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Third, while Russia has sought to promote sustainability interests by reducing the energy intensity of GDP through energy saving, improving efficiency, and encouraging the development of renewable energy, Russian business community is divided on the control of GHG emissions. Green initiatives such as carbon tax face opposition from powerful industrial groups because of their alleged negative impact on socio-economic interests and profit interests of many industrial sectors. In the broader sense, while Russia has sought to align its strategic goals with global sustainability trends, it remains a passive taker of global norms. Russian leading conservative thinkers, in fact, question both the philosophical roots and practical implications of these norms in their critique of environmentalism and opposition to the post-industrial direction of economic development (Remizov et al. 2014).

We suggest that these apparent contradictions in Russia's economic development model are rooted in two fundamental antinomies of Russian modernisation. These can be understood as tensions which define the structural constraints and action frames of various agencies in contemporary Russia. The first one relates to the ambiguous role of natural resources in Russia's economy or, specifically, the role of hydrocarbons as a blessing and a curse. On the one hand, the export of oil was the main generator of wealth in Russia in the 2000s, which enabled diversification policies in the first place. On the other hand, the dependence on global oil prices challenges Russia's traditional heavy industry.

The second antinomy pertains to the contradictory growth models of the neoliberal vs. developmental state model. Since the 1980s, the economic catch-up strategy of various inter-state organizations<sup>14</sup> builds on integration with the international economy. This neoliberal strategy focuses on exchange, not production and presumes the international economy is a fully open system. Yet in practice, very few non-Western countries have become 'developed' over the course of the past two centuries (Wade 2018, 537). In other words, there is something analogous to a 'glass ceiling' or 'middle-income trap' in the world economy. At the same time, the experience of the East Asian economies suggests that a developing country can sustain upward momentum through the middle-income range by government activism beyond neoliberal limits. In this developmental state model, the government takes a much broader market-steering, 'societal mission' role which may or may not succeed (Wade 2018, 539).

Our analysis has emphasized these fundamental antinomies of Russian modernisation process and how competing actors and interests in Russia 'negotiate' the associated structural constraints. Specifically, we discussed the emergence and evolution of Russia's development model in terms of major turning points structuring Russia's modernisation choices, both of which were related to changes in oil prices. In terms of our structuration theory, we observe how a key structural factor such as a price advantage was linked to the rouble's depreciation, and was simultaneously shaped by prior foreign policy choices, facilitating a shift toward a broad diversification strategy. In turn, this reinforced the earlier shift toward a more development-oriented economic policy. This shift has also been facilitated by the narrowing of the available policy choices since 2014, which has heightened the vulnerabilities and risks associated with up-to-now viable resource-driven growth model. The risks pertain not only to the resource orientation of the economy per se but to an entire spectre of neoliberal policies, which according to their critics make the Russian economy highly vulnerable to destabilization by external powers. An ongoing effort to reduce these vulnerabilities comprises some de-dollarization, accumulation of gold reserves to back the rouble, and coordination of efforts with BRICS and SCO countries to create a new financial architecture. As of 2018, Russia has partly replaced external funding through increased share of state funding, helping banks to

lend to enterprises, particularly in agriculture but also other sectors. At the same time, raw materials and semi-processed goods continue to drive investment in Russia (World Bank 2018).

Applying the structuration approach to the analysis of Russian modernisation, we stressed the interrelationship between the fossil fuel based choice and diversification and showed the range of policy options that oscillate between the two. On the one hand, Russia has pursued the narrow diversification *strategy* based on its existing comparative advantage in the resource sector but moving up the value chain for example in terms of efforts in the oil product and LNG markets. This strategy has also more widely focused on energy- and resource-intensive commodities in such industries as basic metals, refined petroleum, and nuclear industry. On the other hand, broader diversification efforts have concentrated on, firstly, modernizing lagging priority sectors that form the core of global innovation for local markets (aviation, shipbuilding, automotive, and pharmaceuticals) and, secondly, building a knowledge-based economy with an emphasis on global innovative technologies (the ICT, medical, precision, and optical industries). In terms of product diversification, Russia's policies have focused on expanding exports to the EU beyond oil and gas and in terms of geographical diversification, gradually shifting exports away from Europe and toward China and the rest of Asia. Yet the challenges of entering nontraditional markets with a diverse and stable mix of products have underscored the importance of first developing such a mix for domestic and regional markets, with an emphasis on technological convergence and integration within the EAEU.

Overall, our analysis suggests that for all the apparent contradictions of its development model, Russia has pursued a surprisingly broad range of diversification policies. While the early diversification efforts of the mid-2000s focused on the modernization of lagging priority sectors have had some initial success, other initiatives, particularly those focused on global innovative technologies, were more sporadic and became reinvigorated by the import-substitution policy in 2015. This set of policies seeks to develop new products, promoting exports, replacing sophisticated imports with domestic production, and attracting selected portions of global value chains into the national territory.

Furthermore, the emerging developmental state comes with some Russian characteristics. As a countermove to neoliberalism, drawing upon the new Russian conservatism, it has deep cultural, historical, and ideological roots. It is also a reaction to post-Soviet de-industrialization. Consequently, it is highly critical of the post-industrial ideology with its virtualization of technological progress and environmentalism with its calls for zero growth or de-growth. Modernisation, linked to geopolitics and conservative values, is crucial for this movement (Bluhm 2016). This view of Russian modernisation also prioritizes internal over external integration (Wade 2003). In other words, the idea of the self-sufficient 'national economy' (*l'economie-monde*, in Fernand Braudel's classic terminology) is juxtaposed to the concept of the open and highly specialized economy tightly integrated into the global economic system and unable to exist independently. Historically, both in the Soviet and the pre-Soviet period, Russia leaned toward the idea of the 'national economy' (Remizov et al. 2014).

We suggest that the complexity of challenges as well as the interplay of the multitude of competing actors and interests within Russia question the simplified understanding of these developments as top-down 'pseudo modernisation' (Zweynert and Boldyrev 2017), new isolationism and securitization of the political economy (Connolly and Hanson 2016) or climate change denialism. For example, Russia's new conservative movement has questioned the deep philosophical underpinnings of technological progress in its post-modernist version. Drawing on Russia's historical experience in implementing large-scale infrastructure and science and technology projects, it proposes to advance the philosophy of 'big style' in technical progress – returning to the modernist paradigm of 'mastering the elements,' in the context of access to

new frontiers in space and integrated development of the Arctic, instead of postmodern 'invasion of gadgets' (Remizov et al. 2014: 30).

Although we have documented several choices gradually seeking to move Russia away from neoliberalism and with some reservations, also resource dependence, problems related to agency continue to exist. They include the lack of coherent development priorities and internal contradictions in Russia's economic policy. Despite the government's growing attention to industrial policy, Russia does not have an agreed upon list of sectoral and technology priorities (Dezhina 2014, Simachev et al. 2014). In terms of our model, such prioritizations ultimately pertain to the interests the policy actors wish to serve. The business frame centred on oil and natural gas privileges certain interest groups within the society, has ambiguous effects regarding foreign policy interests, and as we have argued, may not be functional in the long term. The broader economic diversification choices in support of reindustrialisation, especially with import substitution policies, can serve socio-economic and sovereignty interests. They can furthermore create new business frames unifying governmental and industrial actors, improving the economy's resilience vis-à-vis the global political economy and at best, attracting support from the citizenry. East Asian developmental states provide some examples here, although the structural constraints Russia faces highly likely differ from those that Asia's developmental states once successfully overcame.

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## Notes

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<sup>1</sup> For commentary, we specifically wish to thank Margarita M. Balmaceda and the editors.

<sup>2</sup> Russian customers pay for natural gas approximately 30-50% of the prices in Europe (Rutland 2015, 7).

<sup>3</sup> The planned completion of the Nord Stream-2 pipeline by the end of 2019 will enable Gazprom to ship 110 billion cubic metres of natural gas per year directly to Germany by passing transit states. However, it is conceivable this capacity will not be enough to cover the full volume of Russian-European gas trade.

<sup>4</sup> In 2017, Gazprom pledged to remove all clauses from its contracts with EU area customers prohibiting re-sales of gas and to introduce regular price reviews and gas pricing linked to Western European benchmark prices to remove excessively high gas prices in the CEE (Commission 2017).

<sup>5</sup> The legal basis for strategic planning was set first with the issue in 2009 of the classified order 'On the Foundations of Strategic Planning,' and later the 'Law on Strategic Planning,' which passed through the Russian parliament in June 2014. A related significant development was the adoption of the federal law "On Industrial Policy in the Russian Federation" on December 31, 2014 (488-FZ 2014).

<sup>6</sup> The objectives vary depending on the type of a special economic zone and range from the development of innovative business and manufacture of high-technology products to tourism and the expansion of transport and logistics systems.

<sup>7</sup> On August 3, 2010, the Government Commission on High Technologies and Innovations approved 'The Procedure for the Formation of the List of Technological Platforms' (Dezhina 2013). In 2012, the Ministry of Economic Development launched the first national program to support clusters (Artamonova and Khrustal'ev 2013). This program entailed the selection of 25 pilot innovative territorial clusters, 14 of which would receive federal subsidies.

<sup>8</sup> As a characteristic example, the Strategy 2020 lacks a chapter dedicated to the vision and objectives of the national industry (Gurova and Ivanter 2012).

<sup>9</sup> Russia's investment-to-GDP ratio is 20% and is among the lowest of the major middle-income countries (Connolly, 2015, 9).

<sup>10</sup> One such reason has to do with the psychological trauma of the financial crisis of 1998 when an uncontrolled growth in public debt and the pyramid of state bonds ended in financial collapse. This psychological trauma restrains the authorities from rash decisions, compelling them to beware of financial risks. However it also hampers development as it makes the authorities excessively timid and leads them to reject new solutions.

<sup>11</sup> During the period of 2002-2012, Russian ship owners ordered and built 90 percent of new vessels at foreign shipyards (Gosudarstvennaya Programma 2012b).

<sup>12</sup> At least three internationally-recognized Russian companies – Rosatom, Gazprom, and Aeroflot – are an exception to this rule, having demonstrated intensive use of corporate foresight tools in developing their innovation strategies.

<sup>13</sup> Total natural resources rents are the sum of oil, natural gas, coal, mineral, and forest rents. They are calculated as the difference between the price of a commodity and the average cost of producing it. To do this, estimates of average unit costs of extraction or harvesting costs are subtracted from estimates of the world price of units of specific commodities. To determine the rents for each commodity as a share of GDP, these unit rents are then multiplied by the physical quantities that countries extract or harvest (Lange et al. 2018).

<sup>14</sup> Exports of agricultural machinery are reaching record levels for the post-Soviet period.

<sup>15</sup> These include the World Bank, International Monetary Fund, the Development Assistance Committee of the Organization for Economic Cooperation and Development, United Nation's development-related agencies and regional developmental banks.