

Uneven urban resilience: the economic adjustment and polarisation of Russia's cities

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Introduction

The multidimensional processes of transition to a market economy have produced a radical rupture to the previous development of Russian cities. Many factors driving urban change under the Soviet system, both of ideological and material nature, have lost their legitimacy or significance under the capitalist regime of accumulation and regulation. Thus, no longer perceived as a purpose-built machine for a meaningful evolution to a fair and egalitarian communist society as before, each city has been exposed to the ideology of the free market and pushed to acquire a new niche in the nexus of global and local capitalist flows. Not all cities equally succeeded in this endeavour. Indeed, already under the conditions of general economic disorganisation and harsh economic downturn introduced by the poorly performed neoliberal reforms of the early 1990s, different urban regions started demonstrating divergent trajectories of their economic performance, including severe marginalisation and peripheralisation by some and more successful adaptation by others. Those processes of initial spatial differentiation have proven to become self-perpetuating even under the conditions of 'restorative' growth experienced in Russia between 1998 and 2008, as well as the ensuing period of more bumpy economic growth.

In this chapter we review those processes of inter-urban differentiation from the perspective of uneven urban economic resilience. The term resilience, which originated in ecological studies (Holling, 1996), has become widely used in urban and regional studies, where it denotes socio-spatial processes of various nature and context, including those interplayed with regional and urban economic change (e.g. Pendall et al., 2010; Hudson, 2010; Bristow and Healy, 2013). Despite some important criticism of the term due to its naturalistic origin and certain ambiguity, its value lies with the lack of dogmatism in its application in social sciences and its openness to analytical specifications within the larger interpretive quest to understand the ability of systems to respond to uncertain, volatile and rapid change (e.g. Simmie and Martin, 2010). Here, we employ the term urban resilience not as a quality of urban systems (of being resilient or not) but rather as relative coping dynamics - our key question is what factors and processes determine relative urban adaptability in face of the radical systemic changes associated with post-socialist transition. Following Pike et al. (2010), we operationalise the idea of *uneven urban resilience* to explicate the structurally uneven processes of spatial economic adjustment. Here, we should not simply understand the varied adaptive capacities of urban systems, but also expose the interplay of local conditions with the very politico-economic system that both begets the shocks of transition and determines the very urban capacities to adjust to those shocks (MacKinnon et al., 2009; MacKinnon and Derickson, 2012).

Thus, while trying to understand the local factors of uneven urban resilience and spatial polarisation, we also need to decipher the wider political-economic basis for uneven development and the mutual constitutiveness of the endogenous and exogenous factors (Golubchikov et al., 2014). Generally

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speaking, cities have demonstrated very uneven internal capacities to withstand the shocks of the market reforms and to accommodate capitalist relations. Not quite paradoxically as it may sound, we find that the material structures inherited from the Soviet era have proven to constitute a single major dimension of (uneven) urban adaptability and resilience. In the absence of national redistributive regulation for urban economic development, it is the inherited patterns that, being re-interpreted through a capitalist-oriented economic model, have controlled the levels of growth. Our main argument here is that while there are different endogenous factors differentiating cities' relative performance, they are quintessentially mediated by the new institutional practices (*cf.* Golubchikov et al., 2014).

Urban development under state socialism

During the seven decades under the Soviet rule, Russia experienced a rapid urban explosion. As an important material legacy for the post-Soviet experience, at least two thirds of all Russian towns and cities were established in the Soviet period. From a backward agricultural country with a predominantly rural population, the country transformed itself into urban and industrialised - although the share of urban population (within Russia's current borders) was only 17% at the time of the Socialist Revolution of 1917 this share had reached 74% by the end of the Soviet era. Industrialisation was the key element of the socialist developmental model, while urbanisation was considered a necessary vehicle for rapid industrialisation (Shaw, 1999; French, 1995).

The Soviet state in its late stage of development was characterised by a hierarchically ordered economic space based on national economic planning and rigidly controlled and redistributive accumulation (Musil, 1993). The urban system of the Soviet Union represented well-situated central-place systems with the centre of each administrative level (republic, province, district, etc) providing the necessary goods and services to the lower-order administrative levels, while itself remaining dependant on the allocation of resources 'from above'. The concept of a so-called 'group settlement system' (a normative version of Christaller's central place theory) was elaborated at the beginning of the 1960s to call for planned growth in administratively selected centres with the goal of eliminating existing socio-economic disparities between territorial units (Lappo, 1997). Despite its very purpose, the system itself produced socio-economic variations between the centre and the periphery based on the position of places within this administrative hierarchy, coupled with a political hierarchy of economic priorities.

As a result, somewhat more privileged were the Soviet republics' capitals, major regional centres of administrative functions, as well as strategically important areas (seaports, traffic hubs, military sites, science towns). They registered a continuous increase in the volumes of production and investment. Subsequently, they received large public transfers with respect to all areas of social life, including to fund social and technical infrastructure, provision of goods and services - and thus were also privileged sites for consumption. As a consequence, they were attractive for living and showed rapid population growth, often in contradiction to government policies to constrain the population concentration of larger cities. Meanwhile, the establishment of new towns was also heavily funded and corresponded with major regional industrial programmes - frequently in the areas of energy generation and nature resource extraction and highly specialised towns (so called mono-functional towns).

Relative to these urban groups, small non-industrial and historic towns, medium-sized towns with no administrative or "strategic" functions, as well as smaller settlements in proximity to larger cities were less privileged in terms of public investment and consumers good supply (Brade, 2002). A corollary was somewhat lower standards of living in places where the Western commonsense often resides more affluent groups, including in low-density suburbs and historic towns. For example, the existing stock of individually owned houses, still widespread in smaller towns and suburban settlements, was generally under-maintained and often lacked centralised water supply or sewage systems. The Soviet

expectations of a better life were rather associated with larger industrial cities or well-supplied specialised towns.

Demographic shifts and disparities

As an important proxy for understanding urban economic resilience since the collapse of the system of socialism, relative population change demands some attention. The rate of (normative) urbanization has stabilised in Russia at 73-74% since the collapse of state socialism in 1991, while the urban population in absolute terms began to decline in parallel with the emerging demographic crisis in Russia. However, these national trends hide the crucial processes of re-concentration within the national geography (Eberstadt, 2010, Nefedova and Treivish, 2001). Soviet policy favoured the development of northern and eastern regions that were rich in natural resources. In the post-Soviet period this process has seen a reversal and the out-migration from the north-eastern regions to the south-west has prevailed (Vishnevskiy, 2009; also see maps in Brade, 2002). However, the remaining population in the north and east is spatially concentrated in regional capitals, which provide more opportunity to access economic, social and cultural facilities (Table 1).

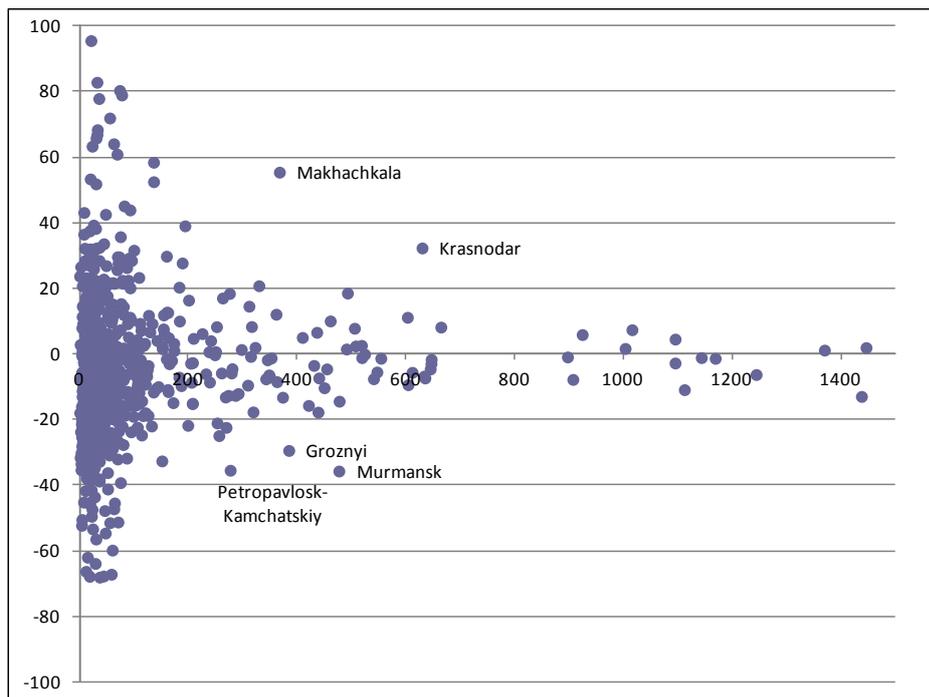
Table 1: Increasing population concentration in regional capital cities, 2002-2010

Federal Districts (FD)	Total population 2002 (millions)	Total population 2010 (millions)	Population change (%)		Share of regional capitals in total population (%)	
			Total	Capitals	2002	2010
Central FD	38,0	38,4	1.2	6.1	45.9	48.2
Central FD excl. Moscow and Moscow Oblast			-5.6	-0.9	33.6	35.3
North-Western FD	14,0	13,6	-2.8	2.2	50.5	53.1
North-Western FD excl. St. Petersburg and Leningrad Oblast			-8.1	-1.4	31.3	33.6
Southern FD	14,0	13,9	-0.8	1.3	26.4	27.0
North Caucasian FD	8,9	9,4	6.3	13.0	20.8	22.1
Volga FD	31,1	29,9	-4.0	-1.1	33.6	34.7
Ural FD	12,4	12,1	-2.4	3.7	27.8	29.6
Siberian FD	20,1	19,3	-4.0	3.1	33.9	36.4
Far Eastern FD	6,7	6,3	-6.0	1.0	33.6	36.1
<i>Russian Federation</i>	<i>145,2</i>	<i>142,9</i>	<i>-1.6</i>	<i>3.3</i>	<i>36.5</i>	<i>38.3</i>

Source: Calculated from the databases of the Rosstat (www.gks.ru)

Furthermore the population dynamic during the recent two decades indicates a continuing trend towards the concentration of the population in larger cities more general. Cities over 500,000 people have been most attractive. The ten most attractive territories combined have received 84% of the total migration surplus, particularly focused on Moscow/Moscow Region (43%) and the St Petersburg agglomeration (15%). For example, Moscow has grown by 30% between 1991 and 2011 (from 8.9 to 11.5 million). Smaller cities and towns demonstrate a more diverse spectrum in their population change trajectories and although many are growing, yet many more are shrinking (Figure 1).

Figure 1: Growing and shrinking cities: population change in 1991-2011 (%) vs. town size (thousands)



Source: Calculated from the Multistat database of the Rosstat

Note: The graph excludes Moscow, St Petersburg and cities with reported growth above 100%. Calculations are based on reported statistics for cities. The growth in population is often due to administrative changes in cities' incorporated territories.

The spatial concentration of the population is continuing. Now, 48% of all Russian citizens live in the two Federal districts, Central and Volga Federal Districts, which constitute less than 10% of Russia's territory. In this respect, migrations to major cities and to economically prosperous regions are characteristic: those regions with the highest population growths are also the regions with the lowest unemployment rate (Brade, 2012).

Apart from Moscow and St Petersburg, as was indicated by Polyan et al. (2005) and re-confirmed by the 2010 Census in Russia, the following groups of cities have been attractive for in-migration (also Brade, 2012; Zubarevich, 2012):

- Centres of oil and gas exploration with large net migration surpluses;
- 'Gateway' cities in border regions (e.g. Belgorod with its new function of a border gateway to Ukraine; Novorossiysk as a new Russian port on the Black Sea; Vladivostok on the Pacific coast; Kaliningrad as the capital city of the westernmost Russian enclave);
- Industrial centres with export-oriented production, particularly steel production and metalworking, that renewed their growth more recently;
- Cities in the North Caucasus, which are growing due to natural increase;
- Cities in the ethnical republics of the Volga Federal District, which are similarly growing due to natural population increases and in-migrations;
- The nominal growth of several cities is caused by territorial expansions.

The population trends already reveal spatially differential abilities to withstand transitional shocks and attract growth - at least in terms of population. However, relative population growth is not always a good proxy for understanding the relative economic performance of cities beyond the scale of particular regions. Economically poorly performing cities may attract migrants because they still offer better opportunities at the regional scale. Furthermore, relative population growth corresponds to the

ethnic concentration of non-Russian peoples, as well as geo-political proximities (e.g. refugees and migrant from Central Asia and the North Caucuses settling in the Southern Federal District).

Uneven patterns of urban economic adaptation

What patterns and factors could, then, characterise the economic resilience of cities and their resultant economic performance?

Brade (2002), based on a joint work with her colleagues, attempted to develop a typology of Russian cities and towns 'according to their development pattern in the course of transformation'. Only one type in their classification – 'small towns with a favourable investment climate' – implied a policy dimension, whereas the others represented inherited elements – such as city-size rank, local economic structure or relative location, which had already been shaped in the Soviet period (if not earlier). Similar observations were made by other authors (e.g. Golubchikov, 2006, 2007; Zubarevich, 2009; Golubchikov and Makhrova, 2013) who highlight that the key endogenous factors conditioning the economic adaptation of post-Soviet cities are their size, administrative status, location and functional specialization. It is in particular human capital and the functions of a city that have contributed most to post-Soviet disparities.

According to Zubarevich (2009), there have been four types of centres of modernisation and economic growth over the past decades:

- Moscow and St. Petersburg city-regions;
- 11 "Millioniki", cities of just under or above one million inhabitants;
- The other cities of more than 200,000 – especially regional capitals;
- Highly specialized cities of certain export-focused economies.

These groups have been proven to be more "resilient" to the economic shocks and changes of transition. However, the processes of modernisation within the cities of these groups are different. Not every city is equally capable of maintaining their human capital or being successful in the competition for human resources; it is rather an interplay of various factors that has determined the outcome (Brade 2002).

The first three types with diversified and agglomerative economies were able to accommodate changes and withstand economic shocks most successfully (Ioffe et al., 2001). As the majority of economic institutions, communication infrastructure, and human capital were concentrated in larger regional administrative centres, it is these cities that have been most successful in attracting capital (of businesses and households). The introduction of direct channels of global-urban interplay have contributed to integrating these cities' into transnational networks and, moreover, "liberated" them from the obligations to assist their "backyard" (i.e. peripheries administratively subordinated to them). They mainly compete with each other for public and private investments and attracting business activity. Yet, among the regional capitals, it is only the largest metropolitan centres that now concentrate headquarters, branches of national and foreign firms, financial services, and have become key hubs for trade, entrepreneurship and innovation. As a result, they have harvested a great deal of the wealth in their respective regions and further afield. Large cities have also become major markets themselves, the proximity to which has become decisive for smaller cities or towns (Golubchikov, 2006).

Moscow, and to some extent St Petersburg, are certainly economically dominant cities in the country (even if oil and gas-rich administrative regions might nominally outperform them in terms of Gross Regional Product). A super-concentration of economic resources gives Moscow a considerable advantage. With 8% of Russia's population, Moscow produces 23% of Russia's accumulated Gross Regional Product (GRP), of which approximately 80% are attributed to the service sector. St

Petersburg yields 4% of Russia's GRP and remains behind Moscow in all aspects. The enormous concentration of investments and finances in Moscow further attracts highly-qualified human resources from every part of the country, along with less qualified migrants from the successor states of the Soviet Union.

The other cities of more than one million inhabitants, although may be considered relatively successful, are well behind Moscow and St Petersburg. For example, their share in the total volumes of retail sales grew from 11% to 15% in 1998-2008, but Moscow's share in 2008 alone was 25%. The smaller population and often higher bureaucratic barriers compared to Moscow and St Petersburg limit the interest of potential investors. Having said that, central business districts have been growing there recently with modern offices, trade and multi-functional locations, which are mostly fuelled by Russian internal investment. Nevertheless, local governments still perceive industrial enterprises as the most important resource for cities' economic development (Golubchikov, 2007; Makhrova, 2013).

A fundamental factor for economic resilience is the level of education and the accessibility of educational opportunities. Interestingly, the population in those administrative regions of Russia that have cities of more than one million is not necessarily distinguished by a particularly large proportion of highly qualified labour (with university degrees). That proportion is less than 25% in all areas, but is especially low in the Volga and Ural Federal Districts. This is due to the over-industrialisation in these regions during the Soviet era, when mostly skilled labour was needed. Its large ratio characterises the employment structure to this day. Only Moscow and St Petersburg have a ratio of highly qualified workers of 42-43% (Zubarevich, 2009). The two Siberian academic centres Tomsk and Novosibirsk are also above-average, with, respectively, 36% and 32% of their employees having a university degree.

While cities' administrative functions already played a significant role in the socio-economic development during the Soviet period, the political decentralisation during the 1990s has further enhanced the significance of this factor. This makes a growing gap between the levels of wages in the regional capitals and the rest of the region (Table 2).

Table 2: Wage levels in the regional administrative capitals relative to their regions (%)

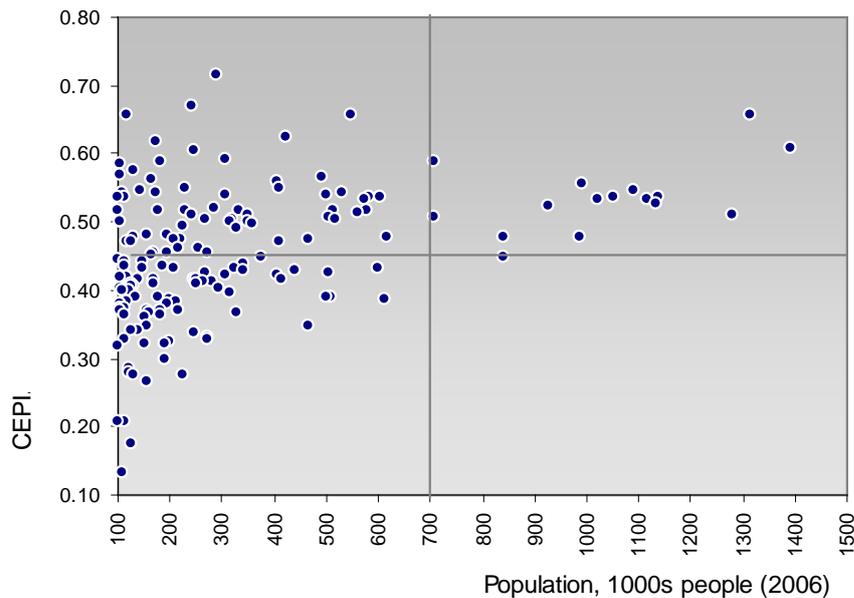
Regional capitals with population:	1990	1998	2009
> 1 Million	102	117	126
500,000 -1 Million	101	118	124
250,000-500,000	103	120	120
100,000 - 250,000	102	116	121
< 100,000	112	132	122
All	103	119	122

Source: Zubarevich, 2012

Note: the subjects of Tyumen, Moscow and St. Petersburg are excluded.

However, beyond the larger and administrative centres, the situation is not straightforward as can be illustrated by a quantitative analysis of the relative performance of Russian cities measured by CEPI - Comparative Economic Performance Index (as reported by Golubchikov et al., 2014). Although it only compared cities larger than 100,000, which are already 'large enough' and many of which serve as regional administrative capitals, the analysis revealed some interesting correlations. For example, Figure 2 demonstrates that, while there is no robust linear correlation between CEPI and the city size, all the cities above 700,000 performed at least on the average level or better. However, the opposite - that cities below this size would perform worse - does not hold; smaller cities may still perform well economically.

Figure 2. The CEPI of cities of different size



Source: Golubchikov et al., 2014

Note: Moscow and St Petersburg are excluded from the graph.

For example, capital investment - a fundamental indicator for the economic attractiveness of cities - does not correlate with the size of the cities. In 2011 per capita investment exceeded the national average only in 40 out of 167 cities of 100,000 or more. The highest levels were registered in cities located in the northern regions that exploit mineral resources, which are often relatively small in size. Otherwise, investments are increasingly concentrated in a few centres. Beside the urban agglomerations of Moscow and St Petersburg, it is the cities hosting major events, such as Sochi and Vladivostok, as well as the highly specialized cities with large industrial companies such as Nizhnekamsk (which builds yet another petrochemical plant) or Lipetsk (with the new establishment and modernisation of steel companies) that attract large volumes of investments.

As also affirmed in regional economic literature (Van Selm, 1998; Hanson, 2000; Hanson and Bradshaw, 2000; Popov, 2001; Ahrend, 2005), it is ultimately the inherited functional specialisation of the regions and cities that matters most for their economic resilience. Particularly, it is the industrial legacy that has substantially contributed to the differentiation of cities' economic fortunes under the transition despite the changing nature of the economic relations between economic actors and a general shift to service employment, away from manufacturing. As the Soviet city relied heavily on industrial enterprises, the structural crisis of the 1990s resulted in the disruption of particularly those urban economies which lacked 'breadwinning industries' - usually export-oriented. Thus, areas that were 'fortunate' enough to inherit industries that were competitive in the market fared better than others. Yet, cities that were unfortunate to inherit uncompetitive industries and an undiversified profile (e.g. textile-region Ivanovo), have been hindered by severe economic and social problems and increasing peripheralisation. The crisis after the collapse of the socialist economic system was especially acute in those places of mono-structural and inflexible economies that could not compete on the national as well as the international market (Lipsitz, 2000; Shvetsov, 2002).

The divergent pathways of mono-functional towns

Mono-functional cities are those, where more than 25% of employees work in one large company or in a group of enterprises in the same industry. It is officially acknowledged that 335 cities and towns

in Russia (out of 1090 in total) meet this criterion (with approximately 25% of the urban population and 40% of the aggregate Gross Regional Product). More than a third of them were developed in the Soviet era as settlements around new industrial establishments. Most of them are located in the old industrial areas along the Volga, in the Urals, and in the Far North. They were once the most flourishing cities of the Soviet state, which offered relatively good salaries and consumer goods' supply, as well as local social infrastructure and attracted human resources. The existence of the highly specialized mono-towns is extremely vulnerable in today's economy exposed to the fluctuations in the world market prices. Particularly cities dependant on large-scale enterprises in machine engineering and the textile industry have experienced dramatic economic and societal collapses as the state retreated as the organizing agent of the sales market. In the 1990s, the new owners of the corporations, which had production capacities in such cities, began to "optimize" their costs, leading to large redundancies. The working-age population of these towns has primarily migrated, the remaining aging population tries to survive on a subsistence economy. This situation contributed to the processes of a 'ruralisation' of such towns (Turgel, 2010; Lubovnyy et al., 2004).

Out of the 335 mono-towns, approximately 150 are considered more or less successful with combined 12 million inhabitants (9% of the national population); they are associated with various large enterprises (Ustinov, 2012).

The transformation to private responsibility was less dramatic in cities, whose industries could compete at the world markets, such as the cities that extract mineral resources or those that produce aluminium, cellulose and fertilizer. Their success was based on relatively cheap production conditions and often limited expenses for environmental protection. The development of their human capital and social milieu largely depends on the major enterprise's strategy, and cannot be considered sustainable.

One specific group of mono-towns includes the formerly secret military industrial towns (ZATO) and the scientific towns (naukograd), about 70 settlements in total (Makhrova, 2013). The political transformation, the de-militarisation and the restructuring of the economy limited state financial support and induced a deep crisis in these settlements. Only some could specialise in "marketable" sectors, such as nuclear power, space research, recycling radioactive waste. For these, the opportunity to preserve and develop the scientific capital is more plausible, especially for those situated far enough from Moscow to be drained of human capital. These towns are typically transforming their scientific functions into a "technopolitan" structure based on a combination of their R&D capacities and related small and medium-size firms.

The primacy of the political economy

It is clear from the preceding discussion that the relative performance of Russia's cities over the transition period has been much conditioned by their economic structures existing at the beginning of the post-Soviet transformation, paired with certain features of the geographical environment. Thus, the resilience of post-socialist urban economies, being considered in total and in a particular national-regional context, needs to be seen in the light of the circumstances passed on from the previous planned-economy era. The market regime does not supersede these endogenous circumstances but, on the contrary, firmly interacts with them, although modifying their very influence on development in accordance with broader exogenous shifts (Golubchikov, 2006).

However, a question of a more deep-seated nature emerges as well: why is it in the first place, that spatial inequalities have been on the rise since the collapse of socialism and why is it that they have been sustained at a high level. The key to spatial disparities needs to be sought in the emergence of a neoliberal geo-politico-economic regime of regulation and accumulation and its essential difference from the spatio-economic practices of the socialist regulation system (see Golubchikov et al., 2014).

Although the focus of the socialist development was on the real sector of production, city of socialism, at least where socialism took its most advanced forms such as in Russia, played the very

important role as a social contract - providing the decent quality of life to working people in exchange for their labour and added value in the production process. This philosophy has been antagonistic to the capitalist logic of profit-making. To all the discussion whether cities of socialism and cities of capitalism were different or not much, they were bound to the very different ideology and logics. The current change is part of a shifted relationship between state and capital, politics and economy. Urban development cannot be looked at independently from the political-economic situation, which is characterised by a globally connected, neoliberal variation of capitalist development (e.g. Pickles and Smith, 1998). Both political impulses radiating from the administrative centres of sub-national, national, and even supra-national levels and socio-economic processes accrued at the scale of these levels have their formative impacts on how the internal socio-economic composition of post-socialist cities is being (re)shaped and how cities have re-situated themselves externally in the new space economy. All cities in Russia, irrespective of their initial socio-economic conditions or internal aspirations, have had to adjust to the political and economic challenges associated with transition.

The Soviet economy was based on the nationwide vertical coordination of flows of capital, knowledge, technology and resources, which redistributed these in a relatively equal fashion. The disruption of that complex system, coupled with breaking production relationships, necessitated the establishment of new linkages. Moreover, the imperative of competition was introduced, making the former nation-wide cooperative and supplementary economic mechanisms suddenly irrelevant. However, under the new order each city capitalised on, its own spatio-economic inheritance. It is precisely because of the replacement of the principle of egalitarian re-distribution with the neoliberal principle of self-reliance that local conditions began playing such an important differentiating role with regard to inequalities. This shrinkage of Russian cities to the internal spaces of self-reliance was also aggravated by trade liberalisation and other processes associated with the neoliberal imperative of 'globalisation'. These processes further partitioned economic space along the discriminating lines of 'international competition' and 'accessibility to the world markets'. Clearly, export-oriented industries and industries based on shorter production chains, as well as merchandising services became immediately privileged, so that either cities with particular specialisation or those controlling financial flows have been most advantageous.

Conclusions

With the level of urbanisation in Russia of 74%, urban places bundle much of the country's economic potential. The polarisation of cities, including new patterns of centrality and peripheralisation, reflects the economic development of Russia as the whole. A growing concentration of investments is a condition that has been significantly exacerbated since the start of market transition. After the dissolution of the command-administrative system, cities became atomized in their struggle to cope and were forced to compete rather than to complement each other within the national economic planning system. The state of unevenness has been accelerated by the articulation of the neoliberal geo-politico-economic regime of accumulation and regulation. The canons of state regional policy have also been transformed, with the state now being engaged in new formats of territorial development, which actively or passively privilege some places and penalise others (Golubchikov, 2010; Golubchikov and Slepukhina, 2014).

For most of the cities, it has taken a long time to adjust to this new regime and, although some cities have been retrospectively more "resilient" to the challenges of transition, many remain or have become marginalised. Although disproportions in living standards surely existed in the Soviet period, during the recession of the 1990s they were exacerbated and assumed a clearly more monetary dimension. Those cities that have integrated into the globalisation processes have been most successful, such as the large urban agglomerations, export-oriented centres (which have become the global economy's raw-material periphery) and transport hubs. On the contrary, the centres of the least developed administrative republics, many remote northern cities, as well as import-substituting manufacturing centres of the European part of the country remain more "closed" with respect to

globalisation, illustrating new patterns of asymmetric access to economic wealth and growth in a neoliberalised world.

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