parts of the fiscal surplus for personal objectives, has only recently been studied (Bardhan/Mookherjee, 2006a, 2006b; Besley/Coate, 2003; Seabright, 1996). The key question asked in this literature is whether decentralisation indeed acts as a disciplinary device for government officials. While some of the political arguments support the expectation that decentralisation will serve the interests of the transport system users-cum-taxpayers better than a centralised system, there is no unambiguous argument in favour of decentralisation, as was suggested by the literature on "taming the Leviathan".

A first source of this ambiguity arises from differences in the notion of decentralisation (Vaillancourt/Wigender, 2006): the differences concern the authority of local decision-makers over legislation, the implementation of local regulation or local public expenditure. A second source is financial autonomy, i.e. the right to set and collect taxes, to borrow from capital markets and to be entitled to fiscal grants as well as to competence in allocating expenditures to local services. Thirdly, ambiguities arise from different notions on the independence of local decision-making processes, i.e. whether local government officials are elected by local residents or appointed by higher level governments.

Even when assessing the effects of decentralisation at the macro-policy level, there is no clear-cut conclusion: Quian and Weingast (1997) and Jin, Quian and Weingast (2005) argue that decentralisation has been an important factor contributing to rapid economic growth in China since the early 1980s, while Blanchard and Shleifer (2001) see local governments as responsible for a growth slowdown in Russia (see also Sonin, 2003).

The conceptual discussion on the effects of decentralisation on political decision-making confirms the suggestion that its disciplining force may be highly context-specific. In particular, the political desirability of decentralisation has been discussed as depending on the trade-off between higher accountability at the local level and the costs of co-ordination between lower level jurisdictions. Seabright (1996) focuses on this lack of accountability as the principal drawback of centralisation. Accountability at the local level is ensured through democratic pressure for re-election. Local governments are seen to be in closer proximity to citizens than central governments. Local citizens are often able to make reliable inferences concerning the competence and efficiency of local government officials by observing local conditions and officials' behaviour. Citizens are able to express their dissatisfaction about the performance of local governments by refusing to re-elect them. As the substance of the evaluation evidence could not be included in a contract between central governments and local bureaucrats, local citizens cannot use their observations as hard evidence in courts of law nor submit them to watchdog organisations. Therefore, decentralisation is seen as a superior mechanism to ensure the accountability of government officials.

Another way for the local electorate to exert control of how local demands are served is a central legislature composed of locally elected representatives. To what extent the local interest is reflected in the central policymaking depends on the outcome of the local election process and the behaviour of the representative in the central legislature (Besley/Coate, 2003).

Two types of legislative behaviour are possible: the minimum winning coalition determines public service supply at the local level or the legislature maximises the total of the surplus of all its members. In the first case, two allocation problems result: the minimum winning coalition might use its power to skew expenditures towards those districts whose representatives are members of the winning coalition. The second problem associated with the dominance of the minimum winning coalition is uncertainty among the local population about its composition.

If the legislature maximises total surplus, a policy problem arises from the attempt to "free ride" on the fact that costs are shared by all, through strategically favouring local candidates with a preference for a high level of service provision, for example, with a strong preference for high transport infrastructure investments at the local level. All of these allocation problems weaken the case for centralised policymaking. The disadvantages, however, do not result from a lack of accountability, as local representatives perfectly transport the local interest to the central legislature. The advantage of central policymaking is a better co-ordination of inter-jurisdictional spillovers.

This co-ordination is of central importance for the analysis of Lockwood (2002). The central legislative process is seen as a bargaining process between the local representatives. The outcome of this bargaining process crucially depends on the nature and intensity of the inter-jurisdictional spillovers.

Less favourable results emerge if the political analysis is extended to the possible influence of local special-interest groups. Their influence has been studied with respect to regulatory policies (Laffont/Pouyet, 2003) and infrastructure policies (Bardhan/Mookherjee, 2006a). An analysis of decentralised regulation shows that in the absence of distortionary influences from the political process, a central regulator leads to better services for the users of the transport system. Decentralised regulation implies the danger that the competition between regulators leads to a too low level of regulation intensity: monopolistic transport or infrastructure service providers earn large rents due to the lack of co-ordination between the regulators. If regulators are subject to capture, the result changes. Competition between regulators, in a decentralised system, reduces the discretionary power of the regulator, increases regulation intensity and increases the benefits to consumers of the transport sector services.

Until recently, very little attention has been paid to the possibility that local democratic processes may not function properly, despite the fact that this concern has a long tradition in political philosophy (Bardhan/Mookherjee, 2000). The view is that the lower the level of government, the greater the extent of capture by vested interests and the less protected minorities tend to be. With limited political contestability at local elections, leaders under capture by special-interest groups may provide low-quality transport policies without facing the risk of losing their positions. In that case accountability may worsen under decentralisation. Bardhan and Mookherjee (2006a) analyse this possibility, comparing the delegation of service delivery to a bureaucracy or to local governments. In the case of a bureaucratic system, an accountability problem arises from the fact that the actions of the bureaucrats cannot be monitored perfectly by the policymakers who appoint them. This inability is due to the fact that central governments face high costs in carrying out audits of the actual service delivery in local communities. The bureaucrats are thus able to extract rents that should accrue to the consumers of the public services. A centralised system of public policy leads to an outcome of differentiated services to different groups of users, the differences reflecting differences in lobbying influence.

Decentralisation shifts control rights to local governments, with local policymakers who have to stand in local elections. With differences in personal demand depending on the wealth of the citizen, the effect of a switch from centralisation to decentralisation is determined by the mechanism through which service provision by local governments is financed.

The results of the analysis show that, taking account of the political decisionmaking process, local governments do not normally adopt the tax instruments as recommended by the tax assignment analysis reviewed above. The results were obtained for three archetypical financing schemes:

- Local governments have complete fiscal autonomy for local government expenditures, including unrestricted powers to tax;
- Local governments are restricted to levying user fees, which is similar to the "benefit taxation" discussed in the fiscal federalism literature;
- Local governments have no competences to raise funds. They are entirely dependent on fiscal grants from higher-level jurisdictions.

Under the first arrangement to finance local transport policies, users with a relatively strong demand use their political influence to ensure an overprovision of services. The strong political influence is based on the opportunity to free-ride on the tax payments of the users with a relatively low demand. A high level of service provision is obtained at the cost of an increased inequality within the community. The stronger the political capture, the stronger is the regressive effect of the switch to a decentralised system. The overall effect is therefore ambiguous and depends on the distortionary effects of the political process.

When local governments are restricted to financing services from user fees, the scope for regressive transfers is limited. As a consequence, the level of services will be lower. In terms of both efficiency and equity, the outcome thus dominates the case of fiscal autonomy for local governments. The superiority of the restriction on fiscal autonomy is independent of the difference in the political influence of users with stronger or weaker demand for local services. However, the income gains from the improvement of the provision of public services, due to the switch from centralised to decentralised policies, accrue entirely to the group with high demand.

In the case of local expenditures being financed by fiscal grants from higher level jurisdictions, control measures of these jurisdictions will lead to severe restrictions on the use of the transferred resources. The control measures will aim at excluding local governments from misrepresenting their demands and own resources, or serving local special interests. These conditions lead to two disadvantages relative to the case of complete fiscal autonomy and the restriction to user fee finances:

- The constraints in centre-local relations cause grants to be restricted and unresponsive to local need variations;
- Financially constraining local governments by a system of fiscal grants will lead to lower service levels compared with self-financing or user fees.

This excludes the overprovision of the fiscal autonomy case, also leading to a more equitable pattern of service provision, as the bias to favour the high demand groups is contained. It is not possible to conclude in general which solution is superior in welfare terms.

In summary, political processes might have a strong impact on the effects of decentralisation of transport policies. Decentralisation does not necessarily lead to a reduction in distortions resulting from the policy process. Whether the dominant expectation of a higher political accountability at the local level is justified depends on the opportunities for local special interests to influence the policy outcome. In the case of strong local capture, decentralisation may lead to a net welfare loss even in the absence of interregional spillovers, with the associated co-ordination benefits of a centralised transport policy.

The discussion also shows that empirical studies on comparative evaluations of centralised and de-centralised transport policies may easily be misleading. Estache and Sinha (1995), for example, in a sample of 20 countries over the period 1970-92, found that greater local fiscal autonomy leads to a higher level of public service supply. This result is in line with the discussion on the political economy

of local public policies. However, as the analysis also shows, the higher service levels can be associated with discrimination against certain user groups, implying a lower welfare level. Whether decentralisation of transport policies leads to a welfare gain, particularly given the important inter-jurisdictional spillovers of some transport policy measures, will critically depend on local conditions.

4. CONCLUSION

Against the backdrop of decentralisation efforts in many member countries, the Round Table discussed the pros and cons for decentralising transport policies. The decentralisation arguments had both an economic and a political dimension. The economic arguments for decentralisation start out by questioning the empirical importance of public policies, and transport policy in particular, to address the entire population at the nation state level. The associated critique of the classical allocative branch of public finance is often aimed at assigning a reduced economic role to the government sector in general.

- A first decentralisation argument is based on the fact that some public services and public facilities are congestible. Goods and services that qualify as public goods at low levels of demand can be supplied like quasi-private goods at the local level. Competition between different providers, resulting from decentralisation, is expected to reduce the costs of these services and improve their quality. This argument is of particular relevance for transport infrastructure facilities that exclusively serve the local population.
- With a limited geographical reach of the transport policy benefits, a superior supply of services organised by local transport policies may induce firms and residents to relocate into that community. If the mobility of households and firms is sufficiently high (and the boundaries of communities fixed), land prices will reflect the attractiveness of communities, induced by local transport (and other) public policies. The taxation of land rents then provides a benefit taxation mechanism. This raises the connotation of the private market analogy, with communities as competing "firms" and land rents or land taxes as the revenues from supply of public services.
- Due to the network character of transport infrastructure and the network economies inherent in transport operations, a major part of transport policy will not affect merely a local population. Interjurisdictional spillovers, for example, by providing transport infrastructure that is also used by clients from other jurisdictions, require taxes and subsidies that work as payment for these cross-border effects. The organisation of such payments will require a hierarchy of fiscal institutions or jurisdictions more generally.

  Much of the decentralisation argument is based on the expectation of "policy failure", i.e. that government officials and policymakers will be able to pursue self-interest at the expense of the citizen-cum-taxpayer. Decentralisation and competition between jurisdictions was considered to curtail such abuse of political power. Moreover, much of the discussion on decentralisation was based on the claim that centralised transport policies would be unable to cater to local demands.

The possible reasons for such an inability have only recently been studied.

- In a democracy where districts are represented in a central parliament, minimum winning coalitions might discriminate against those jurisdictions which belong to the minority. In addition, local observations on and evaluation of local transport policies might be sanctioned in local elections but not, or less effectively, by court cases against government officials who represent central transport policy authorities at the local level. In these cases, decentralisation makes "policy failures" less likely.
- On the other hand, it is not possible to make a general case as to whether capture of transport policy is less likely at the local level. With heterogeneous local populations, unrestricted fiscal powers at the local level might lead to an overprovision of, *inter alia*, transport services, or services which are biased towards special user groups. The latter would lead to a high level of services with an unequal distribution of the burden of finance and thus to ambiguous welfare effects.

  Such an outcome could be avoided if the financing of local services could be restricted to user fees or a strict "benefit taxation". Ambiguous effects follow from making local governments dependent on fiscal grants from higher level jurisdictions.

Overall, transport policies should be decentralised if they predominantly serve the local population. A large part of transport policies serve all jurisdictions and lead to high co-ordination costs when delegated to the local level. Such co-ordination costs might be balanced by greater accountability from local policymakers. To what extent local governments might be susceptible to capture by special interests, and to what extent this could reduce the benefits of decentralisation is a question that can only be answered empirically for individual communities.

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