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Building Resilient Regions for Stronger Economies

PART III

Chapter 9

Non-market Effects on Agglomeration and their Policy Responses: Can We Overcome the Mismatch?

by
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This chapter focuses on the effects of agglomeration, distinguishing certain non-market effects – particularly the tendency of many governments to bias public investment spending in favour of primary or capital cities – from market effects (productivity gains, transportation costs, etc.). The chapter emphasises that agglomeration is not only an economic phenomenon but a political and social one and that its determinants are similarly complex. For policy makers, it is important to distinguish between the non-market effects and market effects of agglomeration. Regional policy responses to agglomeration processes will differ between developing and developed countries, and these responses need to reflect the full range of market and non-market causes of agglomeration.

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Why such a difference of views on regional policy?

Regional policy has a long history and has always been subject to controversial debates on its merits and limitations. The theoretical development of new economic geography (NEG), stimulated by the pioneering work of Krugman (1991), has further fuelled the debate on the effectiveness of regional policy among academics in different fields such as economics and geography. The emergence of the European Union and its emphasis on regional policy with the Structural and Cohesion Funds has been another important reason for the heated debate on regional policy, since the effectiveness of regional policy has not only interested academics but reflects a genuine policy issue within the European Union. As a matter of fact, the debate on regional policy is not confined to Europe. As Krugman (2011) notes, the issue of agglomeration and regional policy is perhaps more relevant and important in the developing world than in developed countries. The fact that regional disparities in China are becoming one of the most important political challenges in that country demonstrates the magnitude of its importance in rapidly developing large countries such as China and India.

The debates on the right design of regional policy seem to have intensified recently, perhaps because the recent economic crisis has forced governments around the world to focus on the best in policy design. In a recent *Financial Times* column, Glaeser (2011) emphasised the economic benefits generated by big cities such as London, and advised governments not to discourage investment in such big cities by subsidising less productive places. In a similar vein, Huang (2011) argued in another recent *Financial Times* column that China's urbanisation rate should be much higher and its major cities should be much larger. In an article posted on *VoxEU*, Gill (2010) emphasised the market mechanisms that shape agglomerations around the world, and warned against the futility and ineffectiveness of regional policy.

The view that big cities are the most productive places for investment, however, is not without criticism. In a reply to Gill (2010)'s criticism on regional policy, Barca and McCann (2010) argue that "agglomerations are the effect of billions of dollars-rupies-euros-renminbi of taxpayers' money used by governments to boost agglomerations". Garcilazo *et al.* (2010) also argue that production capabilities of lagging regions are just as important as those of big cities, and aggregate growth of an economy depends on maximising the growth potential of lagging regions.

It is worth noting that the debates on regional policies are based on different assumptions as to the driving forces of agglomeration. In the case where agglomerations are mainly the result of market forces, as assumed in most of the NEG models, regional policy that tries to fight the market is ineffective and inefficient. But in the case where agglomerations are significantly affected by non-market forces, the argument that big cities are the most productive places may seem much too simplistic.

Non-market effects of agglomeration

Some non-market effects of agglomeration, such as congestion and pollution, are well addressed in the analysis of the merits and limitations of agglomeration. However, other types of non-market effects of agglomeration and urban primacy are relatively less known. As a result, policy design in response to congestion and pollution is well developed, but the same is not true for other types of non-market effects of agglomeration. To be more specific, a country's major cities such as its capital city (Seoul) or primary city (Shanghai) benefit from many types of direct investment by the central government. International airports, high-speed railways, subways, investments for the Olympics and the World Cup, creation of satellite cities and other essential public services such as education, healthcare and environmental protection for primary cities are all financed in whole or in part by the central government. The cumulative effect of the central government's direct investments in primary cities often dwarfs that of the subsidies provided to politically less important regions. In this sense, many of the central government's sector-specific policies are implicit regional policies in that their impact differs depending on the region, and need to be understood as such.

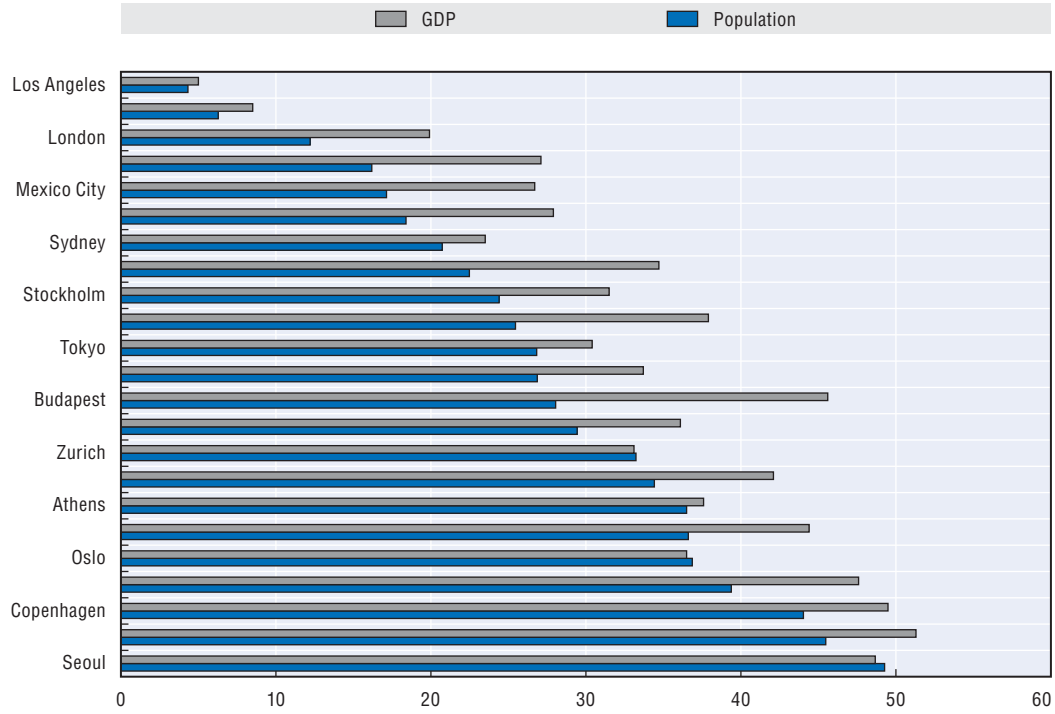
In the literature on agglomeration, most NEG models are based on the properties of market conditions and production functions such as iceberg transportation costs,[1] increasing returns to scale technology, and labour mobility. However, recent theoretical and empirical work on agglomeration recognises non-market effects of agglomeration. Duranton (2008), for example, observes that trade-based explanations of urban primacy are weak, but political and institutional factors appear to lie at the root of the primacy phenomenon. The role of non-market forces, especially political factors, was also investigated by Davis and Henderson (2003). They argue that political institutions directly affect urban concentration by determining the ability of central governments to favour one city such as a national capital. In an early empirical study on this issue, Ades and Glaeser (1995) find that the predominant cause of urban concentration is politics, not policy.

As to the extent of excessive agglomeration caused by non-market effects, we do not have enough evidence. However, in one of the few studies on this issue, Henderson (2003) finds that average primacy, defined as the share of the largest metro area in relation to the country's national urban population, is about 0.31, although the figure can be much larger or smaller depending on the size of land and the country's population. In a policy paper on China, Henderson (2009) notes that, because of fiscal and capital market favouritism, the major cities in China such as Shanghai or Chongqing may already face the prospect of over-population. Therefore he recommends that, based on the analysis in Au and Henderson (2006), China needs to focus on the development of medium-sized cities. Finally, in a work on the link between development and urbanisation, Henderson (2010) notes that certain regions and cities are heavily favoured in terms of capital and fiscal allocations, which raises the issue of increasing inequality between people in favoured *versus* other regions.

Agglomeration and urban primacy in the world

Productivity in metropolitan regions in OECD member countries is quite varied. In Figure 9.1, the grey and blue bars indicate the share of GDP and population of the metropolitan regions. For most regions, the grey bar is higher than the blue bar, implying that labour productivity in such regions is higher than the average. London, Istanbul,

Figure 9.1. **Population and GDP shares of OECD metropolitan regions, 2004**



Note: The figures for Korea are from 2009.

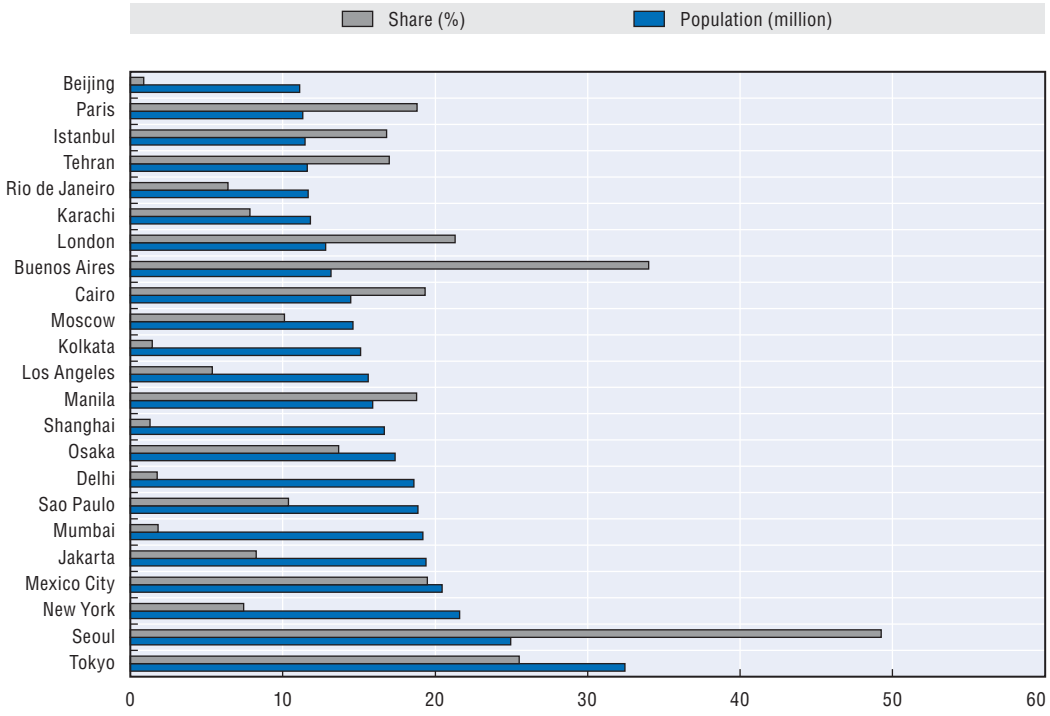
Source: OECD (2006), *Competitive Cities in the Global Economy*, OECD Publishing, *http://dx.doi.org/10.1787/9789264027091-en* and CIA (2006), *The World Factbook*.

StatLink http://dx.doi.org/10.1787/888932521011

Mexico City, Paris, Prague, Stockholm, Lisbon, Budapest all belong to this category. Not taking into account urban externalities such as congestion and pollution, immigration into these regions is likely to increase overall national productivity. There are, however, some regions where the shares of GDP and population are not very different. Los Angeles, Zurich, Athens, Oslo, and Seoul belong to such a category. Taking into account urban externalities of large metropolitan areas, these cities may already be facing the prospect of over-population, although, according to Henderson (2003), the size of primacy in a small country such as Switzerland, Norway, and Greece can be as high as 0.5. Since the shares of population in Zurich, Athens, Oslo are all below 0.4, it is not clear whether these cities are facing the prospect of over-population.[2] One clear exception is the Seoul metropolitan region. As Figure 9.1 shows, the population share of the Seoul metropolitan region is close to 0.5. According to Henderson (2003), Korea is a medium-sized country with a population of around 50 million. Thus the size of the Seoul metropolitan region is way over the average primacy rate found in Henderson's study.

While Figure 9.1 lists metropolitan regions in OECD countries, many of the largest metropolitan regions are found in developing countries, as shown in Figure 9.2. What is notable in this figure is again the Seoul metropolitan region. With a population of 25 million, it is the second largest region after the Tokyo metropolitan region and even larger than Jakarta, Mumbai and Shanghai. The reason why metropolitan Seoul is so exceptionally large is not clearly known yet. Discussing one of the few studies on agglomeration in Korea, Henderson (2005) noted that manufacturing in Korea had long ago spread away from major metro areas and their satellites to rural areas and other cities. This

Figure 9.2. **Population of the largest metropolitan regions in the world, 2004**



Note: The figures for Korea are from 2009.

Source: Forstall, R.L., R.P. Greene and J.B. Pick (2009), "Which are the Largest? Why Lists of Major Urban Areas Vary So Greatly", Tijdschrift voor economische en sociale geografie, Vol. 100 and CIA (2006), *The World Factbook*.

StatLink http://dx.doi.org/10.1787/888932521030

can be confirmed in Figure 9.1, which shows that the production share of metropolitan Seoul is even smaller than its population share. One hypothesis for the explanation of the particularly large population of metropolitan Seoul is the mismatch between public-service responsibilities and the fiscal resources of local governments.[3] In Korea, all important public services such as education, healthcare, welfare programmes and police services are basically the responsibility of the central government. Therefore expenditure responsibilities of local governments tend not to increase proportionately with population. On the other hand, metropolitan Seoul enjoys a large amount of local tax revenue collected from headquarters of corporations, which helps explain why the per capita tax revenue of Seoul city is almost 1.7 times higher than the Korean average.[4] With the primary-city bias of public investment discussed above added to this problem of wrong design of fiscal decentralisation, metropolitan Seoul seems to have grown exceptionally large.

Henderson (2010) observes that we do not know the social consequences and the extent to which inequality is heightened by agglomeration. The case of Korea might provide one such example. After the 2002 presidential election, the creation of a new capital city became the most important political controversy in Korea. After bitter political infighting over the issue of balanced regional development, the creation of an administrative city on rice fields some 200 km south of Seoul was decided. Most government departments are to move to the new administrative city by 2013, and we do not yet know the extent of the social and economic costs associated with this change, although some hope that the benefits from more balanced regional development will outweigh the costs.

Conclusion

Agglomeration is not only an economic phenomenon but a political and social one as well. It is therefore important to identify the non-market effects as well as the market effects of agglomeration. Many times, controversies on regional policy seem to arise because differences are not made between market and non-market effects and between developed and developing countries. In cases where non-market effects are important explanations of excessive primacy, simply subsidising non-primary regions is likely to be ineffective and wasteful. On the other hand, the argument that the metropolitan region is by definition the most productive place is not very convincing either. In developing countries, the best regional policy may be the one that directly addresses the non-market effects of agglomeration. Of course, it is not easy to change the political and institutional environments in developing countries. But recognising the long-term consequences of primary-city favouritism and providing non-primary regions with good public services such as education and healthcare seem to be important not only for political stability but to encourage the efficient allocation of population across regions as well.

As for developed countries, the problem of non-market effects of agglomeration might be less serious. However, a more fundamental question can be raised in this regard. When an economic and political union such as the EU is created, is it politically possible not to subsidise less developed regions in the Union? This question ends up focusing on the "how" rather than the "why", since without such a political consensus, the creation of the Union would likely not have been possible. In terms of effectiveness, a right way to match political and economic goals to fiscal-subsidy tools can be debated. However, it means that we need to identify the best way to apply regional policy or interregional transfers, rather than ignore the political and institutional constraints that necessitated them in the first place.

Notes

1. That is, transportation cost increases with distance.
2. In a recent study on agglomeration in Norway, Rattsø and Stokke (2011) find that regions with large increases in population do not show systematic higher income growth.
3. More detailed discussion on this issue can be found in Kim (2009).
4. In Korea, tax rates of all local taxes are the same.

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