The Belt and Road Initiative

Economic, Poverty and Environmental Impacts

Maryla Maliszewska
Dominique van der Mensbrugghe

WORLD BANK GROUP

Abstract

China's Belt and Road Initiative aims to improve connectivity between China and more than 70 countries through infrastructure investment and regional cooperation. The initiative has the potential to accelerate significantly the rate of economic integration and development in the region, as trade costs decline. The goals of this paper are to (i) study the impacts of infrastructure improvements on Belt and Road Initiative and non–Belt and Road Initiative countries' trade flows, growth, and poverty; and (ii) suggest policies that would help maximize gains from the Belt and Road Initiative–induced trade cost declines. The analysis captures the trade costs reductions as a result of infrastructure improvements. The findings indicate that the Belt and Road Initiative would be largely beneficial. First, global income increases by 0.7 percent (in 2030 relative to the baseline). This translates into almost half a trillion dollars in 2014 prices and market exchange rates. The Belt and Road Initiative area captures 82 percent of the gain, with the largest percent gains in East Asia. Second, globally, the Belt and Road Initiative could contribute to lifting 7.6 million people from extreme poverty and 32 million from moderate poverty. Third, the initiative would lead to a modest increase in global carbon dioxide emissions, with a complex set of positive and negative outcomes at the national level for other types of emissions.

The Belt and Road Initiative:
Economic, Poverty and Environmental Impacts

Maryla Maliszewska[1] and Dominique van der Mensbrugghe[2]

[1] Macroeconomics, Trade & Investment, The World Bank Group, 1818 H Street NW, Washington DC 20433 (mmaliszewska@worldbank.org). We are grateful to Michele Ruta and Gladys Lopez-Acevedo for comments and suggestions and to Maria Pereira for excellent research assistance. The poverty estimates under section 4.1 have been provided by Israel Osorio-Rodarte and Rakesh Ramasubbaiah.
[2] The Center for Global Trade Analysis (GTAP), Department of Agricultural Economics, Purdue University, West Lafayette, IN 47906 (vandermd@Purdue.edu).

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1. Introduction

The Belt and Road Initiative (BRI) or One Belt One Road (OBOR) initiative was announced in the Fall of 2013 by President Xi Jinping of the People's Republic of China (PRC). The President invoked the ancient Silk Road announcing the plans to bring Asia, Europe, Africa, and the Middle East closer together by constructing investment and trade networks and creating new institutional linkages. The BRI could promote trade, more efficient resource reallocation and strengthen economic growth across the region. It could also encourage countries to coordinate economic policy and improve regional collaboration. The goals of our analysis are to i) study the impacts of infrastructure improvements on BRI and non-BRI countries' trade flows, growth and poverty; and ii) suggest policies that would help maximize gains from the BRI-induced trade cost declines.

To our best knowledge, there are only a few CGE-based studies on the impacts of the BRI. Fan Zhai (2017) uses estimates of elasticity of trade costs with respect to quality of infrastructure and per capita income to estimate the future reductions of trade costs due to BRI. He applies those estimates in a dynamic global CGE model and finds that BRI might bring important benefits to its members and beyond. With moderate assumptions on BRI investment, the simulation results indicate a global welfare gain of 1.3% of global GDP by 2030 with a boost to global trade by 5%. The vast majority of gains applies to BRI countries. Villafuerte, Corong, and Zhuang (2016) assume that BRI leads to a 25% reduction in road transport margins and 5% in sea transport margins, as well as a significant reduction in time to import by BRI countries due to the accompanying trade facilitation measures. The authors estimate that BRI GDP growth rates could increase by 0.1-0.7 percentage points, while total exports of BRI countries could increase by between $5 billion and $135 billion depending on the assumptions on trade costs reductions.

Our analysis adds value to the existing research by incorporating the impacts of BRI-related infrastructure improvements based on bilateral trade time reductions from de Soyres et. al. (2018). In addition, while the CGE analysis provides impacts on several economic variables (e.g. trade, employment, economic growth), we also study the impacts on poverty and greenhouse gas emissions. We also assess the role of trade policy reforms in maximizing the gains from BRI-induced infrastructure improvements.

We use the data on "value of time" from de Soyres et. al. (2018), which is based on Hummels and Schaur (2013) original estimates updated with trade flows from 2014. In our BRI simulations, the value of time in trade is adjusted based on the GIS estimates of the impacts of BRI projects on shipment time based on Baniya et. al. (2018). More details on these estimates are provided below.

The findings of this paper rely on the Envisage Model—a global, recursive dynamic computable general equilibrium model. The Envisage Model was initially developed at the World Bank, which continues to use it, though the core development team is now situated in the Center for Global Trade Analysis (GTAP) at Purdue University. More details on the model, the underlying database and the regional and sector dimensions, and the baseline assumptions for this study are provided in Annex A.

It should be noted that we abstract from the economic impacts of the infrastructure expenditures. These are unlikely to have major repercussions on the long-term real income gains but could affect the timing of the gains depending on the source of the financing, i.e. domestic versus foreign. Foreign inflows could impact the short-term gains through their effect on the real exchange rate, unless there is strong leakage of the inflows in terms of imported goods and services. If investment was funded by higher government taxes, it would likely lower household consumption with impacts on private investment and relative prices. In addition, our modeling approach misses some of the channels that would be likely to increase the gains from the BRI such as additional foreign direct investment flows or new products or markets where countries might become competitive following implementation of BRI as in our approach intensive and extensive margins are determined by the existing trade flows. Furthermore, there is significant uncertainty regarding the projects to be implemented under BRI and their potential for trade cost reductions. Our analysis uses the best available assumptions, but the impacts of the BRI will ultimately depend on the specific investments and their effectiveness in reducing trade costs.

2. BRI-induced trade costs reductions

This study employs the estimates of de Soyres et. al. (2018) to generate the BRI-induced trade costs reductions. The authors use network analysis to quantify the impact of the BRI on connectivity between countries before and after the infrastructure investments. The network model covers more than 1,000 cities and incorporates the current network of rail and maritime links to compute the shipment costs between all cities using a shortest path algorithm. The algorithm factors in the cost of a given transport path taking into consideration distance, travel time and vehicle operating costs. The analysis covers cities with population over 500,000 as well as the three most populous cities in the country. The network is generated by solving for each city pair the routing determined by the shortest time. The limitation of the methodology is that it fails to include road and air transport features in the current application. Other limitations are also discussed in the study by de Soyres et. al. (2018) such as lack of information on rail gauge, service frequency port facilities etc. Another key challenge was posed by the identification of BRI-related projects where timelines and specific locations were not always available. Nevertheless, the authors generate a consistent data set of BRI-related trade costs reductions in rail and maritime transport costs including switching across the two transport modes. These trade costs reductions are then applied to ad valorem equivalents of value of shipment day generated based on updated estimates of Hummels and Shaur (2013). The time in trade estimates are based on US imports data and variations in the premium paid for air shipping versus maritime shipping. The average delay of one day in shipping is estimated to be associated with ad valorem tariff of 4.9% in the baseline. However, the data is available at the HS2 digit level and aggregated to GTAP sectors and country pairs based on 2014 trade flows.

In the baseline, the trade among BRI countries air transport accounts for nearly 12% of total transport cost, land is around 31% and sea is around 58%. These shares vary dramatically across exporting countries—with high sea shares for island economies such as Indonesia and the Philippines. Therefore, our analysis covers a significant share of total transport services. In the baseline, the highest time in trade estimates are estimated in products of animal origin, cereals, fruits and nuts, pulp and paper; while products the least sensitive to time in trade covered special woven fabrics, silk, man-made fibers and filaments.

The baseline scenario assumes the continuation of past trends with no decline in trade costs, the details are presented in Annex A along with the population and GDP data in Tables 1-3. In the counterfactual scenarios we study the impacts of the BRI-induced trade cost reductions. We apply the lower bound estimates of trade cost reductions due to BRI-related infrastructure improvements from de Soyres et. al. (2018) to generate the low case scenario (BRILBD). The upper bound estimates allow for switching across transport modes leading to deeper reduction of trade costs and form our high case scenario (BRIUBD). Further gains could be realized if in addition to improving the transport infrastructure, the trade facilitation reforms would lead to halving of border delays for BRI countries (BRIUBBD). Finally, we augment the last scenario with two variants of complementary policies where BRI countries implement a 50% reduction of tariffs in trade with each other (BRIUBBTD) or reduce their tariffs in trade with all trading partners (BRIUBBTPD). The scenarios are summarized below:

Code	Description
BRILBD	BRI lower bound estimates
BRIUBD	BRI upper bound estimates
BRIUBBD	BRIUBBD and reduced border delays
BRIUBBTD	BRIUBBD and tariff reduction applied on a preferential basis among BRI countries
BRIUBBTPD	BRIUBBD and tariff reduction applied on a MFN basis by BRI countries

Table 4 summarizes the shocks for the regions in the BRI area. The shock occurs in two time periods. One-half of the shock is assumed by 2025, and the remainder by 2030. The fourth and last simulation involves tariff reductions applied on MFN basis. Figure 1 displays the trade weighted aggregated across sectors bilateral trade costs reductions on exports originating from countries on the left-hand side of figure in our central scenario (BRIUBD). Most of BRI-induced bilateral trade costs reductions are below 10%, but several exporters experience higher trade costs reductions to most destinations. Those biggest cost reductions on trade costs of exporting are expected in Kyrgyz Republic, Kazakhstan, Ethiopia, the Lao People's Democratic Republic and Cambodia. We would expect those countries to be the biggest beneficiaries of the BRI. The full bilateral data set of trade costs reductions is presented in Table 4.

When analyzing the bilateral trade costs reductions by using the example of imports by China, we note that the differences across sectors of economic activity are very small, but systematically vary by the source of exports. Again, South Asia experiences the biggest trade cost reductions, while countries that are not part of the BRI such as the United States or Latin American and Caribbean countries (LAC) register very small gains (less than 1%) from better maritime connectivity of China with other regions.

Figure 1 Average import weighted trade cost reductions as a result of BRI investments under upper bound BRI related infrastructure investment scenario BRIUBD (percentages).
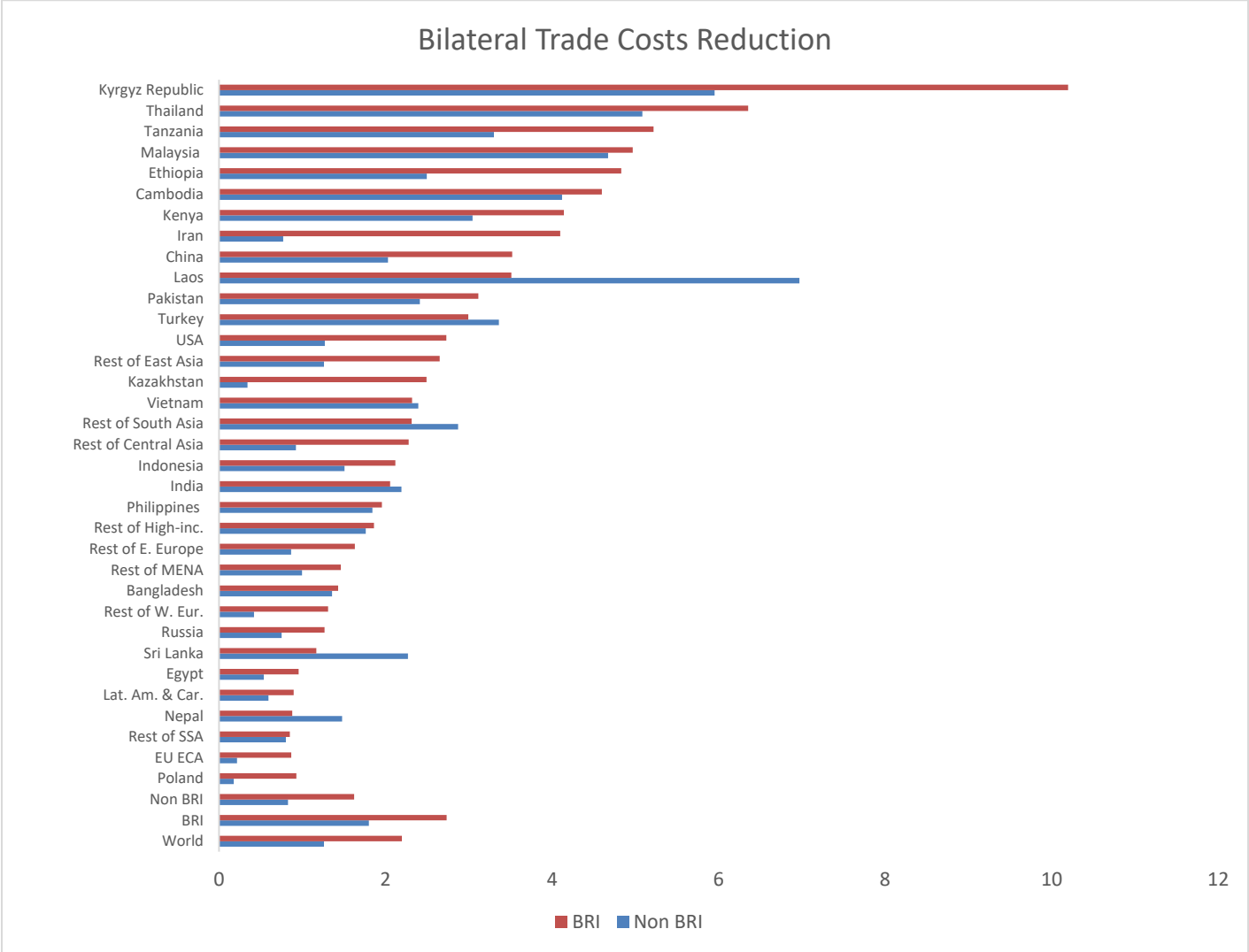
BRI-related infrastructure investments will naturally also reduce the costs of trading inside the countries. The estimated ad valorem equivalents of internal trade costs reductions from de Soyres et. al. (2018) are applied to input-output coefficients of trade services and all transport services. The domestic trade cost reductions range from Poland with a trade cost reduction of 0.9% for BRI countries and of 0.2% for non-BRI countries, to Kyrgyz Republic, the country that has the highest trade cost reductions, with reductions of 10.2% for BRI countries and 5.9% for non-BRI countries. To capture improvements in internal logistics and transportation, the diagonal element of the estimated improvements is assumed to apply to the domestic trade and transport services used to produce individual commodities. For example, if the domestic, i.e. diagonal, estimate of improvements in trade and transport is 5%, intermediate demand for the relevant trade and transport commodities in each sector is assumed to decline by 5% relative to output, i.e. the input-output coefficient is adjusted downwards by 5%. In the current configuration of the input database,

the relevant services are trade services (TRD) and the three transport services—air, water and land (ATP, WTP, and OTP).

Under the upper bound infrastructure improvements scenario with the reduction of border delays (BRIUBBD) the global welfare gain increases from 0.7% to 1.1%, while the gain for the BRI area increases from 1.2% to 2%. The impact on the non-BRI region is somewhat negative, as it does not benefit from internal trade cost reductions but suffers from increased trade diversion as domestic inputs become relatively cheaper compared to imports.

3. Macro results

The iceberg trade cost reductions benefit consumers of final (households) and intermediate goods (firms). Trade cost reductions brought about by infrastructure improvements lead to higher quantity of imports being available to importers. With lower trade costs, the price of a unit of imports is less expensive and increases the competitiveness of local production (using imported inputs) either sold on the domestic market or exported. As a result, production shifts to the most competitive sectors, leading to productivity gains and expansion of trade and faster economic growth in the BRI region. The trade cost reductions also apply to trade with non-BRI countries, leading to somewhat faster growth in non-BRI countries too.

Some of the key results are summarized in Table 5-13. Table 5 to 7 highlights the key macroeconomic indicators—real income (as measured by equivalent variation[3]) and aggregate trade. Our discussion focuses on the upper bound infrastructure improvements scenario (BRIUBD). Summary results include:

- Global real income increases by 0.7 percent (in 2030 relative to the baseline), which in comparative terms is relatively sizeable as upper estimates of the real income impact of global free trade are around 1 percent.[4] This translates to almost 930 billion dollars in 2014 prices and market exchange rates.
- The BRI Area captures 70 percent of the gain, with China garnering around 20 percent of the total global gain. In percentage terms, the largest return accrues to Pakistan with an increase of 10.5 percent in overall real income and Kyrgyz Republic with 10.4 percent. East Asian economies also seeing sizable gains: Thailand (8.2%), Malaysia (7.7%) and Cambodia (5%), and significantly higher than the countries in South and West Asia. Ignoring the potential negative effects of financing BRI-related infrastructure, China would see an increase of 0.7 percent.[5]
- The non-BRI area sees some gains with an increase of 0.3 percent, most of which is captured by Ethiopia, Europe and Rest of High-Income countries. These latter two regions, though not formally part of the BRI area, are integrated economies with the BRI area.

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[3]   This is the expenditure to attain utility in year *t* in any given simulation using base year prices. It is similar in magnitude to real private consumption.

[4]   The global average change in the value of time is 1.6 percentage points.

[5]   Real income is measured as the equivalent variation for households. We hold government expenditures fixed in real terms and thus there is no welfare impact from this channel. We could include the welfare linked to investment expenditures, but these would not substantially change the results in this scenario.

- The volume of global exports increases by 1.7 percent (in 2030 relative to the baseline), translating to an increase of some $565 billion (in $2014).
- Most of the increase in exports occurs in the BRI area ($438 billion), which witnesses an increase in exports of some 2.8 percent. The largest increases in exports in percentage terms include Thailand (14.9%), Malaysia (12.4%), and Pakistan (9.8%). Not all BRI regions benefit in terms of trade growth, for example Rest of Eastern Europe sees a negligible increase, ECU (-0.7%), Poland (-0.4%), Nepal (-0.2%) and the Arab Republic of Egypt (-0.2%) see export declines.
- The non-BRI area shows a small increase in terms of exports (0.7%), with Latin America (-0.5%) and Rest of Western Europe with negative values. The highest percentage growth in exports in the Non-BRI Area is Ethiopia (3.9%).
- Import growth is higher than export growth, as the iceberg parameter directly benefits import and indirectly export growth through lower cost of imported inputs. At the global level, import growth is 3.4 percent (in 2030 relative to the baseline), evaluating to over $1,153 billion (in $2014 prices).
- Thailand (21.4%), Malaysia (18.5%) and Kyrgyz Republic (17.5%) witness the highest import growth. There are modest declines for ECU, but sizeable increases for Pakistan, Turkey and the Islamic Republic of Iran.
- The United States, and Rest of High-Income countries sees the bulk of the import increase for the non-BRI area, with negligible gains for Latin America.

Table 8a and 8b provide the detailed changes in export volumes in both percentage and level terms (relative to the baseline in 2030). The key findings include:

Agricultural exports by the BRI area increase by 2 percent. China sees a large decrease in the exports of coal (-9.4%), but with gas increasing (3.5%), albeit from a relatively low base. The results for the other regions within the BRI area are variegated—depending on the source of the reduction in value of the time of trade and relative comparative advantage. Most of the large movements occur in manufacturing and extraction exports, though with some exceptional changes in agriculture in some cases. Lao PDR stands out as a country that would see a significant boom in a number of sectors—particularly in the extractive sectors and metal products. Another big beneficiary would be leather goods exports from the Kyrgyz Republic, increasing by over 150 percent.

- Export growth for the non-BRI regions has a negligible increase of 0.7%, with most of the dollar gains occurring in agriculture and wood products. The United States nonetheless sees a significant gain in electronics exports (14.9%).

As highlighted earlier, import changes in 2030 outstrip export changes. Table 9a and 9b show the corresponding figures for import changes (relative to the baseline in 2030):

- For the BRI area in aggregate, import growth is growing across all activities. Sectors with high import growth include electronics, construction, agriculture, and petroleum. Countries with high manufacturing import growth include Thailand and China. There are individual sectors experiencing big gains such as wood products imports by Pakistan (48.3%).

- For the non-BRI area, the impact on import demand is also positive—overall of a growth of 2 percent, with most sectors expanding in terms of imports. Latin America and Rest of the Western Europe have the lowest growth rates.

Tables 10a and 10b unpack the macroeconomic results by looking at the detailed changes in value added—Table 10a in percentage terms relative to the baseline, and Table 10b in volume terms (at $2014 prices). A few summary findings:

- The BRI area sees an overall gain of $73 billion. Gains accrue to manufacturing (mostly textiles), followed by agriculture sectors, with a small gain in electricity and losses in extraction.[6] The largest increase in value added in level terms are in agriculture and processed foods.
- The largest percentage gains are in Malaysia and Thailand.
- The non-BRI area has imperceptible changes to value added in aggregate with negligible gains in agriculture (with notable gains in Ethiopia and the United States) and notable losses in electronics.

4. Social costs/benefits of the BRI

4.1. Factor rewards, labor displacement and poverty implications

BRI related investments are expected to lead to an increase of returns to factors with workers being relatively better off than capital and land owners. Table 11 provides some insights to the distributional impacts of the BRI initiative. It shows the change to aggregate real factor returns (deflated by the regional CPI) in 2030 relative to the baseline. For the BRI area in aggregate, the return to labor has a higher increase than the return to capital (including land and natural resources), 1.37% versus 0.87%. Unskilled workers would see a gain (1.36%) and skilled workers a slightly higher gain (1.38%). However, there are wide variations across regions. For example, Lao PDR and Thailand witness a fairly sizeable increase in skilled wages relative to unskilled. Pakistan and Kyrgyz Republic see the opposite. Likewise, the relative gains between labor and capital vary widely across regions. Land returns increase in all BRI regions, especially in Pakistan and Bangladesh and some regions see a decline in returns to natural resources. Kyrgyz Republic is again a significant outlier with returns to natural resources increasing by 13.2%. The changes to real factor returns tend to be smaller for the non-BRI area.

The impact of the BRI investments on labor displacement would be moderate. Table 12 reflects a measure of the potential net displacement of workers beyond what would be expected in the baseline in 2030 (in thousands). For the BRI area, total displacement is some 12 million workers, or 0.48 percent of the baseline labor force.[7] This is a relatively small amount, particularly as we assume that there is a transitional phase for the initiative. The EAP region is expected to lose

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[6] Aggregate definitions are: Agriculture (Agriculture), Services (Electricity, Construction, Trade services, Other, Water and Air transport, Hospitality services, Other business services and other services), Other (Minerals, oil, gas, and coal extraction). Manufacturing includes all other sectors.

[7] Gross displacement is zero as the model assumes fixed employment. The displacement is measured as the sum across all sectors where employment increases. It is equal to the sum across all sectors where employment decreases.

agricultural employment of about 0.8 million, while South Asia would gain over 4 million workers in the agricultural sector. Overall as a result of the BRI infrastructure investments the largest share of labor force of 0.9 percent is expected to switch jobs in EAP, followed by the SSA and MENA region where about 0.6 and 0.5 percent of labor force respectively would switch jobs. The BRI area could see a net loss of almost 0.8 million agricultural workers (in 2030 relative to the baseline). The majority of this would be in China, though many other regions would see agricultural employment losses as well such as Malaysia and Thailand. Bangladesh, Pakistan and India would see some significant increases in agricultural employment, as would Kenya and Tanzania. The displacement effect is significantly lower in the non BRI area.

While impacts would vary by countries, income gains under the BRI scenario would lift several million people from poverty relative to the baseline scenario.[8] There will be winners and losers in the short run, but if BRI investments materialize the poor in both BRI and non-BRI countries would likely experience welfare gains. To evaluate the effect on poverty[9] in countries that are likely to be the most affected, i.e. low and middle-income countries, the use of extreme and moderate international poverty lines at PPP$1.90 and PPP$3.20 a day are preferred.[10] Globally, BRI related investments could lift 7.6 million from extreme poverty and 32 million from moderate poverty. Developing countries in the BRI will benefit the most from the reductions in extreme poverty of 4.3 million and moderate poverty of 26.7 million.

In countries like Kenya and Tanzania, an additional 0.7 million poor people would be expected to be lifted from extreme poverty, at PPP$1.90 a day. This is approximately equivalent to an additional 1.0 and 0.9 percentage points reduction in the extreme poverty headcount rate. In South Asia, Pakistan would see some significant additional reductions in extreme poverty with 1.1 million people being lifted compared to the baseline. Bangladesh and India are expected to see a smaller number of people lifted out of poverty i.e. 0.2 million (0.11 percent of headcount) and 0.03 million (0.002 percent of headcount), respectively. In Nepal, the scenario with BRI infrastructure investment alone lifts an additional 60 thousand people out of extreme poverty compared to the baseline. In East Asia and Pacific, Philippines expects to see approximately 90 thousand people lifted out of extreme poverty compared to the baseline.[11]

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[8] In 2015, the World Bank estimated that 53.69 percent of the population in developing countries lived with less than PPP$5.50 a day – or 3,369 million. The baseline scenario, which contemplates a continuation of current demographic and economic trends, projects a reduction of 5.91 percentage points in the poverty headcount at PPP$5.50 a day by 2019 and an additional reduction of 12.64 percentage points by 2030.

[9] Poverty estimates were obtained by linking results of a CGE model with a simple global microeconomic model. The initial global distribution of per capita consumption/income is based on PovcalNet data. Country-specific growth rates in domestic absorption per capita (real household consumption per capita) from the macro CGE are fully transmitted to household data assuming distribution-neutrality. To calculate the number of poor, the total population in each country is adjusted using United Nations population projections. This is based on the 158 countries in the BRI study that were mapped to the poverty estimates of the 163 countries found in the PovcalNet.

[10] The World Bank now reports international poverty lines that are more closely related with national poverty standards. These poverty lines are set at $1.90, $3.20, $5.50, and $21.70 a day (in 2011 purchasing power parity (PPP)) for low-, lower-middle, upper-middle, and high-income countries, respectively.

[11] Detailed country specific results are available from the authors upon request.

4.2. Emissions implications

Finally, the impact on emissions would be modest. Table 13 highlights the potential impact on emissions—both greenhouse gases and those more associated with local pollutants and concomitant health impacts. The Envisage model tracks the emissions of 14 gases.[12] Four are so-called greenhouse gases (GHGs),[13] that are most linked with radiative forcing and global warming. The remaining 10 are mostly local pollutants with potentially significant health effects—but can also interact with the GHGs and have an impact on climate change. For example, sulfur dioxide in the atmosphere lowers radiative forcing and thus acts to cool the atmosphere. In Envisage, carbon dioxide (CO_2) emissions emanate exclusively from the combustion of fossil fuels—thus the model does not track changes from land-use changes (e.g. deforestation), or process emissions (e.g. from cement manufacturing). The remaining 13 gases are generated from three sources: 1) intermediate and final demand for goods and services; 2) factor use (e.g. land in rice production, or herds in livestock); and 3) output (such as methane emissions from landfills).

The change in the pattern of emissions generated by the BRI scenarios will reflect a complex constellation of factors—that can be broken into scale effects (e.g. change in GDP), technique effects (e.g. changes in input mix), and composition effects (e.g. changes in the structure of output within and across countries). Technique effects are likely to remain small as there are no explicit policies that are targeting emissions, i.e. the only changes in relative prices are coming from the trade policy changes including those linked to BRI. Moreover, most inputs are assumed to be consumed in fixed quantities. All else equal, the scale effects should line up with increases in GDP on a country basis. The composition effects are likely to be large as policies engendered by BRI lead to changing comparative advantage with significant changes in both the internal and external composition of output. These are not necessarily easy to trace in a modeled economy with many sectors and countries. If production moves to relatively 'clean' sectors and countries, the composition effects may counteract the scale effects, or vice versa.

Figure 2 provides an overall picture for the changes in emissions at the global level from the BRIUB scenario. GDP growth is some 0.12%, thus this scenario suggests that for most gases, the composition effect dominates the scale effect. There are some notable exceptions—F-gases, NMVB, and SO_2. F-gases are linked in particular to electronics manufacturing, thus this suggests that re-allocation of electronics manufacturing would lead to somewhat cleaner production. SO_2 is often related to coal-based electricity production. A decline in SO_2 would bring some health benefits.

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[12]   Emissions covered in Envisage include: Greenhouse gases: Carbon dioxide (CO_2), Nitrous oxide (N_2O), Methane (CH_4), F-gases (HFCs, PFCs, SF_6, NF_3) and Other gases: Black carbon (BC), Carbon monoxide (CO), Ammonia (NH_3), Non-methane volatile organic compounds short carbon cycle (NMVB), Non-methane volatile organic compounds long carbon cycle (NMVF), Nitrogen oxides (NO_x), Organic Carbon (OC), Particulate matter 10 (PM10), Particulate matter 2.5 (PM2.5) and Sulfur dioxide (SO_2).

[13]   Also referred to at times as the Kyoto gases as they were targeted in the Kyoto Protocol Agreement, signed in 1997.

Figure 2. Change in global emissions under BRI investment scenario (BRIUBD) by 2030 (percentages).
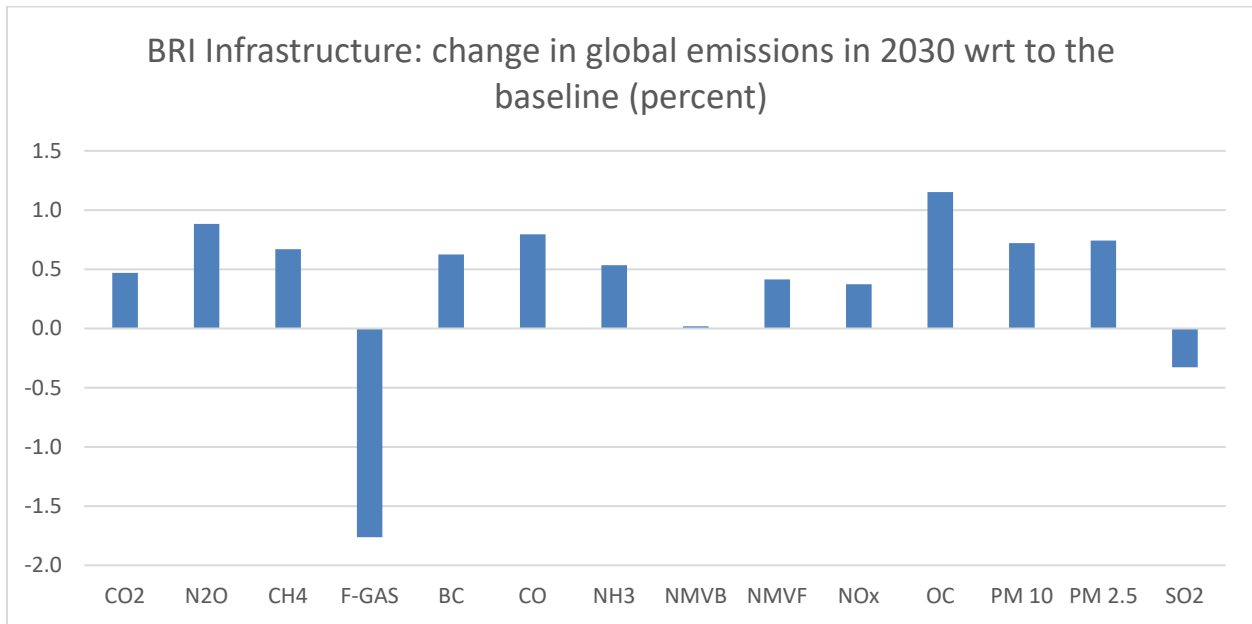
Figure 3. Change in carbon emissions in 2030 with respect to Baseline under BRI related infrastructure investment scenario BRIUBD (percentages).
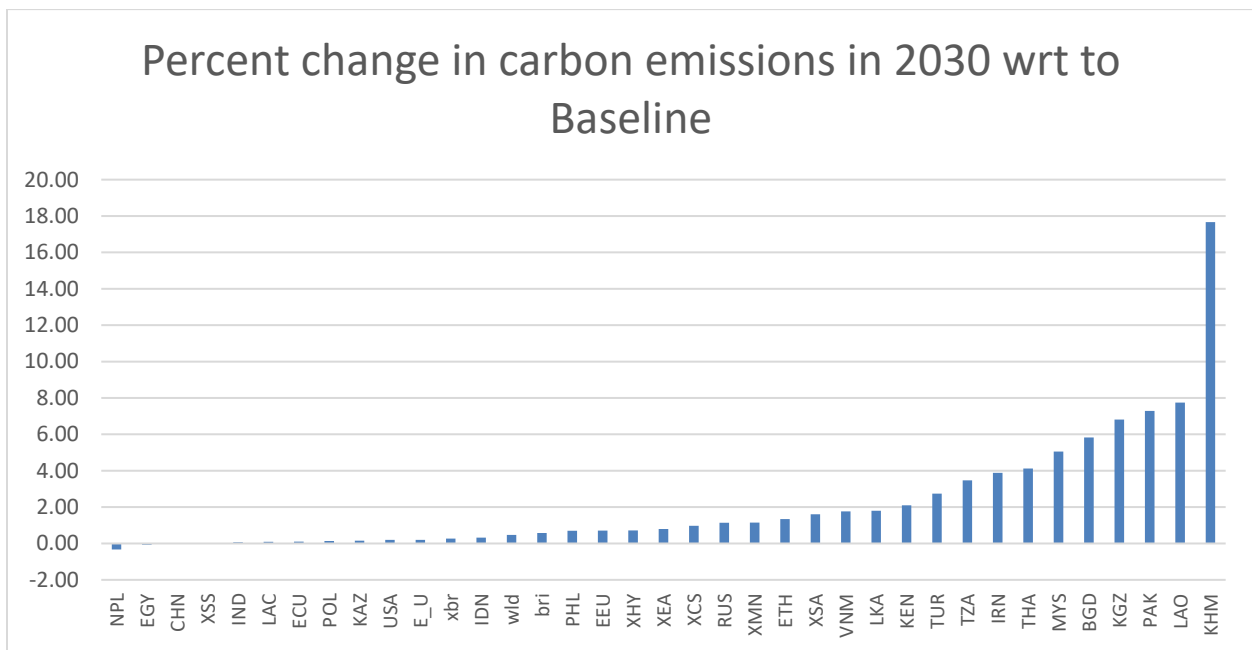
The impact on CO_2 emissions is negligible in aggregate with an increase of 0.5%. The BRI region itself sees an increase of 0.6%, but with China showing no change. There is considerable heterogeneity across countries and regions as highlighted in Figure 3. The reasons vary. In the case of Cambodia, there is a very large increase in output in all three transport sectors. On the other hand, Lao PDR sees a more modest increase in transport, around 5%, and relatively significant

increases in the output of leather goods, chemicals, rubber and plastics, and fabricated metal products. Kyrgyz is more similar to Cambodia, with large increases in the transport sector. China, on the other end of the spectrum sees modest output declines in a number of sectors including air transport, chemicals, rubber and plastics, and pulp and paper.

Methane and nitrous oxide emissions also rise, respectively 0.7 and 0.9 percent—these are more closely identified with agriculture. There is a sizeable decline in the emissions of fluoridated gases, some 1.8 percent globally—perhaps linked to a re-allocation of electronics manufacturing towards less emitting regions such as ECU (-4.6%) and Thailand (-3.1%). The growth of global non-greenhouse gas emissions various across gases with some barely growing at all (NMVB) and others increasing by 1.2 percent (organic carbon). At the other end of the spectrum is sulfur dioxide (SO_2) with a decrease of 0.3 percent. The results vary widely across regions, largely a reflection of the structural changes each region witnesses as a consequence of the BRI initiative. Just as an example, Lao PDR could see a large rise in some local pollutants such as NMVF (24.4%) and CO_2 (7.7%), with potential deleterious effects on air quality and health.

Figure 4 highlights the sources of increase and decline in emissions for methane for the BRI region as a whole. Methane emissions rise by 0.6% for the region as a whole—more or less in line with GDP growth. The main source of methane emission growth is in intermediate use in transportation sectors (ATP, WTP), intermediate use in other manufacturing (XMN), processed foods (PFD), leather (LEA), and output growth in chemicals, rubber and plastics (CRP). Note that household demand is also a relatively large contributor. The large negative contributions are linked to fossil fuels—intermediate use in coal mining, oil extraction, electricity generation and coal production with other significant contributions in energy intensive manufacturing (KE5), pulp and paper (PPP) and petroleum and coal products (P_C). The other transport (OTP) is an interesting case as this is the only transport where output related emissions decline significantly. The reduction of internal trade costs driven by infrastructure improvements is improving productivity of this sector, resulting in smaller output of that sector.

Figure 4: BRI Infrastructure: Decomposition of CH4 emission growth relative to baseline in 2030 (percent).
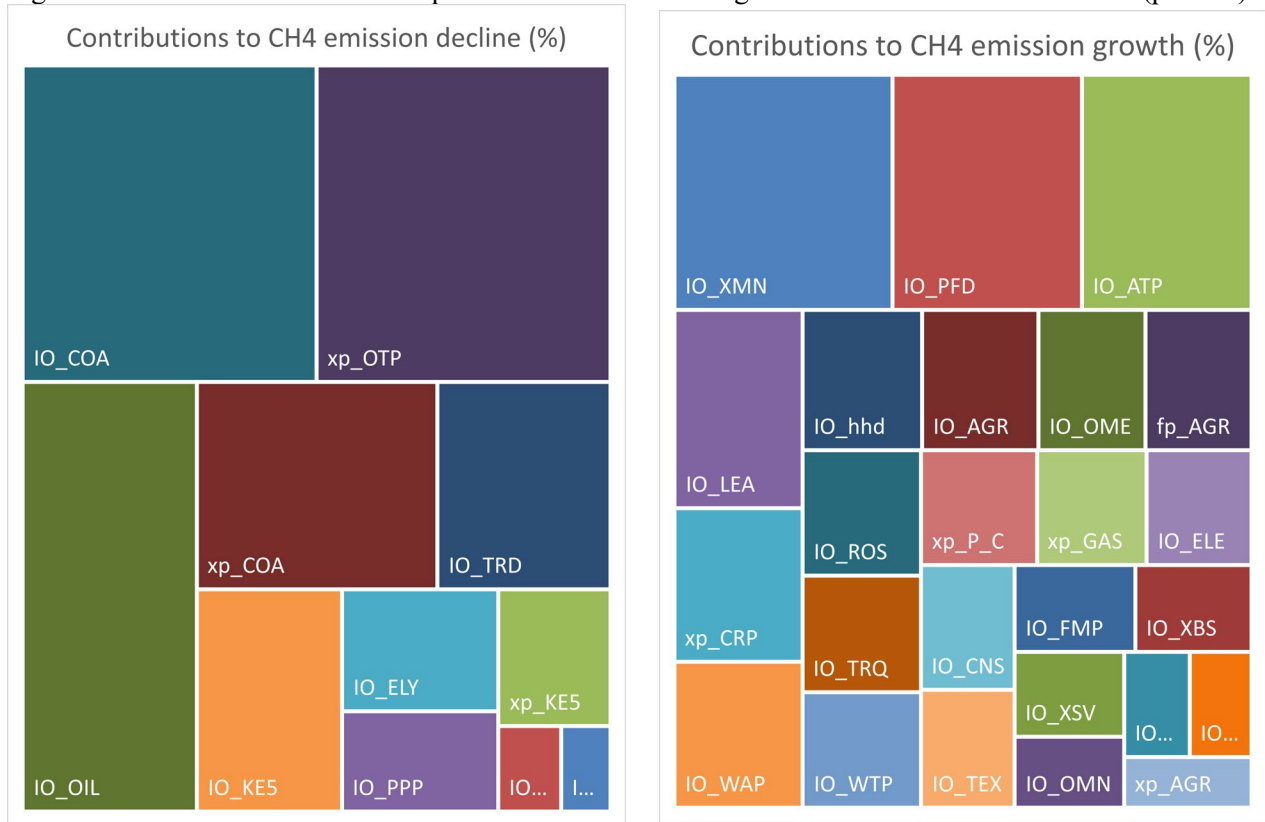
Notes: IO are emissions linked to intermediate demand; XP are process emissions; HHD are final demand emissions linked to consumption and FP are emissions linked to production factors.

5. BRI impacts on selected countries

Several countries will be particularly affected by the infrastructure improvements related to the BRI. We focus on the upper bound infrastructure improvements scenario (BRIUBD) to understand the specific impacts on those countries.

Pakistan presents the highest welfare gain of the countries involved in the initiative, with a gain of 10.5% by 2030 (relative to the baseline), and an 8.6% share of the total gain of the BRI area (Table 5) These gains are the result of trade cost reductions originated by ventures such as the improvement of the Port of Gwadar connections, through highway, rail and pipeline infrastructure, as part of the China-Pakistan Economic Corridor Plan. Other projects include a Peshawar-Karachi Motorway, and an expansion and reconstruction of a railway between Karachi to Peshawar. The sector that shows the sharpest reductions in import trade costs is petroleum and coal products, but sectors such as construction, trade services and the transport sectors also exhibit high reductions. As a result of trade costs reductions, imports of several products increase (Table 9b). The biggest increases are recorded in agricultural goods, textiles and petroleum and coal products. Pakistan is importing less oil, chemical, rubber and plastic goods and less transport equipment than in the baseline.

Lower costs of imported inputs and higher demand from abroad lead to expansion of exports of Pakistan in several sectors (Table 8b). The highest increases are recorded in chemicals, rubber and plastics, processed foods and other manufacturing, which consequently contributes to the highest rates of output growth in these sectors (Table 10b). On the other hand, the sectors that show the highest reductions in exports include agriculture and leather goods.

Kyrgyz Republic is the BRI country that has the second highest percentage welfare gains, with 10.4% by 2030 (relate to baseline), however it is one the lowest in absolute values, with only 1.3 billion dollars increase (in 2014 prices). Thanks to the gains obtained by the BRI projects that focus on transportation - mostly railway lines and roads, most sectors in the economy benefit from the high trade cost reductions. Kyrgyz Republic imports increase across all sectors, with machinery and equipment, textiles, leather goods and petroleum and coal products showing the highest increases. Agriculture records a sharp reduction in both exports and domestic products, creating a significant increase of agricultural imports. In terms of exports, Kyrgyz Republic sees an increase in the sectors of leather goods, coal, and machinery and equipment, as well as exports of trade services and other transport driving the expansion of output in those sectors. Gas and metal products show the highest reductions in output.

Lao PDR is expected to record a welfare gain amounting to 3.1% by 2030 (relative to the baseline). This is directly linked to the high level of trade cost reductions due to infrastructure improvements (see Table 4). These important gains will be associated with a faster access to the sea therefore benefiting trade with partner countries that can be reached through maritime connections. Among the projects that impact Lao PDR, the BRI related investments cover the new rail link from Vientiane to the Bangkok port in Thailand, but also the improvement of the Sihanoukville port in Cambodia while all the rail improvements in Vietnam also play a role. In addition, Kra canal in Thailand is particularly beneficial for all sea shipments going west – this will prevent ships from taking a long detour. The biggest decline of trade cost on imports is expected in sectors such as construction, trade services, paper products and, coal. These sectors also experience the increase of imports, but the biggest volume increases are recorded in machinery and equipment, chemicals, rubber and plastics and processed foods.

The largest increases in the volume of exports of Lao PDR are recorded in chemicals, rubber and plastics as well as in energy intensive manufacturing. On the other hand, the exports of agriculture, wearing apparel and processed foods show the highest decreases. Lower exports also drive output of these sectors to decline. Overall, Lao PDR output seems to be growing in most sectors, with trade services, other transport and hospitality services gaining the most value.

Ethiopia is not on our list of BRI countries, yet it is also expected to reap significant benefits from the reduction of trade costs and border cost delays among the BRI countries. The expected welfare gain amounts to 1.9% by 2030 (relative to the baseline). The biggest decline of trade costs on imports applies to Kyrgyz Republic, Kazakhstan, Cambodia and other countries in both East and South Asia and apply to coal, electricity and machinery and equipment. Faster increase of imports (relative to the baseline) applies mostly to metal products, and machinery and equipment and transport equipment.

Ethiopia is expected to increase its exports of agricultural products, leather goods and energy intensive manufacturing. The business and hospitality services and metal products show a reduction in exports. The trade changes impact output generating significant expansion of output in agriculture, processed foods, leather goods and selected services sectors. Several other sectors exhibit a decrease of output, as resources are redirected to most profitable sectors. This applies to paper products, energy intensive manufacturing and metal products. The structure of the economy seems to move towards the primary sector – agriculture, with manufacturing growing only slightly and services experiencing a decline.

Finally, China also benefits significantly from the BRI-induced trade cost reductions. The welfare gain amounts to 0.7 % by 2030 (relative to the baseline). The sectors experiencing the largest trade cost reductions include petroleum and coal products, and water, air and other transport sectors. Imports of several products increase much more than in the baseline including electronics, chemicals, rubber and plastics, with agricultural goods experiencing the biggest increase in volume of imports.

On the other hand, China shows a much higher increase of exports of electronics, machinery and equipment and chemicals. Since there is a small reduction of output of agriculture and to accommodate its growth of exports, China will meet the increased external demand by increasing imports of this sector. Other sectors with high reductions of output are coal, oil, air transport and electronics. Sectors that show the highest increases in output are wearing apparel, metal products and machinery and equipment. The BRI induced trade cost reductions contribute to restructuring of Chinese output away from agriculture towards services with some positive impacts on manufacturing.

6. Impact of complementary policies

In order to maximize the benefits from the BRI related infrastructure investments, countries can undertake additional trade policy and trade facilitation reforms. We analyze a couple of scenarios where in addition to the upper bound infrastructure investments, BRI countries implement trade facilitation measures that halve the border cost delays (BRIUBBD) and then in addition also halve tariffs on imports from BRI partners (BRIUBBTD) or on an MFN basis (BRIUBBTPD). The complementary reforms reduce the price of imports even further and improve market access for exporters. The reforms lower prices for final consumers resulting in welfare gains, as well as producers increasing their competitiveness, generating export growth and income gains.

The reduction of border delays brings about significant welfare gains (Table 5). At the global level the welfare gains reach 1.1 percent, while in the BRI area welfare gains increase to 2 percent as compared to 1.2 percent under infrastructure investment alone (as compared to the baseline in 2030). This translates into additional $400 billion for the BRI region as a whole. The additional gains are biggest for countries with significant border delays in the baseline. The welfare gains for Nepal, for Kazakhstan and Kyrgyz Republic are higher by over 10 percentage points. Significant benefits are also recorded by Cambodia, Lao PDR and rest of Central Asia. The non-BRI countries also do slightly better under this scenario with gains increasing from 0.3 to 0.4 percent for the region, while Ethiopia's welfare gains almost triple to 6 percent relative to the baseline.

The tariff reductions generate a further boost to trade and enhance welfare gains. However, with the tariffs at a low level already (average trade weighted tariff in BRI countries (vis-à-vis all trading partners) amounts to 3.1%, while for the non-BRI members it amounts to 1.4%), the additional gains are relatively small. Even though at the global level the gains are only slightly higher by $60 billion and $110 billion under preferential and multilateral tariff reductions, some countries experience significant benefits. With multilateral tariff liberalization the global gains are somewhat higher, driven by the higher gains recorded by the non-BRI countries. Under the preferential tariff reduction, the BRI welfare gains increase from 2.0 percent to 2.1 percent (or about $70 billion) by 2030, while the non-BRI countries suffer negligible welfare losses from trade diversion. Although overall gains are small, selected countries with initially relatively high tariffs benefit from own liberalization and better access to BRI countries including the Islamic Republic of Iran, Turkey, Tanzania, Malaysia and Thailand.

With the reduction of border cost delays (BRIUBBD) the structural change in the BRI area would be somewhat faster with overall net loss of agricultural employment of 0.9 million workers (in 2030 relative to the baseline) and agricultural employment gain of 5 million workers (Table 12). Overall, in the BRI area over 15 million would be changing their sector of employment, which amounts to a relatively low share of total labor force at 0.6 percent. Central Asia is the only region where labor displacement reaches relatively high share of total labor force at 2.6 percent. This is mostly driven by very high border delays in the baseline, reduction of which brings sizeable benefits to the region, but also stronger sectoral reallocation of workers. Some other countries also experience significant labor displacement, for example in Bangladesh over 5 percent of the labor force would be expected to switch sector of employment, while in Lao PDR, Malaysia and Pakistan this share reaches over 2 percent of the labor force. Compared to the scenario with infrastructure investment alone the additional labor displacement mostly affects Kazakhstan and Kyrgyz Republic with the additional impact of over 3 percent of the labor force, and to a smaller extent also Nepal and Lao PDR. The displacement of labor in the non-BRI area would affect about 2 million workers as compared to the labor displacement in the baseline in 2030.

The preferential reduction of tariffs within the BRI area brings about structural change in the regions where the initial tariffs are the highest i.e. MENA and SSA. An additional 0.14 and 0.33 percent of the labor force would switch sector of employment in 2030 compared to the scenario with infrastructure improvements and reduction of border cost delays. Overall in the BRI region over 17 million of workers or 0.7 percent of the labor force would switch the sector of employment, while about 3 million workers are expected to switch sector of employment in the non-BRI region. The net effect of tariff reductions on displacement is relatively small, therefore the countries that experienced the biggest displacement under the border cost reduction scenario remain the most affected when the preferential tariff reduction is implemented as well. The countries where tariff reduction makes a significant impact include Nepal, the Islamic Republic of Iran and Kenya with tariff reductions affecting an additional 0.5 percentage point of the labor force.

With the reduction of border cost delays (BRIUBBD) global poverty would be further reduced by an additional 6.5 million and 12.6 million people for the extreme and moderate poverty lines, respectively. Overall in the BRI area over 3.7 million would be lifted from extreme poverty under BRI with reduction in border cost delays, which amounts to a 0.7 percent of the total population by 2030. More than 7.6 million would be lifted from moderate poverty using the same

assumptions. The preferential reduction of tariffs within the BRI area brings only marginal results in terms of poverty reduction. An additional 0.34 million and 1.7 million people would be lifted from extreme and moderate poverty by 2030 compared to the scenario with infrastructure improvements and reduction of border cost delay, mostly in the BRI area. The net effect of tariff reductions on displacement is relatively small, therefore the countries that experience the lowest poverty reductions under the border cost reduction scenario remain the least affected when the preferential tariff reduction is implemented as well.

7. Sensitivity analysis

One of the key assumptions in our analysis is that the reduction of trade costs will impact domestic trade as much as cross-border trade. The estimates of de Soyres et. al. (2018) focus on maritime and rail transport routes, however in domestic transportation a larger proportion of trade takes place through road transportation. As a result, our assumptions of the internal trade cost reductions could be overestimated. We look at the impacts of the cross-border trade costs reductions alone to estimate the benefits of the BRI related infrastructure investments. Table 14 presents the results of this analysis. The key findings remain unchanged as the world and the BRI region experience welfare gains in the upper bound infrastructure scenario, but the gains are much smaller in line with a much more modest trade cost reduction. However, certain countries would see much smaller gains with no internal trade cost reductions. The most striking examples are Pakistan with gains declining from 10.5 to 0.8 percent, Bangladesh with gains declining from 6.9 to 0.7 percent as well as Malaysia and Thailand with gains declining from 7.7 to 4.6 percent and 8.2 to 5.4 percent respectively.

Further, we test the sensitivity of our findings to the elasticity of substitution between imported goods. The Armington assumption allows for product differentiation between countries of origin. We employ the elasticities typical for the structural model as in de Soyres, Mulabdic and Ruta[14] (2018) allowing for greater substitutability across products and making them more homogenous. Somewhat surprisingly, raising the Armington elasticity lowers the overall gains. In order to understand this better, we developed a model similar in spirit to the 1-2-3 model—a standard single country model with two produced goods (for domestic and export markets) and three prices.[15] We extended the model to include an import supply and an export demand schedules to better represent the endogenous terms of trade in the global model. The impacts of an improvement in the iceberg trade costs depend on five key parameters: the initial trade balance, the share of imports in domestic absorption, the export demand elasticity, the import supply elasticity and the Armington elasticity. Using this simple model, we look at the impacts of varying these key parameters individually and it is the case that raising the Armington elasticity reduces the impact on welfare from improving the iceberg parameter. We also undertook Monte Carlo simulations to assess a

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[14] In this model, the elasticity of trade with respect to trade costs is the dispersion of productivity and is not the elasticity of substitution as in Armington models. If producers of the intermediate good aggregate are restricted to purchase goods from the same source, regardless of the change in trade costs, then the trade elasticity will be given by the elasticity of substitution as in Armington models.
[15]   See Deverajan et al. 1990.

broad range of (independent) draws[16] of these five key parameters and the results also show a negative relationship between the Armington elasticity and utility.[17]

There are several reasons why the results might differ from (de Soyres, Mulabdic and Ruta, 2018). The results from the two models provide a range of the potential effects of the BRI. The results from the CGE model exercise abstract from some features that are known to have additional multiplier effects when lowering trade costs: (1) pro-productivity impacts from technology embodied in the imports of intermediate goods; and (2) potential employment effects from relaxing the assumption of a fixed labor supply. Both of these could be explored in future work to more fully scope the range of the potential effects. Beyond this, the two models also have specification differences that are likely to drive the results. Notably, the 'structural' model makes an assumption of Cobb-Douglas technology across intermediate goods (domestic and imported) and between intermediate goods and labor. With rare exceptions, most CGE models assume a Leontief specification. The former thus has strict complementarity across inputs with a technology shock (i.e. the BRI), but not the latter.

8. Conclusions and policy recommendations

Our findings indicate that the BRI would be largely beneficial, but some countries outside the initiative could suffer from trade diversion. As a result of the BRI, global real income increases by 0.7 percent (in 2030 relative to the baseline), which in comparative terms is relatively sizeable as upper estimates of the real income impact of global free trade are around 1 percent. This translates to almost half a trillion dollars in 2014 prices and market exchange rates. The BRI Area captures 82 percent of the gain, with China garnering 36 percent of the total global gain. In percentage terms, the largest return accrues to the East Asia regional aggregate seeing an increase of 2.2 percent in overall real income. The non-BRI area sees some gains with an increase of 0.2 percent, most of which is captured by the European Union and the Rest of high-income region (which is dominated by the high-income economies of East Asia). These latter two regions, though not formally part of the BRI area, are the most integrated economies with the BRI area. There are minor losses for the regions in the Western Hemisphere.

BRI related investments can contribute to lifting 8.7 million people from extreme poverty and 34 million from moderate poverty at the global level. Under baseline conditions, the percentage of people living in extreme poverty, with less than PPP$1.90 a day, is projected to decline from 10.1 percent in 2015 to 5.2 percent by 2030. With infrastructure investments the BRI can additionally lift from extreme poverty up to 8.7 million people. These benefits extend to both BRI and non-BRI countries: 5.1 million from BRI area and 3.7 million from non-BRI countries.

Our estimates indicate that as a result of BRI related trade cost reductions changes in volume and structure of economic activity would have negligible impacts on CO_2 emissions with an aggregate increase of 0.5% at a global level. The BRI region itself sees an increase of 0.6%, but with China showing no change. There is considerable heterogeneity across countries and regions.

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[16]   Based on 20,000 draws.
[17]   A description of the extended 1-2-3 model and the results are available from the authors.

Our study points to the importance of complementary policies such as the reduction of border delays and further tariff liberalization. Reducing the border delays within the BRI region by half brings about significant welfare gains. At the global level the welfare gains reach 1.1 percent, while in the BRI area the welfare gain increases to 2 percent as compared to 1.2 percent under infrastructure investment alone (as compared to the baseline in 2030). The tariff reductions generate a further boost to trade and enhance welfare gains. However, with the tariffs at a low level already, the additional gains are relatively small with an additional $60 billion and $110 billion under preferential and multilateral tariff reductions at a global level.

It should be noted that we abstract from the economic impacts of the infrastructure expenditures. These are unlikely to have major repercussions on the long-term real income gains but could affect the timing of the gains depending on the source of the financing, i.e. domestic versus foreign. Furthermore, there is significant uncertainty regarding the projects to be implemented under BRI and their potential for trade cost reductions. Our analysis uses the best available assumptions, but the impacts of the BRI will ultimately depend on the specific investments and their effectiveness in reducing trade costs.

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Tables

Table 1: Baseline population profile, million

	2014	2017	2020	2025	2030
World	7,248	7,497	7,739	8,120	8,477
BRI Area	4,731	4,878	5,015	5,218	5,393
Cambodia	15	16	17	18	19
China	1,364	1,383	1,398	1,410	1,410
Indonesia	254	264	272	285	295
Lao PDR	7	7	7	8	8
Malaysia	30	31	32	34	36
Philippines	99	104	108	116	124
Thailand	68	68	69	69	68
Vietnam	91	94	96	100	103
Rest of East Asia	100	103	105	110	113
Bangladesh	159	165	170	179	186
India	1,295	1,343	1,389	1,462	1,528
Nepal	28	29	30	32	33
Pakistan	185	197	208	227	245
Sri Lanka	21	21	21	22	22
Rest of South Asia	33	35	38	42	45
EU ECA	470	474	477	479	478
Russian Federation	144	144	143	142	139
Poland	38	38	38	37	37
Rest of Eastern Europe	61	61	60	58	57
Kazakhstan	17	18	19	19	20
Kyrgyz Republic	6	6	6	7	7
Rest of Central Asia	61	63	65	68	70
Iran, Islamic Rep.	78	81	83	86	89
Egypt, Arab Rep.	90	95	101	109	117
Turkey	78	80	82	85	88
Rest of MENA	248	262	277	301	324
Kenya	45	48	52	59	65
Tanzania	52	57	62	72	83
Non-BRI Area	2,517	2,619	2,724	2,902	3,084
Ethiopia	97	104	112	125	138
Rest of Sub-Saharan Africa	771	834	901	1,020	1,150
Latin America and Caribbean	626	646	665	694	720
United States	319	326	333	344	355
Rest of High-income	272	274	276	278	278
Rest of Western Europe	432	435	437	441	443

Table 2: Baseline GDP, $2014 billion

	2014	2017	2020	2025	2030
World	78,226	87,588	97,935	115,447	133,052
BRI Area	24,152	29,238	35,076	45,361	55,733
Cambodia	17	21	26	36	47
China	10,351	13,267	16,639	22,342	27,642
Indonesia	890	1,091	1,335	1,826	2,380
Lao PDR	12	15	19	26	34
Malaysia	338	389	444	548	662
Philippines	285	327	376	469	581
Thailand	404	463	533	663	802
Vietnam	186	229	282	374	477
Rest of East Asia	527	607	697	846	997
Bangladesh	173	212	261	355	463
India	2,042	2,477	3,015	4,064	5,274
Nepal	20	22	25	32	41
Pakistan	243	274	313	398	510
Sri Lanka	80	96	114	147	182
Rest of South Asia	25	29	34	43	55
EU ECA	4,971	5,575	6,208	7,292	8,383
Russian Federation	2,031	2,281	2,533	2,965	3,397
Poland	545	596	652	733	805
Rest of Eastern Europe	229	258	286	339	393
Kazakhstan	227	273	325	436	534
Kyrgyz Republic	7	9	10	14	18
Rest of Central Asia	219	257	304	388	482
Iran, Islamic Rep.	425	450	495	584	675
Egypt, Arab Rep.	301	355	432	578	760
Turkey	799	919	1,031	1,219	1,419
Rest of MENA	2,752	3,207	3,667	4,512	5,451
Kenya	61	73	88	119	162
Tanzania	48	59	73	108	156
Non-BRI Area	54,074	58,350	62,859	70,086	77,319
Ethiopia	56	68	84	115	158
Rest of Sub-Saharan Africa	1,579	1,877	2,248	2,993	3,947
Latin America and Caribbean	6,405	7,185	8,042	9,518	11,057
United States	17,348	18,928	20,544	22,934	25,084
Rest of High-income	10,268	10,982	11,681	12,808	13,870
Rest of Western Europe	18,418	19,310	20,260	21,718	23,203

Table 3: GDP per capita, $2014

	2014	2017	2020	2025	2030
World	10,792	11,683	12,655	14,217	15,695
BRI Area	5,014	5,883	6,859	8,512	10,105
Cambodia	1,095	1,314	1,570	2,013	2,498
China	7,587	9,593	11,906	15,851	19,601
Indonesia	3,500	4,140	4,911	6,417	8,056
Lao PDR	1,751	2,118	2,529	3,256	4,030
Malaysia	11,307	12,468	13,724	15,953	18,340
Philippines	2,873	3,149	3,464	4,038	4,700
Thailand	5,970	6,782	7,772	9,655	11,753
Vietnam	2,052	2,444	2,925	3,735	4,620
Rest of East Asia	5,290	5,918	6,609	7,711	8,784
Bangladesh	1,087	1,287	1,530	1,980	2,481
India	1,577	1,845	2,171	2,781	3,452
Nepal	702	758	835	1,008	1,232
Pakistan	1,315	1,391	1,502	1,754	2,084
Sri Lanka	3,853	4,573	5,369	6,830	8,393
Rest of South Asia	765	825	897	1,042	1,218
EU ECA	10,578	11,750	13,012	15,233	17,531
Russian Federation	14,122	15,863	17,675	20,939	24,436
Poland	14,337	15,694	17,246	19,630	21,989
Rest of Eastern Europe	3,739	4,247	4,784	5,810	6,953
Kazakhstan	13,155	15,169	17,559	22,561	26,714
Kyrgyz Republic	1,280	1,439	1,616	2,020	2,542
Rest of Central Asia	3,615	4,090	4,675	5,707	6,859
Iran, Islamic Rep.	5,443	5,563	5,940	6,750	7,628
Egypt, Arab Rep.	3,366	3,728	4,298	5,307	6,489
Turkey	10,304	11,431	12,536	14,363	16,179
Rest of MENA	11,099	12,228	13,243	14,981	16,837
Kenya	1,368	1,508	1,678	2,030	2,470
Tanzania	927	1,037	1,178	1,494	1,885
Non-BRI Area	22,321	23,171	24,029	25,192	26,190
Ethiopia	574	653	746	918	1,140
Rest of Sub-Saharan Africa	2,047	2,250	2,495	2,933	3,433
Latin America and Caribbean	10,223	11,116	12,088	13,708	15,361
United States	54,399	58,074	61,696	66,572	70,627
Rest of High-income	37,792	40,086	42,366	46,153	49,852
Rest of Western Europe	42,661	44,436	46,328	49,267	52,340

Table 4: Reductions in the value of the time of trade

	CHN					bri					xbr				
	BRIL BD	BRIU BD	BRIU BBD	BRIUB BTD	BRIUB BTPD	BRIL BD	BRIU BD	BRIU BBD	BRIUB BTD	BRIUB BTPD	BRIL BD	BRIU BD	BRIU BBD	BRIUB BTD	BRIUB BTPD
World	1.0	1.9	2.9	3.0	3.0	1.0	2.2	3.7	3.7	3.7	0.4	1.3	1.5	1.5	1.6
BRI Area	1.8	3.0	5.3	5.4	5.4	1.4	2.7	4.8	4.8	4.8	0.7	1.8	2.4	2.4	2.4
Cambodia	2.7	2.9	3.9	3.9	3.9	4.3	4.6	8.8	8.8	8.8	3.0	4.1	4.2	4.2	4.2
China						2.1	3.5	5.6	5.6	5.6	0.7	2.0	2.2	2.2	2.2
Indonesia	0.1	1.1	1.4	1.4	1.4	0.4	2.1	2.3	2.1	2.1	0.1	1.5	2.0	2.0	2.0
Lao PDR	0.5	3.9	7.4	7.4	7.4	0.9	3.5	14.4	14.3	14.4	0.3	7.0	10.7	10.8	10.7
Malaysia	5.7	6.1	7.0	7.0	7.0	4.0	5.0	5.6	5.4	5.4	2.9	4.7	5.0	5.0	5.0
Philippines	0.0	0.4	0.5	0.5	0.5	0.7	2.0	2.1	2.1	2.1	0.6	1.8	1.8	1.8	1.8
Thailand	0.2	3.1	7.8	7.8	7.8	0.8	6.4	8.6	8.5	8.6	0.7	5.1	5.5	5.6	5.5
Vietnam	0.1	0.1	0.2	0.2	0.2	2.0	2.3	2.7	2.7	2.7	1.2	2.4	2.4	2.4	2.4
Rest of East Asia	1.2	2.0	5.8	5.7	5.7	0.6	2.6	4.1	4.1	4.1	0.3	1.3	1.4	1.4	1.4
Bangladesh	4.1	5.1	9.0	9.0	9.0	1.1	1.4	2.6	2.6	2.5	0.6	1.4	1.4	1.5	1.5
India	3.0	3.8	5.7	5.8	5.8	1.4	2.1	3.4	3.4	3.4	0.8	2.2	2.5	2.5	2.6
Nepal	3.5	4.3	20.4	20.5	20.5	0.5	0.9	21.9	21.9	21.9	0.4	1.5	10.0	10.3	10.3
Pakistan	3.3	3.3	3.3	3.3	3.3	1.8	3.1	5.3	5.0	5.0	1.0	2.4	4.7	4.7	4.7
Sri Lanka	2.3	2.9	3.9	3.8	3.8	0.8	1.2	2.6	2.6	2.6	0.6	2.3	2.4	2.5	2.5
Rest of S. Asia	2.7	2.9	8.2	8.3	8.3	1.8	2.3	11.2	11.2	11.2	1.6	2.9	10.1	10.3	10.3
EU ECA	2.3	2.3	2.3	2.2	2.2	0.6	0.9	2.1	2.1	2.1	0.1	0.2	0.3	0.4	0.3
Russian Federation	1.3	1.5	1.8	1.9	1.9	0.7	1.3	4.6	4.5	4.5	0.4	0.8	2.0	2.0	2.0
Poland	2.4	2.4	2.4	2.4	2.4	0.6	0.9	1.8	1.8	1.8	0.0	0.2	0.2	0.2	0.2
Rest of E. Europe	2.1	2.1	2.1	2.2	2.1	0.6	1.6	4.2	4.1	4.2	0.2	0.9	1.8	1.8	1.8
Kazakhstan	1.1	1.4	13.4	13.7	13.6	1.8	2.5	14.8	14.7	14.6	0.2	0.3	2.7	2.7	2.7
Kyrgyz Republic	25.5	25.9	38.3	36.9	37.0	8.4	10.2	26.4	26.4	26.4	5.1	6.0	17.3	17.3	17.3

Rest of C. Asia	1.1	1.1	3.1	3.2	3.2	1.9	2.3	6.3	6.1	6.0	0.8	0.9	2.2	2.3	2.3
Iran, Islamic Rep.	1.4	6.0	11.4	11.8	11.8	1.0	4.1	8.2	8.5	8.5	0.4	0.8	2.3	2.3	2.3
Egypt, Arab Rep.	2.0	2.0	2.0	2.0	2.0	0.4	1.0	2.2	2.2	2.2	0.3	0.5	0.6	0.6	0.7
Turkey	2.6	2.6	2.5	2.6	2.5	2.5	3.0	5.5	5.5	5.5	3.3	3.4	3.5	3.5	3.5
Rest of MENA	0.9	2.7	4.6	4.9	4.8	0.5	1.5	2.9	3.0	3.0	0.3	1.0	3.1	3.1	3.1
Kenya	4.8	6.2	10.2	10.1	10.2	3.2	4.1	4.9	4.7	4.7	1.7	3.0	5.9	5.9	5.9
Tanzania	6.8	8.6	12.9	12.9	12.9	4.3	5.2	6.3	6.3	6.3	2.3	3.3	4.0	4.0	4.0
Non-BRI Area	0.5	1.4	1.6	1.6	1.6	0.6	1.6	2.5	2.4	2.5	0.2	0.8	0.9	0.9	0.9
Ethiopia	4.0	7.7	18.7	18.7	18.7	2.7	4.8	14.3	14.4	14.3	1.5	2.5	8.9	8.9	8.9
Rest of SSA	0.4	0.9	2.0	2.0	2.0	0.4	0.9	1.5	1.5	1.5	0.2	0.8	0.9	1.0	1.0
Lat. Am. & Car.	0.2	0.4	0.6	0.6	0.5	0.4	0.9	1.2	1.1	1.2	0.1	0.6	0.6	0.6	0.6
United States	0.0	3.5	3.6	3.6	3.6	0.3	2.7	3.0	3.0	3.0	0.1	1.3	1.3	1.3	1.3
Rest of High-inc.	0.0	0.7	0.8	0.8	0.8	0.6	1.9	2.6	2.5	2.6	0.4	1.8	1.8	1.8	1.8
Rest of W. Eur.	2.2	2.2	2.2	2.2	2.2	0.9	1.3	2.7	2.6	2.6	0.2	0.4	0.4	0.4	0.4

Table 5: Real income impacts of BRI (change relative to baseline in 2030)

	BRILBD		BRIUBD		BRIUBBD		BRIUBBTD		BRIUBBTPD	
	%	$ bn	%	$ bn	%	$ bn	%	$ bn	%	$ bn
World	0.4	492.3	0.7	928.9	1.1	1405.0	1.1	1465.2	1.1	1515.6
BRI Area	0.8	419.6	1.2	651.2	2.0	1062.0	2.1	1135.9	2.1	1133.0
Cambodia	4.8	2.2	5.0	2.3	8.6	4.0	8.3	3.8	8.7	4.0
China	0.4	97.0	0.7	178.2	1.0	262.9	1.2	299.9	1.1	291.6
Indonesia	0.0	0.2	0.5	12.1	0.5	12.1	0.6	13.5	0.6	12.9
Lao PDR	0.7	0.2	3.1	1.1	9.2	3.2	9.1	3.2	9.3	3.2
Malaysia	6.8	40.6	7.7	46.0	8.1	48.5	8.5	51.0	8.3	50.0
Philippines	0.2	1.1	0.7	4.0	0.6	3.5	0.6	3.5	0.6	3.8
Thailand	3.0	23.9	8.2	64.6	9.7	76.0	9.9	77.7	9.7	76.6
Vietnam	1.1	5.5	1.6	7.6	1.6	7.7	1.7	8.4	1.6	7.7
Rest of East Asia	0.3	2.9	1.6	14.9	2.5	23.7	2.5	23.8	2.5	23.4
Bangladesh	6.7	31.3	6.9	32.5	7.2	34.0	7.3	34.2	7.4	34.6
India	0.2	12.1	0.4	23.4	0.6	30.5	0.8	44.4	1.0	51.3
Nepal	0.3	0.1	0.4	0.2	11.3	4.7	11.0	4.6	11.2	4.6
Pakistan	10.1	53.8	10.5	56.1	10.8	57.3	10.9	58.0	11.1	59.2
Sri Lanka	0.4	0.8	0.6	1.2	0.8	1.5	0.9	1.8	1.1	2.1
Rest of S. Asia	1.0	0.6	1.4	0.9	5.4	3.5	5.6	3.6	5.7	3.7
EU ECA	0.2	2.4	0.2	3.1	0.5	6.8	0.7	8.8	0.6	8.1
Russian Federation	1.1	35.0	1.2	39.2	1.9	59.6	1.9	61.8	1.9	61.7
Poland	0.2	1.3	0.2	1.8	0.3	2.3	0.4	2.8	0.4	3.0
Rest of E. Europe	0.3	1.2	0.8	3.1	1.6	5.9	1.6	5.9	1.4	5.2
Kazakhstan	0.3	1.4	0.5	2.1	15.4	71.5	15.4	71.6	15.5	71.9
Kyrgyz Republic	9.9	1.3	10.4	1.3	37.3	4.7	36.6	4.6	36.1	4.5
Rest of C. Asia	1.4	6.6	1.5	7.1	6.7	31.4	6.6	31.2	6.6	31.1
Iran, Islamic Rep.	2.0	13.4	3.0	20.5	4.3	28.8	4.9	33.3	4.9	33.2
Egypt, Arab Rep.	0.2	1.2	0.2	1.9	0.3	2.2	0.3	2.4	0.9	7.2
Turkey	3.6	53.2	3.6	53.7	3.9	57.5	4.1	61.2	4.2	61.7
Rest of MENA	0.5	24.5	1.3	65.7	4.1	209.4	4.1	211.5	4.1	207.0
Kenya	1.2	2.0	1.5	2.5	2.3	3.9	2.6	4.3	2.7	4.5
Tanzania	2.2	3.7	2.5	4.1	2.9	4.7	3.1	5.1	3.2	5.2
Non-BRI Area	0.1	72.7	0.3	277.7	0.4	343.0	0.4	329.3	0.5	382.6
Ethiopia	1.2	1.9	1.9	3.1	5.9	9.9	5.8	9.7	6.0	10.1
Rest of SSA	0.2	8.2	0.4	17.2	0.7	26.7	0.7	25.7	0.7	26.8
Lat. Am. & Car.	0.0	1.9	0.1	10.4	0.1	12.2	0.1	10.5	0.1	12.4
United States	0.0	1.7	0.4	107.2	0.4	110.9	0.4	109.0	0.5	122.5
Rest of High-inc.	0.1	14.5	0.5	69.1	0.5	76.9	0.5	71.9	0.6	87.0
Rest of W. Eur.	0.2	44.5	0.3	70.7	0.4	106.4	0.4	102.5	0.5	123.8

Table 6: Export impacts of BRI (change relative to baseline in 2030)

	BRILBD		BRIUBD		BRIUBBD		BRIUBBT		BRIUBBTPD	
	%	$ bn	%	$ bn	%	$ bn	%	$ bn	%	$ bn
World	0.7	233.1	1.7	564.8	2.4	776.6	2.9	970.1	3.6	1200.9
BRI Area	1.6	247.6	2.8	437.8	4.4	684.7	5.9	915.2	6.9	1070.1
Cambodia	6.0	2.7	5.6	2.5	10.9	4.9	10.9	4.9	12.0	5.3
China	1.5	84.1	2.7	147.8	3.7	206.6	4.6	253.5	6.3	348.2
Indonesia	-0.2	-1.3	1.4	7.5	1.4	7.5	2.2	12.0	2.5	13.7
Lao PDR	1.9	0.4	1.5	0.3	27.0	5.1	27.4	5.2	28.1	5.3
Malaysia	11.2	56.2	12.4	62.2	12.8	64.5	13.2	66.5	13.5	67.9
Philippines	0.6	1.1	2.5	4.9	1.8	3.7	2.4	4.8	3.0	5.9
Thailand	4.2	22.0	14.9	77.4	17.8	92.4	18.3	95.1	19.0	98.4
Vietnam	2.2	10.3	2.0	9.4	1.1	5.2	3.2	14.8	3.8	17.4
Rest of East Asia	-0.7	-5.1	1.1	7.8	0.8	5.4	0.9	6.0	0.7	4.7
Bangladesh	7.4	7.6	8.7	8.8	9.7	9.9	22.8	23.2	24.5	25.0
India	1.6	17.5	2.9	31.0	3.6	38.0	8.9	95.7	10.8	115.8
Nepal	-0.3	0.0	-0.2	0.0	30.2	3.4	43.1	4.8	43.4	4.8
Pakistan	8.6	6.7	9.8	7.7	12.7	9.9	20.7	16.2	22.5	17.6
Sri Lanka	0.4	0.2	1.0	0.5	1.1	0.5	4.5	2.0	6.1	2.8
Rest of S. Asia	2.4	0.3	3.2	0.4	19.3	2.2	26.9	3.0	27.4	3.1
EU ECA	-0.3	-2.9	-0.7	-5.6	-0.6	-5.1	0.2	1.7	0.0	0.3
Russian Federation	1.0	8.5	1.2	9.6	3.3	27.2	4.8	39.5	6.1	50.3
Poland	-0.2	-0.7	-0.4	-1.3	-0.7	-2.2	-0.1	-0.3	-0.1	-0.4
Rest of E. Europe	0.0	0.0	0.8	1.7	2.0	4.5	2.6	5.7	2.5	5.6
Kazakhstan	0.8	1.4	1.1	2.1	22.6	42.9	23.6	44.8	23.7	44.9
Kyrgyz Republic	5.4	0.9	5.4	0.9	36.8	5.8	37.4	5.9	36.9	5.8
Rest of C. Asia	2.4	3.3	2.6	3.5	8.9	11.9	10.3	13.8	10.5	14.1
Iran, Islamic Rep.	1.5	2.5	4.2	7.0	7.5	12.4	15.4	25.5	16.1	26.7
Egypt, Arab Rep.	-0.2	-0.3	-0.2	-0.4	-0.5	-0.8	1.8	3.0	2.7	4.5
Turkey	6.0	20.9	5.8	20.1	6.4	22.1	8.2	28.5	8.6	29.7
Rest of MENA	0.5	10.8	1.4	31.5	4.6	105.7	5.9	134.1	6.4	146.9
Kenya	0.3	0.1	0.2	0.1	1.9	0.7	8.0	3.0	9.0	3.3
Tanzania	2.4	0.7	2.5	0.7	2.6	0.7	8.4	2.3	9.5	2.6
Non-BRI Area	-0.1	-14.5	0.7	127.1	0.5	91.9	0.3	55.0	0.7	130.7
Ethiopia	2.4	0.4	3.9	0.7	12.2	2.1	11.9	2.1	12.2	2.1
Rest of SSA	0.3	2.9	0.8	8.4	1.0	11.3	0.9	10.0	1.1	12.6
Lat. Am. & Car.	-0.1	-2.5	-0.5	-10.5	-0.6	-14.0	-0.7	-15.9	-0.7	-14.5
United States	-0.6	-16.1	3.4	97.9	2.7	76.6	2.5	70.8	3.2	91.9
Rest of High-inc.	0.0	1.6	1.4	53.9	1.2	46.2	0.9	35.8	1.4	52.5
Rest of W. Eur.	0.0	-0.7	-0.3	-23.3	-0.4	-30.2	-0.6	-47.8	-0.2	-13.9

Table 7: Import impacts of BRI (change relative to baseline in 2030)

	BRILBD		BRIUBD		BRIUBBD		BRIUBBTD		BRIUBBTPD	
	%	$ bn	%	$ bn	%	$ bn	%	$ bn	%	$ bn
World	1.4	462.4	3.4	1152.7	4.8	1648.6	5.5	1862.8	6.2	2108.4
BRI Area	2.9	386.1	5.4	735.8	8.7	1179.9	10.6	1437.4	11.3	1530.9
Cambodia	9.8	4.3	9.5	4.1	18.5	8.0	18.2	7.9	19.1	8.2
China	3.1	128.4	5.6	229.9	8.0	329.2	9.7	397.8	11.1	457.6
Indonesia	-0.1	-0.3	3.4	16.7	3.5	17.0	5.2	25.5	5.1	25.1
Lao PDR	2.6	0.5	5.7	1.1	37.8	7.5	38.0	7.5	38.5	7.6
Malaysia	16.2	72.7	18.5	82.9	19.5	87.3	20.4	91.7	20.5	91.8
Philippines	1.1	2.3	4.0	8.4	3.4	7.1	3.8	8.0	4.2	8.8
Thailand	4.1	20.7	21.4	108.7	26.8	135.9	27.5	139.5	27.6	140.0
Vietnam	3.1	14.5	3.2	15.2	2.4	11.3	4.2	20.1	4.6	22.0
Rest of East Asia	-0.2	-1.1	3.2	23.0	4.0	28.7	4.3	30.4	4.1	29.1
Bangladesh	5.8	6.6	7.4	8.5	9.4	10.8	18.2	20.8	19.5	22.2
India	2.6	30.7	4.4	52.8	5.9	70.9	10.1	121.7	11.3	135.5
Nepal	0.7	0.1	1.2	0.1	47.4	5.8	55.3	6.7	55.2	6.7
Pakistan	5.8	5.8	9.3	9.3	12.7	12.7	18.8	18.8	19.7	19.6
Sri Lanka	1.7	0.9	3.0	1.5	3.8	1.9	6.8	3.4	7.8	3.9
Rest of S. Asia	3.5	0.7	4.5	0.9	21.1	4.4	25.0	5.2	25.3	5.3
EU ECA	0.1	0.5	-0.1	-1.2	0.5	3.9	1.6	13.6	1.5	12.2
Russian Federation	2.0	12.2	2.8	16.7	9.3	55.3	11.3	67.3	12.3	73.5
Poland	0.3	0.9	0.3	1.1	0.4	1.5	1.3	4.5	1.3	4.6
Rest of E. Europe	0.6	1.3	2.2	4.7	4.9	10.6	5.4	11.6	5.1	11.0
Kazakhstan	2.3	2.8	3.4	4.2	39.9	48.9	41.1	50.3	40.9	50.1
Kyrgyz Republic	16.7	1.9	17.5	2.0	72.5	8.1	72.6	8.1	72.0	8.0
Rest of C. Asia	5.2	6.7	6.1	7.9	18.2	23.7	19.4	25.3	19.5	25.4
Iran, Islamic Rep.	2.0	3.2	7.4	11.9	14.2	22.6	22.4	35.8	22.8	36.4
Egypt, Arab Rep.	0.6	1.1	1.0	1.8	1.1	1.9	3.0	5.3	3.2	5.8
Turkey	8.5	34.8	8.5	34.5	10.0	40.9	12.7	51.8	12.8	52.1
Rest of MENA	1.5	29.6	4.3	83.7	11.2	216.4	12.8	247.7	13.3	256.7
Kenya	4.7	2.1	5.7	2.5	9.7	4.3	14.3	6.3	14.8	6.6
Tanzania	6.4	2.4	7.4	2.7	9.0	3.3	12.7	4.7	13.1	4.8
Non-BRI Area	0.4	76.3	2.0	416.9	2.3	468.8	2.1	425.4	2.8	577.5
Ethiopia	4.0	1.2	6.7	1.9	22.6	6.6	22.2	6.4	22.9	6.7
Rest of SSA	0.8	8.3	2.0	20.3	3.1	31.6	2.9	29.8	3.4	34.4
Lat. Am. & Car.	0.1	1.5	0.1	3.1	0.1	3.0	-0.1	-1.4	0.3	6.4
United States	-0.3	-10.9	4.6	189.5	4.3	175.6	4.1	168.5	5.1	208.9
Rest of High-inc.	0.4	19.3	3.1	135.6	3.4	148.1	3.1	135.3	3.9	170.4
Rest of W. Eur.	0.6	56.9	0.8	66.5	1.2	103.8	1.0	86.7	1.7	150.6

Table 8a: Change in the volume of exports in 2030, percent change from baseline

	World	BRI Area	Cambodia	China	Indonesia	Lao PDR	Malaysia	Philippines	Thailand	Vietnam
Agriculture	2.8	2.0	-13.5	7.2	4.7	-4.9	-12.6	0.5	-5.5	1.6
Minerals n.e.s.	-0.3	-0.7	-2.4	-0.5	-1.3	4.6	-3.8	-1.4	-8.4	-1.7
Coal	2.4	2.6		-9.4	1.5	132.9	9.9	-6.6	32.7	-12.1
Oil	0.0	-0.5		-2.8	-0.7	8.1	-31.6	1.0	-41.2	-6.0
Gas	0.3	0.4		3.5	1.5	-0.8	-16.3		-16.6	9.0
Textiles	1.7	1.8	3.1	2.6	2.1	17.5	-2.2	-0.6	-8.6	0.4
Wearing apparel	1.2	1.4	1.8	0.8	0.9	-5.0	-11.7	-1.6	-8.6	0.4
Leather goods	1.5	1.7	13.3	1.4	-0.6	22.6	-1.6	-1.0	13.8	3.5
Processed foods	2.2	2.3	-4.1	1.8	3.4	-2.5	-1.8	2.5	1.0	3.0
Wood products	2.5	2.3	-12.2	11.7	-0.6	-4.2	-15.3	-3.8	-11.7	-3.7
Paper products, publishing	2.1	1.9	24.4	4.6	1.3	-7.8	-7.4	4.4	3.3	-0.2
Petroleum, coal products	2.0	4.6		1.7	-2.9	11.0	3.1	-0.9	26.2	-1.8
Chemical, rubber, plastic	1.4	2.8	-6.6	2.9	-0.9	17.5	-1.8	-0.2	-0.6	3.1
Energy intensive man.	0.8	1.0	18.8	1.0	5.0	9.1	1.1	-1.1	0.8	-1.0
Metal products	2.3	3.7	29.6	4.3	3.7	47.7	5.2	5.1	12.1	8.5
Electronics	3.7	7.4	26.1	2.4	-4.5	6.7	39.9	8.9	76.9	3.3
Machinery and equipment	2.7	4.4	31.5	4.5	4.4	36.3	8.7	0.0	30.5	2.2
Transport equipment	1.9	3.8	40.5	2.5	3.1	31.9	8.4	-2.4	19.4	2.5
Manufactures, n.e.s.	2.2	3.1	21.0	1.6	0.7	8.6	-22.1	-1.9	6.5	4.6
Electricity	0.3	0.4		0.6			9.0	-1.3		-3.3	-0.8
Construction	2.8	3.4	9.7	6.0	1.3	20.4	-6.2	1.3	4.8	6.0
Trade services	2.0	2.3	-2.3	3.6	1.6	6.2	-3.1	1.2	-13.8	2.7
Other transport	1.8	3.2	30.8	4.3	1.1	7.9	-6.8	1.1	0.0	11.3
Water transport	0.5	2.7	33.7	5.7	-0.3	10.1	8.6	-0.9	2.1	13.5
Air transport	1.7	5.7	32.0	6.0	1.7	14.2	10.2	1.7	13.3	12.4
Hospitality services	0.3	-2.9	-15.6	-0.7	-0.7	7.5	-22.8	-1.6	-12.0	-4.1
Other business services	0.1	-1.7	-12.3	-0.8	-1.0	-7.0	-21.7	-2.3	-23.4	-4.8
Other services	0.0	-0.9	-4.9	-0.3	-0.2	-1.9	-6.8	-0.8	-9.4	-1.6
Agriculture	2.8	2.0	-13.5	7.2	4.7	-4.9	-12.6	0.5	-5.5	1.6
Manufacturing	2.1	3.9	5.4	2.7	1.6	4.5	17.7	3.5	19.1	2.6
Services	0.8	0.5	8.9	1.9	0.3	4.7	-7.5	-0.7	-6.1	1.1
Other	0.1	-0.2	-2.4	-3.0	1.0	4.2	-21.1	-1.6	-16.4	-6.8
Total	1.7	2.8	5.6	2.7	1.4	1.5	12.4	2.5	14.9	2.0

Table 8a: Change in the volume of exports in 2030, percent change from baseline, ctd.

	Rest of East Asia	Bangladesh	India	Nepal	Pakistan	Sri Lanka	Rest of South Asia	EU ECA	Russian Federation
Agriculture	4.4	-10.2	7.8	0.5	-31.7	-0.8	3.6	2.0	5.9
Minerals n.e.s.	-0.6	11.5	0.1	-2.5	-6.4	-1.9	6.0	0.1	-0.3
Coal	19.5		0.4		11.9		12.8	-5.3	6.3
Oil	-2.3		-4.6		38.8		-5.9	2.8	0.8
Gas	2.7	-20.2	11.8		51.3		6.9	1.1	1.5
Textiles	-0.7	13.1	2.6	2.8	0.3	-2.0	22.6	0.4	1.6
Wearing apparel	3.2	7.8	-0.9	3.2	8.6	1.0	20.5	0.0	1.3
Leather goods	-2.3	1.6	2.2	-0.7	-11.5	1.4	2.8	-1.3	-1.4
Processed foods	-3.0	4.9	6.5	-2.2	17.7	-1.6	-1.1	0.9	4.4
Wood products	3.6	-2.5	8.0	2.2	-40.9	2.5	13.1	0.1	4.1
Paper products, publishing	-1.6	13.0	1.0	2.6	21.4	-1.4	20.7	0.3	3.1
Petroleum, coal products	-2.6	55.4	3.8		17.9	2.7	9.0	0.2	1.9
Chemical, rubber, plastic	-2.1	19.7	6.5	-8.0	72.9	4.0	29.1	-0.4	0.4
Energy intensive man.	-0.7	45.1	2.5	-6.2	17.9	-3.1	2.5	-0.5	0.4
Metal products	1.8	71.4	5.4	9.9	34.7	2.0	16.1	-0.8	0.8
Electronics	9.5	203.3	7.6	1.1	34.9	9.2	35.7	-6.5	-8.0
Machinery and equipment	1.1	197.6	6.3	5.5	15.7	7.9	25.1	-1.7	-3.5
Transport equipment	1.3	51.8	-1.3	2.8	48.6	-0.6	26.1	-0.7	-1.2
Manufactures, n.e.s.	22.7	126.0	8.9	11.4	56.9	7.4	20.1	-1.6	1.7
Electricity	0.1		0.4				1.1	0.5	0.7
Construction	-1.7	-9.9	3.7	0.7	7.4	0.4	2.7	1.7	0.4
Trade services	-0.9	-17.0	10.6	2.0	-6.8	2.2	1.6	2.2	1.1
Other transport	-0.6	-5.1	6.7	1.7	-7.0	2.5	5.4	0.2	0.3
Water transport	-2.5	-7.5	5.5	-0.7	-19.9	1.1	1.9	-1.0	1.3
Air transport	-1.5	-6.5	3.9	1.4	-10.4	3.2	9.6	0.3	-0.3
Hospitality services	-2.3	19.5	0.4	-1.8	41.2	-2.8	-0.3	3.3	4.2
Other business services	-2.1	-3.0	-0.9	-2.4	2.0	-3.4	-2.7	2.7	-0.6
Other services	-0.7	-4.2	-0.2	-0.5	0.9	-0.8	-1.6	0.8	0.0
Agriculture	4.4	-10.2	7.8	0.5	-31.7	-0.8	3.6	2.0	5.9
Manufacturing	2.5	10.1	4.2	0.2	14.2	1.9	7.7	-1.2	0.9
Services	-1.6	-3.4	0.4	-1.0	-1.6	-0.8	1.1	1.6	0.1
Other	2.9	-3.5	0.1	-2.5	-5.8	-1.9	5.4	-1.5	1.3
Total	1.1	8.7	2.9	-0.2	9.8	1.0	3.2	-0.7	1.2

Table 8a: Change in the volume of exports in 2030, percent change from baseline, ctd.

	Poland	Rest of Eastern Europe	Kazakhstan	Kyrgyz Republic	Rest of Central Asia	Iran, Islamic Rep.	Egypt, Arab Rep.	Turkey	Rest of MENA
Agriculture	1.8	3.3	22.6	-13.1	9.4	4.6	4.7	1.4	0.8
Minerals n.e.s.	0.5	-0.3	-0.3	-5.6	1.4	2.7	0.2	-2.8	-0.9
Coal	-4.7	11.8	1.9	146.6	46.5	76.5			11.1
Oil		-1.9	-1.4	-32.8	-1.1	-6.3	0.6	-16.6	0.2
Gas	3.2	-0.5	-2.5		3.2	0.6	1.5	4.6	0.9
Textiles	0.8	0.2	1.5	22.6	4.1	13.5	-0.4	1.9	-0.4
Wearing apparel	0.0	0.5	1.8	34.9	6.1	14.7	-1.4	3.1	-2.6
Leather goods	-0.2	-2.5	1.7	158.8	14.8	13.2	1.6	4.8	-3.8
Processed foods	1.6	2.9	16.9	-6.0	22.4	7.1	2.4	1.3	0.5
Wood products	-0.2	-0.4	7.9	32.1	14.1	16.7	4.5	8.9	-5.9
Paper products, publishing	0.3	0.3	1.0	6.9	8.7	15.9	0.5	0.0	-3.2
Petroleum, coal products	-1.5	4.4	7.7	6.9	-0.4	14.0	1.3	21.8	8.6
Chemical, rubber, plastic	0.0	0.6	2.3	0.7	10.4	35.7	0.7	7.3	5.6
Energy intensive man.	-0.5	-2.0	3.3	4.0	-1.8	8.1	-2.2	3.0	0.5
Metal products	-0.7	-1.4	11.0	29.0	23.5	18.7	-5.1	7.3	-3.7
Electronics	-7.7	-11.3	-15.4	26.2	4.3	37.6	-30.4	14.8	-0.8
Machinery and equipment	-1.5	-0.3	2.5	51.8	67.1	13.3	-6.5	4.6	-8.2
Transport equipment	-0.2	-1.4	53.1	5.1	52.7	20.1	0.8	21.7	-2.1
Manufactures, n.e.s.	-1.7	-2.3	6.6	24.0	9.0	13.9	0.3	13.0	-0.9
Electricity	0.4	-0.2	1.0	-2.2	0.7	1.0	0.9	-1.3	0.9
Construction	1.4	1.1	3.0	29.4	15.0	15.1	2.1	11.7	6.3
Trade services	1.4	0.1	3.9	14.7	13.6	10.2	0.6	1.5	7.3
Other transport	-0.3	0.5	1.9	17.8	7.0	13.1	-0.4	12.3	3.5
Water transport	-0.7	3.8	0.8	20.4	7.1	7.8	-1.2	8.3	5.4
Air transport	-0.9	2.2	3.2	23.1	6.1	42.4	-0.5	12.8	3.0
Hospitality services	3.1	-0.6	0.1	-7.6	0.0	-2.3	1.3	-8.9	1.2
Other business services	2.7	-1.2	0.2	-15.0	-0.4	-2.3	0.6	-12.9	0.4
Other services	0.8	-0.2	0.0	-1.5	-0.2	-1.0	0.4	-3.3	0.1
Agriculture	1.8	3.3	22.6	-13.1	9.4	4.6	4.7	1.4	0.8
Manufacturing	-0.7	0.5	5.1	11.6	9.5	21.4	-1.8	7.1	3.1
Services	1.5	0.3	1.1	8.4	3.5	9.2	0.2	3.1	2.1
Other	-3.2	0.7	-1.3	-1.6	-0.3	-5.4	0.6	-2.8	0.2
Total	-0.4	0.8	1.1	5.4	2.6	4.2	-0.2	5.8	1.4

Table 8a: Change in the volume of exports in 2030, percent change from baseline, ctd.

	Kenya	Tanzania	Non-BRI Area	Ethiopia	Rest of Sub-Saharan Africa	Latin America and Caribbean	United States	Rest of High-income	Rest of Western Europe
Agriculture	3.2	1.7	3.1	5.5	2.3	2.6	5.4	4.8	1.2
Minerals n.e.s.	-0.3	-1.8	-0.2	-1.2	-0.2	0.2	-0.3	-0.7	0.1
Coal		13.3	2.1		5.5	7.0	3.7	-1.0	-5.5
Oil			1.1		0.3	2.8	-0.5	-0.4	1.2
Gas			0.2		0.9	0.7	1.5	-0.9	0.0
Textiles	3.1	0.2	1.5	4.6	1.2	0.2	3.1	2.7	0.0
Wearing apparel	-1.1	14.5	0.4	2.0	4.6	0.2	2.9	2.0	-0.1
Leather goods	3.4	26.1	1.1	12.3	2.7	3.8	6.9	2.3	-0.3
Processed foods	-2.0	-0.1	2.1	2.7	2.4	3.4	3.8	1.5	1.1
Wood products	-5.0	13.9	2.7	7.1	-0.4	2.7	9.0	5.7	0.0
Paper products, publishing	-9.0	5.4	2.3	6.1	0.8	0.4	6.1	4.9	0.5
Petroleum, coal products	5.6		-0.8		-1.3	-0.8	0.5	-1.4	-1.4
Chemical, rubber, plastic	-7.0	12.0	0.5	8.7	0.3	-0.5	2.7	1.9	-0.7
Energy intensive man.	-4.6	6.6	0.6	5.4	-0.2	0.8	2.4	1.4	-0.1
Metal products	5.3	-8.0	0.7	-2.6	0.9	-2.5	2.2	4.7	-1.0
Electronics	2.6	20.8	-3.6	-1.2	-8.8	-18.0	14.9	-3.9	-8.2
Machinery and equipment	10.4	10.3	0.9	-0.8	-0.9	-6.4	3.9	4.4	-0.6
Transport equipment	23.6	15.9	1.3	3.1	0.4	-4.2	3.0	5.7	-0.6
Manufactures, n.e.s.	-7.2	8.5	0.6	13.2	9.7	-5.1	5.2	0.9	-1.3
Electricity	1.2		0.3	-0.8	-0.1	0.8	0.5	0.4	0.2
Construction	0.0	2.7	2.4	4.0	2.1	-0.6	3.6	4.3	1.3
Trade services	-2.0	-2.2	1.9	6.7	3.0	2.4	4.2	1.6	1.7
Other transport	2.6	15.5	0.5	1.0	1.5	0.6	4.0	0.5	-0.9
Water transport	8.2	21.3	-0.4	0.5	-1.6	-0.1	-0.3	2.7	-1.2
Air transport	4.9	21.4	0.2	1.7	2.6	0.9	1.9	2.9	-1.0
Hospitality services	-17.2	-7.9	1.8	-3.8	0.6	2.7	1.8	0.4	2.0
Other business services	-12.0	-13.8	1.1	-3.8	0.6	2.5	0.0	-0.3	1.6
Other services	-3.0	-3.6	0.3	-1.5	0.2	0.8	0.1	0.1	0.5
Agriculture	3.2	1.7	3.1	5.5	2.3	2.6	5.4	4.8	1.2
Manufacturing	-1.5	4.8	0.5	5.4	0.7	-2.1	4.0	1.5	-0.8
Services	-2.1	-2.4	1.0	0.1	1.0	1.6	1.0	1.0	0.8
Other	-0.3	-1.7	0.7	-1.2	0.4	1.9	1.5	-0.7	0.4
Total	0.2	2.5	0.7	3.9	0.8	-0.5	3.4	1.4	-0.3

Table 8b: Change in the volume of exports in 2030, difference from baseline in $2014 million

	World	BRI Area	Cambodia	China	Indonesia	Lao PDR	Malaysia	Philippines	Thailand	Vietn
Agriculture	32653	5983	-97	1734	180	-289	-751	52	-959	3
Minerals n.e.s.	-1714	-883	-5	-32	-105	64	-94	-122	-109	
Coal	4565	3083	0	-381	1088	25	0	-23	0	-4
Oil	-654	-8623	0	-28	-143	32	-3411	2	-170	-8
Gas	1343	1130	0	40	409	-7	-2428	0	-17	
Textiles	10796	7677	16	5880	409	7	-92	-6	-1022	
Wearing apparel	11832	11072	479	3484	229	-70	-304	-108	-573	
Leather goods	6753	5328	463	2694	-105	38	-9	-12	823	15
Processed foods	43684	16011	-47	1558	3475	-21	-969	335	628	10
Wood products	4572	2250	-60	3222	-58	-69	-702	-101	-537	
Paper products, publishing	9690	2870	10	2769	192	-2	-238	31	122	
Petroleum, coal products	28025	33466	0	1270	-120	21	310	-13	4632	
Chemical, rubber, plastic	52343	41276	-40	13333	-629	148	-946	-11	-635	
Energy intensive man.	16809	8975	41	3182	1300	199	227	-84	148	
Metal products	13670	11685	15	8673	129	13	210	56	777	
Electronics	129909	172507	340	37360	-1032	41	73593	5319	49703	44
Machinery and equipment	85096	70106	229	47377	1317	44	4022	-4	16071	
Transport equipment	54236	27102	482	6162	764	6	875	-136	11605	
Manufactures, n.e.s.	20106	18160	65	4680	89	8	-2887	-61	967	10
Electricity	272	130	0	16	0	8	0	0	-7	
Construction	4224	1949	3	836	25	1	-278	5	60	
Trade services	13226	4982	-21	2396	55	6	-213	27	-1396	
Other transport	11287	9614	436	1549	72	72	-236	68	-7	
Water transport	998	1635	84	164	-5	3	279	-10	137	
Air transport	8963	8261	458	735	112	10	1307	66	1306	
Hospitality services	762	-2730	-286	-113	-23	29	-991	-28	-754	
Other business services	1348	-14438	-66	-707	-109	-26	-3888	-345	-3181	
Other services	45	-812	-13	-43	-6	-3	-176	-10	-250	
Agriculture	32653	5983	-97	1734	180	-289	-751	52	-959	
Manufacturing	487521	428485	1993	141644	5961	364	73092	5207	82710	107
Services	41124	8590	596	4832	121	100	-4197	-227	-4092	
Other	3540	-5294	-5	-400	1250	114	-5933	-143	-295	-14
Total	564837	437765	2487	147809	7511	288	62211	4888	77364	94

Table 8b: Change in the volume of exports in 2030, difference from baseline in $2014 million, ctd.

	Rest of East Asia	Bangladesh	India	Nepal	Pakistan	Sri Lanka	Rest of South Asia	EU ECA	Russian Federation
Agriculture	444	-125	519	11	-905	-22	33	562	1619
Minerals n.e.s.	-77	4	5	-1	-45	-2	7	3	-42
Coal	1113	0	1	0	0	0	2	-59	1647
Oil	-198	0	0	0	2	0	-15	1	1689
Gas	498	-6	1	0	1	0	126	2	917
Textiles	-18	467	1183	21	67	-23	11	49	27
Wearing apparel	226	6406	-436	21	940	144	5	-8	14
Leather goods	-50	21	203	-2	-164	8	0	-168	-37
Processed foods	-508	74	2389	-26	2447	-60	-6	417	1221
Wood products	12	-2	31	1	-71	7	2	16	664
Paper products, publishing	-140	5	39	2	63	-9	3	55	265
Petroleum, coal products	-2383	78	3789	0	131	5	26	65	2015
Chemical, rubber, plastic	-1812	130	8418	-35	2731	146	41	-360	398
Energy intensive man.	-89	250	1755	-33	645	-16	16	-288	289
Metal products	77	23	992	21	198	3	5	-197	47
Electronics	8771	709	1312	0	72	43	12	-4579	-658
Machinery and equipment	340	480	3924	1	109	131	8	-2035	-624
Transport equipment	196	166	-1068	0	179	-2	12	-944	-151
Manufactures, n.e.s.	5273	453	6335	37	1476	197	7	-335	195
Electricity	1	0	0	0	0	0	2	73	17
Construction	-35	-10	118	2	19	1	3	61	30
Trade services	-382	-13	1363	5	-20	9	9	355	37
Other transport	-216	-16	2209	7	-41	29	67	43	39
Water transport	-241	-33	273	0	-83	45	3	-39	56
Air transport	-300	-5	146	2	-238	4	51	33	-29
Hospitality services	-252	41	16	-12	46	-9	-3	397	101
Other business services	-2361	-136	-2540	-44	71	-172	-56	1242	-187
Other services	-54	-136	-13	-3	45	-1	-5	45	0
Agriculture	444	-125	519	11	-905	-22	33	562	1619
Manufacturing	9895	9262	28868	7	8821	573	141	-8310	3664
Services	-3842	-308	1573	-42	-202	-94	71	2211	63
Other	1337	-2	7	-1	-42	-2	120	-54	4210
Total	7834	8827	30967	-25	7673	456	364	-5591	9556

Table 8b: Change in the volume of exports in 2030, difference from baseline in $2014 million, ctd.

	Poland	Rest of Eastern Europe	Kazakhstan	Kyrgyz Republic	Rest of Central Asia	Iran, Islamic Rep.	Egypt, Arab Rep.	Turkey	Rest of MENA
Agriculture	161	762	1010	-395	278	181	512	362	181
Minerals n.e.s.	2	-28	-16	-9	33	140	3	-173	-242
Coal	-56	108	64	18	4	15	0	0	3
Oil	0	-11	-1648	-13	-702	-5064	218	-1	1727
Gas	0	0	-32	0	423	29	41	1	1127
Textiles	37	6	1	26	51	63	-27	482	-28
Wearing apparel	3	20	2	139	57	6	-97	898	-632
Leather goods	-6	-52	3	136	24	14	17	131	-292
Processed foods	643	911	759	-39	790	87	277	419	272
Wood products	-13	-12	1	5	7	1	19	118	-81
Paper products, publishing	36	8	1	6	10	8	10	-1	-318
Petroleum, coal products	-99	1058	620	3	-31	2875	96	1352	17775
Chemical, rubber, plastic	12	122	280	7	398	5424	103	1918	11519
Energy intensive man.	-113	-755	631	121	-129	237	-209	1107	415
Metal products	-73	-41	28	15	17	15	-61	615	-472
Electronics	-1456	-288	-438	34	14	19	-1140	655	-361
Machinery and equipment	-604	-29	65	246	367	17	-265	1287	-3169
Transport equipment	-84	-125	645	10	1090	68	5	7534	-535
Manufactures, n.e.s.	-304	-46	16	18	33	19	3	1292	-394
Electricity	8	-3	3	-13	13	9	2	-8	13
Construction	46	6	3	41	106	122	53	226	438
Trade services	53	3	16	359	322	325	13	49	1571
Other transport	-27	47	19	189	182	761	-85	2666	1477
Water transport	-4	96	1	6	63	130	-6	202	312
Air transport	-21	74	22	102	126	1790	-15	1452	611
Hospitality services	79	-8	0	-45	0	-16	43	-953	86
Other business services	479	-98	3	-108	-37	-271	62	-1484	457
Other services	15	-6	0	-4	-4	-20	9	-79	11
Agriculture	161	762	1010	-395	278	181	512	362	181
Manufacturing	-2019	779	2615	725	2699	8854	-1267	17807	23700
Services	628	112	67	526	771	2831	76	2072	4977
Other	-54	69	-1631	-3	-241	-4881	262	-174	2615
Total	-1283	1721	2060	853	3506	6985	-418	20068	31473

Table 8b: Change in the volume of exports in 2030, difference from baseline in $2014 million, ctd.

	Kenya	Tanzania	Non-BRI Area	Ethiopia	Rest of Sub-Saharan Africa	Latin America and Caribbean	United States	Rest of High-income	Rest of Western Europe
Agriculture	454	170	26671	567	3142	6746	8068	5891	2256
Minerals n.e.s.	-1	-16	-831	0	-162	203	-47	-854	30
Coal	0	1	1483	0	740	619	484	-349	-12
Oil	0	0	7969	0	1276	6319	-2	-215	592
Gas	0	0	213	0	188	83	176	-245	12
Textiles	6	1	3118	5	43	32	921	2152	-35
Wearing apparel	-15	55	760	3	336	85	222	274	-160
Leather goods	28	67	1425	41	104	870	460	253	-303
Processed foods	-74	-5	27673	13	1525	10600	6296	2583	6656
Wood products	-10	23	2321	1	-36	317	1263	791	-14
Paper products, publishing	-60	7	6821	0	53	134	3729	2089	814
Petroleum, coal products	20	0	-5441	0	-173	-710	1009	-1951	-3615
Chemical, rubber, plastic	-196	55	11068	3	111	-613	10313	9716	-8463
Energy intensive man.	-61	366	7834	26	-291	1228	3190	3966	-285
Metal products	11	-17	1985	0	50	-422	1093	2709	-1445
Electronics	9	19	-42599	-1	-498	-18536	23964	-24505	-23022
Machinery and equipment	72	27	14989	-1	-210	-9426	13032	16137	-4542
Transport equipment	92	28	27134	2	135	-9639	12539	29851	-5755
Manufactures, n.e.s.	-30	14	1946	9	1249	-2339	4830	332	-2135
Electricity	0	0	142	0	-4	44	7	22	73
Construction	0	1	2275	3	29	-17	389	1199	672
Trade services	-1	-18	8245	17	188	521	1315	2207	3996
Other transport	14	112	1673	2	214	253	2432	172	-1400
Water transport	50	9	-637	0	-53	-19	-10	548	-1102
Air transport	118	30	702	40	259	160	1075	1560	-2392
Hospitality services	-3	-23	3492	-5	50	453	1046	95	1854
Other business services	-280	-194	15786	-39	140	2394	11	-559	13838
Other services	-79	-9	857	-13	24	166	67	46	567
Agriculture	454	170	26671	567	3142	6746	8068	5891	2256
Manufacturing	-210	639	59036	103	2398	-28419	82861	44397	-42304
Services	-182	-91	32534	5	846	3955	6331	5290	16107
Other	-1	-16	8833	0	2042	7223	611	-1663	621
Total	61	702	127074	675	8428	-10494	97871	53914	-23320

Table 9a: Change in the volume of imports in 2030, percent change from baseline

	World	BRI Area	Cambodia	China	Indonesia	Lao PDR	Malaysia	Philippines	Thailand	Vietnam
Agriculture	4.6	6.2	17.3	4.4	3.8	7.4	19.1	7.3	24.0	6.2
Minerals n.e.s.	0.4	0.6	4.9	0.7	0.5	7.8	-1.8	-0.4	4.4	0.7
Coal	4.8	7.8	8.2	9.7	2.5	24.2	9.0	-0.4	22.7	9.0
Oil	0.0	1.0	-9.5	0.2	-0.6	1.6	19.0	-1.1	10.2	2.9
Gas	0.5	1.8	-16.0	0.0	-0.1	22.2	8.2	6.1	6.9	
Textiles	2.8	3.9	3.2	4.0	1.7	2.3	7.5	1.0	12.1	1.6
Wearing apparel	2.4	4.4	10.8	5.6	0.7	14.1	17.6	2.0	30.9	1.5
Leather goods	3.1	5.7	16.4	5.5	4.6	13.6	15.6	-0.2	21.7	5.2
Processed foods	3.5	5.6	17.9	5.4	5.5	10.2	18.5	4.7	19.1	6.5
Wood products	4.1	6.1	26.2	8.3	7.0	8.4	24.5	4.2	13.2	2.2
Paper products, publishing	3.7	5.6	4.1	10.3	2.8	6.7	14.3	2.8	14.2	2.7
Petroleum, coal products	5.1	7.8	17.7	12.1	2.6	9.8	12.4	5.6	36.9	5.6
Chemical, rubber, plastic	3.0	5.0	4.1	6.7	3.6	7.7	12.8	2.1	13.4	2.7
Energy intensive man.	2.4	4.0	6.4	5.9	1.5	4.4	9.7	0.0	19.5	2.4
Metal products	4.0	5.5	6.2	6.7	5.0	3.4	15.8	1.2	13.9	1.8
Electronics	6.9	10.5	18.0	7.6	4.1	5.0	34.5	8.5	45.6	2.9
Machinery and equipment	4.8	6.7	7.8	7.7	2.9	4.8	18.2	3.2	18.8	1.1
Transport equipment	3.8	6.1	13.0	7.7	10.3	3.0	15.6	5.9	20.5	4.0
Manufactures, n.e.s.	3.9	6.2	8.3	14.5	1.5	9.9	9.3	1.9	16.0	6.7
Electricity	0.3	1.1	-2.2	0.8		2.5	8.0		8.3	1.7
Construction	5.9	8.3	18.3	9.1	5.6	19.8	21.3	8.0	20.2	5.1
Trade services	4.6	7.2	25.8	5.9	5.6	13.8	30.1	5.9	38.5	9.9
Other transport	4.7	7.5	15.5	10.2	6.0	18.4	6.7	7.7	29.3	8.3
Water transport	2.9	4.3	14.7	13.2	6.7	14.7	3.6	10.2	2.0	6.6
Air transport	4.2	6.9	13.4	9.0	6.6	15.7	8.9	8.0	24.7	8.0
Hospitality services	0.3	1.8	10.6	0.6	0.7	0.3	14.9	1.0	18.5	1.9
Other business services	0.1	1.4	8.6	0.6	0.4	0.6	11.0	1.2	17.8	2.7
Other services	0.1	0.7	6.7	0.7	0.5	1.3	10.4	1.1	16.6	2.4
Agriculture	4.6	6.2	17.3	4.4	3.8	7.4	19.1	7.3	24.0	6.2
Manufacturing	4.1	6.4	9.2	7.4	3.6	5.4	19.5	4.4	23.4	3.0
Services	1.9	3.9	12.9	4.5	2.9	7.7	12.8	3.9	22.3	4.4
Other	0.4	1.4	5.0	0.9	-0.5	7.6	12.2	-0.9	10.0	1.6
Total	3.4	5.4	9.5	5.6	3.4	5.7	18.5	4.0	21.4	3.2

Table 9a: Change in the volume of imports in 2030, percent change from baseline, ctd.

	Rest of East Asia	Bangladesh	India	Nepal	Pakistan	Sri Lanka	Rest of South Asia	EU ECA	Russian Federation
Agriculture	6.4	30.6	4.9	6.3	52.4	7.0	-2.4	0.7	5.2
Minerals n.e.s.	0.9	1.8	0.2	0.1	12.1	-1.6	1.2	-0.4	0.0
Coal	10.2	17.7	5.6	-1.7	4.4	0.3	8.1	2.7	1.9
Oil	-2.3	12.7	1.2	1.7	-9.5	-1.5	2.8	-0.6	-0.3
Gas	1.0		0.8	3.7			8.4	0.1	1.3
Textiles	5.7	6.4	5.2	1.2	20.0	1.9	1.7	0.2	1.9
Wearing apparel	3.7	10.1	5.4	1.6	19.4	3.6	2.2	0.5	2.3
Leather goods	5.0	12.5	6.6	3.7	30.9	2.4	7.9	0.3	3.2
Processed foods	5.7	12.4	3.1	2.9	19.1	5.4	7.4	0.4	2.9
Wood products	9.3	18.9	9.3	4.1	48.3	3.2	-1.0	0.1	3.2
Paper products, publishing	1.6	0.0	8.4	1.5	0.2	0.9	2.1	0.0	1.8
Petroleum, coal products	1.8	10.2	7.9	0.5	16.1	3.6	3.8	1.3	4.4
Chemical, rubber, plastic	2.5	3.4	5.9	-1.7	-8.6	3.3	5.8	-0.2	1.7
Energy intensive man.	2.2	-4.3	2.9	-0.6	1.9	1.3	3.0	-0.7	1.0
Metal products	5.2	-6.0	10.0	2.5	-2.3	3.3	8.0	-0.1	2.5
Electronics	7.4	3.4	10.4	6.9	6.3	8.7	5.2	-2.0	2.7
Machinery and equipment	3.2	-0.4	12.9	0.4	4.8	5.3	3.0	0.1	4.7
Transport equipment	4.2	-6.6	10.3	0.6	-5.5	0.6	3.8	0.0	2.3
Manufactures, n.e.s.	5.3	-21.2	7.0	2.3	-3.0	4.0	4.9	0.7	3.5
Electricity	1.2		0.7	-3.6	5.6		1.5	0.0	0.7
Construction	5.2	16.6	10.8	6.4	15.4	10.1	12.8	1.5	6.2
Trade services	3.6	-7.3	10.9	7.6	4.1	12.3	9.9	0.7	4.2
Other transport	3.7	1.7	9.0	6.5	9.5	9.5	8.0	2.1	6.5
Water transport	3.1	3.4	3.5	5.5	14.0	7.7	7.0	1.6	3.7
Air transport	4.3	10.0	5.2	6.8	11.6	11.6	10.1	1.0	4.9
Hospitality services	0.9	-0.7	0.6	1.2	4.1	1.5	2.2	-0.5	-0.1
Other business services	0.9	4.2	0.2	0.8	8.3	2.1	1.4	-1.1	0.9
Other services	0.9	-2.3	0.7	0.6	-0.4	1.6	1.9	-0.8	0.4
Agriculture	6.4	30.6	4.9	6.3	52.4	7.0	-2.4	0.7	5.2
Manufacturing	4.5	3.7	6.7	0.8	6.7	2.9	5.2	-0.2	2.7
Services	2.1	3.9	2.7	3.5	7.7	5.8	4.7	0.0	2.9
Other	-1.8	11.5	1.3	-1.2	-7.4	-1.5	1.5	-0.3	0.9
Total	3.2	7.4	4.4	1.2	9.3	3.0	4.5	-0.1	2.8

Table 9a: Change in the volume of imports in 2030, percent change from baseline, ctd.

	Poland	Rest of Eastern Europe	Kazakhstan	Kyrgyz Republic	Rest of Central Asia	Iran, Islamic Rep.	Egypt, Arab Rep.	Turkey	Rest of MENA
Agriculture	1.3	4.9	11.2	35.1	18.5	7.6	2.9	13.4	2.7
Minerals n.e.s.	-0.5	-1.0	1.7	4.2	2.0	2.7	-0.2	1.9	0.3
Coal	2.8	5.1	4.7	15.0	76.5	57.2	0.1	11.7	1.6
Oil	-0.6	0.4	3.1	28.0	-0.1	7.3	-0.4	2.4	3.6
Gas	0.4	0.1	-0.6	7.9	2.4	8.1	2.4	2.2	1.1
Textiles	0.2	1.2	1.9	18.6	3.9	4.6	1.7	9.1	2.5
Wearing apparel	0.8	2.2	1.3	10.4	2.9	3.8	0.4	14.9	4.5
Leather goods	0.5	1.5	1.4	30.8	3.7	4.7	0.7	13.5	7.5
Processed foods	0.9	3.9	4.3	34.0	11.1	6.5	1.8	14.0	3.2
Wood products	0.3	3.2	3.3	4.7	1.0	1.6	0.3	10.4	6.5
Paper products, publishing	0.2	2.1	3.3	13.5	3.4	4.5	0.4	10.0	2.6
Petroleum, coal products	1.4	10.7	5.8	14.4	10.4	32.3	3.5	13.6	4.3
Chemical, rubber, plastic	0.2	0.8	2.8	9.9	2.9	9.9	0.6	7.6	4.4
Energy intensive man.	-0.5	-0.4	2.4	16.9	4.5	2.9	0.2	4.7	1.7
Metal products	0.8	0.1	2.1	14.8	3.4	7.3	1.2	11.0	7.0
Electronics	-0.3	4.2	5.5	52.1	6.6	10.5	1.5	10.9	14.3
Machinery and equipment	0.4	2.1	2.7	39.2	5.0	9.5	-0.2	9.8	6.9
Transport equipment	1.0	3.4	7.0	18.0	11.2	7.3	0.2	10.4	4.8
Manufactures, n.e.s.	1.5	2.7	2.0	18.6	2.3	3.2	0.1	8.1	1.8
Electricity	-0.2	0.5	-0.4	7.3	1.4	4.3	-2.2	3.2	1.0
Construction	0.8	4.2	7.1	44.1	3.2	9.5	2.7	16.5	8.1
Trade services	0.6	3.8	7.0	58.8	10.9	0.7	2.3	12.9	6.7
Other transport	2.2	3.8	9.1	18.9	7.4	5.3	2.0	-1.4	6.7
Water transport	2.4	2.7	10.2	25.5	4.9	-2.2	2.5	-6.0	3.9
Air transport	1.1	2.7	7.8	8.6	5.3	6.4	0.6	7.0	5.5
Hospitality services	-1.2	0.7	0.3	2.0	0.8	3.1	-0.2	6.5	-0.2
Other business services	-1.1	0.4	-0.1	6.8	0.6	2.9	-0.9	8.0	-0.4
Other services	-0.9	0.5	0.1	1.9	0.4	1.9	-0.8	3.5	-0.2
Agriculture	1.3	4.9	11.2	35.1	18.5	7.6	2.9	13.4	2.7
Manufacturing	0.4	2.9	3.2	17.9	6.1	8.8	1.0	9.2	5.0
Services	0.0	1.7	3.7	12.9	2.9	3.3	0.0	6.2	2.3
Other	-0.2	0.4	1.6	11.9	3.0	7.8	-0.3	3.2	1.8
Total	0.3	2.2	3.4	17.5	6.1	7.4	1.0	8.5	4.3

Table 9a: Change in the volume of imports in 2030, percent change from baseline, ctd.

	Kenya	Tanzania	Non-BRI Area	Ethiopia	Rest of Sub-Saharan Africa	Latin America and Caribbean	United States	Rest of High-income	Rest of Western Europe
Agriculture	10.6	18.2	2.1	10.6	3.1	1.3	3.4	4.0	1.0
Minerals n.e.s.	2.2	2.0	-0.1	1.5	0.1	-0.4	0.2	-0.2	-0.2
Coal	-3.6	30.0	1.6	8.4	11.8	2.7	13.4	1.2	1.1
Oil	-4.0	-3.3	-0.7	-5.8	-0.9	-1.2	0.0	-1.1	-1.1
Gas			-0.2	-5.9	-0.4	-0.4	0.3	-0.4	-0.1
Textiles	5.3	6.1	1.4	6.9	1.0	-0.1	4.0	1.9	0.8
Wearing apparel	9.0	7.6	1.6	7.1	1.0	-0.3	2.8	2.3	1.0
Leather goods	9.8	8.3	1.8	11.1	1.6	0.4	3.0	2.3	1.1
Processed foods	12.3	15.8	2.1	10.3	2.1	0.9	4.3	3.4	1.1
Wood products	21.6	13.2	2.8	13.8	3.0	0.5	7.9	3.4	1.0
Paper products, publishing	10.1	3.1	2.6	3.9	2.0	0.5	6.1	4.8	1.5
Petroleum, coal products	6.3	4.7	3.4	1.3	2.1	1.6	4.8	8.9	1.3
Chemical, rubber, plastic	6.6	3.6	1.8	3.9	1.7	0.4	5.5	3.0	0.3
Energy intensive man.	0.9	4.5	0.9	4.1	0.9	-0.8	2.4	2.9	-0.2
Metal products	5.5	6.0	3.1	13.6	2.2	-0.4	8.2	4.4	1.8
Electronics	18.0	11.2	4.0	5.3	4.7	-0.9	9.8	3.5	1.7
Machinery and equipment	3.7	8.2	3.6	12.9	3.4	0.1	9.3	4.3	1.9
Transport equipment	2.5	8.7	2.8	10.7	2.3	0.2	5.3	5.6	1.1
Manufactures, n.e.s.	14.4	3.6	3.1	9.0	2.0	-0.5	5.0	4.0	2.1
Electricity	-0.3	1.2	0.0		-0.2	-0.3	0.3	0.2	0.0
Construction	18.0	17.3	4.0	10.8	3.3	3.1	7.2	7.3	2.7
Trade services	14.3	19.6	2.8	4.2	3.7	1.5	6.3	5.3	1.2
Other transport	17.1	6.0	3.4	8.8	3.7	2.4	3.5	7.0	2.1
Water transport	15.0	4.3	2.4	4.3	2.8	1.3	3.5	3.9	1.9
Air transport	15.9	2.5	3.3	2.8	3.1	2.9	4.3	5.2	2.0
Hospitality services	3.6	0.9	-0.4	2.7	0.0	-1.0	-0.4	0.3	-0.7
Other business services	5.3	5.8	-0.5	1.1	-0.1	-1.1	-0.1	0.2	-0.7
Other services	-1.0	0.9	-0.3	-0.2	-0.1	-0.8	0.1	0.0	-0.7
Agriculture	10.6	18.2	2.1	10.6	3.1	1.3	3.4	4.0	1.0
Manufacturing	6.1	7.2	2.6	7.2	2.3	0.1	6.2	4.0	1.1
Services	6.5	6.4	1.0	4.5	1.2	0.4	1.4	2.7	0.3
Other	-3.8	2.2	-0.5	2.3	-0.4	-0.7	0.0	-0.7	-0.7
Total	5.7	7.4	2.0	6.7	2.0	0.1	4.6	3.1	0.8

Table 9b: Change in the volume of imports in 2030, difference from baseline in $2014 million

	World	BRI Area	Cambodia	China	Indonesia	Lao PDR	Malaysia	Philippines	Thailand	Vietnam
Agriculture	59436	48561	118	14690	1852	38	2909	254	3730	1677
Minerals n.e.s.	2151	2400	3	2000	12	10	-45	-13	78	9
Coal	9944	8369	0	4574	1	2	418	-6	685	15
Oil	-672	10296	0	920	-107	0	1689	-109	5640	0
Gas	2025	2464	0	0	0	0	253	1	828	0
Textiles	18597	14349	353	2631	364	8	446	71	988	671
Wearing apparel	23700	11718	70	1323	40	4	2183	49	830	314
Leather goods	14371	9125	112	1639	184	3	964	-4	1025	444
Processed foods	74849	49017	1091	9450	1704	139	5753	762	4871	2599
Wood products	8073	4630	10	2134	63	1	338	52	155	82
Paper products, publishing	18073	10610	33	5630	241	22	676	86	714	172
Petroleum, coal products	75615	45501	676	11603	1923	64	2684	487	4835	1350
Chemical, rubber, plastic	117188	76027	168	32992	2238	156	7054	488	7751	1531
Energy intensive man.	53377	42422	325	14030	511	103	4247	2	10788	946
Metal products	24375	12372	36	1922	554	43	1386	69	2130	273
Electronics	244198	164697	193	54046	1382	82	32245	3840	30691	2665
Machinery and equipment	159200	86344	241	24256	1829	202	9318	911	13344	610
Transport equipment	111953	57289	418	19032	2617	82	3700	1058	6429	513
Manufactures, n.e.s.	38042	16519	44	8764	88	12	973	43	1323	433
Electricity	272	284	-5	11	0	2	5	0	133	13
Construction	9087	5713	33	772	100	109	854	10	366	67
Trade services	29891	18840	88	8167	344	19	878	63	3451	173
Other transport	28428	14304	16	5227	284	7	278	93	1584	131
Water transport	5832	2217	2	541	81	2	62	19	49	51
Air transport	22381	9801	41	2533	344	7	413	141	1567	132
Hospitality services	762	1586	6	131	15	0	884	6	336	22
Other business services	1348	9230	26	751	67	6	2052	48	3999	262
Other services	209	1073	11	181	13	1	250	10	400	36
Agriculture	59436	48561	118	14690	1852	38	2909	254	3730	1677
Manufacturing	981611	600618	3771	189451	13738	923	71967	7913	85874	12604
Services	98210	63048	218	18313	1249	151	5677	391	11884	888
Other	13448	23530	4	7495	-94	13	2315	-127	7232	24
Total	1152703	735758	4110	229950	16745	1125	82868	8431	108720	15192

Table 9b: Change in the volume of imports in 2030, difference from baseline in $2014 million, ctd.

	Rest of East Asia	Bangladesh	India	Nepal	Pakistan	Sri Lanka	Rest of South Asia	EU ECA	Russian Federation
Agriculture	879	4604	3447	24	4184	129	-27	168	1501
Minerals n.e.s.	37	6	155	0	31	-5	12	-28	0
Coal	8	30	1567	-2	37	0	1	73	65
Oil	-1589	248	2950	0	-682	-42	2	-273	0
Gas	69	0	129	0	0	0	0	6	30
Textiles	626	1475	796	5	1588	130	13	42	282
Wearing apparel	527	110	237	39	100	22	10	111	1010
Leather goods	505	154	415	13	262	5	10	46	492
Processed foods	3031	1593	2182	13	1153	176	464	286	1595
Wood products	170	9	247	0	149	5	-4	5	74
Paper products, publishing	149	0	868	2	4	9	4	0	176
Petroleum, coal products	890	736	2103	6	2460	304	61	326	531
Chemical, rubber, plastic	1256	433	6988	-27	-1266	153	85	-197	1075
Energy intensive man.	467	-398	3929	-12	135	49	42	-423	275
Metal products	374	-93	1160	5	-33	29	32	-19	326
Electronics	7122	141	8879	36	303	126	47	-1428	1140
Machinery and equipment	1781	-53	8732	3	433	131	39	62	2771
Transport equipment	2332	-299	2355	4	-230	45	44	-15	1499
Manufactures, n.e.s.	1014	-345	1161	3	-26	34	10	118	380
Electricity	8	0	7	-4	2	0	2	2	2
Construction	85	4	274	0	17	2	14	51	610
Trade services	890	-24	1677	9	18	29	19	56	445
Other transport	690	3	1046	8	75	25	19	271	1293
Water transport	290	1	349	3	16	99	5	25	107
Air transport	576	123	840	10	94	8	23	66	574
Hospitality services	67	0	30	0	10	2	2	-30	-13
Other business services	643	48	199	1	420	24	12	-453	444
Other services	89	-15	49	0	-3	3	3	-30	32
Agriculture	879	4604	3447	24	4184	129	-27	168	1501
Manufacturing	20243	3465	40052	91	5032	1217	858	-1086	11626
Services	3338	140	4471	28	650	193	99	-40	3495
Other	-1475	284	4801	-2	-614	-46	16	-222	95
Total	22984	8493	52770	140	9252	1493	946	-1181	16717

Table 9b: Change in the volume of imports in 2030, difference from baseline in $2014 million, ctd.

	Poland	Rest of Eastern Europe	Kazakhstan	Kyrgyz Republic	Rest of Central Asia	Iran, Islamic Rep.	Egypt, Arab Rep.	Turkey	Rest of MENA
Agriculture	127	306	365	44	1268	853	484	1979	2590
Minerals n.e.s.	-12	-20	33	1	13	8	-4	47	67
Coal	64	132	1	13	20	3	0	602	69
Oil	-139	107	32	4	0	9	-8	577	1161
Gas	15	28	-5	4	46	362	0	466	231
Textiles	20	62	60	215	190	262	135	1560	1078
Wearing apparel	106	80	162	187	182	91	14	1164	2524
Leather goods	29	35	148	142	90	165	9	561	1523
Processed foods	228	516	344	106	1945	1002	288	1604	5363
Wood products	7	34	33	12	34	17	11	205	733
Paper products, publishing	20	91	57	26	64	147	14	663	617
Petroleum, coal products	96	1722	153	170	537	2504	542	3604	4625
Chemical, rubber, plastic	85	264	350	127	359	1464	154	4763	7086
Energy intensive man.	-134	-51	181	150	508	309	38	2620	3592
Metal products	86	3	78	55	130	369	41	798	2477
Electronics	-91	305	328	104	232	730	110	3044	17929
Machinery and equipment	156	398	430	280	717	1679	-32	4506	12918
Transport equipment	287	245	744	119	898	480	32	3911	10600
Manufactures, n.e.s.	94	62	38	48	65	181	2	524	1347
Electricity	-2	8	-2	1	26	22	-1	17	35
Construction	10	17	469	8	106	90	15	43	1541
Trade services	22	80	30	18	156	23	21	172	1939
Other transport	129	158	81	79	147	212	36	-32	2372
Water transport	18	18	9	2	24	-25	4	-13	468
Air transport	32	54	69	19	118	258	11	313	1389
Hospitality services	-26	13	1	2	7	72	-2	74	-30
Other business services	-158	34	-8	18	57	512	-69	586	-404
Other services	-17	13	1	1	6	57	-22	100	-98
Agriculture	127	306	365	44	1268	853	484	1979	2590
Manufacturing	991	3767	3103	1740	5950	9400	1357	29528	72411
Services	7	395	650	148	647	1222	-7	1260	7211
Other	-73	247	62	23	78	383	-11	1692	1528
Total	1052	4715	4181	1955	7943	11858	1822	34458	83741

Table 9b: Change in the volume of imports in 2030, difference from baseline in $2014 million, ctd.

	Kenya	Tanzania	Non-BRI Area	Ethiopia	Rest of Sub-Saharan Africa	Latin America and Caribbean	United States	Rest of High-income	Rest of Western Europe
Agriculture	205	165	10875	54	675	769	2720	4232	2425
Minerals n.e.s.	2	2	-250	3	25	-57	17	-104	-133
Coal	-3	0	1574	2	92	190	212	774	305
Oil	-97	0	-10969	0	-296	-814	-120	-4474	-5264
Gas	0	0	-439	0	-9	-65	119	-408	-75
Textiles	140	137	4248	51	294	-53	2144	962	849
Wearing apparel	121	106	11982	100	208	-135	5248	3275	3286
Leather goods	62	92	5246	28	214	78	2217	1205	1503
Processed foods	299	462	25832	113	1852	1124	7282	9220	6241
Wood products	21	32	3444	6	108	35	1743	991	561
Paper products, publishing	109	18	7462	10	257	191	2289	2459	2256
Petroleum, coal products	319	190	30114	59	1454	2582	6492	14887	4639
Chemical, rubber, plastic	340	156	41161	108	1712	1489	22117	12462	3274
Energy intensive man.	42	153	10955	95	569	-950	4429	7656	-843
Metal products	85	55	12003	170	658	-252	5468	3060	2898
Electronics	312	183	79502	74	2591	-2451	49265	20560	9463
Machinery and equipment	226	457	72856	597	4701	170	36067	17034	14287
Transport equipment	110	281	54665	205	2616	541	24295	18002	9005
Manufactures, n.e.s.	101	28	21523	24	373	-247	9223	5912	6238
Electricity	0	0	-12	0	-16	-17	15	5	0
Construction	2	44	3374	112	572	71	278	1181	1160
Trade services	16	62	11051	8	585	394	2700	4703	2660
Other transport	33	38	14125	21	525	671	2723	5374	4811
Water transport	9	2	3615	34	97	247	167	1421	1648
Air transport	38	6	12580	58	522	1166	2603	4686	3545
Hospitality services	3	3	-825	2	2	-182	-82	157	-721
Other business services	55	58	-7882	11	-75	-1168	-211	396	-6835
Other services	-6	5	-864	0	-26	-212	41	-20	-648
Agriculture	205	165	10875	54	675	769	2720	4232	2425
Manufacturing	2285	2349	380992	1641	17606	2121	178281	117686	63657
Services	151	218	35161	245	2187	970	8234	17904	5620
Other	-98	2	-10083	4	-188	-747	228	-4212	-5168
Total	2543	2735	416945	1945	20281	3112	189463	135610	66534

Table 10a: Change in real value added in 2030, percent change from baseline

	World	BRI Area	Cambodia	China	Indonesia	Lao PDR	Malaysia	Philippines	Thailand	Vietnam
Agriculture	0.5	0.5	-0.5	-0.2	-0.1	-0.6	-7.9	-0.1	-2.1	-1.0
Minerals n.e.s.	-0.5	-0.5	-0.3	-0.4	-0.1	4.2	-3.8	-1.4	-0.8	-1.6
Coal	-0.5	-0.7		-1.0	1.4	68.2	-32.0	-3.5	-33.7	-5.6
Oil	-0.2	-0.3		-0.8	-1.1	7.8	-12.2	-2.0	-15.7	-4.1
Gas	1.1	1.4		0.5	0.4	-0.5	-7.4	-0.4	-7.4	0.1
Textiles	2.3	2.6	-1.4	0.5	0.4	-0.9	-5.6	-0.8	-4.1	0.2
Wearing apparel	1.6	1.9	2.3	0.6	0.6	-3.5	-10.7	-0.6	5.7	0.4
Leather goods	0.2	0.1	11.7	0.5	-0.6	17.5	-5.5	-0.5	11.5	2.9
Processed foods	0.9	1.1	0.1	0.2	0.8	3.0	-2.9	0.5	1.8	0.4
Wood products	-1.3	-1.8	-6.1	0.1	-0.4	-4.5	-11.3	-2.7	-3.6	-4.4
Paper products, publishing	-0.7	-1.0	-1.4	-0.4	-0.3	-15.1	-5.2	-1.1	-1.6	-1.0
Petroleum, coal products	0.8	1.3	-15.3	-0.2	-1.1	5.3	2.5	-1.2	5.6	-0.5
Chemical, rubber, plastic	-0.6	-0.5	-10.7	-0.9	-1.8	15.0	-6.3	-2.4	-5.6	-0.5
Energy intensive manu.	-0.7	-0.7	0.0	-0.1	0.3	8.7	-4.5	-1.7	-2.3	-1.6
Metal products	-0.4	-0.1	2.1	0.6	-0.4	12.5	1.2	-1.5	3.0	7.4
Electronics	0.0	2.0	13.9	-0.9	-4.9	5.2	28.7	6.6	42.9	2.6
Machinery and equipment	-0.7	-0.4	16.6	0.6	0.3	17.6	3.2	-1.6	20.4	1.5
Transport equipment	-0.6	-0.5	19.0	-0.5	-1.5	6.8	2.6	-5.5	10.7	-0.7
Manufactures, n.e.s.	0.7	1.4	2.7	-0.8	-0.1	1.8	-22.5	-1.3	3.5	2.2
Electricity	0.1	0.2	8.3	0.2	0.2	7.2	5.8	-0.3	6.4	0.1
Construction	0.2	0.4	0.5	0.4	0.1	1.9	1.7	-0.3	4.1	0.0
Trade services	-1.0	-1.8	0.7	-0.1	0.1	2.8	0.2	0.0	-1.4	0.9
Other transport	-0.9	-1.2	9.4	-0.4	-0.4	3.7	-8.0	0.3	-3.7	0.1
Water transport	-2.5	-3.4	6.4	-0.1	-0.9	2.1	-3.6	-0.2	0.8	2.2
Air transport	-0.9	-1.0	11.6	-1.2	-0.1	3.1	-3.8	0.2	-2.3	1.8
Hospitality services	0.4	0.5	-3.6	0.4	0.0	4.8	-8.2	0.2	3.1	-0.5
Other business services	-0.1	-0.3	-0.3	0.1	-0.2	-1.2	-4.1	-0.1	-2.3	-0.9
Other services	0.0	0.0	0.7	0.2	0.1	-0.4	-0.3	0.1	-0.1	0.3
Agriculture	0.5	0.5	-0.5	-0.2	-0.1	-0.6	-7.9	-0.1	-2.1	-1.0
Manufacturing	0.3	0.6	1.5	0.0	0.0	2.8	6.4	0.3	4.7	0.7
Services	-0.3	-0.5	-0.2	0.1	0.0	0.5	-0.9	0.0	-0.2	-0.1
Other	-0.1	-0.1	-0.3	-0.7	0.2	-0.2	-8.8	-1.5	-7.7	-2.2
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.02	0.00

Table 10a: Change in real value added in 2030, percent change from baseline, ctd.

	Rest of East Asia	Bangladesh	India	Nepal	Pakistan	Sri Lanka	Rest of South Asia	EU ECA	Russia Federation
Agriculture	0.4	9.1	0.2	0.1	1.9	0.0	0.4	1.0	1.5
Minerals n.e.s.	-1.1	6.1	-1.3	-1.4	-0.6	-0.3	0.4	-0.3	-0.5
Coal	13.0	13.6	-2.0	3.9	-1.3		2.6	-1.8	3.9
Oil	-2.8		-0.5		0.9	-2.2	-4.2	1.1	0.7
Gas	2.1	3.0	-0.2		11.6		6.2	0.2	1.3
Textiles	-1.8	11.0	0.3	1.3	-0.2	-2.2	3.0	0.1	0.3
Wearing apparel	1.3	8.9	-0.4	-0.8	9.5	1.3	0.4	-0.2	0.5
Leather goods	-2.1	3.3	-0.3	-2.8	6.7	0.8	-3.3	-1.4	-0.5
Processed foods	-1.2	11.1	0.5	-0.7	6.5	0.4	-2.4	0.5	1.5
Wood products	8.4	1.1	-1.1	-1.0	-12.2	0.1	3.3	-0.2	1.6
Paper products, publishing	-1.6	2.5	-1.7	-1.4	-5.5	-0.7	-1.2	0.1	0.2
Petroleum, coal products	-2.4	12.7	0.9	1.8	-6.6	-1.4	1.1	-0.3	0.7
Chemical, rubber, plastic	-3.8	1.6	-0.4	-7.6	5.7	0.1	2.1	-0.6	-0.7
Energy intensive manu.	-0.9	10.6	-1.7	-3.1	-8.1	-1.6	-1.7	-0.7	-0.4
Metal products	-1.0	11.7	-0.8	0.5	-3.6	-0.9	-3.2	-1.2	-0.3
Electronics	7.5	84.5	-8.3	-10.7	-4.4	-1.8	-0.7	-7.4	-7.8
Machinery and equipment	-1.2	43.0	-1.7	0.3	-7.3	1.7	2.4	-1.9	-1.1
Transport equipment	-2.6	17.4	-1.6	-0.6	-2.7	-0.6	-0.4	-0.9	-1.0
Manufactures, n.e.s.	18.8	9.0	2.6	6.0	12.2	5.8	-1.6	-1.3	0.0
Electricity	1.1	3.9	0.0	0.4	13.2	0.4	0.8	0.2	1.3
Construction	0.1	2.3	-0.2	-0.6	-2.5	-0.3	-0.7	0.0	0.7
Trade services	-0.3	-26.5	0.0	-0.7	-13.6	0.1	-2.6	0.0	-0.5
Other transport	-1.0	-11.4	0.0	-0.1	-17.1	0.3	-1.9	0.0	-1.1
Water transport	-0.4	-11.2	2.0	-0.8	-19.7	0.4	-1.5	0.5	-1.1
Air transport	-1.3	-13.3	-1.6	-0.4	-16.0	-0.1	1.9	0.1	-1.7
Hospitality services	-0.3	10.2	0.1	-0.4	20.0	0.4	0.4	1.0	1.9
Other business services	-0.8	-1.4	-0.4	-0.7	7.2	-0.7	-1.1	0.5	0.1
Other services	0.0	-0.8	0.0	0.0	-1.4	0.2	-0.6	0.0	0.0
Agriculture	0.4	9.1	0.2	0.1	1.9	0.0	0.4	1.0	1.5
Manufacturing	-0.4	10.3	-0.3	-0.3	2.4	0.5	-1.4	-1.0	0.0
Services	-0.3	-12.0	-0.1	-0.2	-3.6	-0.1	-0.6	0.1	0.0
Other	4.9	3.2	-1.3	-1.3	2.6	-0.3	5.5	-0.4	1.2
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01

Table 10a: Change in real value added in 2030, percent change from baseline, ctd

	Poland	Rest of Eastern Europe	Kazakhstan	Kyrgyz Republic	Rest of Central Asia	Iran, Islamic Rep.	Egypt, Arab Rep.	Turkey	Rest of MENA
Agriculture	0.6	1.8	2.9	-9.8	0.8	1.2	0.2	1.3	0.4
Minerals n.e.s.	-0.3	-0.8	0.2	-3.1	0.1	1.1	-0.3	-1.7	-0.4
Coal	-0.8	-0.2	1.0	15.3	-0.7	10.1		-7.8	-5.0
Oil	1.0	-1.0	-0.8	5.1	-0.9	-0.6	0.1	-6.9	0.8
Gas	0.0	0.2	-0.7	-3.8	2.2	4.1	0.1	2.1	1.4
Textiles	0.3	-0.4	-0.5	3.8	0.7	3.9	-0.2	3.3	-2.3
Wearing apparel	-0.1	0.3	-0.5	32.7	3.2	2.6	0.2	4.9	-2.3
Leather goods	-0.3	-2.3	-0.3	156.8	3.9	4.0	0.2	3.6	-4.7
Processed foods	0.8	1.5	1.0	-5.0	1.8	1.7	0.3	4.5	0.6
Wood products	-0.5	-1.2	-0.9	1.4	0.7	0.1	-0.5	-0.1	-3.1
Paper products, publishing	0.2	-0.6	-0.2	-8.2	-0.7	-1.7	0.0	-1.5	-2.2
Petroleum, coal products	-0.5	0.2	2.5	12.6	-0.5	4.4	-0.5	1.5	3.8
Chemical, rubber, plastic	-0.3	-0.6	0.2	-9.3	1.6	14.0	-0.5	-0.9	1.6
Energy intensive manu.	-0.6	-2.3	0.6	-0.2	-1.5	0.4	-1.1	-1.8	-1.6
Metal products	-1.0	-1.7	-1.2	-16.2	-1.5	-0.2	-1.2	0.8	-3.2
Electronics	-7.5	-6.0	-7.3	-10.3	-3.6	-3.8	-8.8	-4.1	-10.5
Machinery and equipment	-1.7	-2.2	-2.0	2.8	1.5	-6.6	-5.3	-2.9	-7.8
Transport equipment	-0.5	-1.5	4.3	-3.5	13.0	1.2	0.2	10.0	-5.3
Manufactures, n.e.s.	-1.2	-1.4	-0.5	-9.6	-0.2	-1.8	-0.4	6.1	-1.7
Electricity	0.2	-0.1	0.6	6.8	1.2	3.4	-0.3	1.5	1.1
Construction	0.1	-0.3	-0.5	9.1	1.0	2.0	0.0	-0.9	0.8
Trade services	0.0	0.2	0.2	8.5	0.4	-2.5	-0.1	-5.2	0.3
Other transport	0.0	-0.3	0.0	7.4	-2.0	-3.0	-0.2	-1.1	0.4
Water transport	1.3	1.0	-0.1	3.4	-0.8	-0.5	0.6	-8.8	1.9
Air transport	-0.7	0.1	-0.1	11.1	-0.6	15.8	-0.5	1.6	0.2
Hospitality services	0.5	0.1	0.1	-5.1	0.4	-0.3	0.3	1.2	0.4
Other business services	0.4	-0.1	-0.3	-5.4	0.1	-0.3	0.0	0.3	0.1
Other services	0.1	0.1	0.1	0.9	0.1	-0.1	0.0	0.0	-0.2
Agriculture	0.6	1.8	2.9	-9.8	0.8	1.2	0.2	1.3	0.4
Manufacturing	-0.6	-1.0	0.2	-0.7	1.7	1.5	-0.5	2.4	-2.1
Services	0.0	0.0	0.0	0.2	-0.1	-0.8	0.0	-0.6	0.2
Other	-0.5	-0.4	-0.1	2.4	0.3	2.1	0.1	-2.4	0.8
Total	0.00	0.0	0.000	0.01	0.00	0.01	0.00	0.00	0.01

Table 10a: Change in real value added in 2030, percent change from baseline, ctd.

	Kenya	Tanzania	Non-BRI Area	Ethiopia	Rest of Sub-Saharan Africa	Latin America and Caribbean	United States	Rest of High-income	Rest of Western Europe
Agriculture	1.3	0.7	0.5	2.5	0.3	1.2	1.9	0.8	0.4
Minerals n.e.s.	-2.7	-2.0	-0.5	-0.2	-0.7	-0.1	-0.5	-0.8	-0.3
Coal		-0.5	0.6	-26.6	1.3	3.2	0.3	-2.7	-2.4
Oil	-9.1		0.3		0.2	1.2	-0.8	-0.7	0.5
Gas	-4.0	-0.5	0.2		0.4	0.0	0.0	-0.3	0.0
Textiles	-3.3	-3.9	0.0	-0.3	-0.3	0.2	-0.4	1.2	-0.4
Wearing apparel	-1.5	0.9	0.2	1.1	0.5	0.2	-0.5	-0.2	-0.3
Leather goods	-2.2	6.8	0.6	2.4	0.0	1.0	-0.2	0.3	-0.7
Processed foods	-1.3	0.5	0.5	2.2	0.3	0.8	0.6	0.0	0.4
Wood products	-2.7	-2.8	-0.4	-2.2	-0.5	0.0	-0.2	-0.5	-0.7
Paper products, publishing	-7.3	-5.8	-0.2	-3.5	-0.7	-0.1	0.2	-0.1	-0.2
Petroleum, coal products	-4.2	-6.1	-0.8	-5.7	-0.9	-0.5	-0.4	-1.2	-1.0
Chemical, rubber, plastic	-11.0	-2.1	-0.8	-5.2	-1.6	-0.6	-0.6	-0.6	-1.0
Energy intensive manu.	-7.9	0.3	-0.8	-2.6	-1.0	-0.6	-0.8	-0.7	-0.6
Metal products	-6.7	-16.9	-1.0	-4.4	-1.5	-0.9	-1.1	0.0	-1.3
Electronics	-13.1	-11.4	-6.5	-19.4	-6.3	-8.3	-2.1	-5.1	-8.6
Machinery and equipment	-10.0	-11.0	-1.6	-9.5	-2.7	-3.2	-1.2	0.7	-1.4
Transport equipment	-3.6	-5.7	-0.7	-6.9	-1.7	-2.4	-0.2	2.6	-0.9
Manufactures, n.e.s.	-6.8	-3.3	-1.1	-2.4	1.0	-1.4	0.3	-1.7	-1.3
Electricity	-1.9	-0.4	-0.2	-2.1	-0.3	0.0	0.0	0.1	0.0
Construction	-1.2	-0.1	-0.1	0.4	-0.2	-0.1	-0.3	0.0	0.0
Trade services	-1.4	-4.9	-0.1	-0.8	-0.5	-0.2	-0.3	0.1	0.1
Other transport	-2.2	-3.4	-0.3	-1.5	-0.5	-0.2	-0.7	-0.3	-0.2
Water transport	0.1	-2.9	0.2	-4.8	-1.0	0.0	-0.6	1.1	0.8
Air transport	-0.8	-2.8	-0.6	-2.2	-0.7	-0.4	-0.8	0.1	-0.6
Hospitality services	-2.1	-1.5	0.2	0.5	0.0	0.1	0.6	0.2	0.4
Other business services	-3.1	-2.7	0.0	-1.0	-0.1	0.1	0.0	0.0	0.2
Other services	-0.5	-0.3	0.0	0.1	-0.1	0.0	0.1	0.1	0.1
Agriculture	1.3	0.7	0.5	2.5	0.3	1.2	1.9	0.8	0.4
Manufacturing	-2.6	-0.6	-0.5	0.3	-0.1	-0.7	-0.5	-0.5	-1.0
Services	-1.6	-1.5	0.0	-0.1	-0.2	0.0	0.0	0.1	0.1
Other	-2.9	-0.8	0.0	-0.2	0.0	0.3	-0.4	-0.8	-0.2
Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 10b: Change in real value added in 2030,
difference from baseline in $2014 million

	World	BRI Area	Cambodia	China	Indonesia	Lao PDR	Malaysia	Philippines	Thailand	Vie
Agriculture	5336600	4261940	-22738	-438260	-27350	-15807	-114563	-19699	-161517	-
Minerals n.e.s.	-68350	-45287	-34	-15026	-530	81	-202	-3353	-2900	
Coal	-42018	-46444	0	-26715	4234	22	-155	-443	-5636	-
Oil	-26475	-38379	0	-5768	-2371	28	-6267	-53	-40739	-
Gas	85804	83570	0	71	2317	-273	-8143	-38	-6369	
Textiles	703034	704060	-747	28061	5314	-80	-2014	-2291	-10711	
Wearing apparel	356126	346488	21339	29011	2347	-1294	-3018	-2450	10575	
Leather goods	14766	4415	5665	7986	-3554	812	-410	-259	5556	2
Processed foods	1445410	1211010	729	101973	82732	7790	-15448	24403	28079	
Wood products	-120216	-108842	-225	1066	-2548	-75	-8483	-3821	-5464	
Paper products, publishing	-116718	-98496	-15	-13520	-1680	-35	-6404	-1008	-2435	
Petroleum, coal products	29750	36390	-68	-1315	-1400	26	477	-182	5560	
Chemical, rubber, plastic	-264379	-166558	-2813	-98870	-57410	259	-28652	-12295	-69724	
Energy intensive manu.	-261311	-186681	0	-18089	4073	1757	-12373	-3251	-10240	-
Metal products	-74931	-12743	14	21665	-4412	57	1648	-873	2451	
Electronics	10430	328477	2303	-81636	-5790	63	338248	46793	167096	4
Machinery and equipment	-294955	-106782	1558	85964	2303	219	11762	-13166	83555	
Transport equipment	-162823	-99342	1467	-30661	-19428	16	6347	-5720	64433	
Manufactures, n.e.s.	114004	157892	149	-16185	-171	94	-44604	-2372	10184	
Electricity	96112	120012	46	10814	202	330	1052	-466	26881	
Construction	562300	661260	1455	392532	3855	622	28727	-6469	73394	
Trade services	-5786060	-5331250	7493	-79317	14157	2941	7354	1368	-67771	
Other transport	-1046410	-935660	3644	-152201	-15001	2434	-28801	634	-22354	
Water transport	-279466	-286213	251	-3749	-4655	52	-1818	-23	1540	
Air transport	-87631	-65766	2635	-23043	-223	143	-10258	42	-3552	
Hospitality services	418890	327457	-25936	112280	4142	3899	-37331	1864	29112	
Other business services	-537410	-565200	-1087	38163	-16281	-783	-50661	-5339	-85404	-8
Other services	81080	-76150	5056	198540	38960	-3239	-9978	8817	-6323	
Agriculture	5336600	4261940	-22738	-438260	-27350	-15807	-114563	-19699	-161517	-
Manufacturing	1378190	2009280	29353	15450	375	9611	237077	23508	278916	8
Services	-6578600	-6151500	-6443	494020	25155	6399	-101714	428	-54477	-2
Other	-51038	-46540	-34	-47437	3650	-141	-14766	-3888	-55645	-
Total	85200	73200	138	23770	1830	62	6034	349	7276	

Table 10b: Change in real value added in 2030, difference from baseline in $2014 million, ctd.

	Rest of East Asia	Bangladesh	India	Nepal	Pakistan	Sri Lanka	Rest of South Asia	EU ECA	Russian Federation
Agriculture	70636	3092936	510920	18586	763932	-212	27553	5772	17221
Minerals n.e.s.	-2364	892	-8198	-385	-1476	-173	121	-218	-415
Coal	45088	5	-49352	11	-1	0	148	-1609	4687
Oil	-1162	0	-6332	0	25	-1	-138	777	4143
Gas	9107	6377	-1565	0	10417	0	18614	34	6780
Textiles	-1447	647435	20709	4115	-5749	-2358	1783	39	467
Wearing apparel	4172	224065	-16139	-2539	67871	6792	273	-204	766
Leather goods	-1544	895	-3926	-2707	3875	349	-709	-762	-921
Processed foods	-35940	354037	127143	-5735	384639	1606	-7460	1419	30459
Wood products	3944	7232	-11525	-187	-67805	44	207	-107	3287
Paper products, publishing	-4306	6792	-33116	-1176	-16238	-972	-394	130	280
Petroleum, coal products	-819	764	5156	3	-1196	-50	53	-53	1012
Chemical, rubber, plastic	-10683	3299	-25168	-443	91082	210	183	-1339	-1718
Energy intensive manu.	-1395	26186	-88865	-4037	-8213	-1016	-1556	-1150	-4789
Metal products	-1698	46280	-34960	819	-13776	-323	-1636	-1628	-948
Electronics	14080	23970	-75019	-219	-7032	-310	-25	-5020	-7375
Machinery and equipment	-2449	51359	-130289	3	-75670	1544	112	-7588	-18110
Transport equipment	-7762	23710	-75487	-42	-16876	-151	-64	-1873	-3210
Manufactures, n.e.s.	25593	18512	137517	5079	13850	3829	-207	-1155	-275
Electricity	4484	2296	8948	128	41401	179	66	294	1457
Construction	1527	85713	-19707	-776	-48454	-922	-703	-299	19991
Trade services	-28608	-3928879	-25538	-5770	-900406	1064	-4767	-161	-39597
Other transport	-24841	-457151	2377	-176	-157213	1193	-572	-159	-30714
Water transport	-728	-271669	8371	-68	-1775	358	-56	202	-3279
Air transport	-5201	-21084	-2648	-38	-11205	-44	57	29	-8098
Hospitality services	-7967	159850	1422	-2392	105515	2060	4180	2834	20966
Other business services	-39944	-26948	-254138	-1588	120947	-15782	-14272	10389	9486
Other services	2441	-75175	41290	-482	-267467	3066	-20689	1607	4123
Agriculture	70636	3092936	510920	18586	763932	-212	27553	5772	17221
Manufacturing	-20255	1434538	-203969	-7065	348760	9193	-9441	-19292	-1075
Services	-98837	-4533047	-239620	-11164	-1118657	-8827	-36757	14735	-25664
Other	50669	7274	-65447	-374	8965	-173	18745	-1015	15196
Total	2213	1700	1880	-16	3000	-19	99	200	5678

Table 10b: Change in real value added in 2030,
difference from baseline in $2014 million, ctd.

	Poland	Rest of Eastern Europe	Kazakhstan	Kyrgyz Republic	Rest of Central Asia	Iran, Islamic Rep.	Egypt, Arab Rep.	Turkey	Rest of MENA
Agriculture	137	35324	1512	-4045	2426	69296	18714	28089	29126
Minerals n.e.s.	-100	-1858	98	-121	55	548	-16	-2034	-3402
Coal	-393	-1122	236	185	-20	390	0	-825	-46
Oil	29	-322	-477	135	-7183	-1665	64	-577	49911
Gas	-1	132	-11	-10	11247	16354	14	56	17871
Textiles	47	-442	-17	20	46	12754	-716	20577	-8440
Wearing apparel	-19	437	-11	192	189	2854	912	19705	-20869
Leather goods	-19	-1511	-2	160	77	2266	155	2763	-34182
Processed foods	1250	12617	582	-160	8941	20970	4510	73601	18090
Wood products	-89	-1338	-12	0	14	17	-358	-27	-15730
Paper products, publishing	87	-1306	-10	-173	-148	-1229	-53	-3371	-8029
Petroleum, coal products	-20	284	42	29	-70	12604	-67	145	16509
Chemical, rubber, plastic	-256	-1610	24	-57	820	46251	-1291	-3784	23006
Energy intensive manu.	-408	-8389	136	-43	-1143	4036	-4585	-7215	-24673
Metal products	-548	-1867	-32	-242	-239	-866	-1742	1201	-22754
Electronics	-1416	-15372	-616	-197	-1477	-9059	-14055	-7147	-71609
Machinery and equipment	-1682	-8472	-124	265	261	-20164	-324	-11231	-62926
Transport equipment	-317	-9767	246	-95	6769	6602	39	24723	-54044
Manufactures, n.e.s.	-626	-1840	-4	-23	-10	-1253	-50	5531	-6819
Electricity	98	-2159	804	2943	7393	2992	-1923	3172	5890
Construction	224	-4970	-667	7521	13854	42659	-1446	-13772	113967
Trade services	-277	8043	115	17698	3164	-190505	-2543	-132753	63372
Other transport	65	-3613	-78	3006	-67707	-11763	-732	-7858	36641
Water transport	229	1388	-117	38	-1990	-127	120	-21637	12894
Air transport	-199	85	-207	1086	-1864	14203	-180	691	3538
Hospitality services	512	442	968	-16709	2663	-899	147	9323	6741
Other business services	2545	-1877	-7265	-26161	6837	-5119	198	19836	5602
Other services	1203	9046	4874	14997	17836	-8125	5144	3079	-56127
Agriculture	137	35324	1512	-4045	2426	69296	18714	28089	29126
Manufacturing	-4015	-38577	203	-323	14029	75783	-17624	115471	-272471
Services	4400	6385	-1575	4418	-19813	-156683	-1214	-139919	192518
Other	-465	-3171	-154	189	4100	15626	62	-3380	64334
Total	58	-38	-13	238	741	4021	-63	261	13510

Table 10b: Change in real value added in 2030,
difference from baseline in $2014 million, ctd.

	Kenya	Tanzania	Non-BRI Area	Ethiopia	Rest of Sub-Saharan Africa	Latin America and Caribbean	United States	Rest of High-income	Rest Wes Euro
Agriculture	197910	193693	1074710	64179	543870	372990	61701	19643	
Minerals n.e.s.	-426	-336	-23063	-670	-15079	-1305	-1034	-4008	
Coal	0	0	4426	0	6330	911	423	-1709	
Oil	-27	0	11904	0	7527	7888	-2949	-1633	
Gas	-8	-323	2235	0	2174	255	75	-275	
Textiles	-1632	-1840	-1026	-2548	-2729	2889	-1301	4636	
Wearing apparel	-765	855	9639	1201	6493	4847	-1045	-633	
Leather goods	-119	1933	10351	1242	57	10429	-66	232	
Processed foods	-24830	6675	234401	51308	61282	97402	8437	1211	
Wood products	-1973	-553	-11374	-1299	-5406	18	-1469	-1147	
Paper products, publishing	-6538	-774	-18222	-6912	-7459	-2948	2957	-1276	
Petroleum, coal products	-90	-23	-6640	-1	-1102	-1912	-183	-2299	
Chemical, rubber, plastic	-7315	-621	-97822	-3154	-15856	-30845	-10410	-12030	-2
Energy intensive manu.	-6363	870	-74630	-9096	-18367	-20840	-7359	-10552	
Metal products	-1598	-13417	-62188	-7156	-10819	-14721	-8893	-322	-2
Electronics	-4422	-592	-318047	-246	-12456	-123579	-5966	-110425	-6
Machinery and equipment	-3410	-2864	-188173	-1376	-25148	-102501	-29555	14005	-4
Transport equipment	-451	-815	-63482	-6511	-18480	-71830	-2720	53106	-1
Manufactures, n.e.s.	-3660	-104	-43886	-3264	4407	-22241	835	-10492	-3
Electricity	-3360	-406	-23902	-2775	-21722	-686	288	792	
Construction	-22434	-3977	-98961	11858	-62209	-22954	-23774	-1996	
Trade services	-5382	-61855	-454800	-97928	-304362	-124841	-72940	47855	9
Other transport	-3825	-907	-110754	-2811	-30728	-17312	-23706	-14589	-2
Water transport	19	-21	6747	-426	-3296	53	-2241	6526	
Air transport	-420	-55	-21865	-861	-4496	-3748	-6451	354	
Hospitality services	-37329	-7202	91432	3381	2343	25426	48601	7292	
Other business services	-49863	-96676	27780	-39437	-32820	19519	8868	1189	7
Other services	-11710	-10285	157230	53669	-38778	21837	71254	18883	3
Agriculture	197910	193693	1074710	64179	543870	372990	61701	19643	
Manufacturing	-63167	-11269	-631100	12191	-45582	-275829	-56739	-75986	-18
Services	-134304	-181384	-427100	-75328	-496070	-102700	-100	66310	18
Other	-460	-659	-4498	-670	952	7749	-3485	-7625	
Total	-21	380	12000	371	3170	2200	1370	2340	

Table 11: Real factor returns, percent change in 2030 relative to baseline

	Un-skilled	Skilled	Total labor	Capital	Land	Natl. res.	Non-labor	Total
World	0.88	0.7	0.79	0.5	1.97	0.36	0.57	0.66
BRI Area	1.36	1.38	1.37	0.84	1.76	0.12	0.87	1.02
Cambodia	4.7	3.99	4.54	5.6	4.05	4.18	5.07	4.88
China	0.59	0.91	0.70	0.22	0.32	-0.09	0.19	0.41
Indonesia	0.56	0.66	0.59	0.25	0.37	0.24	0.25	0.36
Lao PDR	1.09	3.34	1.47	3.24	1.19	5.03	2.22	1.97
Malaysia	10.78	10.52	10.67	4.32	0.57	-1.59	3.59	6.28
Philippines	0.62	0.74	0.68	0.46	0.49	-0.1	0.45	0.52
Thailand	7.45	9.15	8.16	6.75	3.63	-1.93	6.32	6.82
Vietnam	2.31	1.85	2.16	1.94	1.24	-0.1	1.67	1.91
Rest of East Asia	2.81	1.79	2.19	0.69	2.16	1.75	0.81	1.3
Bangladesh	8.48	8.7	7.83	10.55	21.23	4.62	12.71	9.79
India	0.82	0.14	0.53	0	0.9	-0.08	0.21	0.34
Nepal	1.25	0.36	1.02	0.52	1.22	0.42	0.71	0.83
Pakistan	27.89	5.19	15.44	7.76	24.12	3.56	9.56	10.81
Sri Lanka	0.77	0.01	0.50	0.82	0.67	0.46	0.79	0.68
Rest of S. Asia	3.13	1.67	2.48	0.66	3.04	2.44	1.36	1.75
EU ECA	0.24	0.23	0.23	-0.01	1.75	0.45	0.06	0.11
Russian Federation	1.2	1.57	1.40	0.67	2.83	0.63	0.7	0.89
Poland	0.08	0.1	0.09	0.13	1.29	0.02	0.16	0.14
Rest of E. Europe	1.02	0.75	0.88	0.91	3.28	0.52	1.13	1
Kazakhstan	1.16	0.42	0.85	0.2	4.31	0.28	0.31	0.53
Kyrgyz Republic	26.07	7.95	20.42	11.71	6.55	13.19	10.16	13.08
Rest of C. Asia	1.98	1.34	1.76	0.74	2.61	0.5	0.93	1.22
Iran, Islamic Rep.	4.8	4.41	4.58	1.16	5.92	0.27	1.14	1.57
Egypt, Arab Rep.	0.52	0.28	0.38	0.23	0.77	0.3	0.26	0.31
Turkey	4.72	4.52	4.65	4.13	4.14	-1.35	4.12	4.26
Rest of MENA	1.42	1.45	1.43	0.73	1.85	1.14	0.8	0.96
Kenya	4.48	1.7	3.76	0.87	4.38	1.3	1.13	2.22
Tanzania	4.65	2.35	4.02	0.67	3.97	1.04	1.2	2.61
Non-BRI Area	0.36	0.48	0.43	0.19	1.77	0.31	0.22	0.33
Ethiopia	0.69	1.1	0.78	0.58	2.75	0.52	0.87	0.92
Rest of SSA	0.94	0.21	0.62	-0.23	0.8	0.28	-0.11	0.23
Lat. Am. & Car.	0.37	0.01	0.20	-0.04	1.3	0.43	0.03	0.09
United States	0.09	0.55	0.38	0.45	3.52	0.11	0.5	0.42
Rest of High-inc.	0.66	0.66	0.66	0.34	1.81	0.04	0.35	0.5
Rest of W. Eur.	0.26	0.28	0.28	0.18	0.95	0.24	0.19	0.22

Table 12: Labor displacement, change in 2030 relative to baseline

	BRIUBD				
	Agriculture		Total		Percent of labor force
	displ-	displ+	displ-	displ+	
World Total	-821.8	6141.9	-14000.2	14000.2	0.37
BRI regions	-821.8	5074.8	-11966.2	11966.2	0.48
Cambodia	-22.7	0.0	-53.5	53.5	0.58
China	-438.6	0.0	-998.5	998.5	0.13
Indonesia	-27.4	0.0	-160.8	160.8	0.11
Lao PDR	-15.7	0.0	-22.6	22.6	0.54
Malaysia	-114.0	0.0	-382.6	382.6	2.36
Philippines	-19.7	0.0	-83.0	83.0	0.15
Thailand	-161.5	0.0	-516.9	516.9	1.32
Vietnam	-17.6	0.0	-180.4	180.4	0.39
Rest of East Asia	0.0	70.3	-190.0	190.0	0.32
Bangladesh	0.0	3090.8	-4775.3	4775.3	5.59
India	0.0	509.3	-972.0	972.0	0.15
Nepal	0.0	18.6	-31.3	31.3	0.15
Pakistan	0.0	761.8	-1885.0	1885.0	2.18
Sri Lanka	-0.6	0.4	-23.2	23.2	0.24
Rest of South Asia	0.0	27.5	-53.2	53.2	0.37
EU ECA	0.0	5.6	-21.9	21.9	0.08
Russian Federation	0.0	16.9	-118.3	118.3	0.17
Poland	0.0	0.1	-5.9	5.9	0.04
Rest of Eastern Europe	0.0	35.2	-67.6	67.6	0.26
Kazakhstan	0.0	1.4	-9.4	9.4	0.09
Kyrgyz Republic	-4.0	0.0	-48.9	48.9	1.70
Rest of Central Asia	0.0	2.3	-82.4	82.4	0.29
Turkey	0.0	27.5	-205.9	205.9	0.71
Egypt, Arab Rep.	0.0	18.6	-31.0	31.0	0.09
Iran, Islamic Rep.	0.0	68.8	-250.8	250.8	0.82
Rest of MENA	0.0	28.6	-380.5	380.5	0.34
Kenya	0.0	197.7	-201.2	201.2	0.78
Tanzania	0.0	193.3	-214.1	214.1	0.53
Non-BRI regions	0.0	1067.1	-2034.0	2034.0	0.15
Ethiopia	0.0	63.7	-186.2	186.2	0.27
Rest of Sub-Saharan Africa	0.0	542.4	-676.8	676.8	0.16
Latin America and Caribbean	0.0	370.1	-588.0	588.0	0.18
United States	0.0	59.9	-194.6	194.6	0.11
Rest of High-income	0.0	19.1	-165.7	165.7	0.13
Rest of Western Europe	0.0	11.9	-222.8	222.8	0.11

Table 13: Percent change in emissions in 2030 relative to the baseline

	CO2	CH4	N2O	FGAS	BC	CO	NH3
World	0.5	0.7	0.9	-1.8	0.6	0.8	0.5
BRI Area	0.6	0.6	0.9	-0.7	0.6	0.9	0.4
Cambodia	17.7	2.8	1.5		8.6	5.5	3.2
China	0.0	-0.1	0.1	-0.6	0.0	0.1	0.1
Indonesia	0.3	0.3	0.1	0.0	0.6	0.5	0.1
Lao PDR	7.7	3.1	-0.8		3.4	0.5	-0.6
Malaysia	5.1	-2.8	-2.8	16.0	-1.0	3.6	-4.3
Philippines	0.7	0.0	0.3	-2.3	0.1	0.3	-0.1
Thailand	4.1	-0.8	3.3	-3.1	-8.6	0.1	-2.4
Vietnam	1.8	-0.8	0.6	-0.1	2.3	1.4	0.1
Rest of East Asia	0.8	2.0	1.2	2.6	1.8	1.5	1.3
Bangladesh	5.8	3.8	6.4	0.0	18.2	15.2	5.8
India	0.1	0.4	0.2	0.0	0.0	0.2	-0.3
Nepal	-0.3	0.5	0.5		0.6	0.4	0.4
Pakistan	7.3	7.3	10.9	16.8	11.0	11.2	8.8
Sri Lanka	1.8	0.6	0.6	0.0	3.2	2.6	1.0
Rest of S. Asia	1.6	1.4	1.6		1.7	0.9	1.0
EU ECA	0.1	0.3	0.4	-4.6	0.1	0.2	0.7
Russian Federation	1.1	1.0	0.8	-1.0	0.8	1.1	1.4
Poland	0.1	-0.1	0.3	-4.7	0.1	0.2	0.5
Rest of E. Europe	0.7	0.7	0.8	-3.9	0.7	0.5	1.6
Kazakhstan	0.2	0.7	2.1	-5.6	0.5	0.7	2.4
Kyrgyz Republic	6.8	-0.8	-2.9	-5.1	7.0	1.5	-3.4
Rest of C. Asia	1.0	0.6	1.3	-1.6	0.6	0.7	0.9
Iran, Islamic Rep.	3.9	1.8	3.9	1.9	2.1	3.0	2.1
Egypt, Arab Rep.	-0.1	0.1	0.1	-1.8	0.2	-0.1	0.2
Turkey	2.7	1.2	2.3	-2.1	-0.8	2.4	2.3
Rest of MENA	1.1	1.2	0.8	-5.3	1.1	1.2	0.6
Kenya	2.1	3.0	3.5	-8.3	1.7	2.5	0.9
Tanzania	3.5	2.9	3.1		4.4	4.4	2.8
Non-BRI Area	0.3	0.8	0.9	-3.2	0.6	0.6	0.8
Ethiopia	1.3	2.2	2.5	-14.5	1.8	1.7	1.2
Rest of SSA	0.0	0.7	0.8	-3.0	0.8	0.9	0.7
Lat. Am. & Car.	0.1	0.9	1.1	-1.8	0.3	0.5	0.9
United States	0.2	0.8	0.9	-1.4	0.1	0.3	1.4
Rest of High-inc.	0.7	0.2	0.6	-2.6	0.9	0.8	0.7
Rest of W. Eur.	0.2	0.2	0.2	-6.4	0.1	0.2	0.3

Table 13: Percent change in emissions in 2030 relative to the baseline, ctd.

	NMVB	NMVF	Nox	OC	PM10	PM2_5	SO2
World	0.0	0.4	0.4	1.2	0.7	0.7	-0.3
BRI Area	-0.2	0.5	0.5	1.2	0.7	0.7	-0.3
Cambodia	6.5	15.9	5.1	5.6	5.2	4.2	7.7
China	0.0	-0.3	-0.1	0.3	0.1	0.1	-0.7
Indonesia	0.7	0.5	0.2	0.5	0.5	0.4	0.1
Lao PDr	2.3	24.4	2.8	1.2	1.1	0.7	5.8
Malaysia	-22.5	2.7	1.1	3.5	-3.9	0.5	-2.3
Philippines	-1.9	0.9	0.4	0.5	-0.1	0.2	-0.6
Thailand	-23.7	2.8	0.3	3.4	-6.6	-1.1	-14.5
Vietnam	-0.6	-0.3	2.4	1.8	1.3	1.3	1.5
Rest of East Asia	3.1	1.9	1.4	1.4	1.6	1.3	1.2
Bangladesh	18.5	4.9	5.5	18.1	16.7	16.0	8.0
India	0.1	-0.1	-0.4	0.4	0.2	0.1	-1.3
Nepal	0.5	0.4	0.5	0.5	0.5	0.5	0.6
Pakistan	12.0	3.5	7.9	14.5	13.3	12.7	10.3
Sri Lanka	3.0	1.9	1.7	2.9	2.8	2.9	1.0
Rest of S. Asia	1.4	1.5	1.2	1.8	1.7	1.7	0.3
EU ECA	0.2	-0.1	-0.1	0.4	0.2	0.2	-0.6
Russian Federation	1.4	1.1	0.9	1.3	1.1	1.0	0.8
Poland	0.4	-0.1	-0.1	0.3	0.2	0.2	0.0
Rest of E. Europe	1.1	0.9	0.2	1.7	0.6	0.7	-1.1
Kazakhstan	1.7	0.0	0.3	1.1	0.8	0.9	0.2
Kyrgyz Republic	-6.1	3.9	4.4	1.1	0.5	0.6	-6.8
Rest of C. Asia	1.2	0.4	0.8	0.9	0.8	0.8	0.2
Iran, Islamic Rep.	4.6	2.6	3.0	2.3	2.8	2.6	3.8
Egypt, Arab Rep.	0.2	-0.1	0.1	0.2	0.0	0.1	0.0
Turkey	1.3	0.8	1.1	1.1	0.7	0.9	-4.7
Rest of MENA	-1.7	1.4	1.2	1.2	0.7	1.0	1.0
Kenya	2.0	2.2	1.1	4.4	1.6	3.2	0.3
Tanzania	1.9	3.6	3.3	5.8	4.7	5.1	1.5
Non-BRI Area	0.5	0.2	0.2	1.0	0.8	0.8	-0.5
Ethiopia	-6.9	1.3	1.9	3.5	1.6	2.9	1.5
Rest of SSA	1.1	0.4	0.1	0.9	1.0	0.9	-0.3
Lat. Am. & Car.	1.3	0.1	0.0	0.7	0.6	0.6	-1.0
United States	0.6	0.1	0.0	0.7	0.6	0.4	0.0
Rest of High-inc.	0.9	0.2	0.7	0.9	0.4	0.6	-0.8
Rest of W. Eur.	0.2	-0.1	0.2	0.4	0.2	0.3	-0.4

Table 14: Sensitivity Analysis: welfare gains with and without internal trade cost reductions (% deviations from the baseline in 2030)

	BRIUB	BRIUBD	BRIUBB	BRIUBBD	BRIUBBTP	BRIUBBTPD
World	0.5	0.7	0.7	1.1	0.8	1.1
BRI Area	0.8	1.2	1.2	2.0	1.4	2.1
Cambodia	5.0	5.0	8.6	8.6	8.6	8.7
China	0.6	0.7	0.8	1.0	0.9	1.1
Indonesia	0.5	0.5	0.5	0.5	0.5	0.6
Lao PDr	3.0	3.1	9.0	9.2	9.1	9.3
Malaysia	4.6	7.7	5.0	8.1	5.2	8.3
Philippines	0.7	0.7	0.6	0.6	0.6	0.6
Thailand	5.4	8.2	6.8	9.7	6.8	9.7
Vietnam	1.5	1.6	1.5	1.6	1.5	1.6
Rest of East Asia	1.5	1.6	2.4	2.5	2.4	2.5
Bangladesh	0.7	6.9	1.1	7.2	1.2	7.4
India	0.5	0.4	0.6	0.6	1.0	1.0
Nepal	0.4	0.4	8.2	11.3	8.0	11.2
Pakistan	0.8	10.5	1.0	10.8	1.4	11.1
Sri Lanka	0.6	0.6	0.8	0.8	1.1	1.1
Rest of S. Asia	0.9	1.4	3.9	5.4	4.1	5.7
EU ECA	0.2	0.2	0.4	0.5	0.6	0.6
Russian Federation	0.4	1.2	1.0	1.9	1.1	1.9
Poland	0.2	0.2	0.2	0.3	0.3	0.4
Rest of E. Europe	0.7	0.8	1.4	1.6	1.2	1.4
Kazakhstan	0.4	0.5	4.0	15.4	4.1	15.5
Kyrgyz Republic	10.2	10.4	35.8	37.3	34.7	36.1
Rest of C. Asia	0.8	1.5	2.2	6.7	2.1	6.6
Iran, Islamic Rep.	1.5	3.0	2.6	4.3	3.3	4.9
Egypt, Arab Rep.	0.2	0.2	0.3	0.3	0.9	0.9
Turkey	1.4	3.6	1.6	3.9	1.9	4.2
Rest of MENA	1.2	1.3	2.8	4.1	2.8	4.1
Kenya	1.4	1.5	2.3	2.3	2.6	2.7
Tanzania	1.5	2.5	1.9	2.9	2.2	3.2
Non-BRI Area	0.3	0.3	0.3	0.4	0.4	0.5
Ethiopia	1.8	1.9	5.7	5.9	5.8	6.0
Rest of SSA	0.4	0.4	0.6	0.7	0.7	0.7
Lat. Am. & Car.	0.1	0.1	0.1	0.1	0.1	0.1
United States	0.3	0.4	0.3	0.4	0.3	0.5
Rest of High-inc.	0.5	0.5	0.5	0.5	0.6	0.6
Rest of W. Eur.	0.3	0.3	0.4	0.4	0.4	0.5

Annex A: Summary description of the Envisage model and the model dimensions

The description of the Envisage Model follows the circular flow of an economy paradigm. Firms purchase input factors (for example labor and capital) to produce goods and services. Households receive factor income and in turn demand goods and services produced by firms. And, equality of supply and demand determine equilibrium prices for factors, goods and services. The model is solved as a sequence of comparative static equilibria where the factors of production are exogenous for each time period and linked between time periods with accumulation expressions.

Production is implemented as a series of nested constant-elasticity-of-substitution (CES) functions the aim of which is to capture the substitutability across all inputs. Three production archetypes are implemented. The first is for crops that reflects intensification of inputs versus land extensification. The second is for livestock that reflects range-fed versus ranch-fed production. The final, also referred to as the default, revolves largely around capital/labor substitutability. Some production activities highlight specific inputs (for example agricultural chemicals in crops and feed in livestock) and all activities include energy and its components as part of the cost minimization paradigm. Production is also identified by vintage—divided into *Old* and *New*—with typically lower substitution possibilities associated with *Old* capital.

Each production activity is allowed to produce more than one commodity—for example the ethanol sector can produce ethanol and distiller's dried grains with solubles (DDGS). And commodities can be formed by the output of one or more activities (for example electricity). ENVISAGE therefore uses a different classification of activities and commodities.[18] One of the features of the model is that it integrates the new GTAP power data base that disaggregates GTAP's electricity sector ('ely') into 11 different power sources plus electricity transmission and distribution. Though the database has both the supply and demand side for all 11 power sources, the aggregation facility permits the aggregation of electricity demand into a single commodity and the 'make' matrix specification combines the output from the different power activities into a single electricity commodity.

Income accrues from payments to factors of production and is allocated to households (after taxes). The government sector accrues all net tax payments and purchases goods and services. The model incorporates multiple utility functions for determining household demand. There is a set of three household demand functions linked to the ubiquitous linear expenditure system (LES): the standard LES, the extended LES (ELES) that incorporates household saving into the utility function, and 'an implicitly directly additive demand system' (AIDADS), that allows for non-linear Engel curves in the LES framework.[19] The fourth option uses the constant differences in elasticity (CDE) utility function that is used in the core GTAP model (Hertel 1997 and Corong et al. 2017). The ELES incorporates the decision to save in a top-level utility function. The other demand systems assume savings is an exogenous proportion of disposable income in the default closure. The consumer utility function determines consumer demand bundles that are subsequently

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[18]   Production activities are indexed with *a* and commodities are indexed with *i*.
[19]   Users can also specify implementing a Cobb-Douglas (CD) utility function, which can be considered part of the LES framework.

converted to produced goods using a consumer demand 'make' or transition matrix. Investment is savings driven and equal to domestic saving adjusted by net capital flows.

Trade is modeled using the so-called Armington specification that posits that demand for goods is differentiated by region of origin. The model allows for domestic/import sourcing at the aggregate level (after aggregating domestic absorption across all agents), or at the agent-level. In the standard specification, a second Armington nest allocates aggregate import demand across all exporting regions using a representative agent specification. Note that a newer, though minimally tested version, allows for sourcing imports by agent—also known as the MRIO specification. Exports are modeled in an analogous fashion using a nested constant-elasticity-of-transformation (CET) specification. The domestic supply of each commodity is supplied to the domestic market and an aggregate export bundle using a top-level CET function. The latter is allocated across regions of destination using a second-level CET function.[20] Each bilateral trade node is associated with four prices: 1) the producer price; 2) the export border price, also referred to as the free-on-board (FOB) price; 3) the import border price, also referred to as the cost, insurance and freight (CIF) price; and 4) the end-user price that includes all applicable trade taxes. The wedge between the producer price and the FOB price is represented by the export tax (or subsidy if negative) and the wedge between the CIF and end-user prices represents the import tariff (and perhaps other import related distortions). The wedge between the CIF and FOB prices represents the international trade and transport margin. These margins represent the use of real resources that are supplied by each region. The global international trade and transport sector purchases these services from each region so as to minimize the aggregate cost.

The model has two fundamental markets for goods and services. Domestically produced goods sold on the domestic market, and domestically produced goods sold by region of destination. All other goods and services are composite bundles of these goods. Two market equilibrium conditions are needed to clear these two markets.[21]

The model incorporates five types of production factors: 1) labor (of which there can be up to 5 types); 2) capital; 3) land; 4) a sector specific natural resource (such as fossil fuel energy reserves); and 5) water. The labor market is allowed to be segmented (though not required). The model allows for regime switching between full and partial wage flexibility. Capital is allocated across sectors so as to equalize rates of returns. If all sectors are expanding, *Old* capital is assumed to receive the economy-wide rate of return. In contracting sectors, *Old* capital is sold on secondary markets using an upward sloping supply curve. This implies that capital is only partially mobile across sectors. Aggregate land and water supply are specified using supply curves. Though there are several options, the preferred supply curve is a logistic function that has an upper bound. Water demand also includes exogenous components for environmental uses and groundwater recharge. Land and water are allocated across activities using a nested CET specification.[22] Natural resources are

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[20] The model allows for perfect transformation, which is the standard specification in the GTAP model.
[21] If there are N commodities and R regions, there will be $R \times N$ market clearing conditions for domestic goods and $R \times N \times R$ market clearing conditions for bilateral trade.
[22] Land is only implemented for agricultural activities. Water demand by activity is only present in irrigated crop sectors. Other water demand is based on aggregate demand functions with market clearing, but is not part of the cost structure.

supplied to each sector using an iso-elastic supply function with the possibility differentiated elasticities depending on market conditions.

ENVISAGE incorporates the main greenhouse gases—carbon, methane, nitrous oxides and fluorinated gases, as well as 10 additional non-greenhouse gases[23] that may have impacts on the atmosphere and climate change, but often have significant local impacts, particularly on health. Emissions are generated by consumption of commodities (such as fuels), factor use (for example land in rice production and herds in livestock production) and there are also processed base emissions such as methane from landfills.[24] A number of carbon control regimes are available in the model. Carbon taxes can be imposed exogenously—potentially differentiated across regions. The incidence of the carbon tax allows for partial or full exemption by commodity and end-user. For example, households can be exempted from the carbon tax on natural gas consumption. The model allows for emission caps in a flexible manner—where regions can be segmented into coalitions on a multi-regional or global basis. In addition to the standard cap system, a cap and trade system can be defined where each region within a coalition is assigned an initial emission quota.

Dynamics involves three elements. Labor supply (by skill level) grows at an exogenously determined rate. The aggregate capital supply evolves according to the standard stock/flow motion equation, i.e. the capital stock at the beginning of each period is equal to the previous period's capital stock, less depreciation, plus the previous period's level of investment. The third element is technological change. The standard version of the model assumes labor augmenting technical change—calibrated to given assumptions about GDP growth and inter-sectoral productivity differences. In policy simulations, technology is typically assumed to be fixed at the calibrated levels.

For this particular study, key model specifications include:

- Agent-based Armington specification for import demand, with an aggregate agent allocation of total import demand by source region
- The value of time in trade is captured by an iceberg parameter—specified for each commodity and bilateral trade node. The iceberg parameter is assumed to be fixed over time in the baseline.
- Diagonal make matrix, i.e. one-to-one correspondence between activities and commodities
- Constant-differences-in-elasticity (CDE) utility function
- Logistic aggregate land supply function
- The capital account is fixed within each time period. Net capital flows decline to zero by 2050, with an interim target in 2030 of 5% of GDP for countries whose capital account is greater than 5% in the base year.

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[23]   Black carbon (BC), carbon monoxide (CO), ammonia (NH3), volatile organic compounds (NMVB and NMVF), nitrogen oxides (NOx), organic carbon (OC), particulate matter (PM10 and PM2.5) and sulfur dioxide (SO_2).

[24]   The current version of the model does not include carbon emissions from deforestation—an important source of global carbon emissions.

Table A1: Regional dimension

	Region name (code in parenthesis)
1	Cambodia (KHM)
2	China (CHN)
3	Indonesia (IDN)
4	Lao PDR (LAO)
5	Malaysia (MYS)
6	Philippines (PHL)
7	Thailand (THA)
8	Vietnam (VNM)
9	Rest of East Asia (XEA)
10	Bangladesh (BGD)
11	India (IND)
12	Nepal (NPL)
13	Pakistan (PAK)
14	Sri Lanka (LKA)
15	Rest of South Asia (XSA)
16	EU ECA (ECU)
17	Russian Federation (RUS)
18	Poland (POL)
19	Rest of Eastern Europe (EEU)
20	Kazakhstan (KAZ)
21	Kyrgyz Republic (KGZ)
22	Rest of Central Asia (XCS)
23	Turkey (TUR)
24	Egypt, Arab Rep. (EGY)
25	Iran, Islamic Rep. (IRN)
26	Rest of MENA (XMN)
27	Ethiopia (ETH)
28	Kenya (KEN)
29	Tanzania (TZA)
30	Rest of Sub-Saharan Africa (XSS)
31	Latin America and Caribbean (LAC)
32	United States (USA)
33	Rest of High-income (XHY)
34	Rest of Western Europe (E_U)

The model's reference year is 2014 and the model is initialized and calibrated to the GTAP Data Base, Version 10 pre-release 2.[25] The 141 regions in the database have been aggregated to 34 regions, see Table A-1.[26] Similarly, the database's 57 sectors have been aggregated to 28, see Table A-2, with an emphasis on the more traded manufacturing sectors, and the trade and transport services.[27]

Table A-2: Sector dimension

	Sector name (code in parenthesis)
1	Agriculture (AGR)
2	Coal (COA)
3	Oil (OIL)
4	Gas (GAS)
5	Minerals n.e.s. (OMN)
6	Processed foods (PFD)
7	Wood products (LUM)
8	Paper products, publishing (PPP)
9	Textiles (TEX)
10	Wearing apparel (WAP)
11	Leather goods (LEA)
12	Energy intensive manufacturing (KE5)
13	Petroleum, coal products (P_C)
14	Chemical, rubber, plastic products (CRP)
15	Transport equipment (TRQ)
16	Electronics (ELE)
17	Metal products (FMP)
18	Machinery and equipment (OME)
19	Manufactures, n.e.s. (XMN)
20	Electricity (ELY)
21	Construction (CNS)
22	Trade services (TRD)
23	Air transport (ATP)
24	Water transport (WTP)
25	Other transport (OTP)
26	Hospitality services (ROS)
27	Other business services (XBS)
28	Other services (XSV)

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[25] Pre-releases are only made available to GTAP Board members. The public version of Version 10 is expected to be available in the summer of 2019.
[26] The GTAP concordance is available in Table A-3.
[27] The GTAP concordance is available in Table A-4.

The key macro-economic drivers of the baseline are based on a number of existing baselines. Population and labor growth are calibrated to the United Nation's Population Division 2015 projection, the medium variant.[28] The near-term GDP projections, through 2020, use the latest World Bank Global Economic Prospects (GEP) forecast.[29] Beyond 2020, the baseline is calibrated to the so-called Shared Socio-Economic Pathway (SSP) 2, or SSP2. The SSPs, of which there are 5, have been developed by the Integrated Assessment Modeling (IAM) Community to provide a macroeconomic framework for quantitative analysis of the economics of climate change.[30] Three economic modeling groups have quantified global GDP projections: the Organisation for Economic Co-operation and Development (OECD), the International Institute for Applied Systems Analysis (IIASA), and the Potsdam Institute for Climate Impact Research (PIK). All three teams harmonized to the same demographic projections provided by IIASA's demographic unit. For our purposes, we are using the OECD-based SSP2 projection. SSP2, also referred to as the 'middle of the road' scenario, is being treated by many modeling groups as a business as usual scenario.

Labor force growth is equated with the growth rate of the population cohort ages 15-64, sometimes referred to as the working-age population. The GEP forecast is used to project real GDP growth from 2014-2020. The SSP2 projection is used to project real per-capita GDP growth, complemented by the UN population projection.[31] We target real GDP growth by calibrating labor productivity in the baseline. We allow for sector differences in labor productivity growth, with a (fixed) higher rate in agriculture and manufacturing, relative to services. Other factors that impact calibrated labor productivity include an exogenous improvement in energy efficiency, agricultural yields, and international trade and transport margins.

The baseline also incorporates the following list of exogenous assumptions:

- Bilateral tariff rates are modified over time according to a schedule of tariff rates prepared by the ITC (2015). This schedule is based on existing trade agreements. More details are available from the authors.
- The income parameter of the CDE is adjusted between periods based on an estimated economic relation between the income parameter and aggregate per capita consumption. The parametrization of the relationship is based on a least-squares estimate using the base year GTAP database. One key purpose is to reduce the share of food expenditures as incomes rise.
- Capital accumulation is based on the standard capital motion equation: $K_t=(1-\delta)K_{t-1}+I_{t-1}$, thus the capital stock trends depend on investment/savings decisions. In the baseline, household savings are adjusted in order to target future trends in the investment to GDP ratio—with the basic idea that these trends should more or less line up with steady state

[28] http://www.un.org/en/development/desa/publications/world-population-prospects-2015-revision.html
[29] *Global Economic Prospects, January 2018: Broad-Based Upturn, but for How Long?* Advance edition. Washington, DC: World Bank. License: Creative Commons Attribution CC BY 3.0 IGO (https://openknowledge.worldbank.org/bitstream/handle/10986/28932/9781464811630.pdf).
[30] A Special Issue of *Global Environmental Change* provides significant background material on the SSPs and their development. See in particular Dellink et al. 2017 for a discussion of the OECD-based macroeconomic drivers.
[31] In other words, we overlay SSP2's population projection with the UN's, but assume the same growth rate of GDP in per capita terms.

returns to capital. Baseline net capital flows are assumed to decline to zero by 2050—however, regions with an initial level above 5 percent of GDP (in absolute terms), are assumed to linearly drive this down to 5 percent of GDP by 2030.[32]

The focus of the paper is on the BRI initiative, though we will briefly outline the contours of the baseline:

- World population is expected to rise from 7.3 billion in 2014 to 8.5 billion in 2030, an increase of around 1.2 billion, and about 1 percent per annum on average (see Table 1).
- The BRI region accounts for around one-half of the increase, mostly South Asia, with Sub-Saharan Africa accounting for the major contribution in the non-BRI area, with an increase of almost 400 million. There is a small decline in BRI's share of global population, from 65 to 63 percent.
- Global GDP will rise from $78 $2014 billion in 2014 to $133 $2014 billion in 2030—an average annual increase of 3.4 percent.
- BRI's share of global output climbs relatively sharply from 31 percent to 42 percent (at 2014 prices and market exchange rates). In terms of average annual growth rates, BRI's increases at a rapid clip of 5.4 percent per annum, whereas the non-BRI region would see an increase of 2.3 percent per annum (see Table 2).
- Average global income in per capita terms rises by 45 percent—over 100 percent for the BRI area and only 16 percent for non-BRI (see Table 3).
- Despite the relatively high growth in per capita incomes in many developing countries, convergence in incomes (at market exchange rates and 2014 prices) is slight, for example the BRI region on average only sees its per capita income rise from 9.5 percent of the U.S. average to 10.5 percent.

Table A-3: GTAP regional concordance

	Region name	GTAP concordance
1	Cambodia (KHM)	Cambodia (KHM)
2	China (CHN)	China (CHN)
3	Indonesia (IDN)	Indonesia (IDN)
4	Lao PDR (LAO)	Lao PDR (LAO)
5	Malaysia (MYS)	Malaysia (MYS)
6	Philippines (PHL)	Philippines (PHL)
7	Thailand (THA)	Thailand (THA)
8	Vietnam (VNM)	Vietnam (VNM)
9	Rest of East Asia (XEA)	Rest of Oceania (XOC), Mongolia (MNG), Rest of East Asia (XEA), Brunei Darussalam (BRN), Singapore (SGP), Rest of Southeast Asia (XSE)
10	Bangladesh (BGD)	Bangladesh (BGD)
11	India (IND)	India (IND)
12	Nepal (NPL)	Nepal (NPL)
13	Pakistan (PAK)	Pakistan (PAK)
14	Sri Lanka (LKA)	Sri Lanka (LKA)
15	Rest of South Asia (XSA)	Rest of South Asia (XSA)
16	EU ECA (ECU)	Czech Republic (CZE), Estonia (EST), Hungary (HUN), Latvia (LVA), Lithuania (LTU), Slovak Rep.

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[32] We make an exception for the Kyrgyz Republic, which has an initial trade deficit of over 100 percent of GDP.

		(SVK), Slovenia (SVN), Bulgaria (BGR), Croatia (HRV), Romania (ROU)
17	Russian Federation (RUS)	Russian Federation (RUS)
18	Poland (POL)	Poland (POL)
19	Rest of Eastern Europe (EEU)	Albania (ALB), Belarus (BLR), Ukraine (UKR), Rest of Eastern Europe (XEE)
20	Kazakhstan (KAZ)	Kazakhstan (KAZ)
21	Kyrgyz Rep. (KGZ)	Kyrgyz Republic (KGZ)
22	Rest of Central Asia (XCS)	Tajikistan (TJK), Rest of Former Soviet Union (XSU), Armenia (ARM), Azerbaijan (AZE), Georgia (GEO)
23	Turkey (TUR)	Turkey (TUR)
24	Egypt, Arab Rep. (EGY)	Egypt, Arab Rep. (EGY)
25	Iran, Islamic Rep. (IRN)	Iran, Islamic Rep. (IRN)
26	Rest of MENA (XMN)	Bahrain (BHR), Israel (ISR), Jordan (JOR), Kuwait (KWT), Oman (OMN), Qatar (QAT), Saudi Arabia (SAU), United Arab Emirates (ARE), Rest of Western Asia (XWS), Morocco (MAR), Tunisia (TUN), Rest of North Africa (XNF)
27	Ethiopia (ETH)	Ethiopia (ETH)
28	Kenya (KEN)	Kenya (KEN)
29	Tanzania (TZA)	Tanzania (TZA)
30	Rest of Sub-Saharan Africa (XSS)	Benin (BEN), Burkina Faso (BFA), Cameroon (CMR), Côte d'Ivoire (CIV), Ghana (GHA), Guinea (GIN), Nigeria (NGA), Senegal (SEN), Togo (TGO), Rest of Western Africa (XWF), Central Africa (XCF), South-Central Africa (XAC), Madagascar (MDG), Malawi (MWI), Mauritius (MUS), Mozambique (MOZ), Rwanda (RWA), Uganda (UGA), Zambia (ZMB), Zimbabwe (ZWE), Rest of Eastern Africa (XEC), Botswana (BWA), Namibia (NAM), South Africa (ZAF), Rest of South African Customs Union (XSC)
31	Latin America and Caribbean (LAC)	Mexico (MEX), Rest of North America (XNA), Argentina (ARG), Bolivia (BOL), Brazil (BRA), Chile (CHL), Colombia (COL), Ecuador (ECU), Paraguay (PRY), Peru (PER), Uruguay (URY), Venezuela, RB (VEN), Rest of South America (XSM), Costa Rica (CRI), Guatemala (GTM), Honduras (HND), Nicaragua (NIC), Panama (PAN), El Salvador (SLV), Rest of Central America (XCA), Dominican Republic (DOM), Jamaica (JAM), Puerto Rico (PRI), Trinidad and Tobago (TTO), Rest of Caribbean (XCB)
32	United States (USA)	United States of America (USA)
33	Rest of High-income (XHY)	Australia (AUS), New Zealand (NZL), Hong Kong SAR, China (HKG), Japan (JPN), Korea, Rep. (KOR), Taiwan, China (TWN), Canada (CAN), Rest of the World (XTW)
34	Rest of Western Europe (E_U)	Austria (AUT), Belgium (BEL), Cyprus (CYP), Denmark (DNK), Finland (FIN), France (FRA), Germany (DEU), Greece (GRC), Ireland (IRL), Italy (ITA), Luxembourg (LUX), Malta (MLT), Netherlands (NLD), Portugal (PRT), Spain (ESP), Sweden (SWE), United Kingdom (GBR), Switzerland (CHE), Norway (NOR), Rest of EFTA (XEF), Rest of Europe (XER)

Table A-4: GTAP sector concordance

	Sector name	GTAP concordance
1	Agriculture (AGR)	Paddy rice (PDR), Wheat (WHT), Cereal grains, n.e.s. (GRO), Vegetables and fruits (V_F), Oil seeds (OSD), Sugar cane and sugar beet (C_B), Plant-based fibers (PFB), Crops, n.e.s. (OCR), Bovine cattle, sheep and goats, horses (CTL), Animal products n.e.s. (OAP), Raw milk (RMK), Wool, silk-worm cocoons (WOL), Forestry (FRS)
2	Coal (COA)	Coal (COA)
3	Oil (OIL)	Oil (OIL)
4	Gas (GAS)	Gas (GAS), Gas manufacture, distribution (GDT)
5	Minerals n.e.s. (OMN)	Minerals n.e.s. (OMN)
6	Processed foods (PFD)	Fishing (FSH), Bovine cattle, sheep and goat, horse meat products (CMT), Meat products n.e.s. (OMT), Vegetable oils and fats (VOL), Dairy products (MIL), Processed rice (PCR), Sugar (SGR), Food products n.e.s. (OFD), Beverages and tobacco products (B_T)
7	Wood products (LUM)	Wood products (LUM)
8	Paper products, publishing (PPP)	Paper products, publishing (PPP)
9	Textiles (TEX)	Textiles (TEX)
10	Wearing apparel (WAP)	Wearing apparel (WAP)
11	Leather goods (LEA)	Leather products (LEA)
12	Energy intensive manufacturing (KE5)	Mineral products n.e.s. (NMM), Ferrous metals (I_S), Metals n.e.s. (NFM)
13	Petroleum, coal products (P_C)	Petroleum, coal products (P_C)
14	Chemical, rubber, plastic products (CRP)	Chemical, rubber, plastic products (CRP)
15	Transport equipment (TRQ)	Motor vehicles and parts (MVH), Transport equipment n.e.s. (OTN)
16	Electronics (ELE)	Electronic equipment (ELE)
17	Metal products (FMP)	Metal products (FMP)
18	Machinery and equipment (OME)	Machinery and equipment n.e.s. (OME)
19	Manufactures, n.e.s. (XMN)	Manufactures n.e.s. (OMF)
20	Electricity (ELY)	Electricity (ELY)
21	Construction (CNS)	Construction (CNS)
22	Trade services (TRD)	Trade (TRD)
23	Air transport (ATP)	Air transport (ATP)
24	Water transport (WTP)	Sea transport (WTP)
25	Other transport (OTP)	Transport n.e.s. (OTP)
26	Hospitality services (ROS)	Recreation and other services (ROS)
27	Other business services (XBS)	Insurance (ISR), Communication (CMN), Financial services n.e.s. (OFI), Business services n.e.s. (OBS)
28	Other services (XSV)	Water (WTR), Public administration and defense, education, health services (OSG), Dwellings (DWE)