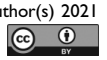
Theme issue article

A Economy and Space

EPA: Economy and Space
2023, Vol. 55(1) 143–164



DOI: 10.1177/0308518X211047599
journals.sagepub.com/home/epn


State capitalism and capital markets: Comparing securities exchanges in emerging markets

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Abstract

Finance plays a major role in discussions about state capitalism in emerging markets, but the focus has so far been on banks. Capital markets have been neglected. Moreover, findings from the growing literature on financialization in emerging markets indicate that in some cases there is increasing state involvement in the development and functioning of capital markets. Hence, the relationship between the state and finance in these economies may be fundamentally different from the picture provided by liberal Western-centric perspectives. Instead of looking at capital markets as uniform entities, we propose to analyse them as variegated – while characterized by common financialization processes, they can be informed by different institutional logics, leading to very different market dynamics and outcomes. We explore to what extent these differences exist and how state-capitalist economies facilitate capital market development. Our comparative institutional analysis of securities exchanges as central parts of capital markets in six increasingly financialized emerging market economies – Brazil, China, India, Russia, South Africa and South Korea – focuses on the degree to which capital markets are integrated into state-capitalist institutions. Instead of mere platforms on which market transactions take place, we analyse exchanges as powerful actors which actively shape capital markets. While in most advanced economies exchanges are situated within an institutional setting informed by neoliberal institutional logic, we demonstrate that exchanges in emerging markets often organize capital markets to facilitate state objectives.

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Keywords
Financialization, emerging markets, state capitalism, capital markets, neoliberalism

Introduction

In recent years, a large literature has re-emerged around the concept of state capitalism. However, the state capitalism category often lacks conceptual clarity. While that fluidity may be useful to deploy the term as a geopolitical category (Alami and Dixon, 2020a), the political economy debate about the exact nature of contemporary forms of state capitalism requires more precision. One way to move towards greater clarity is to focus on distinct features of capitalism such as the financial system, in order to develop more specific conceptual insights, based on empirical evidence.

In theoretical discussions about state capitalism, finance plays a major role; some scholars even suggest that state capitalism emerged as a response to financial globalization as developing countries vowed to decrease their dependence on global capital markets (Carney, 2015; Kaplan, 2016; Kurlantzick, 2016: 87–88). Strategies of state direction of capitalist economies have been debated cyclically since the 1870s (Nölke, 2014). The historical context of these debates were catch-up industrialization, responding to global economic crises and the problems of organizing socialism. Today's discussion on state capitalism is often used to discredit new competitors to European and US hegemony, albeit state-capitalist practices exist across the globe (Alami and Dixon, 2020b: 88–89).

When it comes to contemporary empirical studies on finance, most state capitalism literature focuses on banks. In recent years, however, capital markets have grown rapidly in state-capitalist economies. Yet, in the existing state capitalism literature, capital markets have only been systematically analysed with regard to state ownership of listed firms. Such processes of financialization[1] have often not been a focus of analysis (see the section 'Finance and state capitalism' for a literature review).

The neglect of capital markets in discussions on state capitalism is unfortunate, as especially findings from the literature on financialization in emerging markets highlight an increasing state involvement in the development and functioning of capital markets (see the section 'Finance and state capitalism'). According to this literature, state–finance relationships in these economies are often fundamentally different from institutional arrangements in the Global North. The question then is first, to what extent these differences really exist, and second, how these economies make capital market development compatible with state-led economic coordination. Hence, instead of looking at capital markets as uniform entities, we propose to analyse them as variegated – assuming that different institutional logics can underlie these markets, leading to very different outcomes.

As a first step for a research program in this field, through a comparative analysis, this article develops a typology of capital markets. For this purpose, it heuristically establishes 'state-capitalist capital markets' as an ideal type in juxtaposition to 'neoliberal capital markets'.[2] However, in order to avoid the trap of questionable conceptual dichotomies, it then conducts a nuanced comparative institutional analysis of capital markets and their development in six increasingly financialized and potentially state-capitalist economies: Brazil, China, India, Russia, South Africa and South Korea. The comparison focuses on the question to which degree capital markets are integrated into state-capitalist institutions and how this creates different market outcomes. We demonstrate that these countries are situated on a continuum, with China being closest to the state-capitalist ideal type (and South Africa closest to the neoliberal ideal type).

Concentrating on stock and futures markets as crucial subsets of capital markets, our empirical analysis focuses on securities exchanges. Instead of mere platforms on which market transactions

take place, exchanges are powerful actors in their own right which actively organize these markets (Castelle et al., 2016; Wójcik, 2012). By defining the 'rules of the game', deciding who gets in, what is traded and how trading is conducted, exchanges shape how markets function. As Bernards and Campbell-Verduyn (2019: 783) emphasize, 'power often depend[s] on control over key financial infrastructures' that enable the functioning of financial markets. Rather than the investors who are active within a market, exchanges hence play a much more architectural role for capital markets as they organize, create and control the infrastructural arrangements necessary for their functioning (Petry, 2021).[3]

In most advanced economies, exchanges are publicly traded companies and have to make profitable business decisions to maximize shareholder value; they are situated within an institutional setting informed by a neoliberal institutional logic. We argue that in contrast to these neoliberal markets, capital markets in state-capitalist economies are organized according to a different institutional logic: they are not primarily organized to maximize private profit (neoliberal logic) but to facilitate state objectives (state-capitalist logic). We specifically analyse four aspects of these capital markets: (1) institutional setup; (2) market infrastructures; (3) the purpose of market organization; and (4) integration into global finance.

Our analysis is mainly based on statistical data, policy documents and market rules/regulations. First, the article draws on descriptive statistics on capital markets by national/international financial institutions and financial data providers (Bloomberg/Eikon Terminals). Second, we utilize policy documents, regulatory frameworks and research reports; hereby especially exchange rules and regulations offer crucial insights into market structures and mechanics. Third, contextualising information on capital market developments was gained from global and national news agencies. This data is complemented with a series of initial interviews with financial market participants in London, Hong Kong, Singapore, Shanghai and Beijing. The article is structured as follows: the section 'Finance and state capitalism' discusses the missing link in financialization and state capitalism research. The section 'Capital markets in emerging economies: Between neoliberal and state-capitalist logics' outlines the conceptual framework for studying variegated capital markets underpinned by neoliberal or state-capitalist institutional logic. The section 'Comparative analysis of BRICSS capital markets' introduces the cases and analyses these different institutional logics across the above-mentioned aspects of capital markets. The section 'Conclusion' concludes and develops a research agenda for further empirical, methodological and conceptual advancements of this research.

Finance and state capitalism

Existing research on state capitalism, on financialization and on financial markets in emerging economies does not cover the linkage between state capitalism and financialization in a convincing manner. In recent years, a large literature has emerged around the concept of state capitalism as a central feature for successful catch-up industrialization, economic coordination and national development (for a recent overview, see Alami and Dixon, 2020b). However, when it comes to detailed empirical studies on finance, most state capitalism literature focuses on banks as a means of financing economic growth, which have historically been the main providers of corporate financing for catch-up industrialization in state-capitalist economies. Contemporary analyses of state capitalism still subscribe to the understanding that (state-owned) banks are the main actors in their financial systems (Naughton and Tsai, 2015; Nölke et al., 2020). In the existing state capitalism literature, capital markets have only been systematically analysed with regard to the state ownership of listed companies (Kurlantzick, 2016; Musacchio and Lazzarini, 2013), often via sovereign wealth funds (Clark et al., 2013). Processes of financialization have largely been ignored.

Over the last two decades, a large interdisciplinary research programme has developed around the concept of financialization (for a recent overview, see Mader et al., 2020). While the financialization literature now spans a multitude of disciplines and issue areas, a focus on the role of capital markets still forms its core: markets for longer term capital in the form of both bonds and shares that enable the debt- or ownership-based financing of enterprises as well as derivatives that enable the trading of risk emerging from those investments. Although the process of financialization is broader than the growing importance of capital markets, we will focus on this core feature in our analysis. Within the financialization literature, however, capital markets are often conceptualized as uniform, and divergences between them and their effects are ignored. While the intermediaries that create the financial infrastructures for capital markets have increasingly been investigated, such as clearing houses (Genito, 2019), index providers (Petry et al., 2021), and most importantly, exchanges (Castelle et al., 2016; Petry, 2021; Wójcik, 2012), this is often not linked to broader socio-economic developments. The development of capital markets is rather seen as an emblematic sign of financial globalization and discussions on the growing importance of capital markets often accept the idea that economies become more (neo)liberal through their strengthening. Very often capital markets and their development are (implicitly) linked to a neoliberal policy paradigm (see Karwowski, 2019: 1006–1007). Via the growing role of capital markets, financialization is therefore often assumed to lead to the convergence of national capitalisms (for a critical review, see Maxfield et al., 2017).

While the general financialization literature implicitly assumes that capital markets are based on neoliberal principles, the more recent literature on financialization in emerging markets indicates that this assessment might be misleading. While initially mainly focused on developments in Western countries, in recent years developing and emerging economies have come more into the focus of financialization studies (for an overview, see Bonizzi, 2013). In this literature, many have analysed various elements of financialization in individual countries. The case of China is one of the most examined in this respect, demonstrating how financialization is a variegated process unfolding across all aspects of economic life (for a recent literature review, see Petry, 2020a: 216–217). A common result in these analyses is the pervasive role of the Chinese state in creating and shaping capital markets (Collins and Gottwald, 2014; Gruin, 2019; Wang, 2020). In other emerging markets, financialization processes have also been increasingly scrutinized, similarly emphasising the role of the state and the integration of these economies into global finance such as in India (Chandrasekhar and Ghosh, 2018), Korea (Kalinowski and Cho, 2009), Russia (Viktorov and Abramov, 2016), Brazil (de Paula, 2011), South Africa (Bond, 2013) or Senegal and Ghana (Koddenbrock et al., 2020). However, there is an absence of systematic and theory-led cross-country studies on these issues.

While there are a few noteworthy cross-country comparisons of financialization across emerging and developing countries (Karwowski and Stockhammer, 2017; Kvangraven et al., 2021), these studies analyse financialization across multiple dimensions, mainly relying on general statistical data and without linking these processes to the topic of state capitalism. Other cross-country studies have focused on very specific issues, for instance capital controls (Alami, 2020) or regional bond market development (Rethel and Sinclair, 2014). Capital markets, and especially equity and derivatives markets, clearly are under-researched in comparative studies of financialization in emerging markets and have not been sufficiently linked to the discussion on state capitalism.

Capital markets in emerging economies: Between neoliberal and state-capitalist logics

Financialization processes are not uniform, they are rather variegated and often refracted by national institutional settings that lead to different trajectories (Dixon, 2011; Karwowski and

Stockhammer, 2017). Every economy consists of a set of institutions which create distinct patterns of constraints and incentives that shape and channel actors' behaviours (Zysman, 1994: 245–246). Hence, given the existing institutional structure, a particular institutional logic emerges that is distinct from other institutional contexts (Deeg and Jackson, 2006: 152). So, while functionally all capital markets are characterized by market-based mechanisms of coordination between buyers and sellers, different institutional logics can inform capital markets which shape these markets and lead to different outcomes (Petry, 2020b; see also Dixon, 2020). Arguably one of these logics can be derived from state capitalism.

In order to make sense of the variegated nature of empirical financialization processes in emerging economies, our first step is to construct a heuristical typology in order to guide the comparative analysis of emerging economies (our second step); only based on these two steps, we are able to make empirical claims about the reality of finance in state capitalism. However, in contrast to the most established work on typologies of capitalism (the 'Varieties of Capitalism' approach), we base the development of our typology not on country cases, but on abstract reasoning. The disadvantages of the development of typologies in the 'Varieties' tradition are well-established, for example, the conflation of empirical and normative reasoning, the uneasy co-existence of conceptual and country-focused analysis, the tendency to force real existing economies into overly homogeneous types and the difficulty to make sense of the dynamic development of countries (e.g. Brenner et al., 2010; Peck and Theodore, 2007).

The point of departure for the construction of our heuristical typology is the juxtaposition of abstract models of neoliberal and state-capitalist capital markets, with a focus on exchanges. We assume (1) that the pursuit of profit is a core feature of capitalism. We assume (2) that the concept of state capitalism basically connotes a particularly prominent role of the state within a capitalist economy (of course, no capitalist economy can work completely without the state). Moreover, we assume (3) that state capitalism in the current context can be understood as primarily juxtaposed to neoliberalism, given that the latter has developed as a program against a particularly prominent role of the state. Turning to capital markets more specifically, we assume (4) that the core difference between neoliberal and state-capitalist capital markets is the question whether private agents are allowed to pursue their profit motive without restrictions (neoliberal) or that we can identify state restrictions on the pursuit of profit on the side of private agents, due to certain state objectives which can take very different shapes (state-capitalist).

Importantly, we are using these considerations and the typology built on the latter only as a heuristic in order to be able to systematically study the functioning of capital markets in emerging economies. The nature of the concept of 'state-capitalist capital markets' developed in this article will not be decided by our subsequent typology, but based on our empirical findings (see the section 'Comparative analysis of BRICSS capital markets') in a bottom-up mode. Of course the conceptual work behind the typology plays an important role in guiding the questions for our empirical research on exchanges in emerging economies.

Exchanges play an important role in capital markets as they facilitate different forms of how these markets work by organising the infrastructural arrangements of markets (Petry, 2021). In most advanced economies, exchanges are publicly traded companies that have to make profitable business decisions to increase shareholder value; they are situated within and reproduce an institutional setting informed by a neoliberal institutional logic. The ostensive purpose of capital markets within this logic remains the creation of 'efficient' outcomes by enabling the generation of (private) profit (Davies, 2018: 279; Jessop, 2018: 349), thereby putting a significant degree of trust and power in the collective agency of private (financial) capital actors (Major, 2012). While states are tasked with the role of creating markets in neoliberalism, they should not intervene into these markets once established (Peck and Tickell, 2002; Slobodian, 2018). The state's priority is rather to enable private profit creation instead of other socio-economic outcomes (Chomsky,

1999), cementing the power of private finance capital. These capital markets should therefore be conceptualized as neoliberal capital markets (Petry, 2020b).

Capital markets, however, do not have to follow a neoliberal institutional logic (as discussed in the section 'Finance and state capitalism'). While market-based finance is emerging as an important economic coordination mechanism in many emerging markets (Gabor, 2018), we argue that these capital markets can function significantly differently from neoliberal capital markets. This is because exchanges and capital markets may be informed by a very different institutional logic – that of state capitalism. While profit creation for private finance capital is the primary underlying principle in neoliberal markets, importantly, in the state-capitalist ideal type, the state intervenes into capital markets to facilitate state objectives (Lai and Daniels, 2015; Pan et al., 2020). In state-capitalist economies, less trust is put in free markets but rather in state guidance, whereby 'market forces are utilized' but only 'as long as state control over key economic aspects remains intact' (McNally, 2013: 42). As Petry (2020b) noted, the defining difference between neoliberal and state-capitalist logic is not the existence of markets per se but rather the principles that underlie market organization (profit creation vs state objectives) and the actors that dominate/shape these markets (private finance capital vs state institutions) (also Chen, 2020). Exchanges here organize markets by designing market infrastructures that aim to steer markets by monitoring, regulating and managing the behaviour of market participants towards the accomplishment of certain economic and political objectives – reproducing state capitalism through financial means (Petry, 2020a). While state influence over capital markets is neither absolute nor always effective, a different way of thinking about and actively managing capital markets dominates in the state-capitalist ideal type.

Building on this reasoning, we establish 'state-capitalist capital markets' as an ideal type juxtaposed to a 'neoliberal capital markets' ideal type.[4] This distinction allows us to empirically investigate similarities and differences of emerging market and capital markets across a range of indicators and situate them on a continuum. These include:

1. *Institutional setup*: How exchanges (i.e. market organizers) are governed, by whom they are owned and which constraints and incentives they face matters for how they organize markets. Therefore, we analyse whether/to which degree exchanges are integrated into state-capitalist institutions (e.g. through state ownership, restricted foreign/private ownership) and subject to limited domestic competition or whether they follow a neoliberal logic (e.g. free-float, institutional investors, marketplace for marketplaces).
2. *Market infrastructures*: The institutional embeddedness of exchanges translates into a different organization of markets. How exchanges organize capital markets through financial infrastructures shapes how markets function. We illustrate this by analysing high-frequency trading (HFT). Do market infrastructures enable state control (e.g. limiting HFT) or are they designed to generate private profit by enabling speculative activity (e.g. facilitating HFT)?
3. *Purpose of market organization*: Capital markets play different roles in their respective economic systems and can facilitate different socio-economic outcomes. Focusing on futures markets, we therefore analyse whether, to which degree and how capital markets are specifically directed towards state objectives (e.g. gaining pricing power) or profit creation (e.g. accepting global prices).
4. *International integration*: Individual capital markets are not closed-off national containers but embedded within global financial markets. Importantly, state-capitalist institutional structures must therefore be robust enough to resist pressures from profit-oriented global investors which follow a neoliberal logic. Does the state dictate the terms of foreign investor engagement (e.g. trading/ownership restrictions, capital controls) or can foreign investors roam freely (e.g. no restrictions, free capital flows)?

Together, these four empirical dimensions enable a comparative institutional analysis of capital markets. Of course, these indicators do not analyse capital markets exhaustively. We therefore highlight other empirical dimensions that should be studied in our conclusion.

Comparative analysis of BRICSS capital markets

In order to determine whether central elements of the state-capitalist capital markets ideal type matter, we need to investigate important emerging markets that have undergone processes of financialization and that in theory have at least a minimum presence of state-capitalist features.

Based on these criteria, we comparatively analyse capital markets in Brazil, Russia, India, China, South Korea and South Africa (BRICSS) which are the most important emerging markets that are simultaneously among the top 20 largest futures markets and top 20 largest stock markets globally (see Table 1). From accounting for only 12% of global futures market trading and 8% of global stock market capitalization in 2000, by 2018 these six countries accounted for 54% of global futures trading and 24% of global stock market capitalization. From being virtually non-existent in the 1980s (0–5%), on average their stock market capitalization (% of GDP) more than doubled from 49.8% (2000–2002) to 103.2% (2016–2018).[5]

As the existing literature highlights, these six emerging economies share at least hypothetically some state-capitalist features (Kurlantzick, 2016: 16). China is often defined as closest to an ideal type of state capitalism (Alami and Dixon, 2020b). Similarly, India and Brazil are often defined as state-capitalist countries (Musacchio and Lazzarini, 2013). As a transition economy, Russia enables

Table 1. Ranking of BRICSS in global futures and stock markets, 2019 (source: World Federation of Exchanges dataset, Futures Industry Association dataset).

Country	Futures trading volume		Country	Stock market capitalization	
United States	10.231.459.168	1	United States	36.329.851,9	1
India	7.439.183.951	2	China (incl. Hong Kong)	13.414.739,0	2
China (incl. Hong Kong)	4.225.181.039	3	Japan	6.191.073,3	3
Brazil	3.880.624.283	4	Euronext	4.701.705,2	4
Germany	1.947.144.196	5	India	4.342.484,2	5
South Korea	1.546.717.194	6	United Kingdom	4.182.873,4	6
Russia	1.455.043.932	7	Canada	2.409.098,5	7
United Kingdom	1.341.184.028	8	Saudi Arabia	2.406.819,6	8
Japan	394.841.637	9	Germany	2.098.173,9	9
Turkey	387.996.034	10	Switzerland	1.834.453,3	10
Australia	273.316.120	11	Scandinavia	1.612.577,0	11
Taiwan	260.765.482	12	Australia	1.487.598,5	12
Singapore	241.235.563	13	South Korea	1.484.840,3	13
Argentina	210.135.523	14	Brazil	1.187.361,7	14
South Africa	156.862.691	15	South Africa	1.056.341,4	15
Canada	116.176.054	16	Spain	797.285,8	16
Thailand	104.521.995	17	Russia	791.519,4	17
Spain	44.920.848	18	Singapore	697.271,3	18
Israel	35.560.572	19	Thailand	569.228,3	19
United Arab Emirates	24.568.031	20	Indonesia	523.321,9	20
Total	34.370.973.433		Total	93.888.608,7	
BRICSS	18.703.613.090	54.4%	BRICSS	22.277.286,0	23.7%

BRICSS, Brazil, Russia, India, China, South Korea and South Africa.

a comparison with China's divergent path towards a market economy (Viktorov and Abramov, 2016). South Korea is an important case as it is often still considered an emerging market (in contrast to e.g. Japan)[6] but mostly analysed as a developmental state, that is, part of a second wave of state capitalisms, in contrast to the third wave BRICs economies (Nölke, 2014). Adding South Korea to the analysis therefore helps to establish whether state capitalism is specific to newly emerging markets. Finally, South Africa is at most a hybrid case of state-permeated capitalism (Nölke et al., 2020: 202). By analysing South Africa, we can distinguish whether our ideal type also holds for somewhat more neoliberal-leaning emerging economies.

Institutional set-up: Private or public ownership?

How exchanges are governed, by whom they are owned and which constraints and incentives they face influences the kinds of markets that they create. In neoliberal markets, exchanges are *profit-oriented corporations* mostly owned by international investors, subject to fierce competition and with a mandate to generate profit. By contrast, in the state-capitalist ideal type, exchanges are (partially) *state-oriented entities* and foreign ownership of exchanges is restricted (see Table 2).

In China, for instance, exchanges are fully state-owned. And while exchanges are listed in the other five cases, Korea's Exchange (KRX) was until recently a designated 'public institution' and today its shares are not freely tradable but divided between (mostly Korean) brokers while foreign ownership is very limited (9%). For Russia's Moscow Exchange (MOEX) and the National Stock Exchange of India (NSE), state institutions (central bank, national development banks, etc.) are the largest single shareholders (~30%) and only around half of the shares are in free-float and can be publicly traded. Consequently, foreign institutional investors hold only 19% (NSE) and 12.4% (BSE) in India but 58% in Russia with no foreign shareholder owning more than 6% of outstanding shares. In Korea, Russia and India, foreign ownership is capped to prevent foreign control, and state institutions have substantial ownership stakes. In contrast, state ownership in Brazil (none) and South Africa (20.5%) is smaller/non-existent, whereas foreign ownership is extensive with 92.5% and 61.6%, respectively.

Resulting from such different ownership structures, exchanges in state-capitalist markets also occupy different positions within national financial systems. While neoliberal exchanges are subject to market pressures themselves, state-capitalist exchanges are shielded from external competitors while internal competition from other trading platforms is often limited. Off-exchange transactions (alternative trading systems/ATS, dark pools, etc.) are largely prohibited in state-capitalist markets, concentrating trading activity within one/few centralized exchange(s) whereas neoliberal markets are increasingly fragmented (Mattli, 2019). In fact, off-exchange trading is prohibited by law in China, Korea or India (IOSCO, 2010; MSCI, 2020), while in South Africa the only dark pool is owned by the Johannesburg Stock Exchange (JSE) itself (Jooste, 2019) and off-exchange trading in Russia is negligible (Khrenov, 2021). Instead of market players fighting for their survival in a 'marketplace for marketplaces' (Castelle et al., 2016), state-capitalist exchanges have considerable authority as well as more power over and within their markets. As one interviewee noted with respect to exchanges in Korea, Taiwan and China:

> Growing up in Asia, I was of the impression that the exchange is at the top of the food chain. But after joining [a neoliberal exchange], I found that exchanges in Europe are quite different, they are not at the top of the food chain, actually it's probably the other way around, haha. […] But in Asia exchanges have much larger power in terms of pushing those brokers or market participants to do what they want to do.[7]

Exchanges in state-capitalist markets are much more entangled with state institutions, especially regulators. In China, exchanges are owned by Chinese regulators (Petry, 2020a), while other

exchanges and regulators often act in unison as evidenced by India's ban to use stock market data for offshore derivatives (see the section 'Purpose of market organization: Profit or state objectives-?') or a Korean investigation into foreign HFTs (see the section 'Market infrastructures: Speculation or control?'). This different institutional setup of exchanges has important consequences for how they manage capital markets. Instead of profit/shareholder value, the performance of exchanges, their personnel and management is (partially) measured by how they contribute towards certain state objectives (see the section 'Purpose of market organization: Profit or state objectives?'). As the next section demonstrates, exchanges therefore organize market infrastructures that govern how trading is conducted significantly differently in state-capitalist than neoliberal capital markets.

Market infrastructures: Speculation or control?

The institutional embeddedness of exchanges translates into a different organization of markets through market infrastructures. This again shapes how markets function. Do infrastructures enable state control and limit profit-oriented speculative activity or are markets primarily designed to generate private profit? While analysing market infrastructures across six countries is a research project of its own, we illustrate this point by analysing infrastructural arrangements with respect to HFT – the epitomization of infrastructure-facilitated profit-oriented market activity.

Essentially, HFT represents neoliberal markets on steroids – market activity that is purely directed to generate profit in a synchronic manner and largely detached from fundamental assessments or long-term perspectives. To enable this type of activity, market infrastructures are crucial. As McKenzie et al. (2012: 285) noted, in Western capital markets 'a symbiotic relationship' between exchanges and HFT has emerged, as exchanges 'provide the infrastructure that makes [HFT] possible' – by enabling co-location, direct-market-access (DMA), trading speed, multiple order types or order cancellations.

Such purely profit-oriented market activity goes against state-capitalist logic. Rather than short-term profit creation, more strategic, long-term considerations about national champions or national sovereignty are prioritized purposes of market organization (see the sections 'Purpose of market organization: Profit or state objectives?'/'International integration: Global (investor) rule(s) or state autonomy?'). Hence, while existing as part of modern capital markets, financial infrastructures organized by exchanges in state-capitalist capital markets would often curtail HFT to a much larger extent, while neoliberal exchanges would facilitate its development (see Table 3).

HFT has been emerging in capital markets around the world. However, there are significant differences in how these activities are enabled. In contrast to neoliberal markets, HFT in China is very restricted. As Petry (2020a: 220–221) demonstrates, through organising market infrastructures, the exchanges deliberately slow down data speed, implement strict order (cancellation) and position limits, or prohibit certain market activities. As one Chinese regulator stated, these 'infrastructural arrangements [are important] because this is where you can control the market'.[8] Very much in line with state-capitalist logic, China's exchanges/regulators are relatively aggressive in their actions to curtail HFT, especially punishing foreign traders for rule violations (Reuters, 2017).

While more prevalent in Indian markets, authorities have also been eager to regulate HFT for instance by introducing a transaction tax on trading or speed bumps (Mellow, 2014; Meyer and Guernsey, 2015: 180–181). The regulators are sanctioning non-compliance (Business Standard, 2020) and, especially since the emergence of a corruption scandal around HFT at NSE, regulatory scrutiny on HFT has further increased (Narayan, 2021). In Korea, similarly, HFT is quite regulated. As KRX CEO Jung Ji-won noted, algorithmic trades are 'subject to mandatory registration' while HFT activities are generally scrutinized (Chung, 2019). In June 2019, for instance, Merrill Lynch was fined after an investigation concluded that it had destabilized the Korean market and caused

huge losses for retail investors after illegally placing HFT orders (Yoon, 2019). The US investment bank was temporarily suspended for trading practices that would be considered relatively normal from a neoliberal market perspective.

Russia and Brazil, on the other hand have been very encouraging of HFT since the early 2010s. Russia's MOEX, for instance, actively facilitates HFT through extensive infrastructural arrangements such as unfiltered DMA, extensive co-location facilities or easier API access through the FIX protocol (Madan, 2015). Brazil similarly strongly encourages HFT by upgrading market infrastructure to enable faster trading and removing its financial transaction tax (Mellow, 2014). As Andy Nybo, a Tabb Group analyst, noted 'they really have been aggressive in welcoming all types of [HFT] strategies' (Horch and Popper, 2013). Further, Brazil and Russia are especially attractive as '[these] markets are open to foreign investors, and they don't have things like stamp tax that can make it unattractive' (Halime, 2016) as is the case in China (Mellow, 2014). In South Africa, HFT is also somewhat encouraged by the exchange, while the authorities also do not individually regulate HFT, preventing the possibility of constraining it (Schindlers, 2019). In 2012, JSE for instance implemented a faster trading system facilitating HFT, although existing trading rules (e.g. 300 order/second limit) somewhat hamper HFT development (Norton Rose Fulbright, 2014).

Overall, Chinese market infrastructures are most restrictive for HFT, India and Korea also have a more cautious approach, whereas market infrastructures are designed to aggressively facilitate HFT in Russia and Brazil, while South Africa's stance is very ambiguous. As this section highlighted, exchanges can influence trading activities through the infrastructural arrangements of markets. As the next section illustrates with respect to futures markets, exchanges can thereby also direct market outcomes towards profit creation or state objectives.

Purpose of market organization: Profit or state objectives?

Futures are exchange-traded derivatives that enable hedging of and speculating on underlying assets such as commodities or stock indices. Thereby, futures have an important price discovery function. While global commodities are mostly traded over-the-counter, these bilateral trades do not create transparent prices and therefore participants in commodity markets rely on futures to price their assets (Clapp and Helleiner, 2012: 186). A key difference between neoliberal and state-capitalist markets in this regard is an assessment over who ought to create these prices (see Table 4).

From a neoliberal logic which propagates efficiency through free market mechanisms, commodity futures should be traded in one highly liquid marketplace, hence often forming only one global benchmark per product. When, for example, an Indian telecom company wants to buy from a Chilean copper mine, their arrangement is usually referenced to the USD-denominated copper benchmark traded on the London Metals Exchange (LME). Consequently, the trading of futures benchmarks is mostly conducted in New York, Chicago and London, is USD-denominated and dominated by Western financial institutions.

However, from a state-capitalist perspective such a setup is viewed as countering state control or national development objectives. If an emerging market economy wants to import oil, 'even if they do not like the WTI price – there's nothing they can do, they need to use it' because that is the global benchmark.[9] Hence, exchanges embedded within a state-capitalist setting will likely be encouraged to facilitate the creation of alternative benchmarks to gain pricing power and offset such (perceived) disadvantages.

The case of China again follows closest the state-capitalist ideal type. First announced in a 2012 report by president Xi Jinping, 'commodity pricing power' (大宗商品定价权) became a key policy objective in China's financial market internationalization. As one exchange's strategy director

noted: 'They certainly don't want to be a price taker in commodities that they regard as strategic for their economic development when the institutions […] setting that price are in the US'.[10] To gain such pricing power, Chinese exchanges have listed several futures contracts on strategically important commodities such as crude oil, iron ore, copper or gold. As Fang Xinghai, Vice Chairman of the China Securities Regulatory Commission, noted in 2016: '[China] is facing the chance of a lifetime to become a global pricing center for commodities […] it would be a "historic mistake" not to grasp [this] rare opportunity' (cited in Tan, 2017).

Russia and India facilitate similar policies. Since 2015, India's regulator has hence actively promoted the development of agricultural commodity derivatives to support farmers and more recently a bullion exchange – India being the world's largest gold consumer – in order to gain pricing influence. When opening the India International Exchange (a BSE subsidiary) in January 2017, Prime Minister Narendra Modi declared that he envisioned the new marketplace 'becoming a price-setter for at least a few of the largest traded instruments in the world' (INX, 2017). As India's Finance Minister Anurag Thakur noted in July 2019: 'it is high time that we become price setters than price takers'.[11] Similarly, the development of fossil fuel derivatives has been facilitated by Russian authorities, for instance with the launch of Ural crude oil futures on the Saint-Petersburg International Mercantile Exchange (SPIMEX),[12] because Russian oil sold at a discount to global benchmarks. This sentiment was captured by Russia's president Vladimir Putin who noted that 'with the development of exchange trading, it is necessary to form independent national price indicators for […] oil, oil products and gas' (SPIMEX, 2015) – commodities that are vital for Russia's economy.

While not as important, commodity pricing (e.g. for soybeans) is also a consideration in Brazil. However, Brazil's exchange is thereby placing its bets on a cooperation with US-based Chicago Mercantile Exchange (CME). This cooperation follows a neoliberal logic with Brazilian producers already noting that 'the new contract could attract speculators' as it does not encourage actual physical delivery (Mano, 2020). Generally, there is less emphasis by Brazilian authorities to set their own prices, rather accepting CME's global benchmarks. In South Africa and South Korea, commodity pricing is neither an official policy nor facilitated, albeit in contrast to South Africa – which follows a neoliberal logic by simply trading CME's global benchmarks – commodities do not play an important role for the South Korean economy.

A notable aspect where Korea seeks to facilitate national control is with respect to stock index futures, a second less noticeable dimension of futures pricing. KRX does not license its benchmark stock index (KOSPI) to create offshore derivatives, essentially preventing speculators in offshore markets from influencing the stock price evaluation of Korean companies (MSCI, 2020). The only way to KOSPI futures is via cross-listing links with CME and Deutsche Börse (DB) where the Korean counterparts can decide the rules – with CME even suspending the link as Korean rule changes violated neoliberal logic (Agini 2020). China and India similarly place restrictions on offshore index trading after fears that foreign speculation would impact their national stock markets (Petry et al., 2019). In China, there was 'an uneasiness […] at the idea that derivatives on Chinese stocks and instruments can be traded somewhere else in the world with absolutely no control from the People's Republic itself' (Wright, 2006), hence the China Financial Futures Exchange (CFFEX) was specifically created to bring liquidity back onshore (Petry, 2020a: 227). After similar considerations, the offshore trading of Indian stock index futures was forced onto GIFT City, India's new international financial centre (Coutinho, 2020; Mukherjee, 2018). In contrast, stock exchanges in Brazil and South Africa allow offshore trading of their stock indices following a more neoliberal logic (CME, 2015; MSCI, 2020).

As this section already hinted at, individual capital markets are not closed-off national containers but embedded within global financial structures. The following section therefore analyses the relationship between foreign investors and BRICSS capital markets with respect to equity markets.

International integration: Global (investor) rule(s) or state autonomy?

Foreign institutional investors predominantly follow a neoliberal logic, striving to maximize their investment returns. In order to achieve 'efficient' outcomes (via profit creation), the principle of free capital movement is crucial from a neoliberal institutional logic as international investors' ability to withdraw funds functions as a disciplinary mechanism. Hence, in neoliberal capital markets, there are no restrictions on capital flows and investor access.

However, such unfettered access can lead to foreign investors' dominating local stock markets while often also introducing considerable volatility (Bonizzi and Kaltenbrunner, 2018). While completely isolating from global investors is hardly possible nor desirable, we expect state-capitalist markets to be designed in ways to resist pressures from profit-oriented global investors and manage foreign investor access to maintain state autonomy. The more state-capitalist, the more likely global investors are monitored/restricted in their actions (see Table 5).

In China, India and Korea foreign investors have to go through a rather lengthy application process (also MSCI, 2020). Here, foreign investors can only enter domestic capital markets after obtaining regulatory approval as qualified foreign institutional investors (RQFII/QFII, FII/FPI, IRC)[13] or through dedicated investment channels (China Stock Connect, India GIFT City, KRX-Eurex Links). While Russian authorities require foreigners to enter agreements with licensed Russian brokers (which enables a degree of oversights), Brazil and South Africa only register the foreign exchange transactions of capital entering the country, without any comprehensive system. A similar pattern exists for the monitoring of foreign investor trading and ownership. Utilising their existing registration systems, in China, India, Korea and Russia, the exchanges/authorities monitor foreign ownership levels and trading activities (e.g. FIMS in Korea, SAFE/CFMMC in China),[14] whereas no similar systems exist in Brazil or South Africa.

While from a neoliberal perspective, an open, active market for corporate control is an important feature to facilitate shareholder value orientation (profit creation), in state-capitalist capital markets, strategic companies are often protected from foreign control in order to facilitate the creation of national champions. One policy hereby is to restrict foreign ownership in strategically important companies. Foreign ownership for any listed Chinese company is for instance capped at 30% of its (free float) shares. Investments in India's stock market had equally been regulated with foreigners only allowed to hold 10–49% of many listed companies,[15] whereas in Russia foreigners can only own 25–50% of strategically important companies active in media, banking, infrastructures (e.g. railways, pipelines, electricity, telecommunications), commodities (e.g. mining) or with military ties (e.g. weapons, aviation, encryption; Hogan Lovells, 2011). Similar restrictions, albeit with higher investment limits, also exist in South Africa whereas investment into Brazilian and Korean companies is relatively liberalized with only a few restrictions on banking, mining, telecommunication, media and healthcare (Clearstream, 2020; Thomson Reuters, 2020a, 2020b).

These infrastructural arrangements also translate into the actual activities of foreign investors in these markets. In 2019, foreign investors account for 45–50% of trading volume in Brazil, Russia and South Africa, while only accounting for 10–20% in India (NSE), South Korea and China. Foreign ownership of listed stocks equally varies. While extensive in Brazil (43%) and South Africa (52%; Wasserman, 2019), it is quite limited in India (20%; Mirchandani, 2020), Korea (22%) and Russia (25%) while accounting for merely 3% in China (KraneShares, 2020).[16] Overall, whereas Brazil and South Africa are relatively open to foreign investors, Russia and South Korea are somewhat more closed, with India and especially China closest to a state-capitalist ideal type.

Table 2. Institutional setting of BRICSS exchanges (sources: Bloomberg Terminal, Eikon Terminal, exchange websites/annual reports, policy documents).

INSTITUTIONAL STRUCTURE	Brazil	Russia	India	China (mainland)	South Africa	South Korea	state-capitalist ideal type	neoliberal ideal type
ownership structure of exchanges	listed; no state ownership	listed; 30.18% state	listed; NSE-30%, BSE-8% state	fully state-owned	listed; 20.48% state	listed; but not tradable	(partial) state ownership	private ownership
Foreign ownership of exchanges (restrictions)	very extensive; 93.45% (no limit)	extensive; 58% (only free float)	limited; BSE-12.4%, NSE-19% (max. 49%)	none (not allowed)	extensive; 61.59% (no limit)	limited; 8.95% (limit)	none/ limited	very/ extensive
Competition from other trading platforms	no; ATS launch sabotaged by B3	limited; low trading volume	no; ATS forbidden	no; strictly regulated	limited; JSE owns only ATS	no; ATS forbidden	no/limited (market authority)	yes/extensive (marketplace for marketplaces)

BRICSS, Brazil, Russia, India, China, South Korea and South Africa.

Table 3. High-frequency trading in BRICSS exchanges (sources: exchange websites/annual reports, policy documents, financial news).

Market infrastructure	Brazil	Russia	India	China	South Africa	South Korea	State-capitalist ideal type	Neoliberal ideal type
HFT	Strongly encouraged	Strongly encouraged	Encouraged but regulated	Limited	Encouraged; unregulated	Encouraged but regulated	Limited	Strongly encouraged
Non-compliance	Few sanctions	Few sanctions	Extensive	Very extensive		Few sanctions	Extensive sanctions	Few sanctions

BRICSS, Brazil, Russia, India, China, South Korea and South Africa.

Table 4. Purposes of market organization in BRICSS exchanges (sources: exchange websites/annual reports, policy documents, financial news).

Market outcomes	Brazil	Russia	India	China	South Africa	South Korea	State-capitalist ideal type	Neoliberal exchange
Futures pricing (onshore commodity futures)	Limited; via link to CME (soybean)	Yes; focus on fossil fuel products	Yes; focus on gold, agricultural products	Yes; focus on strategic commodities (iron ore, copper, oil)	No; JSE simply trades global benchmarks (CME)	No (but commodities not important)	Yes (state policy to gain pricing power)	No (acceptance of global market prices)
Futures pricing (offshore index futures)	No; index traded on CME	No; but index not licenced offshore	Contained; trading onshore (GIFT)	Contained; trading onshore (CFFEX)	No; index traded internationally	Contained; trading via cross-listing (CME/DB)	Contained (control over prices)	No (acceptance of global market prices)

BRICSS, Brazil, Russia, India, China, South Korea and South Africa.

Table 5. Foreign investors on BRICSS exchanges (sources: Bloomberg Terminal, Eikon Terminal, exchange websites/annual reports, policy documents).

Global finance	Brazil	Russia	India	China	South Africa	South Korea	State-capitalist ideal type	Neoliberal Ideal type
Foreign investor registration	Limited; mandatory, but no centralised system	Yes; investors need contract with Russian broker	Yes; mandatory, centralised (GIFT City, FII/FPI)	Yes; mandatory, centralised (Connect, RQFII/QFII)	No; no centralised system	Yes; mandatory, centralised (IRC system, KRX-Link)	Yes (access is regulated, centralised)	No (access is open, no central system)
Monitoring of foreign trading/stock ownership	No	Yes; foreign ownership monitored	Yes; foreign ownership monitored	Yes; trading/ ownership monitored (SAFE, CFMMC)	No; only for foreign takeovers	Yes; trading /ownership monitored (FIMS)	Yes	No
Foreign trading (% of total volume)	Medium; 47% stocks, 35% futures	Medium; 50% stocks, 48% futures	Limited; 12% stocks	Limited; 10–15% stocks, 1% futures	Medium; 46%	Limited; 19% stocks	Limited	Extensive
Foreign ownership (% market cap)	Extensive; 43%	Limited; 25%	Limited; 20%	Small; 3%	Extensive;52%	Limited; 22%	Small (ownership limits)	Extensive (no limit)

BRICSS, Brazil, Russia, India, China, South Korea and South Africa.

Conclusion

Emerging markets are increasingly financialising as illustrated by the growing importance of capital markets in their financial systems. However, the strategies pursued by China, India, South Korea, Russia, Brazil and South Africa differ markedly with respect to their national capital markets. Of our cases, China is closest to the state-capitalist ideal type, while South Africa as well as Brazil are the most neoliberal in their approach to governing capital markets. Whereas India clearly tends towards state capitalism, remarkably South Korea is also on the more statist side, at least if compared with Brazil and South Africa. Equally remarkable is the case of Russia, often portrayed as dominated by strong state leadership, but more neoliberal with regard to some aspects of its capital markets than some other large emerging economies.

We argue in this article that ordering emerging markets around a typological continuum from neoliberal to state-capitalist logics helps to elucidate these differences. While all countries are capitalist, there is clear variation in the extent to which the quest for private profit is allowed to reign freely in these capital markets. However, profit creation does not have to be the underlying principle of capital markets. The six cases we analyse show that these markets can also be organized to facilitate broader state objectives. This, we argue, is what distinguishes state-capitalist from neoliberal capital markets at its core.

Navigating the tension between overly abstract typologies and empirical fuzziness thus remains imperative. Following Gerschweski's recent contribution to the question of what characterizes a good typology (2021: 18), we maintain that thanks to its parsimony the state-capitalist to neoliberal continuum – understood as moving from capital markets' institutional logic directed towards broader state objectives to mostly securing private profit – helps to explain the specificities of each case and may serve as a heuristic for future research.

Our typology has allowed us to identify the following results in stylized terms: Institutionally, public ownership is much more prominent in those we name state-capitalist. Foreign/private ownership is restricted and national competition between different exchanges limited. Among state-capitalist capital markets, the approach to market infrastructure, in turn, restricts the use of HFT. The purposes they pursue through market organization range from attempts to gain pricing power over key commodity prices by establishing futures markets to containing the international stock index futures trading that might influence their domestic stock markets. In terms of international integration, state-capitalist capital markets monitor stock ownership limits, trading volumes and require investor registration.

Our findings indicate variegation within our case study countries as their positions on the neoliberal/state-capitalist continuum shifts between our categories of institutional setup, market infrastructures, purpose of market organization and international integration. The descriptive stock-taking and typology-building we have engaged with in this article calls for further causal and historical analysis. Thereby, we identify avenues for future empirical, methodological and conceptual research on this subject.

While this article studied several empirical indicators in these four categories, this is by no means an exhaustive investigation and other empirical dimensions should be examined in future research. With respect to institutional setup, state involvement in issuers, investors and intermediaries (broker-dealers) could also be studied. Similarly, as an important capital markets segment, the institutional setup of bond markets, whose structures vary significantly across countries, should be examined in more detail. Other aspects of market infrastructures such as margin financing, short-selling, position limits, order types, collateral rules, market/data access, delivery mechanisms, account segmentation or regulatory monitoring would complement our understanding of how BRICSS capital markets function. Purposes of market organization also span other issue areas such as the creation of national champions, industrial strategy or corporate governance regimes,

maintaining social stability or might extent into rent-seeking, while further analyses could also focus on the success of these activities (e.g. commodity pricing). Finally, further aspects of international integration, such as capital/currency controls, the power and/or separate regulation of foreign investors, the prevalence/role of offshore markets as well as the implications of state-capitalist characteristics of market access for the global financial order call for further investigation.

However, an examination of descriptive statistics, formal market structures and regulations only offer an incomplete, and a more nuanced understanding of the dynamics and drivers of capital market development warrants a mixed-methods approach that also draws upon in-depth fieldwork and qualitative data collection. Through qualitative data, seemingly technical decisions, for example, to alter contract specifications can be contextualized and connected to broader institutional structures, policy goals and actor motivations. Combining both quantitative and qualitative data and using multiple data sources is therefore important to conduct a nuanced analysis of capital markets and remedy biases that stem from single sources. Delving deeper into the recent history and institutional configurations of these cases will allow us to provide more nuance on the specifics of national development and industrial strategies, of the institutional growth models capital markets depend on and thus the specific relation between capital and labour in these countries, or the ways political systems are geared towards rent-seeking activities or their limitation. A dynamic historical analysis will allow us to understand better why particular strategies of insertion into global financial markets were pursued and how this related to interest groups and power struggles within these countries. The policy calculus that has been made by decision-makers about institutional set-up, market infrastructures and the purpose of exchanges can only be fully grasped by relating policies to the domestic and global political economy over time.

What does that mean for a more precise understanding of state capitalism? Our analysis goes beyond '(largely gestural) invocation' of state capitalism as a 'buzzword' (Alami and Dixon, 2020b: 90). Based on abstract reasoning, we put the concept to work and show that using the notion of state capitalism is analytically productive. In that sense, the analysis provides the first elements of a bottom-up theory of state capitalism focusing on capital markets and securities exchanges in particular. Such a theory suggests three things: (1) State capitalism exists not only in China. (2) In state capitalism, capital markets are directed towards broader social and political purposes. (3) There is considerable variegation of this influence across different aspects of capital markets.

As a next step, to understand variations in policy, an explicit engagement with state theory in its institutionalist and materialist forms is necessary, as this will allow to link the social bases and administrative reasons for particular approaches to capital markets development. To what extent the more social character of capital markets is implemented depends on the national power relations into which capital markets are embedded. We thus contribute to a focus on 'the "missing link" of a theory of the capitalist state' (Alami and Dixon, 2020a: 72) by making the next steps needed to theorize the state much more explicit and tangible.

The political and analytical relevance of this field of research is high. In addition to the growing size of their capital markets, some of the case study governments have started to coordinate and create new international institutions such as the New Development Bank or Sino-Russian cross-border payment infrastructures. Therefore, understanding commonalities and differences in how their capital markets function vis-à-vis globally dominant neoliberal markets, is also of growing political importance as their national institutions might eventually impact global institutional arrangements and contest the neoliberal hegemonic project at its core. The state-capitalist way of organizing capital markets might thus present a growing alternative to neoliberalism in dealing with the fundamental contradictions and pressures the global political economy operates on.

Acknowledgements

We would like to thank Adam Dixon, Ilias Alami, Leo Ahrens, Lucie Cadzow, Milan Babic, Simon Linder and Thomas Rixen for their comments and feedback on previous versions of this paper. A great thanks also goes to Robin Jaspert for research assistance.

Declaration of conflicting interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This work was supported by the Deutsche Forschungsgemeinschaft (grant number NO 855/7-1) and the SCRIPTS Cluster of Excellence (EXC 2055, Project-ID: 390715649).

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Notes

1. Following Pike and Pollard (2010: 30), we define financialization as 'the growing influence of capital markets, their intermediaries, and processes in contemporary economic and political life' (also Kessler and Wilhelm, 2013).
2. Neoliberalism is a highly disputed concept and its relationship to the state much more intertwined than our heuristic suggests (Fine and Saad-Filho, 2017). The state is actively involved in neoliberal policy, often in authoritarian ways (Bruff and Tansel, 2019). While we are aware of the abstraction and simplification which our heuristic dichotomy implies, we consider it important for analytical parsimony.
3. While they are another important dimension of capital markets, we do not analyse bond markets in this article. Bond market structures vary across countries, with some bond markets traded on exchanges or similar platforms, while other bond markets are more decentralized. Due to space constrains, such an extensive analysis goes beyond the scope of our article.
4. We focus our analysis on the organization of markets through exchanges; the supply (investors) and demand (issuers) of capital are not the main focus of this article (see Wójcik, 2012).
5. Source: World Bank (2020), complemented with FRED (2020); The observed aggregate trend of rising market capitalization as % of GDP (2000–2002/2016–2018) is also consistent across countries: 30.9%/45.7% (Brazil), 22.3%/40.9% (Russia), 27.6%/77.7% (India), 37.9%/60.5% (China), 142.9%/302.7% (South Africa), 37.5/91.6% (South Korea); three-year averages are used to smooth out yearly fluctuations.
6. MSCI for instance – which in effect controls the definition of what emerging markets are (Fichtner et al., forthcoming: 12–13) – categorizes South Korea as an emerging market.
7. Interview: international department, global exchange (Hong Kong, 5 July 2017).
8. Interview: research department, regulator (Beijing, 12 September 2019).
9. Interview: senior management, commodity trading platform (Shanghai, 22 April 2018).
10. Interview: strategy director, exchange (Singapore, 29 November 2017).
11. Speech at 7th International Convention on 'Building Indian Commodity Market for Job Creation and Sustainable Development Goals' (New Delhi, 13 July 2019).
12. SPIMEX is a Russian commodity exchange; its shareholders are Russian SOEs like Rosneft or Gazprom.
13. China: Qualified Foreign Institutional Investors/RMB Qualified Foreign Institutional Investors; India: Foreign Institutional Investors/Foreign Portfolio Investors; Korea: Investment Registration Certificate.

14. Korea: Foreign Investment Management System; China: State Administration of Foreign Exchange/China Futures Market Monitoring Center.
15. See: https://www.rbi.org.in/fiilist/index.html (accessed: 10 March 2021); albeit limits were relaxed with new regulations in April 2020.
16. All other values: OECD (2019: 14).

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