The Belt and Road Initiative (BRI): What Will it Look Like in the Future?

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\textbf{ARTICLE INFO}

\textbf{Keywords:}
Future scenarios
Scenario analysis
Belt and Road Initiative
BRI
Chinese foreign direct investment/FDI
Energy
Foreign policy
Multilateralism
Globalisation
SDG
Sustainability

\textbf{ABSTRACT}

China’s Belt and Road Initiative (BRI), labelled as the world’s largest infrastructure program, has so far directed investments mainly to energy and transportation networks in Asia, the Middle East, and Africa. Since its launch, the BRI has changed significantly in terms of scale, stakeholders, and investment sectors and continues to evolve, also in light of the COVID-19 crisis. However, so far, there is no systematic and comprehensive analysis of how it might look like in the medium-term future (2035), even though academic literature on the BRI is burgeoning. We address this research gap and apply a scenario method with a $2 \times 2$ matrix, building on insights from ~40 qualitative interviews with representatives from business, non-profit and public sectors from China and BRI countries, complemented by desk research of press and academic articles. We conceptualise the BRI alongside its degree of economic globalisation and multilateralism, which are both impacted by the global pandemic response. We arrive at the four scenarios Asian, Vibrant, Irrelevant, and International BRI. These scenarios show that different development are possible with the BRI’s geographical scope, the investment volumes and sectors, the funding structure, and also the orientation towards sustainability. These post-pandemic pathways of the BRI might help decision-makers in business and politics to prepare their responses and strategies. The scenarios can also inform the academic debate around conceptualising the BRI and provide a qualitative basis for future quantitative impact assessments.

1. Introduction

China’s Belt and Road Initiative (BRI) aims to connect Asia to Europe and Africa via land and sea (State Council of the PRC, 2015b). It has been described as the largest infrastructure program in human history (Kirchherr et al., 2018; Williams et al., 2020) with promised investments of over USD 8000 billion (Hurley et al., 2018) and half of the world’s population as well as a third of global GDP being directly involved (Leverett & Wu, 2017). The proclaimed goal to close the infrastructure gap (Lan & Vu, 2019) would require USD 1700 billion in Asia alone per year through to 2030 (Asian Development Bank, 2017), with FDI still estimated at 70% below potential (World Bank, 2019). Some see the transcontinental initiative as China’s ‘grand strategy’ (Andornino, 2017) that will be a key influence on global infrastructure developments (Wiig & Silver, 2019) or even the whole world order (Miller, 2016; Wang, 2016).

With the initiative described by these superlatives, unsurprisingly, academic literature on the BRI is burgeoning – with a distinct interdisciplinary body of research on the initiative, its objectives, and impacts.

We observe that researchers study a ‘moving target’, given the many changes it has already undergone, particularly regarding the 1) expanding geographical scope, 2) the type of participation, and 3) the focus of investments. We briefly elaborate on these points. 1) Regarding the geographical scope, President Xi Jinping first proposed a new overland ‘Silk Road Economic Belt’ from China to Europe and later added the ‘21st century maritime Silk Road’ from China to Africa and Europe (State Council of the PRC, 2015a). By now, it technically extends to almost every continent (apart from North America) and even space (Oxford Analytica, 2019; Rolland, 2019). 2) What participation entails legally and economically (Hillmann, 2018; Wang, 2019) and who can participate both remain unclear and subject to changes. Qualitative participation levels vary greatly, with the officially 138 countries having signed a Memorandum of Understanding with China (Green BRI Center, 2021b), leaving merely about 55 that have not joined. 3) While the BRI initially started with ‘hard infrastructure’ as investment focus (with the majority of investments in energy, mainly power plants (Gallagher et al., 2021; Sarkar et al., 2018)), it is now hailed as the ‘Digital Silk Road’...
technological forecasts of the BRI in its entirety, but rather only focus on how selected aspects of the BRI might evolve - e.g., transport (Liu, 2019), individual country reactions to BRI (Nanwani, 2019), or social effects, most notably of dams (Hensengerth, 2015, 2017; Urban et al., 2013). Similarly, the mostly qualitative research on COVID-19 impacts on the BRI does not offer thorough descriptions of a potential future BRI - dealing with only singular aspects (Buckley, 2020; Yeo, 2020) or merely immediate instead of longer-term pandemic impacts (Mouritz, 2020; Pzyzhikov & Gushchin, 2021; Ye, 2021a); or not focussing on the BRI but rather on related issues like China’s outward FDI (Duan et al., 2020) or future global role (Akon & Rahman, 2020; Hübner, 2020; Schindler et al., 2020) (cf. Section 2 and 4).

Hence, so far, there is only limited and ‘sloshed’ research on how the future BRI might look like, focusing on selected aspects, methods, or transitions and not at the BRI in an exhaustive manner. None of the articles provide a qualitative description of what the entire BRI could look like in the medium-term future (~15 years from now), i.e. conceptualising a future BRI in its entire geographical and sectoral scope as well as financial and political scale. Therefore, this paper’s research question is: how may the BRI develop in the future, given its economic and political context? This paper aims to give further richness to qualitative works, to include COVID-19 impacts into future thinking, and to do the conceptual groundwork for those, for instance, who aim to quantify the future impacts of the BRI. We also hope to contribute to the broader discourse around what the BRI is and might be. Insights in possible BRI future scenarios may also help policymakers and businesses worldwide anticipate developments to prepare their responses and strategies. We will do this by considering the rapidly altered global political and economic conditions as well as a broad range of views and expertise from interviews and press articles.

We present the first study to date on BRI future pathways in a post-COVID-19 world, having conducted ~40 interviews with experts from the private, public, non-profit, and academic sectors, supplemented with desk research. We describe four distinct, stylised scenarios as possible futures of the BRI at 15 years into the future. The remainder of this article presents the background of the BRI (Section 2), the methods adopted to address the research question (Section 3), the results with our scenario narratives (Section 4), and a discussion (Section 5) as well as a conclusion of our work (Section 6).

2. Background

We first enhance our understanding of the BRI’s complexity and past evolution by describing its complexity and the controversies surrounding it, including possible objectives of the BRI, before reviewing how other factors (among them, the pandemic) could change its course in the future. It is often pointed out that the BRI does not have a clear-cut strategy, official list of projects or formal map (Brakman et al., 2019; Sarsenbayev & Verón, 2020). The official documents merely states the BRI consists of the ‘belt’ with six ‘economic land corridors’ and the ‘road’ of sea routes connecting major ports (State Council of the PRC, 2015b). China does not disclose aggregate investment volumes, but according to the Green BRI Center, it has spent USD 755 billion on BRI projects (Nedopil, 2020). However, other sources see it as only the third leading country in outward FDI with only USD 117 billion spent in 2019 (Statista, 2020). Historical comparisons illustrate the perceived relevance of the initiative, such as the silk road (Dunford & Liu, 2019; State Council of the PRC, 2015a, 2015b) and the Marshall Plan (Shen & Chan, 2018; Zeng, 2017, 2019). The Chinese discourse mainly rejects the latter comparison due to the BRI’s larger scale and economic stimulus (Chen, 2014; Enderwick, 2018) as well as differences in world order (Kozul-Wright, 2019; Shen & Chan, 2018), initiative design (Zeng, 2019) and intentions (Shi, 2016; Wang, 2019). The fluidity of the concept leaves room for interpretation (Bitabarova, 2018) and gives rise to controversies on underlying motivations and objectives.

While the official overarching goals of the BRI are stated as policy coordination, connectivity, trade, and financial integration as well as ‘people-to-people bonds’ (State Council of the PRC, 2015b), researchers discuss many possible motivations: one strand looks at economic reasoning, e.g. solving the problem of overcapacity in heavy industries and excess foreign reserves (Wang, 2016; Wuttke, 2017), China’s GDP slowdown over the last decade (Huang, 2016; OECD, 2019), development of its Western provinces (Gibson & Li, 2018), economic re-structuring and technological advances (Liu & Dunford, 2016; Luo & Zhi, 2019). In this context, the narrative focuses mainly on the BRI fostering ‘inclusive globalization’ (Chubarov & Kalashnikov, 2018; Li & Taube, 2018) and following a ‘win-win strategy’ (Liu et al., 2018; Tao & Xi, 2021).

The other strand focuses on domestic political (He, 2019; Ye, 2019) or geopolitical motifs, the BRI as China’s main foreign policy (Ferdi-nand, 2016; Winter, 2020), a new form of regional multilateralism (Wang, 2019; Zhou, 2020), especially with the AIIB (De Jonge, 2017) or in the context of China’s role in the global sphere. Scholars focus on China as a rising power (Callahan, 2005; de Graaff et al., 2020; Müller, 2016), the impact of China’s rise on global development (Henderson et al., 2013; Urban et al., 2013), and south-south technology transfer (Hensengerth, 2018; Urban, 2018). Some view the BRI in the context of geostrategic or military drivers, in the case of the China-Pakistan Economic Corridor (Ali, 2019; Garlick, 2018; Gholizadeh et al., 2020), India in general (Joshi, 2021; Sachdeva, 2018) or in the context of the BCCM corridor (Gabusi, 2020; Marchang, 2021), and the Indo-Pacific region (Li, 2020; Soong, 2020); or overall as a tool to establish new global governance and world order (Callahan, 2016; Liu, 2020; Paradise, 2019). Others conclude that China tries to neither abolish nor strengthen the ‘liberal order’ (Weinhardt & ten Brink, 2020) since this were to significantly overestimate the magnitude of BRI’s influence (Jones & Zeng, 2019; Zeng, 2019): the BRI is not tightly controlled by Beijing in a monolithic state (Tan-Mullins, 2017; Zeng, 2019), but involves a rather complex set of stakeholders via a ‘pro-market approach’ (Jones, 2020) in diverse investment contexts in host countries (Lu, 2020).

Because of the described past evolution and uncertainties surrounding the rather ‘fluid’ nature of the BRI, one could ask whether it is a concept here to stay. However, since the Communist Party of China has incorporated it into its constitution in 2017 (Xinhua, 2017), and the BRI features in the 14th Five-year plan (Zhu, 2020) published in 2021 (NDRC, 2021), it becomes evident that the BRI will remain China’s major foreign policy pillar. This long-term outlook makes the question of the BRI’s future evolution all the more relevant. Also, given the multitude of discussed motivations, many global trends and developments...
could influence the BRI’s future course, such as the trade war between the US and China, increasing digitisation, sustainability, and the pandemic. We will describe current thinking about how sustainability, one of the most controversial trends in context with the BRI, and the pandemic, the most current development, might impact the BRI.

Sustainability is mostly discussed in the context of environmental or social impacts of BRI (cf. Section 1). Without adequate action, BRI countries alone could push global warming to a 2.7 degree path (Ma & Zadek, 2019), making sustainability one of the core factors for the BRI’s future. However, sustainability is also a trend that can influence the BRI’s future: how to make the BRI ‘green’ has been discussed (Kirchherr et al., 2018; Zoi Environment Network 2019), mostly by suggesting transitioning away from carbon-intensive sectors and projects such as coal power (Cheng & Qi, 2021; Lin & Bega, 2021). China has already published a “Guidance on Promoting Green Belt and Road” in 2017 (Ministry of Ecology and Environment of the PRC, 2017) and founded the BRI International Green Development Coalition (now Green BRI Center) in 2019 to integrate sustainable development into the initiative (Green BRI Center, 2021a). Among other international organisations, UNEP joined the cooperation platform (UNEP, 2019). However, it remains unclear which role this institution will play in environmental governance (Gushchin, 2013) and whether these will be effective (Teo et al., 2019) – despite China’s pledge to become carbon neutral by 2060 (Reuters, 2020).

The pandemic is arguably one of the most drastic shocks of our time. Most research on the pandemic’s impact on the BRI focuses on its economic aftermath and meaning (Mouritz, 2020; Pyzhikov & Gushchin, 2021; Ye, 2021a). The pandemic increased the trend of production re-shoring to enhance supply chain resiliency both generally (Baldwin & Evenett, 2020; Barbieri et al., 2020; UNCTAD, 2020) and specifically for the BRI (Schindler et al., 2020; Ye, 2021b). The disruption in the global trade flows could hence slow down BRI roll-out (F. Mouritz, 2020; Pyzhikov & Gushchin, 2021; Ye, 2021b) and exacerbate BRI debt problems (Buckley, 2020; Enderwick, 2020). The decreased economic power of investors could also lead to a shrinking of the BRI (Mouritz, 2020) or Chinese outward FDI (Duan et al., 2020). This literature mostly discusses the impact of the pandemic on the BRI through the lens of economics and globalisation. Others deal more generally with the pandemic’s effects on the BRI in the context of the future of the global political order: the impact is framed as exacerbating the rivalry for global leadership between the US and China, with the BRI as a model for global development alternative to the Bretton-Woods institutions (Schindler et al., 2020), as instrumental for China increasing its worldwide influence via ‘health diplomacy’ (Enderwick, 2020) sending vaccines and masks (Akon & Rahman, 2020), or as a tool to intentionally push for a new type of globalisation in response to the regionalisation trend after the pandemic (Hübner, 2020). While all of these papers illuminate particular aspects in detail, none of these looks at the COVID-19 impacts on the BRI as a whole, which is what we set out to do. According to our interview data, we are now looking at how (a combination) of potential trends influence the BRI’s future course and which ones are the most relevant.

3. Materials and Methods

Scenario methods have been widely used in future studies (Amer et al., 2013; Vervoort, 2015) to derive and explore plausible futures. The method (describing plausible futures based on an explicit and consistent set of assumptions) can cope with limitations in foresight methods (Rowland & Spaniol, 2015): uncertainty and lacking data (Junio & Mahnken, 2013), cognitive biases, such as the framing effect (Meissner & Wulf, 2013), and heuristics such as linear extrapolation (Schirrmeister et al., 2020). Recently, scholars have been calling for scenario approaches to supplement traditional methods in political sciences and sustainability studies (Han, 2011; Neumann & Overland, 2004; Sus & Hadeed, 2020) as a more systematic approach to future ambiguity (Junio & Mahnken, 2013) and a way to overcome linear thinking (Sus & Hadeed, 2020). The BRI does not lend itself especially well for linear projections given the changes it has already undergone (see Section 2).

In our work, we have designed the scenarios by a combination of interviews and desk research. These inputs allowed to derive two critical uncertainties, and subsequently use the 2 × 2 matrix scenario method which is one of most established scenario techniques (Glover et al., 2016; Ramirez & Wilkinson, 2014). The method allows for complexity reduction (Curry & Schultz, 2009) and easy comparison of the resulting scenarios due to the structured approach (Bauwens, Hekkert, & Kirchherr, 2020).

To draw up the 2 × 2 matrix for our scenarios, we needed to derive from our interview data two factors with the greatest impact on BRI as well as uncertainty and mutual independence, as is typically done in this approach (Ramirez & Wilkinson, 2014; Spaniol & Rowland, 2019). Based on the background knowledge we acquired through literature

![Overview of BRI scenarios (own depiction)](image-url)
review and research experience, we developed hypotheses for the potential factors. We analysed the empirical data with these hypotheses as our initial deductive coding system, which we complemented by inductive codes from the data (similarly done by, e.g., Frey et al., 2006; Swain, 2018). Finally, we conceptualised these with the help of literature to refine our coding system and identified the most mentioned factors (refined coding system in annex).

Economic globalisation and multilateralism emerged as two factors that have the greatest potential impact on the future of the BRI: The pandemic was mentioned but was framed as one among other more important factors, as a rather short–instead of long-term impact or as a catalyst of and accelerator of the bigger trends of globalisation and multilateralism—e.g., as triggering an anti-globalisation push or reinforcing the need for enhanced political cooperation (multilateralism). While the former represents the economic side of globalisation and degree of integration of global economy, the latter refers to the political aspects of globalisation, i.e., global governance and cooperation (see Table 1 for definitions). These draw up the 2 × 2 matrix for our scenarios (Figure 1). Additionally, the input material also indicated that we would need to describe the scenarios along five elements (Table 2). The combination of the two external factors and the five BRI elements constituted the coding system we used to analyse our data (example in Annex).

Data collection consisted of desk research and semi-structured interviews. The 30- to 60-minute long interviews were undertaken remotely via telephone or videocall throughout 2020 due to COVID-19 related travel restrictions. We did not postpone data collection in the expectation that face-to-face interviews would probably be the last research method to be back in a pre-pandemic way (Wood et al., 2020). Additionally, remote interviews are no longer seen as inherently inferior to in-person interviews (Vogl, 2013), e.g., in terms of rapport-building (Weller, 2017), especially when following specific protocols (Seitz, 2016). Lastly, the authors have been researching China-related topics for years and spent significant amounts of time in China as well as BRI countries, improving the understanding of the topic without being in the field.

The interviewees were from private sector, public sector, non-profit sector, as well as academia in 15 (mostly BRI) countries. These groups are usually selected by scholars researching the BRI due to the all-encompassing nature of it. All participants had direct exposure to BRI projects or otherwise expertise in Chinese foreign policy/FDI and infrastructure impacts. They were identified via three methods: 1) Initial judgement sample: which is usually obtained according to the discretion of someone who is familiar with the relevant population characteristics (Marshall, 1996). Seeds of this judgement sample were identified via expert knowledge of the authors of this paper, resulting in 13 interviews (marked with * in Table 3). 2) Cold-calling: 3 interviews were based on ‘cold call’ emails. 3) Snowballing: Asking each interviewee for additional interviewees resulted in 23 interviews based on novel referrals. Diversity of the sample seed, prior personal contacts and persistence helped achieve sample diversity, in terms of ‘range of viewpoints’ (Kirchherr & Charles, 2018).

For sample size, we used thematic saturation as stopping criterion—marking the time when additional data collection does not reveal new information on the subject (Fusch & Ness, 2015; Saunders et al., 2018). In our case, we set the stopping criterion at 3 additional interviews without new information, arriving at 39 interviews. Comparable studies also have similar number of interviews (e.g., Kirchherr et al., 2017). Confidentiality was ensured to help building trust and gain additional insights into a politicised field (Lancaster, 2017) such as the BRI (Jasimow, 2019; Tjia, 2020). Interviews are coded with letters indicating the sector (AC for academia, NP for nonprofit, PS for private sector and PU for public sector) and numbers showing the overall amount of interviews within a sector.

Press and literature research was used to supplement the interview data. From our Factiva search with general search terms (BRI–Covid/ future/multilateralism/globalisation) for 2020, we selected the ~50 articles most relevant for the subject matter from the first 1000 results. To triangulate information from interviews and clarify contradictory issues, we systematically reviewed another ~40 press articles (list provided in the appendix), as well as scholarly writing. Our sample covers a great diversity of perspectives and backgrounds, including the private sector. A limitation could be that we were not able to include interviewees from South Asian countries that are important in geopolitical BRI issues (such as India and Pakistan) due to sample size; or Chinese investors due to lack of access, and then instead talked to ‘intermediaries’ such as their consultants, associations and financiers, which is a frequent approach in similar literature (Kirchherr et al., 2016; Kirchherr et al., 2017).

### 4. Results

This section describes the future BRI scenarios resulting from combining the drivers of change. There is decreased mobility of goods, services, and people in the scenarios with a low degree of economic globalisation, a trend towards domestic production, and slow economic growth. The other scenarios show a world in a new phase of high economic globalisation with global supply chains and trade, and fast economic growth. The multilateralism axis can result in a world with strong global governance and international organisations, and on the other hand, to weakened multilateral institutions and a resurgence of the nation-state. Hence, the four scenarios are: 1) **Asian BRI**, 2) **Irrelevant BRI**, 3) **Vibrant BRI**, and 4) **International BRI** (Figure 1).

The scenario narratives summed up are as follows: 1) **Asian BRI** describes a deglobalised, ‘smaller’ world with weak multilateralism, and consistent with this, a relatively small BRI with exclusively bilateral contracts, the highest debt risk and lowest orientation towards sustainability. 2) **Irrelevant BRI** describes a world with strong political globalisation and multilateral institutions but with little economic

### Table 2

| BRI aspects/elements | Definitions and assumptions for BRI aspects and elements |
|----------------------|--------------------------------------------------------|
| Scope                | Countries and regions with BRI investment activity, e.g., along the defined corridors of BRI or new areas |
| Volumes              | Volumes of Chinese foreign direct investments (FDI) that are deemed part of BRI. In the absence of any official project list, this is seen as rather generally FDI being attributed to BRI. |
| Financial structure  | How BRI investments (project development and implementation) are funded, e.g., by public or private or commercial financiers, national or international, multilateral institutions |
| Sectors              | Type and industries of BRI investment, such as energy infrastructure (e.g., hydro, coal) and transportation (railway, roads, ports) |
| Sustainability       | Sustainability impacts of BRI investments, including environmental, social as well as governance factors (ESG) |
| Other aspects        | Trade flows or relative importance of BRI are seen as a result of BRI strategy and implementation rather than an operationalisation. |

2 The 2x2 scenario method has four quadrants based on two axes. Automatically, there are pairs of scenario that differ along one axis, but not along the other (which may still result in very different situations).
globalisation; hence the BRI is the smallest in terms of geographical scope and financial scale with medium debt risk and sustainability orientation. 3) Vibrant BRI describes a world that is economically connected and experiences high-growth, but with weak multilateral institutions; the BRI is therefore relatively large and mainly bilaterally funded, but with much lower debt risk and a medium orientation towards sustainability (in the sense of ecological civilizations). 4) International BRI, finally, describes a future world with high degrees of both economic and political globalisation; consistently investments would be based on mostly multilateral contracts, lowest debt risk and the highest orientation towards sustainability (probably in the sense of the SDGs) (Figure 2).

| Code | No | Position | Type of organisation | Sector | Country of organisation |
|------|----|----------|----------------------|--------|-------------------------|
| NP1  | 1  | Social Impact Consultant* | Self-employed / Development organisation | Nonprofit sector | Laos |
| PS1  | 2  | ESG Advisory Lead Asia-Pacific* | International finance Institution | Private sector | Myanmar |
| PU1  | 3  | Advisor Infrastructure | Government development cooperation | Public sector | Germany / China |
| PS2  | 4  | Export Sales Manager* | Multinational corporation | Private sector | China |
| NP2  | 5  | Senior Advisor* | Sustainable infrastructure foundation | Nonprofit sector | Switzerland / China |
| NP3  | 6  | Social Impact Consultant* | Self-employed / Development organisation | Nonprofit sector | Thailand, Laos |
| NP4  | 7  | Chief Advisor | Chinese policy advisory board | Nonprofit sector | Canada |
| PU2  | 8  | Foreign Trade Lead* | Basel Chamber of Commerce | Public sector | Switzerland |
| PU3  | 9  | Manager* | Ministry of Finance | Public sector | Nepal |
| PU4  | 10 | Chief Advisor | Chinese policy advisory board | Public sector | Norway |
| AC1  | 11 | Researcher | Tribhuvan University | Academy | Nepal |
| NP5  | 12 | Project development China* | Sustainable development consultancy | Nonprofit sector | Switzerland |
| PS3  | 13 | Secretary General Low Carbon Committee | Association of Plant Engineering Companies | Private sector | China |
| PU5  | 14 | Project Director | Government development cooperation | Public sector | China |
| AC2  | 15 | Post-doc researcher | Development and reform commission | Academy | China |
| AC3  | 16 | Research and Project Lead China | Global development policy center | Academy | USA |
| AC4  | 17 | Researcher ESG standards | Law association Asia-Pacific | Academy | Thailand |
| NP6  | 18 | Board president* | River conservation Organization | Nonprofit sector | Thailand |
| PU6  | 19 | Policy Lead Infrastructure Investment | G20 forum | Public sector | Saudi Arabia |
| NP7  | 20 | CEO | Infrastructure foundation | Nonprofit sector | Switzerland |
| PS4  | 21 | China representative | Forestry/wood products consultancy | Private sector | China |
| AC5  | 22 | Researcher* | University | Academy | UK |
| PS5  | 23 | Director Business Development | Hydropower company | Private sector | Thailand |
| PS6  | 24 | Associate | Business / Infrastructure consultancy | Private sector | China |
| PS7  | 25 | Senior Advisor | Private sector development | Private sector | Myanmar |
| PS8  | 26 | Director Client Development* | Business Consultancy | Private sector | Malaysia |
| AC6  | 27 | Senior Project Manager | Center Asia Business/University | Academy | Switzerland |
| AC7  | 28 | Professor | University | Academy | China |
| PS9  | 29 | Project Manager | Business Consultancy | Private sector | Saudi Arabia |
| PS10 | 30 | Senior Partner* | Business Consultancy | Private sector | Vietnam |
| PS11 | 31 | Director/Senior Partner* | Business Consultancy | Private sector | China |
| PS12 | 32 | Senior Partner | Business Consultancy | Private sector | China |
| PS13 | 33 | Partner | Business Consultancy | Private sector | China |
| PS14 | 34 | Partner | Business Consultancy | Private sector | China |
| PU7  | 35 | Director Sustainable Infrastructure Policy | International Financial Institution | Public sector | UK |
| PS15 | 36 | Senior Partner | Business Consultancy | Private sector | Hongkong |
| PS16 | 37 | Associate Partner | Business Consultancy | Private sector | Southeast Asia |
| PS17 | 38 | Cities and Planning Leader | Engineering firm | Private sector | Singapore |
| PU8  | 39 | Director Infrastructure | Development bank | Public sector | China |

Figure 2. Four BRI scenarios: qualitative comparison along five aspects (own depiction)
### Table 4

#### BRI scenarios in detail

| Scenario | Scope | Volumes | Financial structure | Sectors | Sustainability |
|----------|-------|---------|---------------------|---------|---------------|
| Asian BRI | Sequential focus on SE Asia and parts of SA | Significant decrease due to economic shock, focus on economic shock | High risk of debt crises and loan defaults and host countries | Low energy and transport investments, high risk of stranded assets due to decreased energy demand | ‘Greening’ efforts sacrificed to economic growth, risk highlighted for SDGs due to decreased energy demand |
| Intervening BRI | Selected investments in Europe and Africa | Decrease due to economic shock, focus on domestic issues, and potential restriction on capital inflow | Bilateral contracts and more commercially viable investments | Less energy and transport investments, focusing on health, education, and digitalisation | ‘Greening’ efforts and sustainability initiatives limited due to ‘dual-track’ approach to development projects |
| Vast global scope, potentially going beyond the current ambition of 6 corridors and blending with other initiatives | Reduce in scope and potentially reduce the ambition of 6 corridors | Increase due to high economic growth and absence of domestic issues, and potentially restriction on multilateral contributions | Most projects funded multilaterally by AMODI, NDBR, and potentially multilaterally financed projects by AIIB/NDB | Growth in health, digitisation, low-carbon industries and projects with orientation towards ecological civilisations, trade and regional integration, balanced by domestic issues due to risk of stranded assets due to decreased energy demand |
| Strong regionalisation: focus on SE Asia and potentially parts of SA | Very few investments in Europe due to resistance from multilateral organisations like multilaterals | Increase due to high economic growth and absence of domestic issues, and potentially restriction on multilateral contributions | Most projects funded multilaterally by AMODI, NDBR, and potentially multilaterally financed projects by AIIB/NDB | Growth in health, digitisation, low-carbon industries and projects with orientation towards ecological civilisations, trade and regional integration, balanced by domestic issues due to risk of stranded assets due to decreased energy demand |
| Global scope, fulfilling current ambition of 6 corridors | Very few investments in Europe due to resistance from multilateral organisations like multilaterals | Increase due to high economic growth and absence of domestic issues, and potentially restriction on multilateral contributions | Most projects funded multilaterally by AMODI, NDBR, and potentially multilaterally financed projects by AIIB/NDB | Growth in health, digitisation, low-carbon industries and projects with orientation towards ecological civilisations, trade and regional integration, balanced by domestic issues due to risk of stranded assets due to decreased energy demand |

The COVID-19 pandemic has triggered in this scenario a trend towards slow growth and de-globalisation. This is based on historical evidence that economic performance decreases after pandemics (Barua, 2020) and is forecasted to do short- to medium-term (Barua, 2020; McKibbin & Fernando, 2020). Moreover, the pandemic, Brexit and the US-China trade war lead in this scenario also to a weakening of multilateralism and global governance (Fjærtoft, 2020; Welfens, 2020). With strong anti-globalisation tendencies, “the nation-state has got a renaissance” (PU4), and the BRI may be about securing national interests in a significantly smaller world that might be divided further by increased tensions between the US and China (BBC, 2020; Trevelyan, 2020) that risk a new cold war (Dupont, 2020; Wintour, 2020).

The global trend of re-shoring and regionalisation in this world may mean that the majority of BRI investments would focus on SE Asia and potentially parts of South Asia because “the quick fixes would be in the nearby regions where (...) the distance nearer, communications and relationships are better” (AC7) and because of existing “economic similarities (...) and supply chain integration” (AC7), echoed by other interviewees (PS11, PS12, PS14, NP3). There might be some scattered investments elsewhere that are economically viable, e.g. Europe: with weak multilateralism, the EU would be less cohesive and some members states may continue to embrace Chinese FDI (e.g. Greece, Italy), as AC5 explains. Strengthening connections to Europe might be important for China to mitigate risk from US - China decoupling (Tang, 2020). In addition, there might also be investment where infrastructure demand is high or even inelastic, such as in African countries, as PS3 points out.

Investment volumes would accordingly decrease (in absolute numbers) because a slower growing Chinese economy would have less money to spend (mentioned by various interviewees, e.g. PU2, PU3, PS11, PS14) and may have further suffered during global process of regionalisation “given how much they rely on external markets for their export” (NP4). This also explains smaller geographical scope. China may also prioritise domestic issues over involvement with the outside world (Chan, 2019; mentioned by PS17), e.g. by restricting outflow of capital to keep it as domestic economic stimulus, as PS14 explains and PS13 hints at.

As for the financial structure, 68 BRI countries were having debt problems in 2018, with 8 at debt distress level (Hurley et al., 2018), which is likely to be exacerbated in a slow-growth world. Technically, China could seize assets, since Chinese banks request collateral for a large part of their loans (Abi-Habib & Bradsher, 2020; Mohan & Tan-Mullins, 2019). But this would be a high diplomatic risk (The Economist, 2020b), and has so far only happened once with the Hambantota port according to interviewees (NP3, PU1, AC1, PU3) and press research (Pandey, 2020; Sautmann & Yan, 2019). This points to more debt write-offs, even though China’s ability to offer it large scale would be limited in a slow-growth climate, as AC3 explains: e.g. the China Development Bank (which had financed ~ 40% of BRI as of 2018 according to Kirchherr et al., 2018) might not have enough leverage from a balance sheet perspective. Generally, economic pressures could lead to less risky, more commercially viable and strategically chosen projects (PU5, PU7; Tonchev, 2020).

In a slow-growth world, there would be less demand for energy and transportation. A positive correlation between national energy use and economic growth is well-established in science (Leitao, 2014; Saidi & Hammami, 2015), so the investments in these traditional BRI ‘hard infrastructure’ sectors would go down. The reduced electricity demand would be bad news for the 250+ coal plants along the BRI (Ren et al., 2017), as explained by The Economist (2020a): a large number of these...
plants may become stranded assets (IEEFA, 2020). Some small growth might be imaginable in other sectors that may be added to the BRI, – e.g. digitisation and health-related investments (NP2, NP5) - also because a slow-growth world would likely be deeply affected by the COVID-19 crisis, altered supply chains, and new ways of working, which has been reflected in press articles on the ‘silk road of health’ (Lancaster et al., 2020; Nedopil Wang, 2020) and the ‘digital BRI’ (Boo et al., 2020).

Less demand for energy means less CO2 emissions, one might conclude, but this effect might be negligible with China being the largest investor in overseas coal plants (Tan, 2018). In a slow-growth world, ‘greening efforts’ and concern about sustainable development might be sacrificed to economic progress (and as seen in prior recessions, as pointed out by NP4, Kuhn & Kotchen, n.d.; Scruggs & Benegal, 2012; and in 2020 with COVID lockdowns (Watts, 2020)). But “if you build major energy infrastructure now which will last very long, you will lock yourself into the wrong (...) technology” (PU4) – risking BRI countries on a carbon-intensive development path long-term (Sandalow, 2020). Especially without pressure from multilateral organisations, there might be orientation away from SDGs and less regard for social and environmental standards.

4.2. Irrelevant BRI

Similar to the Asian BRI scenario, also in Irrelevant BRI, it is assumed that the Covid-19 pandemic has led to a de-globalised economy with decreased mobility of goods, services, and people, resulting in slow growth. In contrast, however, it is assumed that multilateralism will have (re-)gained influence: Instead of a resurgence of the nation-state like in the prior scenario Asian BRI, here in this scenario, it is global governance and cooperation that are seen as necessary and effective mechanisms to respond to crises (Gonzalez, 2020; Gurria, 2019) such as the pandemic. Increased multilateralism as a response to a crisis has happened in the past (Fukuyama, 2020): e.g. when the first phase of globalisation ended with World War I and trade flows decreased substantially (UN Statistical Office, 1962), the League of Nations was established as the first intergovernmental organisation in 1920.

For the same reasons as in the prior scenario, the scope may be limited to Southeast and South Asia; however, in comparison, BRI investments may focus even more on direct neighbours, not just due to “the beauty of the proximity of Southeast Asia and China” (PS17) and “economic similarities” (PS12), but also because strong multilaterals might invest in areas that before were BRI territory because “the IFI [international financial institutions] and all will have to fill the gap a lot more (...)” (PS17). Also, in a multilateral world, the EU would be more cohesive, and hence have stronger opposition to potential Chinese FDI or rather only accept investment if it is according to international standards (as hinted at by PUG); regionalising the BRI even further and pushing towards irrelevance. Such an “increased push towards the (supply) chain without China” (PS16), especially with re-shoring in critical industries (Altmann, 2020), might already be reflected in the current discussion of potential Chinese investment in European 5G networks, as PS17 and PSS point out (see also Chazan & Fildes, 2020; Parpart & Goldmann, 2020).

Investment volumes would decrease as result of constraints on Chinese economy (Babones, 2020), as explained above, but potentially even more than in scenario 1 due to the slightly more geographically concentrated scope of BRI. In addition, with stronger multilateralism, investments from the World Bank and other international institutions might crowd out BRI investments, thereby reducing BRI investment volumes even further. However, this is probably a small effect because of the small portfolio of multilaterals in comparison with Chinese banks.

In a world with stronger multilateral ties, China would have a higher incentive to continue building their own alternative, as PS15 explains (echoed by AC5, PU8, Allen-Ebrahimian, 2020). The BRI can be seen in this context as providing a Chinese version of Bretton Woods institutions with the newly founded AIIB and NDB, even though they are currently not officially part of BRI (Chin, 2019; also noted by PUS, PU7, PS8). But in this scenario, they may be an integral component of the BRI and replace bilateral funding (hinted at by Xiao, 2020). Debt risk for host countries is high just like in scenario 1, but there may be more pressure or support from the ‘traditional’ multilaterals to offer debt relief – potentially leading to AIIB and NDB adhering to international standards for debt relief or renegotiation (pointed out NP4), or to come up with “their own version of equator principles” (NP3). As PSS points out, debt relief to certain countries might be strategically important, e.g. to draw nations closer to the new Chinese multilateral system, since “...forgiveness will not come in and of itself. And that’s no different than any geopolitical power” (PS6).

As described in scenario 1, there would be less demand for energy and transportation, so the investments in this ‘hard infrastructure’ sector might decrease, while those in health and digitisation may go up slightly (e.g. PU1, NP2, AC7). Similar to the prior scenario, economic pressures may lead to investments being selected more carefully with increased focus on return, as PU1 and PS15 explain. This “assessment of the commercial viabilities and financial sustainability (...) will push the improvement of the investment standards” (PU8). But in a world with strong global governance, this may lead to projects reflecting standards of the international development agenda towards ‘quality infrastructure’ (PU6) – and potentially some “cleaning” efforts. These would “mainly be about greening existing power options, mainly coal” (PS16), due to the high cost in renewables, as PS16 goes on to explain (backed by e.g. Shepherd, 2020)), as well as the domestic coal lobby (Demongeot, 2020).

Analogous to the prior scenario, the great bulk of ‘greening efforts’ may be sacrificed to economic progress in a slow-growth context, despite a dampening effect on CO2 emissions from stumped economic growth. However, with strong multilateral institutions, ‘sustainability efforts’ will take place, as explained, and these will probably gravitate towards the concept of SDGs – meaning potentially more social sustainability, foreshadowed as possibility by Saldinger (2019); Zou & Jones (2020), and PS17, who attributes it among others to pressures from civil societies backed by multilateral values (confirmed by AC5).

4.3. Vibrant BRI

Unlike in the first two scenarios, in the Vibrant BRI scenario, it is assumed that the global economy recovers from COVID-19. This is, for instance, projected by Hevia & Neumayer (2020) and other recovery scenarios (e.g. OECD, 2020). China would be paving the way out of the crisis, as it is currently leading economic recovery from COVID-19 (Feng, 2020; Hecking, 2020) into a new phase of globalisation. Multilateralism may lead to projects reflecting standards of the international development agenda towards ‘quality infrastructure’ (PU6) – and potentially some “cleaning” efforts. These would “mainly be about greening existing power options, mainly coal” (PS16), due to the high cost in renewables, as PS16 goes on to explain (backed by e.g. Shepherd, 2020)), as well as the domestic coal lobby (Demongeot, 2020).

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BRI investments would probably continue the current trend in this economically globalised world with six corridors and a high number of
countries having joined BRI (AC2). A South American corridor may be added: current towards slowed-down Chinese FDI in the continent (Koop, 2020) might not play a role in a high-growth scenario; so potentially, Mexico or the Mercosur states might join the BRI (Devonshire-Ellis, 2020; Kaltenecker, 2020).

If economic constraints in prior scenarios meant FDI decrease (a point made by PU2, PU3, PS11, PS14), a high-growth world would mean an FDI increase. Indeed, China’s GDP and openness of economy have been – among other factors - determinants of its outward FDI in general (Buckley et al., 2008; He et al., 2015) and as part of BRI (Li et al., 2019).

Additionally, “private sector will continue to seek opportunities to invest overseas” to get an outlet and to diversify (PS6) since both domestic and household (PS6) saving and investment rates are high (as echoed by PS4). Therefore, China’s foreign currency policies restricting outflow of private capital (PS13, PS14) might be lifted, further contributing to increase BRI investments, potentially to match original ambitions or even go beyond.

With the Bretton Woods institutions considerably weakened, there would be little incentive to build an alternative set of multilateral institutions on China’s part (see above). Hence, contracts may continue to be bilateral, since they are easier to negotiate (PU7, PS15). Also, some countries might prefer bilateral contracts due to perceived less bureaucratic processes (PU7) and very competitive terms (PU8), even though smaller countries would benefit more from a multilateral BRI (Brinza, 2019; Carey & Ladislaw, 2019), “so the pressure (for multilateralism) always has to come from small countries” (PS15). The debt risk may be considered medium: severe debt crises along BRI would probably not occur in times of economic prosperity (Ballard, 2020; Crawford & Gordon, 2020). PU8 also explains that paying back debt can depend on the revenues of infrastructure projects (e.g. transportation tolls) which would be higher in a high-growth context. Additionally, the biggest BRI financiers such as EXIM and CDB (Kirchherr et al., 2018) are state-owned which makes them less sensitive to profit loss and therefore debt write-offs less risky (PU2, PS6). This mostly public funding structure may remain unchanged in this scenario due to high growth lifting the pressure for more return on invest (see above).

In an economically globalised and fast-growing world, there is high demand for energy and transportation with investments continuing to increase accordingly (PS17; compare reasoning in scenario 1). Since the BRI would be bilateral here, China would not impose conditionality (PU1, PU8, AC3). This ‘non-interference’ principle has been used to explain large BRI coal investments (PS11, Lelyveld, 2019; Pearl, 2020), since small countries might lack the capability for long-term energy plan conceptualisation and hence continue to ask for what is seen as fast or easy – potentially meaning coal power (as explained by NPS, AC1). Investments in high tech may rise substantially since it would be a growth engine both for ‘globalization 4.0’ (Vanham, 2019) and China (Chen, 2020) as a ‘technology-driven economy’ (PS11), such as telecommunication and smart cities (Ma, 2020; The Economist, 2020c) or also ‘smart health’ tech (PS11, Han & Freymann, 2021). In addition to infrastructure and technology, the environment may be added as a third development horizon, according to PS15 – in this scenario mainly focused on technological adaption to climate change as a first step, e.g. flood control (PS15).

Sustainability may be on the agenda again, turning China’s pledge for carbon neutrality by 2060 (Harvey, 2020) into reality with spare money to spend in a high-growth scenario. However, this pledge refers to China as nation state, not investments abroad (Chen, 2020; Pettinotti, 2020). Even strong domestic efforts to transform into a low-carbon economy, including pressure from the civil society (Hensengerth & Lu, 2019), would yield few BRI results if the guidelines continue to be legally non-binding in foreign countries (Hilton, 2019), as explained above with ‘non-interference’. The promise of ‘greening the BRI’ might move towards the Chinese concept of ecological civilisations (Goenen et al., 2020) in a world with less consideration of multilateral ideas such as the SDGs. Seen as domestically successful with valuable lessons to share (Frazier et al., 2019; Gu et al., 2019; Nature, 2020) and largely compatible with the SDGs (PU1, NP4, NPS), their emphasis has mainly been on environmental aspects: Unlike the SDGs, the concept does not necessarily include participation (CCICED, 2016) or a discourse on social justice (Goron, 2018; Hanson, 2019). Hence, BRI projects with what PS9 called “plug and play (…)” design – investments with little know how transfer or stimulation of local economy (PS6, NP6) - may not change.

4.4. International BRI

As in the prior scenario, in the International BRI scenario, it is assumed that the world would have entered a new phase of globalisation – reinvigorated after the pandemic shock. Unlike in the prior described Vibrant BRI, in this scenario, the solution to the pandemic (and potentially other crises) would not have been one leading hegemonial state (such as China), but the historically ‘other available option’ of increased international cooperation (Sachs, 2020), which China has committed to at the 75th UN General Assembly (CGTN, 2020; Gebh, 2020, Xinhua, 2020). So the multilateralism of today would have turned out to be a system in transformation instead of disarray, as Eilstrup-Sangiovanni & Hofmann point out (2020). In this sense, this scenario’s multilateral landscape may look different than today’s.

The BRI would technically span the entire globe in a highly globalised world, just as described in scenario 3. There would be noreshoring of critical industries (see above) since international cooperation would be trusted as supply risk mitigation as opposed to protectionism and de-coupling of value chains, as has been called for (Palit, 2020; Runde & Ramanujam, 2020). With high multilateralism, some international financial institutions may compete with BRI (see scenario 2). However, in a highly globalised world, this competition might also lead to a convergence of various investment initiatives under one common banner – which might be the AIIB- and NDB-funded BRI – potentially making this the scenario with the highest scope. This reflects what AC2 calls the “new global community” and the multipolar world with several sources of FDI that Feigenbaum describes (2020).

Large scope would mean a very high investment volume, as explained above. There would be a continued huge pressure to invest abroad, as PS15 says, but where China will invest might depend on where they can or are allowed to invest (PS15). This means volumes might decrease in case of competition with multilaterals. However, when the BRI becomes a truly “collaborative initiative (…) even international initiative” (PU8), as described, funding might be highest - from various sources, so potentially not clearly attributable to the BRI.

This multilateral BRI funding would come foremost from AIIB or NDB (as explained in scenario 2). Furthermore, Bretton-Woods institutions might also finance BRI projects, e.g. with Chinese companies taking part in international open tenders, thus gaining more experience and winning these more often (PU7). More projects being financed through these new kinds of Public Private Partnerships (PU7, PS16) “would make the BRI less Chinese, more global and local (glocal)” (Ozturk, 2019). The RMB might be a widely accepted reserve currency (AC2, echoed by PS15). International cooperation would be beneficial for Chinese stakeholders who are still “very new on the international stage” (NPS) and a way to introduce international rules to the BRI ecosystem, e.g. debt relief mechanisms. Multilateral cooperation has already resulted in mitigating debt risk (Xiao, 2020), as the recent debt sustainability framework shows which was developed in cooperation with IMF and World Bank (Plant & Morris, 2019; Saldinger, 2019). With high growth, there would anyway only be a small debt risk for host countries, since debt issues are usually more pronounced with economic

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3 Even though the saving rate is generally expected to decrease slightly with changing demographic (Zhang 2018), past research has shown a positive correlation between high economic growth and saving rate (Lean and Song 2008).
downturn (e.g. Reinhart & Rogoff, 2020, as explained before).

As in scenario 3, there is continued demand for energy and transport, with health-related, digital infrastructure as well as ecological investments being added. But in contrast, with strong multilaterals, the BRI would follow the global development agenda. Thus, the energy sector may move to renewable options like solar and wind if cost comes down (AC3, PU5). This might risk stranded assets – having been foreseen by (Pfeiffer et al., 2016, 2018) who warned that trying to meet the Paris Agreement 2-degree climate goal might risk stranding a fifth of all global coal power plants. Moreover, the BRI may incorporate more international collaboration, with investments “on the softer side of things in terms of training (...) knowledge exchange” (AC7) being added – echoed by PS13 who emphasised job creation and educational cooperation. In this respect, there may also be more and better international transportation links such as high-speed rails, to increase low-carbon mobility of people, in addition to mere digital connectivity.

Just like in scenario 3, sustainability may be an important issue. Here, global governance might further strengthen the agenda by helping host countries set legally-binding standards. It might also contribute to enforcing and actually implementing these, which is mostly needed, as noted by AC5, PS10, NP5, PU1) – the mere existence of standards has not helped in the past (Cordell, 2020; Leach et al., 2019). This could result in what NP3 calls “the potential for Europe, China and America to work together”. The BRI could be a vehicle for an economically prosperous world (PU4; Huang, 2020; Romann, 2020) with the Green BRI Center “like the UN” (NP5) with strong multilateral sustainability standards “that will (...) bring law and order back to the world. But it will be a different law and order” (NP3). Standards could revolve around SDGs, ecological civilisations or even another form of sustainability-informed political concept in a world with converging rather than competing ideas. The BRI incorporating “Chinese values would make it neither Western nor Chinese per se, but a thoroughly hybrid paradigm of global cooperation.” (Oztürk, 2019).

5. Discussion

5.1. Probability and preferability

Probability and preferability of scenarios are often discussed in future studies (Ramirez & Selin, 2014; Wilkinson, 2009). While all our scenarios can be considered plausible within the four combinations of varying degrees of economic globalisation and international cooperation, the most probable scenario can be seen as the one that we most likely were to arrive at, were we to continue the current trends (Voros, 2003). This means looking at how our two external factors of globalisation and multilateralism might change in the face of very recent transitions and shocks, e.g. how they are impacted by the pandemic and its mitigation measures. Most interviewees and press articles (Brands, 2020; Yoon, 2020) assumed a ‘cold-war scenario’ with dampened globalisation and weak multilateralism causing a shrinking post-pandemic BRI - pointing at Asian BRI (scenario 1). Latest academic literature on COVID-19 impacts tends to support this view (as described in Section 2).

However, this does not necessarily mean we will arrive at this scenario at our defined time frame of ~15 years, which we discuss here by contrasting our scenario thinking with the COVID-19 impact literature. First, most of the literature frames the effects as short-term, with the long-term pandemic effect on BRI either being unclear (Mouritz, 2020) or even rather negligible (Duan et al., 2020) while we look at rather medium-or long-term. Second, it is often underlined that the pandemic is just one among many other factors impacting the BRI (Enderwick, 2020; Pzyzhkov & Gushchin, 2021). Third, none of the cited papers looks at what the pandemic means for multilateralism, which our interview data revealed to be a crucial factor in shaping the BRI’s future. They focus on which country or block will take the post-pandemic lead on the global stage – China, the US, and even Europe’s role being debated (Akon & Rahman, 2020; Hübner, 2020; Schindler et al., 2020) or they discuss multilateralism only as a feature of the BRI: e.g. that the BRI is itself becoming more multilateral (without connecting this to an overarching trend) (Mouritz, 2020).

Fourth, many of these papers tend to view the BRI with a large degree of ‘autonomy’ and as a means to shape the world - e.g. to strengthen globalisation (Mouritz, 2020; Ye, 2021b) or weaken multilateralism (Buckley, 2020). While this is not wrong, it results in the perspective that the BRI’s future development depends mainly on (China’s) underlying motifs – which are discussed very controversially – and not so much on the overarching trends. With our scenarios, we instead analysed how the BRI would change if the world changed. While we acknowledge that there are interdependencies (the BRI influencing trends as well as being influenced by them), we are cautious not to overestimate the BRI’s influence and China’s ability to perfectly control and steer it in a top-down manner (cf. Section 2). This highlights how our approach differs from existing research and shows that a mere extrapolation of current trends might not be suitable to forecast the long-term development of complex initiatives like the BRI (as mentioned in Section 1), especially in the face of more rapid global transitions (Sforza & Steininger, 2020) and unprecedented uncertainty (e.g. IMF WUI, 2020): China pledged to stop building any coal power plants abroad in September 2021, even if no timeline or exact steps were outlined (Stanway & Brock, 2021). While this was announced after we collected and analysed our (interview) data, this potentially more sustainable direction is reflected in our scenario International BRI, with decarbonisation efforts and potentially also coal power plants as stranded assets.

Because of all these reasons, it becomes clear that none of the four scenarios describes an actual BRI future, also since they are positioned at the more extreme ends of the continuum of both our drivers of change for the sake of stylisation. While Asian BRI looks like our current or up to mid-2021 post-pandemic reality, the 2035 BRI could look completely different: It will probably be a more nuanced hybrid of Asian (1) and Vibrant BRI (3) with a somewhat ‘medium’ degree of globalisation – so a smaller BRI than the original ambition, with a focus on Asian countries and selected global investments – as well as with a stronger Chinese-influenced type of multilateralism, similar to what we described in International BRI, albeit much less pronounced or sustainable.

The preferable of scenarios is less speculative, but evidently a normative discussion, making it important to be transparent on what values the argument is based on. First, we could evaluate the scenarios in terms of the BRI’s success in what it officially set out to achieve. Increased connectivity and trade as well as the promised investment volumes clearly reach their peak in a highly globalised world (Vibrant and International BRI). Second, from a realist perspective on power, the BRI as foreign policy reaches the goal of increasing China’s influence best as Vibrant BRI – even though a thorough benefit analysis would be needed for a definite answer. Third, a sustainability perspective might be most worthwhile, since the SDGs are distinctly designed to benefit all people on earth (United Nations, 2015) and can arguably be seen as the most widely agreed upon international agenda. The BRI’s future with its large-scale impact might prove a make or break for the SDGs, specifically climate action (Pike, 2019; Shepherd, 2020). From this perspective and by qualitative analysis only - the International BRI would be

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most desirable, Asian BRI the least, as pointed out in the results section.

5.2. Scenario assumptions

To compare our results with other future scenarios looking at global socioeconomic trends and sustainability, we look at the IPCC scenario: the four SRES to project future emissions (IPCC 2000, 2001) and their successor, the five Shared Socioeconomic Pathways (SSP) associated with prior projected emission outcomes (O’Neill et al., 2014; van Vuuren et al., 2014, 2017). These SRES and SSP scenarios have been matched to each other according to their similarity in terms of outcomes and influential trends before (Kriegler et al., 2014; van Vuuren & Carter, 2014). Now, these matched equivalent scenarios also bear a resemblance to three of our BRI scenarios (BRI 1 (Asian),3 (Vibrant), 4 (International) to SRES A2, A1, B1 and SSP3, SSP5, SSP1). Remarkably, in all three scenario exercises SRES, SSP and BRI, the scenario with the most sustainable outcome is always the one with high economic globalisation and growth as well as strong international governance (namely SRES B1, SSP1, International BRI 4) – despite their different methodology, timeline, and scope.

This assumption of multilateralism and economic globalisation combined, leading to more sustainable development can be discussed. First, as for international cooperation, is it really impossible that a bilateral BRI or a world with little multilateralism could lead to sustainable outcomes? Some interviewees pointed out that bilateralism tends to be less complex and hence faster in decision-making. Also, unilateralism in the form of leadership of one or more countries is somewhat paradoxically often needed to initiate any multilateral agreement (Bodansky, 2000). So, both processes could technically lead to positive outcomes for environmental sustainability in the sense of distributive justice. But the very nature of them could prevent fairness in decision-making, i.e. procedural justice (Svarstad et al., 2011). The concept of sustainable development largely refers to aspects of distributive justice, but it also includes aspects of procedural justice (Gellers & Cheatham, 2019), even though the SDGs do not explicitly refer to the justice discourse (Menton et al., 2020). As opposed to un- and bilateralism, multilateralism can theoretically both achieve distributive justice outcomes and include procedural justice as well. Therefore, the best option for more sustainable development might still be multilateralism, especially in generalised scenarios - despite its flaws in effectiveness, efficiency, and current implementation.

Second, the beneficial role of economic globalisation and growth for sustainability is equally not uncontested (Rees, 2002). We have hinted in the scenarios that a deglobalised world could potentially curb emissions in the short term. With the climate and biodiversity crisis, not just globalisation, but also economic growth, is debated controversially (Gaspar et al., 2017; Jänicke, 2012) - especially the benefits and feasibility decoupling of growth from environmental impact (Ward et al., 2016; Zhang et al., 2016). However, regardless of this being generally feasible or beneficial, it is almost impossible to envision a thorough decoupling happening in the relatively short time span of our scenarios. 15 years would not be sufficient to re-shape the workings of the global economy as drastically as necessary – making high degree rather than low degree of globalisation an enabling factor for sustainable development, at least in the context of our scenario construction.

6. Conclusion and Policy Implications

The scenarios presented here lead to a number of key conclusions. First, there is going to be a shift of power eastwards – to varying degrees in each of the scenarios. China gains most influence in scenario 3 with the Vibrant BRI. Despite the fact that the International BRI (4) has an even larger scope, China is more influential in scenario 3 due to the absence of other contesting big initiatives or a binding global world order. The ‘cold war scenario’ with Asian BRI (1) comes second in regard to China’s influence. The BRI is considerably smaller, but China is one of the two or three power poles in this heavily deglobalised world. Second, the respective importance of BRI can be very different. It is most relevant for China itself in the first scenario (Asian), where it secures China’s national interests in an uncertain world, and most globally influential in scenario 3 (Vibrant). Despite its largest scope as International in scenario 4, it is not most important here, as it serves mainly as a vehicle that reflects a world that re-organises the workings of international cooperation. Least influential is the Irrelevant BRI (2), which would mostly be the case if the erosion of the multilateral system without a viable alternative and economic decoupling continue.

Third, given the direct derivation of the uncertainties and narratives from the interviews and desk study, all scenarios can be considered as relevant. We also illustrate this in the narratives. Fourth, decision-makers in politics and civil society as well as investors and other stakeholders for which the future of BRI is relevant may want to consider all four alternatives, or make an a priori judgement which are more credible or useful to the question at stake. From a sustainability perspective, policymakers should: a) Improve participation and update representation in the multilateral system to strengthen through renewal. b) Establish new infrastructure cooperation platforms or join existing BRI-related ones to leverage mutual earning and boost the uptake of standards. b) Increase multilateral funding for sustainable infrastructure to increase competition and for capacity building to enhance negotiation power of BRI host country policymakers and potentially mitigate their debt risk.

Finally, limitations to the BRI scenarios could be that there might be other trends on the horizon that we did not conceive of yet, such as other external shocks like technological innovation, major shifts in the political landscape, or yet another pandemic. In addition, China might possibly see some internal socio-political change. Its domestic issues on the BRI are generally more influential than often depicted, as Ye points out (2019). Both external and internal changes would lead the BRI onto a very different trajectory than described. Therefore, further research may be undertaken in the interdependencies of the BRI and domestic social, economic and political developments, and a more detailed analysis of the impacts of possible future trends. In addition, we made the assumption that globalisation and economic growth were to affect the world somewhat equally, i.e. national economies were to move in unison towards high or low growth, which was a simplification to reduce complexity. To address this and other generalisations, we leave it to other researchers to differentiate the effects on particular countries when looking at a subsection or one influential factor of the BRI. This paper attempts to present a comprehensive conceptualisation of the BRI and could provide a basis for the suggested future investigations, as well as a foundation for quantifications of BRI impacts.

Author statement

Julian Kirchherr, Vera Schulhof and Detlef van Vuuren conceptualised research.

Vera Schulhof conducted interviews and desk research, analysed and visualised data, wrote the paper.

Julian Kirchherr and Detlef van Vuuren provided comments and supervised.

Declaration of Competing Interest

No potential conflicts of interests were reported by the authors.

Annex

Table 5
| Axes / Drivers of Change | Code / Trend | Coding rule / Definition | Degree | Coding examples (two per trend degree/axis) |
|--------------------------|-------------|--------------------------|--------|---------------------------------------------|
| Economic globalisation   | Free movement of goods, services, capital, information; global integration of value chains (see e.g. in the most widely cited KOF globalization index (Gygli et al., 2019; Potrafke, 2015) Positive correlation between globalisation and growth on a global scale (not counterfactual), as is well established in literature, see e.g. (Dreher, 2006; Samimi & Jenatabadi, 2014)) | High degree: continued global trade flows, division of labour, and high economic growth | In three years, there will be a vaccine. (...) And the vaccine will make everybody more comfortable in terms of globalization, opening up the border and resuming to some form of business as usual kind of approach (...). So, I believe in terms of the trajectory of BRI development and BRI projects, it is still upward going and in a positive direction. The Chinese economy will grow less quickly. And of course there is going to have to be recovery in the markets. (...) So yes, there will be an impact from Covid, but it will be short-term, and it certainly will not last as long as the great recession that we had in 2008/2009 that has taken 10 years to get over that. So this one will be something that we will get over more quickly China has already seen less economic growth last year in comparison to the 30 years prior to that. This has slowed down a lot of the process, at least it has slowed down the size of the investments. (...) this has led to more caution among the investors. On top of that, there was the trade war with the United States; now there is the pandemic that puts more pressure on companies and investors – both in China and abroad. I assume there will be much fewer investments – indirectly anyway, but also in the next years, and investments will be selected much more carefully. If you look at the trade side, the structural changes in the patterns have been under way for the last 5 years, where you see the rate of global trade (...) shrinking proportionally as regional convergence increases. That was happening well before COVID-19. You can see literature in the OECD, WTO or others. (...) trade is basically concentrating in three mega regional blocks, of which China is one major hub, second is Germany, third is the United States. (...) this structural change will accelerate. You will have sort of a de-globalisation of trade flows, and you will have that creation of more mega regional trade convergence. A lot will be decided by what happens in November. (...) if the voters are sick and tired of [Donald Trump] enough, then I think we can be going back to do business as usual. Except that the Americans and the Chinese will have to become co-equals. When Europe, the EU finally decides it is going to stick together, (...) that will suddenly bring law and order and governance back to the world. But it will be a different law and order. (...) The potential for Europe, China and America to work together. So much good could come out of this. The Europeans will benefit from the BRI almost as much as the Chinese if they are clever enough to use it. Now of course the Chinese want to play a role in this new and evolving multilateral system, which is a mixture of participating in these historical institutions and setting up their own systems, where Belt and Road is the most important. Of course it is linked to the Asian Infrastructure Investment Bank which is a complementray but also challenging institution to the World Bank. It is in the open how the anti-globalisation backlash will be coming out of this. On the one hand, the only effective mechanism confronting this crisis has been the national state. No international mechanism has added much, WHO, UN, NATO have been completely irrelevant, European Union limited value, most effective measures have been done by Merkel or the leaders of Italy and Spain. So the nation state has got a renaissance as opposed to multilateralism. Also in the economic re-building, you will see nation states will be playing a key role. (...) I would hope that China can step up multilateral efforts. Based on my observation from the past few years, Chinese stakeholders, policymakers especially, and more increasingly the NGOs, are more eager to participate and contribute to the multilateral framework. But on the other hand, this pandemic has also brought a surge of nationalism in China as well. Cold war between China and US is happening. So I don’t think multilateralism is going to get stronger. |
| Multi-lateralism          | Political globalisation; political cooperation between a minimum of 3 countries (Corbetta & Dixon, 2004; Keohane, 1990) following international rules and institutions of the states involved (Ruggie, 1993; Wedgwood, 2002) Most prominent example of a multilateral system: so-called Bretton-Woods organisations established after World War II, i.e. the World Bank, the IMF, and the United Nations (James, 2013) | Strong: global governance, adherance for international rules, strong multilateral organizations | Weak: little international political cooperation or respect for international rules, weak multilateral organizations |
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