Integrating Regional Space: New Opportunities for Economic Growth

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The size of an economic space

Nowadays, one of the key motivations for regional integration projects is the economic growth which can be generated by the creation of a larger economic space. However, large economic areas do not always benefit from faster growth. In this paper we address two issues. We begin by examining how the size of an economic space influences economic indicators in different environments. In particular, we compare the contribution towards growth that large economic spaces make within international associations and in the context of globalisation. It is critical to understand the factors that influence the effectiveness of certain growth mechanisms, depending on how economic integration is organised. In other words, the organisation of an economic space is one parameter which, together with its size, influences its economic variables. A special area of interest for us has been the comparison of various types of association which comprise low- and medium-level economies.

The term "economic space" is still vigorously debated in social science circles (Biyakov, 2004, 2004a). The "size" of an economic space is another concept that is not universally understood. In principle, it is possible to define two basic "size" parameters: the *geographic size* of an integration project and the *size of the population* of the countries involved in the integration. Using population to define a region's size is more readily accepted in economic theory, whilst economists rarely consider geographic size. However, we believe that another important parameter should be used in assessing the size of an economic space, i.e., the intensity of economic activity. This is judged on the criteria of percentage of natural resources used (agricultural land, water, forests and other areas); able-bodied population as a proportion of the total population; quality of education; and IQ levels). Measuring the intensity of economic activity allows us to make a more precise comparison of different economic spaces using a specific correction factor which reflects both quantitative and qualitative characteristics. However, this criterion is not yet fully formulated.

Population growth brings a number of advantages to an integration project. For example, a large region has greater opportunity for specialisation and division of labour based on comparative advantage, which is essential to

increasing efficiency. A large region also has more potential consumers, which allows economies of scale to be made (Rivera, Romer, 1990). In a larger region, there is often greater pressure on businesses to compete, thus reducing X-inefficiency[1]. In just the same way, a large, politically decentralised region can spur competition between jurisdictions, which in turn serves to improve the quality of their institutions. The size of a region determines its scope for implementing large, labour- and materials-intensive projects. In addition, according to the "latest" trade theory, which focuses on the microeconomic aspects of international economic relations, the liberation of markets can bring about positive change in industrial structure, motivating businesses to adapt to stay in the market (Melitz, Ottaviano, 2008). Finally, larger regions tend to have a greater availability of highly qualified administrative personnel (Briguglio, 1995) – diversity can help to unleash their creative potential and foster their professional development.

Covering a large geographic area can be a factor in a region's growth if that region is able to assume a prominent role in the international transport system. Another advantage of large regions is that natural disasters affect their territory unevenly, and there is always an opportunity to "insure against risk" by encouraging unaffected territories to support affected ones[2].

However, the economic advantages of large spaces are counterbalanced by some significant disadvantages. This mainly concerns geographically large regions. The diverse geographic influences which enable regions to spread risk are at the same time a source of diverging preferences. Accordingly, it is much more difficult to find common solutions, and adaptation costs for certain areas may be much higher. In other words, the *economic risk* associated with smaller regions' restricted ability to insure against risk may be the price to pay for avoiding the 'associated with unfavourable decision-making in larger regions (Spolaore, 2006). Typically, small countries and regions respond rapidly to economic and political change, since their administrative hierarchy has fewer levels than large countries. This simplifies the task of formulating efficient economic policies for a certain area (Rossi, 1998)[3].

Maintaining the unity of a vast geographic space requires heavy investment, for example, in transport infrastructure which connects separate territories, or in security and defence against external threats. Countries with a low

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[1] X-inefficiency is an evaluation of the reduction of a company's efficiency in relation to its maximum possible efficiency calculated according to the profit maximisation principle.

[2] Just as importantly, large regions typically possess vast natural resources. In the neoclassical theory, the assumption of zero transaction costs led to the formulation of the so-called "unimportance of borders" theorem: the economic growth of regions does not depend on the distribution of resources among them. In reality, however, transaction costs are never zero; therefore, the geography of natural resources does matter (Nordhaus et al., 2001).

[3] For example, the European Union focuses on the so-called second-tier regions (NUTS 2) when selecting priority territories to receive aid. However, distortions occur systematically in small third-tier regions (NUTS 3), i.e., aid is provided to fairly prosperous regions, bypassing disadvantaged ones (Becker et al., 2008).

population density and large geographic area face serious problems. As a rule, high population density is a factor in the development and even in the formation of states (Rozov, 2002). However, the effect of population density on economic growth is complex and depends on a number of institutional parameters. In some cases, the size of a state may ultimately become a disadvantage rather than an advantage (Hill, Gaddy, 2007, Chapter 2).

Size and integration into the world economy

Our study has concentrated up to now on intra-regional links. But nowadays, the development of global economic links has had a significant impact upon the ability of large spaces to generate economic growth.

The global market enables even small territories to benefit from economies of scale and the comparative advantages of specialisation. The availability of natural resources becomes less important since the main resources of the global economy are highly mobile. Strong external pressure to compete may prove beneficial, acting as a stimulus to regional economies by encouraging competition between companies (Srinivasan, 1986) and institutional systems. In the context of globalisation, small regions with a relatively homogenous population area able to avoid paying the additional cost associated with integration (and can even benefit from the effects produced by their larger neighbours) (Alesina et al., 2005). However, risks associated with small size have now emerged which would not have been present at lower levels of microeconomic integration. Small regions (both in terms of population and geographic size) often suffer as a result of their narrow export specialisation, which increases the volatility of export and tax revenues, restricts saving, investment and reduces a region's ability to pursue an independent economic policy. Since there is no "fallback" in the form of a large domestic market, improved efficiency becomes the only way to reduce this volatility. Global players are less interested in small markets (especially if the market's small size is coupled with high transport costs, as is the case with landlocked continental countries), and therefore small markets are less exposed to competitive pressure. Some empirical studies demonstrate that foreign trade accounts for a comparatively larger share in small countries' GDP and that, particularly in developing economies, export of raw materials dominates the foreign trade structure.

Small countries (with comparable income levels) show comparable degrees of specialisation, but this specialisation can vary greatly, providing opportunities for the adjustment of development strategies (Perkins and Syrquin, 1978). Limited independence in economic policy-making paradoxically combines with the so-called "advantage of insignificance": often the economic regulation of small countries or regions is more flexible than that of large economies (Armstrong and Read, 2000), allowing them, for example, to formulate better offshore strategies. In such cases, even a narrow specialisation, such

as tourism, can generate rapid growth (Alvarez-Albelo, Hernandez-Martin, 2007).

Nevertheless, large regions enjoy greater advantages: they have ample resources for implementing large projects and can withstand the political and legal instability to which such projects may be exposed, at lower cost (Barinov, 2007). This is particularly important in the context of weak global governance: every project is exposed to excessive risk, since no "global" insurance or risk redistribution schemes exist (one recent example being the financial crisis of 2008). The emergence of integration projects and the enlargement of economic structures is a *signal* to foreign investors that a group of countries have assumed a clear *obligation*. In contrast, small countries often lack this strength in their relations with other players, and this is an incentive to the integration of small countries (Andriamananjara and Schiff, 2001) or of small and large regions (Tsoi, 2007). It does not guarantee, however, that small countries will survive within such structures (Horn, 2004).

Literature on the relationship between a country's size and its economic growth is not very informative (neither are studies on other econometric aspects of economic growth).

According to some studies, small regions are characterised by lower levels of prosperity and slower growth (Isa, 2003). There are also studies which demonstrate that small countries and regions are no different from large ones, or at least have not been in recent decades, in terms of their rate of growth (Armstrong and Read, 2003, Brandi, 2004). Smaller regions and countries may even have a larger GDP (Easterly and Kraay, 2000).

Growth rates vary more between small countries than between large countries, although the latter have a more rapid growth pace on average. Notably, small countries provide the most impressive examples of rate of growth (Perkins and Syrquin, 1978).

It is also apparent that the size of a region and its partners are significant.

Countries which are surrounded by large and open economies tend to have a more rapid rate of growth (Vamvakidis, 1998), whilst changes in the economic variables of small economies are largely attributable to the influence of their neighbour countries (Armstrong and de Kervenoael, 1998). Growth in small countries can be associated with opportunities emerging from the international division of labour. This is a result of the so-called "spaghetti effect" created by the interlocking system of bilateral and multilateral agreements (Anderson and Read, 1998). However, in some cases, this effect can impede economic growth, if the terms of cooperation and the obligations and preferences associated with such interlocking agreements contradict rather than complement each other. This effect is especially pronounced in developing economies, where existing cooperation

agreements often do not cater for their real needs and merely indicate the intention to create efficient structures similar to those of developed countries, e.g. the EU.

In some sources, it is stressed that the EU has a positive effect on the economic growth of its member states in the longer term (Badinger, 2001; Brodzicky, 2003, 2005). These studies also examine other integration initiatives, concluding that the effects of integration upon low and medium-level economies depend on the size of the participants (Berthelon, 2004).

In the era of globalisation, the degree of openness of a developing economy to the world, ceteris paribus, can: affect its access to foreign technology, investment and industrial markets; improve the quality of its education; help to establish serial production, etc..

It is therefore interesting to analyse how integration groups of different types or level of development take advantage of this opportunity.

Table 3. 1.
Exports by major integration groups in 2006

Source:
based on World Trade Developments in 2006. Appendix. Table A 3.

http://www.wto.org/english/res_e/statis_e/its2007_e/its07-appendix_e.pdf; Eurasian Community Countries. Statistics book. M. 2007. p. 107.

Group	Total exports ($ billion)	Exports within the group ($ billion/%%)	Exports to other countries ($ billion/%%)
EU	4532	3051 (67.3)	1482 (32.7)
NAFTA	1678	902 (53.8)	776 (46.2)
ASEAN	770	193 (25.1)	577 (74.9)
MERCOSUR	190	26 (13.7)	164 (86.3)
Andean Group	64	5 (7.8)	59 (92.2)
EurAsEC	362	36 (9.95)	326 (90.05)

The above data require commentary. Firstly, it could be expected a priori that highly developed groups are more open to third countries as a result of the expansion of trade and investment, sale of patents, intellectual property, services (e.g. education), and extensive outsourcing. However, in reality, though these groups lead in absolute terms, lower-level groups are slightly ahead in comparative terms. Moreover, different groups (in terms of size and level of development) may be equally open to the world, but this openness may have restrictions: developed countries tend to trade principally within the group, whilst developing countries trade mostly with third countries.

Secondly, the fact that trade with third countries dominates the foreign trade structure of low and medium-income groups makes these groups more sensitive to external influences. As they strive to strengthen their position, regional groups of developing countries include in their "integration agenda" many social, environmental and security issues. This is quite understandable, since, in the absence of adequate protection mechanisms, a high degree of openness to external influences can impede economic growth or make it biased to one side.

Thirdly, the fact that ASEAN has the highest index of internal trade among groups of developing countries suggests that the size of an internal market, territory, etc. should also be viewed as a factor that promotes the interaction of members within an integration group. This trend can also be observed in developed groups such as the EU or NAFTA.

Finally, since the 2008 financial crisis, large regional groups will play an increasingly important role in the regulation of the world economy, as the reform of the Bretton Woods currency system progresses; they will take over those decision-making functions which global institutions failed to perform adequately. This in turn will draw greater attention to the interaction and conflict between regionalism and multilateralism. This trend may result in the emergence of several regional financial centres and strengthen regional currencies.

Organisational models of an economic space

As demonstrated above, the size of an economic space can have different effects on its economic growth. However, there is at least one more parameter which is important to any evaluation of the influence of the size of an economic space upon its economic growth – that is, the *organisation of an economic space*. Below we discuss the most important characteristics of different organisational models.

The main purpose of integration is to weaken or eliminate the *economic boundaries* which restrict the distribution of benefits or means of production. These boundaries are not always purely legal ones; they can be a product of the technological or geographical peculiarities of certain countries or even provinces (Pelkmans, 2008). Based on this assumption, each organisational model has an agent for the elimination of barriers. This agent does not necessarily work to redistribute benefits; its role may be to create favourable conditions for various other economic agents, e.g., by abolishing customs duties or improving internal transport routes. The creation of a common market in Russia (at least in its European part) in the 19th century was clearly associated with the development of a railway network rather than by a revision of political boundaries (Metzer, 1974).

We have identified six organisational models for economic space, depending on what acts the agent. Government agencies take on this role in three of the models, and the private sector in the other three:

- *common centre model:* the main integration force is a supranational body or a central government not associated with any particular area;
- *international agreements model:* barriers are eliminated by territorial governments pursuant to agreements;

- *dominant player model:* barriers are eliminated by one territorial government (e.g., the government of a particular area or country) which has authority over the other players;
- *corporate investment model:* the main integration agents are major corporations which create region-wide production networks;
- *informal trade model:* the main integration forces are informal networks comprising entrepreneurs and traders who partially operate in the shadow economy;
- *informal rules model:* integration is fostered by common informal rules which are deliberately imposed by a private sector player in order to organise economic interaction between separate areas.

Each of these models has a long history in both national and international contexts.

Historically, the common-centre model has been associated with so-called "military regionalism", a political structure that prevailed across the world until the 19th century. The Roman, Chinese and Persian empires are typical examples of this (Tavares, 2004). Today, this type of integration can be found in the majority of unitary and federal states which pursue a common national policy. At the international level, the only structure that resembles the common centre model is the EU. In reality, however, the interests of particular countries or regions can be said to be "common national" or "European" interests. There is no clear boundary between the common-centre and dominant-player models, and in many cases the position of the centre is not necessarily dictated by any one region.

The international-agreements model by definition requires the participation of several national governments; this is a new development in world history (Kaspe, 2007). Although free trade agreements did exist in ancient times, they were very limited. This model was first used on a meaningful scale in the 19th century (the customs union of Sweden and Norway in 1874–1900, etc.). Today, this model is the basis for most regional economic integration projects involving developing countries, e. g., MERCOSUR, ASEAN and others. On the other hand, this model is implemented by associations of regions existing in several federations like Switzerland, Canada or Russia.

The dominant-player model first appeared in formal and informal "international hierarchies" (Lake, 2009) and is carefully discussed in the hegemonic stability literature of international political economy. It can be identified, for example, in the Roman republic that extended its control throughout the Mediterranean and in the European colonial empires that existed until the mid-20th century. This model can be based on both formal domination and "unequal treaties" which were widely used by the great powers to establish control over the outlying parts of their empire. It is extremely difficult to

distinguish any boundaries between the forms of "indirect rule", upon which an empire as a political organisation relies. The *creation* of a dominant player can itself be a manifestation of an integration model: each colonial empire "created" a dominant nation at its core (Miller, 2008). Generally, the process of developing such a model is very complex. For example, the Spanish empire resulted from the actions of many population groups rather than of the Castilians alone (Kamen, 2007), and the resulting conventions for redistributing benefits developed largely through bargaining between the imperial and colonial elites (Grafe and Irigoin, 2007).

Today, integration driven by a dominant player is frequently employed in the financial sector: politicians in France and the EU, for example, are showing a keen interest in African currency unions. Examples outside the currency sphere are the German customs unions (Zollverein) which formed around Prussia in the 19th century and the South African Customs union (SACU), one of the world's oldest economic integration projects (Hancock, 2008). The recently established network of EU-centred agreements in the Eastern Europe and Northern Africa (EU Neighbourhood Policy, Mediterranean Union etc.) also clearly belong to this group. In some cases, this model can be identified in federal states, such as the German empire of the 19th century led by Prussia, or the Argentinian Confederation, dominated by the province of Buenos Aires. As a rule, such federations proved to be very unstable or metamorphosed into other structures based on the common-centre model (e.g., in Argentina, the victory of Buenos Aires triggered the shift to a common national centre).

Various forms of the informal integration which do not involve the public sector have long existed in the world economy. They include the informal-trade model, one of the oldest forms of integration, which probably preceded the emergence of states (Webb, 1974). It lay at the heart of many ancient civilisations, trade networks and gateway communities (i.e., areas that specialised in transit within various trading systems (Hirth, 1978). In Europe, certain elements of this model existed long before the Roman empire (Grantham, 2006). The informal-integration model is exceptionally robust: given the right technological and geographic conditions, it can successfully withstand the pressure of an antagonistic institutional climate. Even strict state regulation does not always check the development of informal integration. Thus, the Byzantine empire essentially became a centre of world trade in spite of the position of its authorities (Guillou, 2005). African countries exemplify this integration model in the modern world (Oculi, 2005).

The corporate-investment model is more sensitive to state regulation than the informal model. Historically, it was first embodied by the chartered corporations of the colonial era which acted jointly with governments and even performed governmental functions in the regions they controlled. Today, the scale of corporate investment enables companies to substitute formal integration processes to a certain degree. Classic examples of this model are

Japanese investments in Southeast Asia (Kawai, 2007) and investments by US companies in Mexico before NAFTA.

Finally, the informal-rules model combines the features of state domination and informal integration, i.e., it is driven by private sector players which exert influence on the integration process not through trade or investment but by imposing common standards and rules as a means of surmounting economic barriers. Surprisingly, a typical example of such a player is the Roman Catholic Church in medieval Europe. Its activities ultimately assisted the adoption of common rules and encouraged contact and interaction between European countries, i.e., it effectively fostered economic integration (McCarthy, 1992). This model also includes some *lex mercatoria* institutions, i.e., non-government regulations applied to international trade, such as international accounting standards (Nolke, 2003).

The organisation of an economic space and its growth

How do the above integration models influence the growth of an economic space? Answering this question, in our opinion, requires an understanding of the following three points.

Firstly, different models have different chances of success depending on local conditions. If a model is selected with no regard for the region's political, economic or institutional conditions, attempts to create a large economic space are doomed to failure. This explains why so many international integration projects throughout the world do not succeed. Practically all integration models face the same issues. In many cases, the efficacy of a particular model can be assessed only when different approaches to it begin to conflict. The format of an international agreement can determine the potential size of the economic space it creates; thus, the international agreements model is typically more effective if the number of participants is kept small. The dominant-player and common-centre models are very sensitive to the military and political situation as they affect the distribution of power and internal structures of countries within a region (McGuire, 2002; Lal, 2007). The degree of negative or positive integration largely depends on the selected model[4]. The institutional environment and other factors, such as the cost of reaching consensus or the heterogeneity of the participants' interests, also play an extremely important role.

Secondly, all models can, to a greater or lesser extent, be used to promote "quasi-integration", i.e., an imitation of integration activity which will never result in the creation of a truly integrated space. Quasi-integration is typically masked with political rhetoric and used by the elite and their opposition as

[4] Negative integration means removing international barriers to the exchange of goods, services, capital or labour. Positive integration means creating a common regulatory system and harmonising economic policies.

a tool in their internal political struggle. Large corporations may champion quasi-integration with a view to securing access to government resources or subsidies, improving their image, achieving their political ambitions, or even protecting themselves against competition from third countries. In African countries, quasi-integration provides employment for a host of qualified administrators and consultants who have failed to find jobs in either the public or private sector (Shams, 2005).

Notwithstanding intentional quasi-integration, any integration project may have other goals besides the creation of a large economic space (Libman, 2006). Some do promote economic growth by creating conditions in which the internal institutions of particular countries or regions can improve. Others turn out to be detrimental to the economy irrespective of their declared ambitions for foreign trade. Moreover, some players may attempt to take the lead and change the integration model, which can result in a loss of momentum. If informal integration works to intensify competition between countries by promoting economic and social links between them, then, as demonstrated historically, it can become a real source of economic growth[5] as governments attempt to implement the international-agreements model or even the common-centre model in order to eliminate competition. However, in the latter case, there is a risk that economic growth will slow down (Chu, 2008).

Thirdly, the dominant player has various integration mechanisms at its disposal. According to the ordoliberal theory, integration necessitates some degree of coordination of the individual plans of many economic agents. Karl Polanyi proposed probably the most comprehensive classification of integration in society by defining three methods: exchange, redistribution and reciprocity (Polanyi, 2002)[6]. Each of them relies on a specific institutional environment which translates a particular activity into a system of economic integration: the market system, the common redistribution centre and the symmetric groups system. It is difficult to find true distinctions between these ideal methods of integration: in reality, exchange is rarely equal, and unequal exchange can become an indirect method of redistribution where a market only has a specific control function as an alternative to direct hierarchy (Oleinik, 2008). Likewise, redistribution can be just a disguise for a bargaining system, for example, between different ministries or lobbies. Different methods of integration often co-exist in society.

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[5] Prime examples are politically divided but economically integrated Central Europe until the early 19th century (Volckart, 1999), and the whole of Western Europe in the Middle Ages (van der Beek, 2007).

[6] A similar approach based on the comparison of exchange, power and gifts was described by Fransois Perroux. To Polanyi, "market" is a specific institutional system or simply an "exchange practice". In this respect, we use the initial classification freely and equate "market" with "exchange", as economists normally do.

According to Polanyi, not every method of integration (i.e., integration models, as we define them) suits the practitioners. Whilst an exchange of gifts is possible at an international level (Polanyi quotes lend-lease as an example), it is incompatible with the common-centre and dominant-player models, in which gifts are substituted for patron relationships (Barsukova, 2004). It must be stressed that integration based on exchange does not preclude the state acting as an important player; the latter must perform its intrinsic *function* to create the conditions for markets and competition to operate.

The common-centre model can be based on either "supporting markets" or redistribution, and this distinction was well understood even in ancient times. The integration of the early Roman empire was based on a system of markets within which exchange between provinces was organised (Temin, 2001; 2001a; Kessler, Temin, 2005) and redistribution served only to maintain high living standards in the capital. In the late Roman empire, however, redistribution was more dominant; Byzantium inherited this pattern, albeit in a much more complex form (Bang, 2007). In imperial China, despite the frequently held misconception, redistribution existed alongside highly developed exchange systems. The ratio between them changed from time to time depending on prosperity levels and periodic attempts by the government to tighten economic regulation (Feuerwerker, 1984; Li, 2000; Deng, 2003; Shiue, Keller, 2006). China also was involved in exchange networks that existed in Eurasia (Zurndorfer, 2004). In the Aztec empire, an extensive market system co-existed with redistribution mechanisms (Sinopoli, 1994), whereas in the Inca empire (Berezkin, 1991) and many other tributary states redistribution systems were more dominant (Patterson, 2005). The situation in ancient Egypt developed in the same way (Balatsky, Yekimova, 2006).

As a rule, in the international-agreements model, the main focus is on supporting markets by jointly removing barriers to trade (in other words, granting access to each other's markets). It is very difficult to maintain a long-term redistribution coalition between several states; however, such examples do exist. The dominant-player model can be used equally for redistribution or for maintaining open markets (the latter often turns out to be a system of redistribution in favour of the dominant player). All three informal integration models are by implication compatible with exchange systems, but can also serve to redistribute, provided that the key players occupy monopolistic positions. Throughout the Middle Ages, guilds would act either as agents of market integration or as monopolies which supported redistribution, depending on the period. The early involvement of colonies in world markets was principally a result of the emergence of redistribution systems within them (Latov, 2003), and chartered corporations in many cases acted as monopolists seeking rent (Jones and Wille, 1996; Carlos and Nicholas, 1996; Adams, 1996). Finally, the internal corporate markets of international corporations can be considered as a form of informal

integration serving both redistribution (if transactions between branches are purely formal and are made solely to optimise their tax position) and exchange (if internal prices act as a stimulus).

According to Polanyi, all methods of integration promote the division of labour, and are thus sources of economic growth. However, their comparative efficiency, especially in terms of market exchange and redistribution, is not uniform. Redistribution is required for implementing large projects, but any government interference limits opportunities for a spontaneous search for optimum solutions ("competition as a method of learning") and creates many opportunities to seek rent. Excessive geographic redistribution can reduce the efficiency of an economic system (Rosselo, 2003). On the other hand, the need for integration itself may be caused by redistribution (Rehme, 2006), and redistribution may prove to be the only integration tool available in a given institutional environment (although, in reality, defining an institutional framework can be a very complex task). Finally, the *negative* effects of large-scale redistribution may automatically diminish as the size of an economic space increases (Salmond, 2006).

The characteristics of the post–Soviet space

The need to create a larger economic space in order to speed up growth is an argument common to every discussion of the integration of post-Soviet countries. Meanwhile, a number of regional integration models have evolved in these countries during the two decades of independence, and all these models are functioning more of less successfully (see Table 3.2).

Table 3. 2.
The efficiency of various integration models in post–Soviet countries

Model	Example	Efficiency
Common centre	Certain countries in the region	Comparatively low in the 1990s, generally high at present
International agreements	CIS	Low
Dominant player	The "rouble zone" in the beginning of the 1990s; EurAsEC and the union state of Russia and Belarus with unequal redistribution of powers can be viewed as a transitional phase between this model and the international agreements model (Hancock, 2007)	Low
Informal trade	Informal trade networks in Central Asian and Caucasian countries and border regions	Comparatively high in certain sub–regions of the CIS
Corporate investments	International financial and industrial groups in the 1990s, expansion of Russian, Kazakh, Azerbaijani and Ukrainian international companies	Increasing (since 2000)
Informal regulation	Eurasian Transport Union, International Association of Stock Exchanges of the CIS	Medium

The efficiency of a particular model should not be used to assess its impact on economic growth, and researchers' opinions on this issue diverge greatly (Libman, 2007). In this section we will describe the simplest method of evaluating the effect of the size of a potential country pair in the CIS on these countries' economic growth. Our assessment is based on the method proposed by Spolaore and Wacziarg (2005) and examines only two consequences: the elimination of barriers to trade and influence on trade flows to or from third countries. Therefore, it is less informative than more complex models such as CGE or inter-industry balance which have been employed in a number of studies dedicated to the post-Soviet space (Klotsvog, Sukhotin, Chernova, 2008; Silamaa, Wildgren, 2003) but is quite satisfactory for approximate estimates. This method is based on simultaneous comparison of a system of equations (in our case, having a limited sample, we assess the so-called "seemingly unrelated regressions" (SURE), thus ignoring the issue of endogeneity:

$$Oat = \alpha O + \alpha 1\ log(Sat) + \alpha 2\ Wat + vat \quad (1)$$

$$Gat = \beta O + \beta 1\ log(yat) + \beta 2\ Oat + \beta 3\ log(Sat) + \beta 4\ Oat\ log(Sat) + \beta 5\ Zat + \varepsilon at \quad (2),$$

where

- a = a country
- t = time period for panel data (due to the limited observable period we assess regression based on cross-sectional data)
- y = per capita GDP
- O = openness of the economy (share of trade in GDP)
- S = size of a country (in our case, population)
- G = GDP growth rate
- Z and W = vectors of control variables (in our case, 'W' includes the geographic area of a country, initial per capita GDP, a dummy variable for exporters of oil and gas (Russia, Kazakhstan, Azerbaijan, Uzbekistan, Turkmenistan) and a dummy variable for landlocked countries (not including Caspian and Aral countries), and 'Z' includes initial per capita GDP, share of public expenditure in GDP, share of investments in GDP and a dummy variable for exporters of oil and gas)
- v and ε = error terms.

Therefore, *the increase in the rate of growth of country A after integration with country B* (in percentage points) can be calculated as:

$$\Delta = log(Smt / Sat)(\beta 3 + \beta 2\ \alpha 1 + \beta 4\ \alpha O + \beta 4\ \alpha 1\ log(Smt\ Sat) + \beta 4\ \alpha 2\ Wat) \quad (3),$$

where 'm' – the index of an "integrated" region, i.e., includes all countries. In other words, we are able to calculate, for example, by how many percentage points the GDP growth of, say, Russia will increase (or decrease) after its integration with Ukraine (the effect of creating a larger market being the only criterion considered). We use average figures between 1995 and 2003 taken from the following sources: openness, share of public expenditure in GDP and share of investments in GDP (%) – from Penn World Tables; population ('000 people) and initial per capita GDP ($, 1990) – from Groningen Growth and Development Centre Total Economy Database. Our analysis includes ten post-Soviet countries (no data on Turkmenistan is available, and Georgia left the CIS). Average growth rates for 1990-2007 were taken from the EBRD Transition Report. The results are summarised in Table 3.3.

Table 3. 3.
Change in GDP growth of country A after integration with country B (in percentage points)

Country B	Country A									
	Azerbaijan	Armenia	Belarus	Kazakhstan	Kyrgyzstan	Moldova	Russia	Tajikistan	Uzbekistan	Ukraine
Azerbaijan		–1.42	–0.08	–0.46	–0.69	–0.83	–0.01	–0.37	–0.13	–0.02
Armenia	–0.61		–0.09	–0.23	–0.50	–0.59	–0.01	–0.28	–0.07	–0.01
Belarus	–1.27	–1.46		–0.54	–0.69	–0.85	–0.02	–0.34	–0.15	–0.02
Kazakhstan	–1.48	–1.42	0.07		–0.61	–0.78	–0.02	–0.22	–0.16	–0.01
Kyrgyzstan	–0.84	–1.25	–0.10	–0.33		–0.73	–0.01	–0.34	–0.09	–0.01
Moldova	–0.79	–1.21	–0.10	–0.31	–0.60		–0.01	–0.33	–0.09	–0.01
Russia	–0.48	2.09	3.37	0.25	2.94	2.71		3.40	1.14	0.90
Tajikistan	–0.98	–1.35	–0.10	–0.40	–0.67	–0.80	–0.01		–0.11	–0.02
Uzbekistan	–1.64	–1.18	0.33	–0.75	–0.34	–0.52	–0.03	0.07		0.02
Ukraine	–1.57	–0.36	1.09	–0.68	0.49	0.29	–0.04	0.93	0.06	
All countries in the region	0.62	4.05	5.05	1.11	4.86	4.63	0.06	5.30	1.90	1.11

As we had anticipated, integration mainly benefits small and slow-growing countries. Integration with Russia is beneficial for all countries except Azerbaijan which is growing exceptionally rapidly. Desirable partners for Belarus are Ukraine, Uzbekistan and Kazakhstan; for Kyrgyzstan, Uzbekistan and Moldova – Ukraine; for Tajikistan – Ukraine and Uzbekistan; and for Ukraine – Uzbekistan. Russia does not benefit from integration, and shows a slight slowing in the rate of growth of its GDP.

The inability to demonstrate any benefit using the above model should in no way be viewed as a demerit. Firstly, we take into account a very limited range

of growth factors; secondly, we ignore all other objectives of integration even though these may also be desirable; and, thirdly, we do not analyse integration of many countries. Russia derives a 0.06 percentage point increase in its GDP growth as a result of integration with all nine countries in the region (and this is beneficial to all the stakeholders). It would appear that, in order to generate significant growth, the vast Russian market needs a relatively large partner, and this role is now being assumed by the whole region. The results of our analysis lead us to question the advantage of bilateral initiatives over multilateral ones. The former may seem more realistic, but will they really provide Russia with the desired return in the longer term? In our calculations, however, the whole region represents a "fake" partner for Russia; if it were "real", the regression coefficients and, accordingly, the results, would be different.

* * *

In this paper we attempted to study the effects the size of an economic space has on its economic growth. These effects are not uniform: large economic spaces have their advantages and disadvantages. Globalisation does not necessarily limit the advantages of large economies; it changes the nature and range of opportunities available to both large and small regions to accelerate their economic growth. We have analysed here only the overall economic dynamics, ignoring the effect that integration has on the rate of growth in particular areas of an economic space, or in particular industries. We have also ignored the problem of convergence. The performance of an economic space is determined not only by its size, but also by the way it is organised. We have defined here six organisational models which can be found in different parts of the world, including the post-Soviet countries. The efficacy of each model depends on its ability to support a full-scale integration project, avoid the trap of quasi-integration, and maintain the required balance between market exchange and redistribution. Finally, we attempted to provide a quantitative assessment of the size effect produced by the integration of particular pairings of post-Soviet countries. The latter, of course, is a simple statistical exercise and not a tool to be used to formulate recommendations; however, we believe that such a preliminary assessment may be of interest.

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