Economic Impact Assessment of the Committed Chinggis Bond Allocation

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Abstract

In this study we have estimated the Chinggis Bond's impact on the Mongolian Economy via indirect and direct impact under two scenarios using CGE modeling. In the first scenario, we have considered current allocation of Chinggis Bond. As a result, the total impact of the Chinggis Bond on the Mongolian economy is estimated approximately MNT 36 trillion (US$26 billion) between 2013 and 2030. In the short-term, there is a significant impact on construction sector while in the longer - term, it is observed that the transport, electricity and mining sectors have been notably benefited. It is found that the railway construction has the maximum multiplier for the economy. In the second scenario, we studied the case that allocation of Chinggis Bond has been invested in only railway construction. In the long term impact is twice the size of the previous scenario due to a higher indirect benefit associated with reduced transport costs and it is noticed that the Mongolian economy could be more diversified.

Keywords:

Economic impact assessment, direct and indirect impacts, multiplier, sectoral impacts

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AN ECONOMIC IMPACT ASSESSMENT OF THE COMMITTED CHINGGIS BOND ALLOCATION

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The current Chinggis bond allocation would have yielded a better return if invested in a single infrastructure project with a high multiplier such as rail

Context

This study seeks to estimate the direct and indirect impact of the Chinggis Bond (CB) on the Mongolian economy until 2030 in two different scenarios: Current Allocation and Rail Assumption

Mongolia's Chinggis Bond

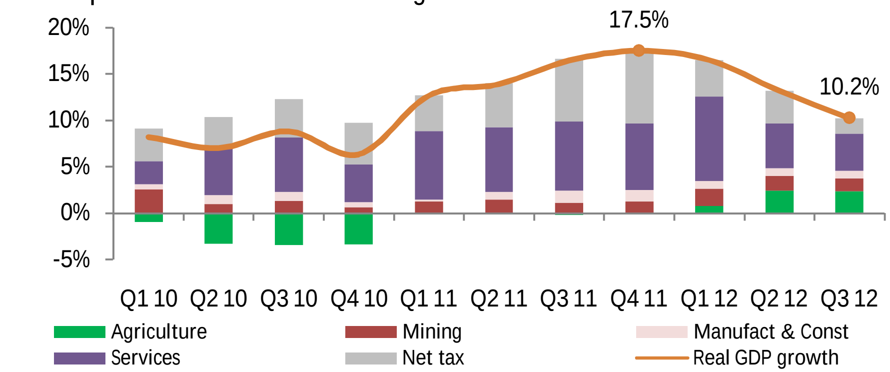
- In 2012, the GoM issued sovereign bond worth US$1.5 billion in the international market
  - US$0.5 billion: 5yr bond (coupon: 4.13%)
  - US$1.0 billion: 10-yr bond (coupon: 5.13%)
- ~80% of bond has been allocated to supporting four infrastructure projects
- An additional US$1 billion of investment is required from both domestic and international investors in order to fully fund these projects

MNT trillion (2012 terms) Economic Impact by 2030 we expect:	Policy Case 1: Current CB Allocation^	Policy Case 2: 100% of CB spent on Rail
GDP	68.1	73.1
Private consumption	27.8	28.3
Govt. Consumption	16.6	17.3
Investment	20.1	21.6
Export	19.8	24.8
Import	16.2	18.9
Total Wage Payment	30.1	32.0
Budget Revenue	24.0	25.2
Trade Balance	3.89	5.91
Fiscal Balance	-0.9%	2.4%
Local Job Creation	4,000	4,000
Foreign Job Creation	12,000	4,000

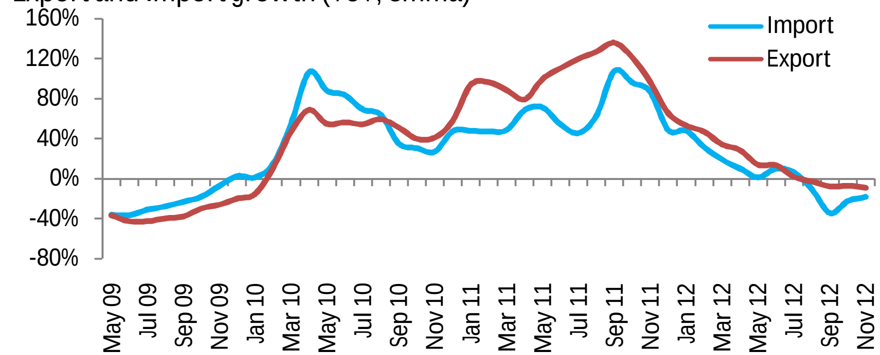
The Chinggis Bond was designed to save the economy from a ’slowing’ that emerged in late 2012 by securing a source of foreign currency to stimulate economic activity

Economic indicators BEFORE the issuance of the Chinggis bond

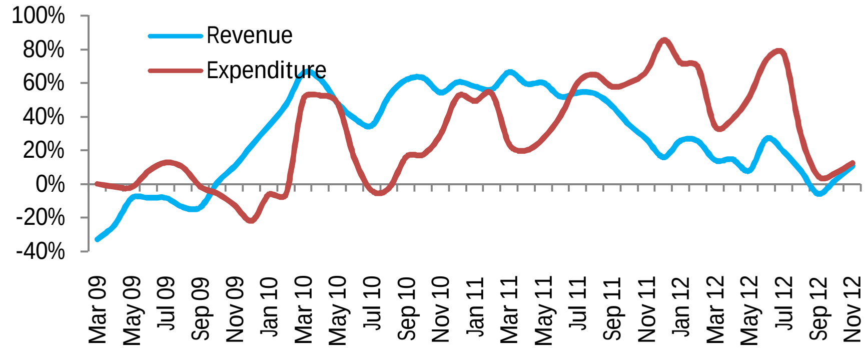
Decomposition of annual real GDP growth^



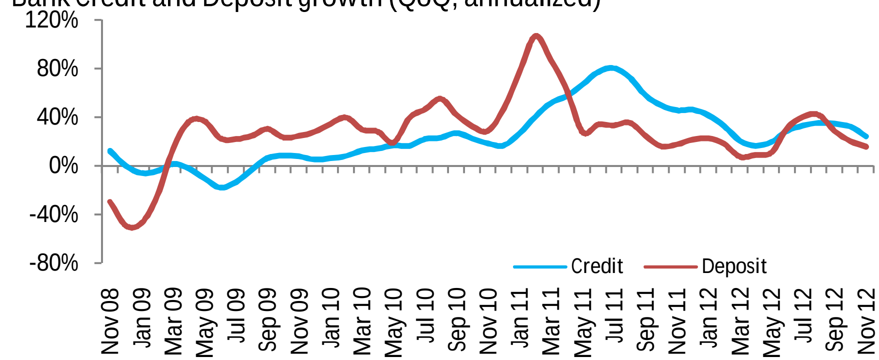
Export and Import growth (YoY, 3mma)



Budget revenue and expenditure growth (YoY, 3mma)



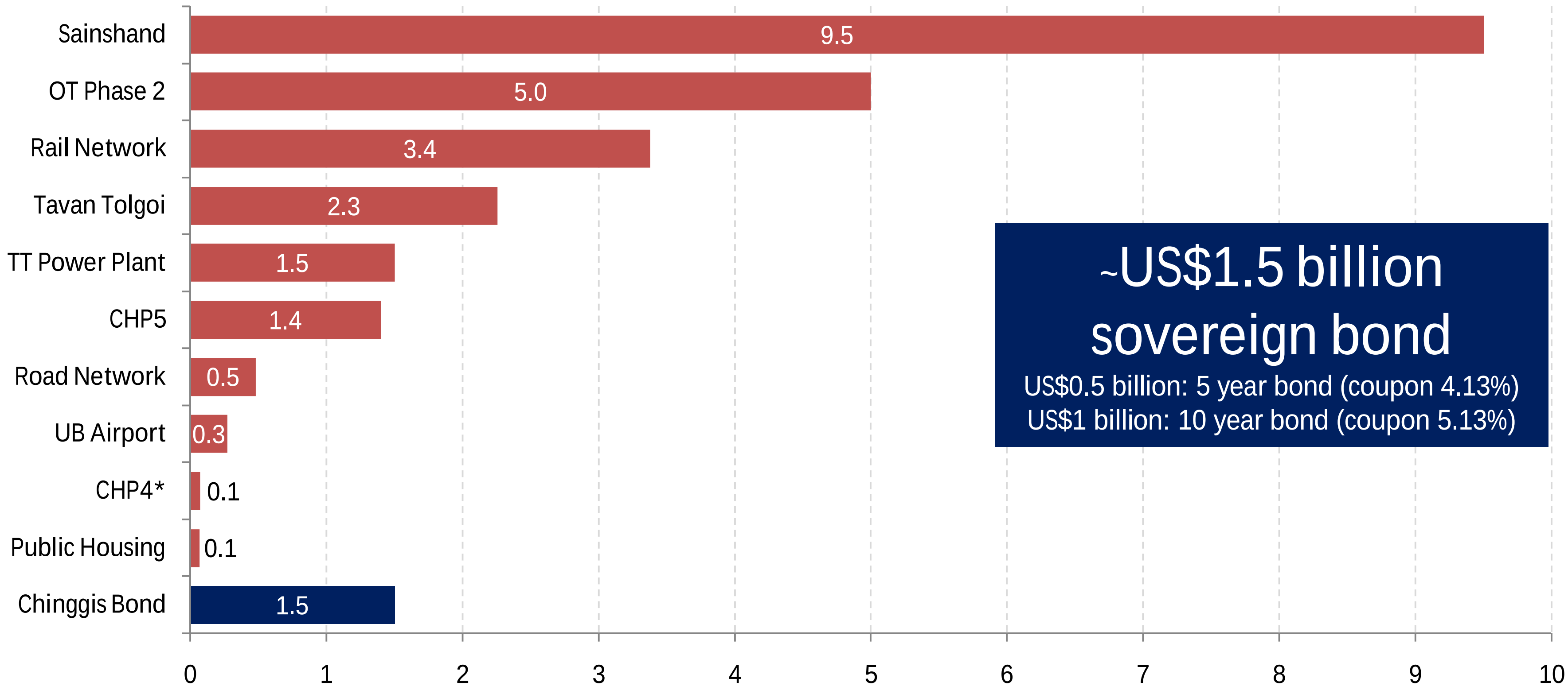
Bank Credit and Deposit growth (QoQ, annualized)



Nearly all economic indicators suggested a possible economic crisis was pending

Wise investment of the Chinggis Bond is critical to ensure maximum impact as US$1.5 billion is barely enough to finance one power plant (6 of the total funding required for major infrastructure)

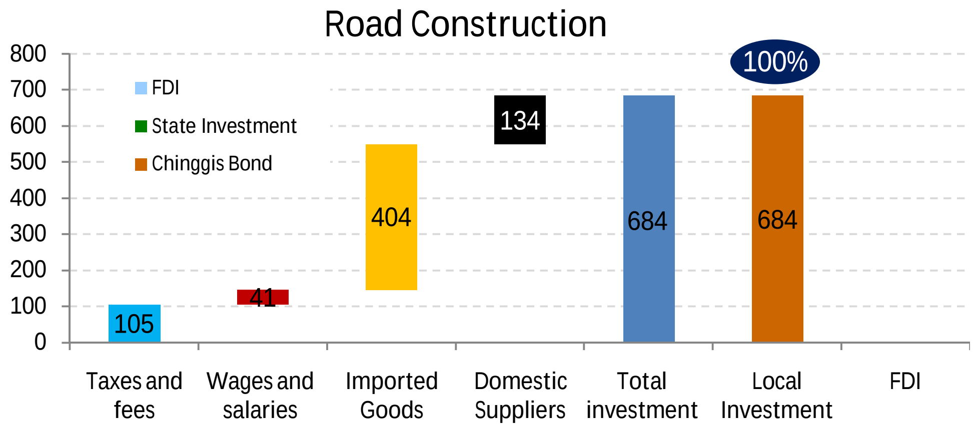
Major infrastructure requirements (US$ billion)

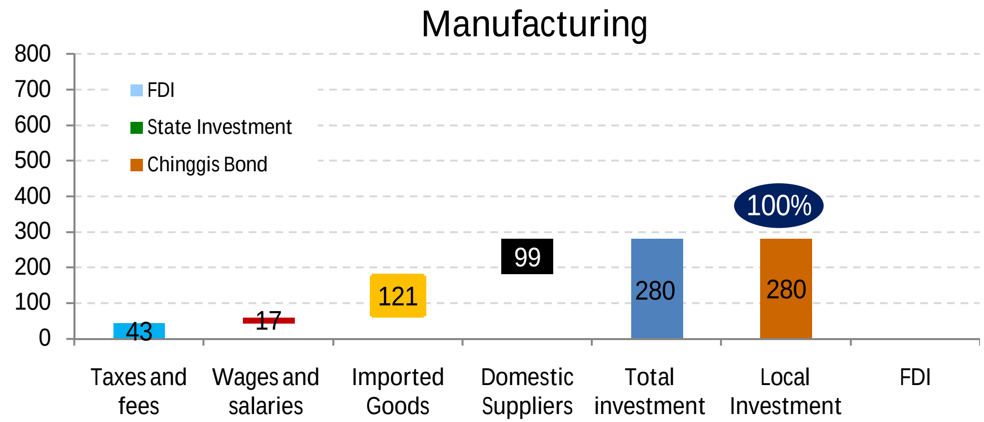


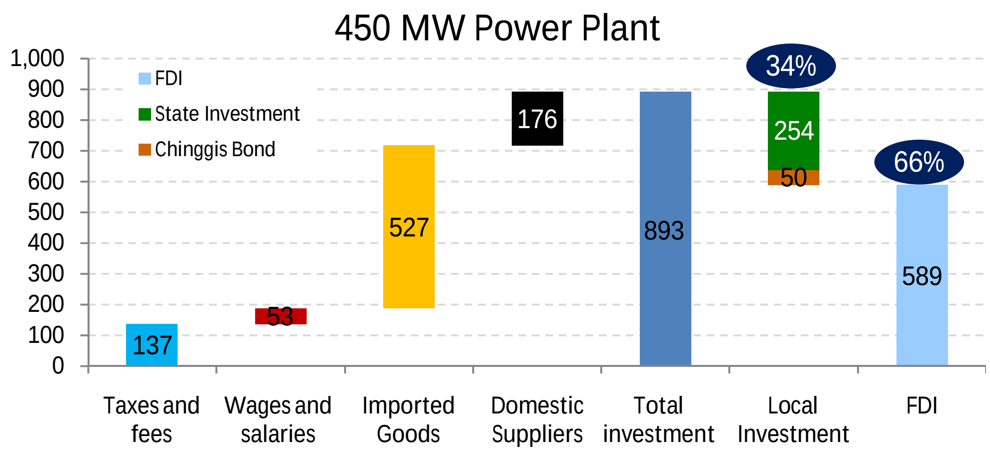
Mongolia needs ~US$24 billion to enable the economy to develop according to the GoM plan outlined in the Chinggis Bond Prospectus

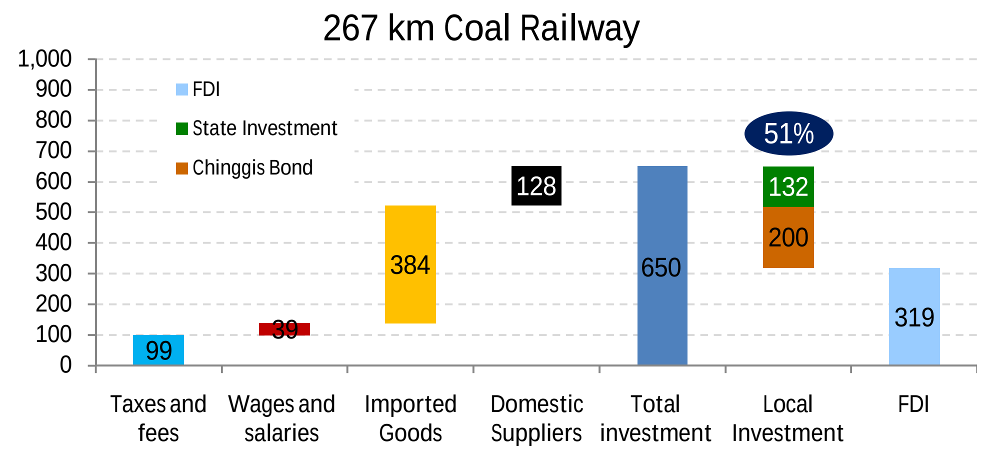
Two projects were able to be 100 percent funded from the bond (local investment) and therefore didn’t require any additional investment from FDI or alternate state investment

Basic investment assumptions (US$ million)



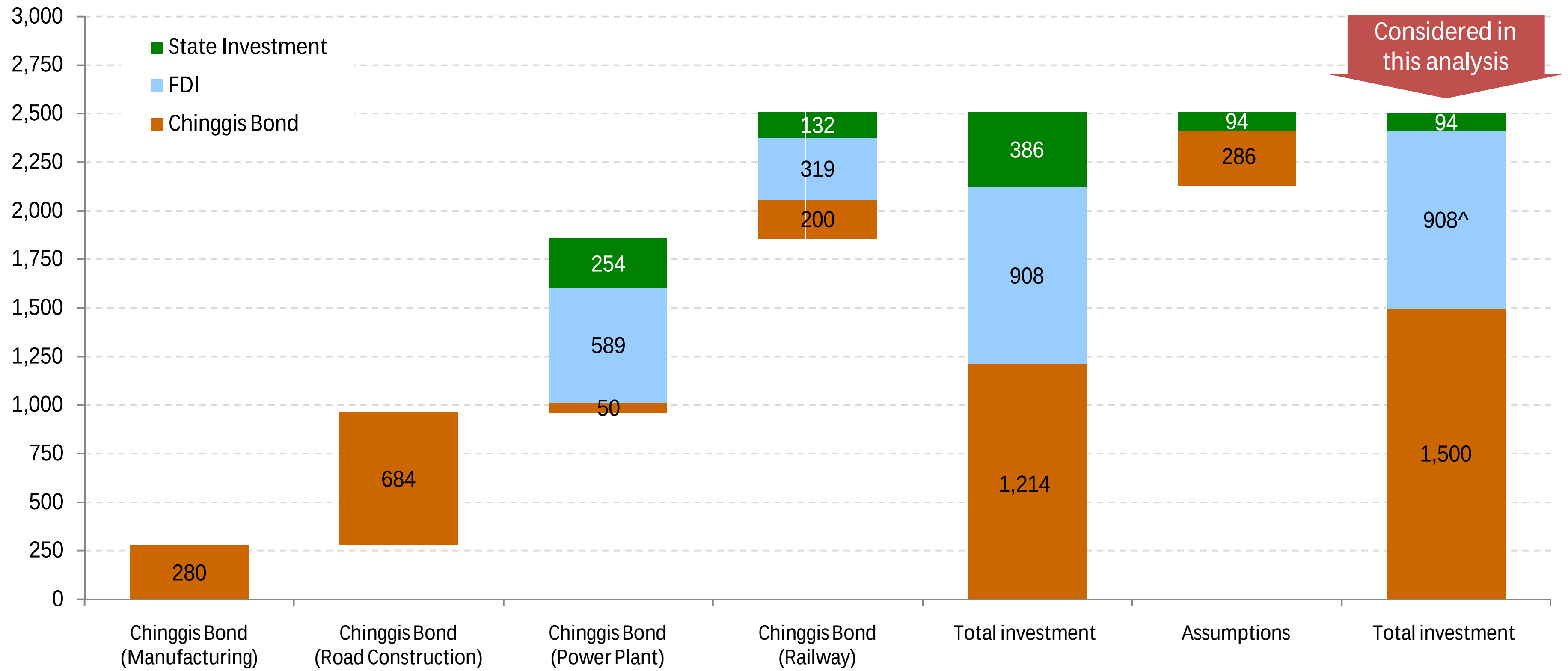






Treating the Chinggis Bond as a deposit enabled an additional US$1 billion to be injected into the Mongolian economy through FDI and alternate state investment

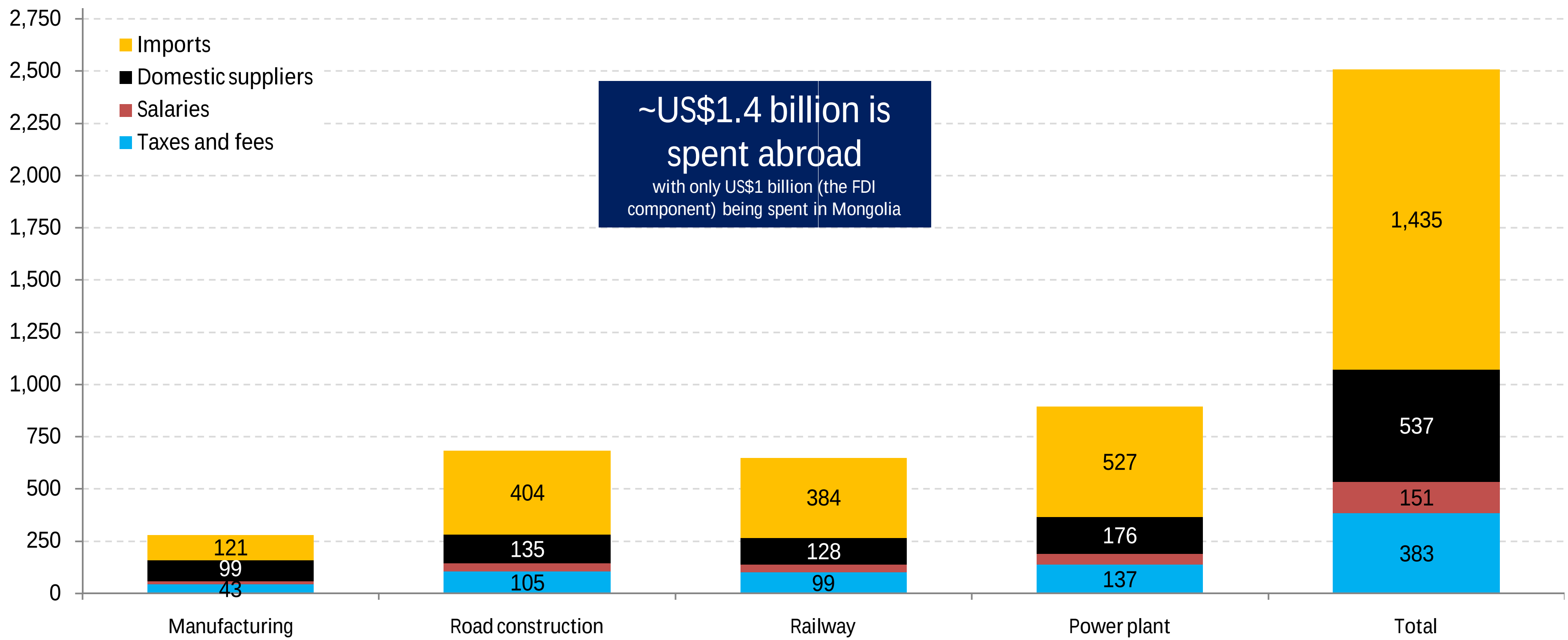
Basic investment assumptions (US$ million)



If we assume US$286 million of uncommitted Chinggis Bond is directed to infrastructure projects, the state needs to find an additional US$94 million of funding

The focus of this analysis is on the US$2.5 billion, of which 41% or US$1.07 billion of investment directly contributes to Mongolian economy during the construction period (2013 - 2016)

Investment assumptions (US$ million)



Although the direct contribution of Chinggis Bond based investment to Mongolia is ~US$1.07 billion, there will also be an indirect impact to Mongolia that we have attempted to quantify in this analysis

To estimate the total economic impact of the Chinggis Bond, this analysis considers two separate scenarios with specific assumptions

Assumptions used in these two scenarios

Base Case:
No Chinggis Bond
(hypothetical)

- No new power plant at TT: OT and TT will use imported power from China
- No railway from TT to Chinese border: TT hauls its coal to the border by trucks
- No new additional highways: Poor infrastructure in UB and Mongolian provinces makes the tradable sectors more expensive
- Growth in the manufacturing sectors is driven by demand for goods and the input prices (no additional support or subsidization from the GoM)

Note: We assume all major mining projects will operate according to their publically stated mine plans^

Policy Case 1:
Current Chinggis Bond Allocation

- A new power plant with 34% state ownership will supply 450MW electricity to both OT and TT starting from 2017 by substituting current electricity imports from China
- A new railway with 51% state ownership will carry coal from TT starting from 2015, decreasing transportation costs to the Chinese border
- An improvement in urban and rural infrastructure development will support 'gross value add' by decreasing costs in the tradable sectors
- Manufacturing sectors production will increase by supporting exports (not significant)

All projects will have an impact on tax revenue, total wage payment and domestic real sectors directly and indirectly

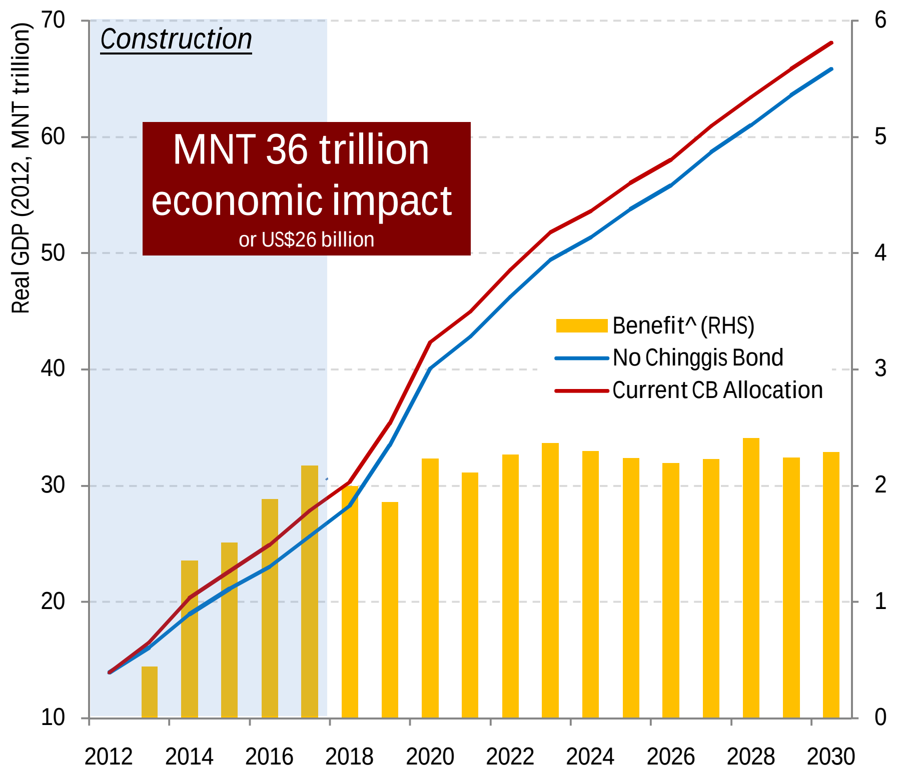
Policy Case 1:
Current Chinggis Bond Allocation

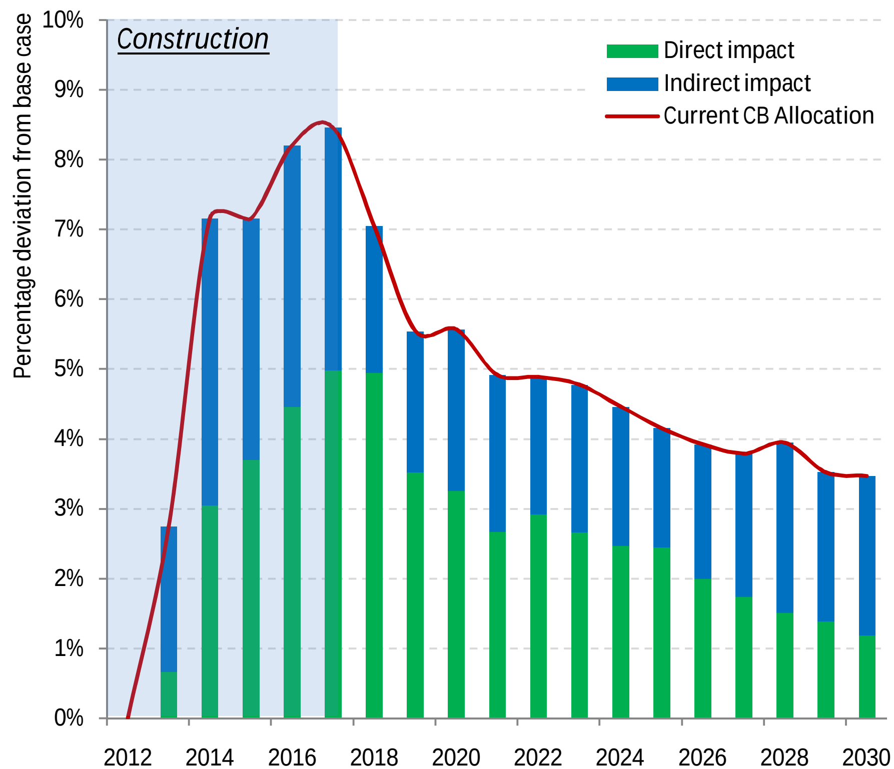
IMPLICATION

US$2.5 billion of investment to the economy

The total impact of the Chinggis Bond on the Mongolian economy is MNT 36 trillion (US$26 billion) between 2013 and 2030 via direct and indirect channels

Impact on real GDP

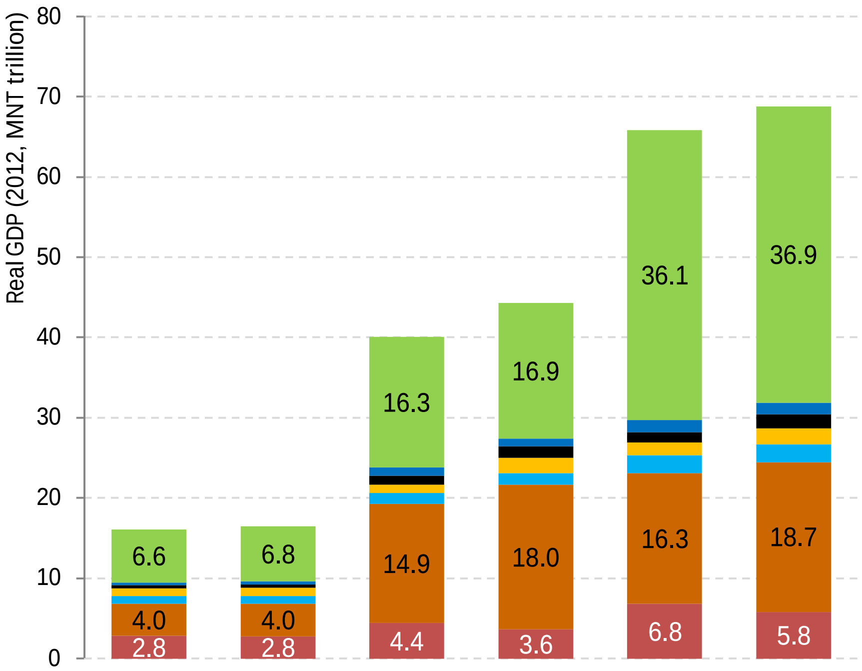


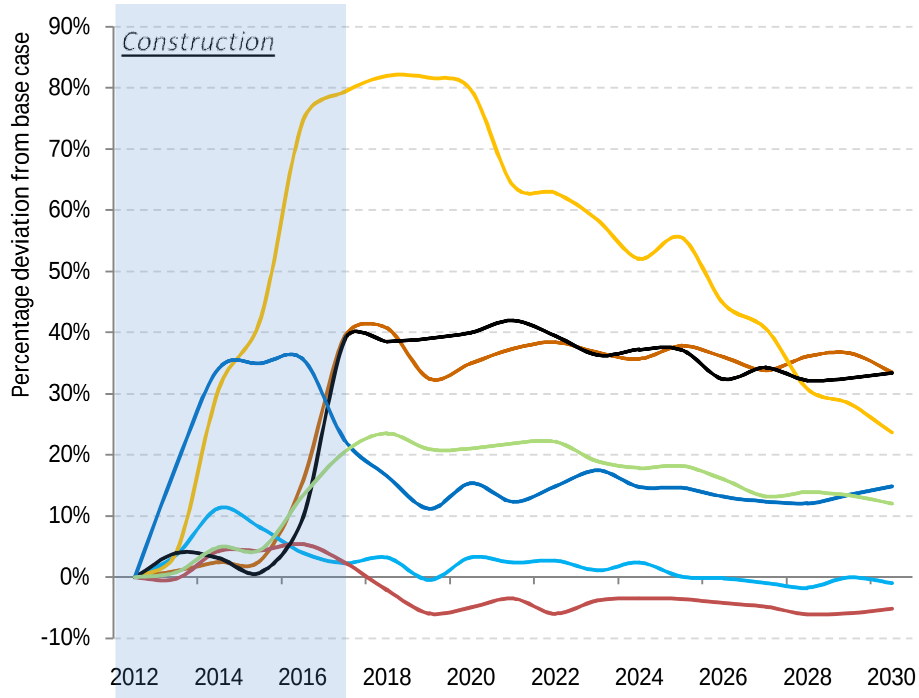


The highest impact will occur during construction due to size of investment relative to the base economic (US$2.5 billion equals 25% of 2012 GDP)

Notwithstanding the immediate construction benefits, the longer-term impacts are evident, most notably in the transport, electricity and mining sectors

Impact on real sectors



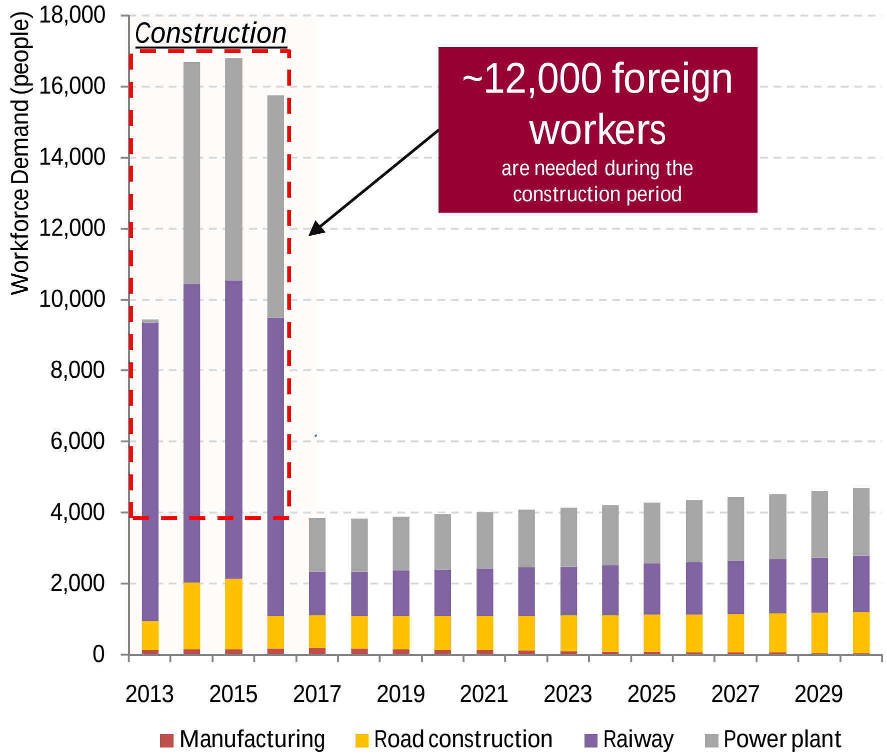


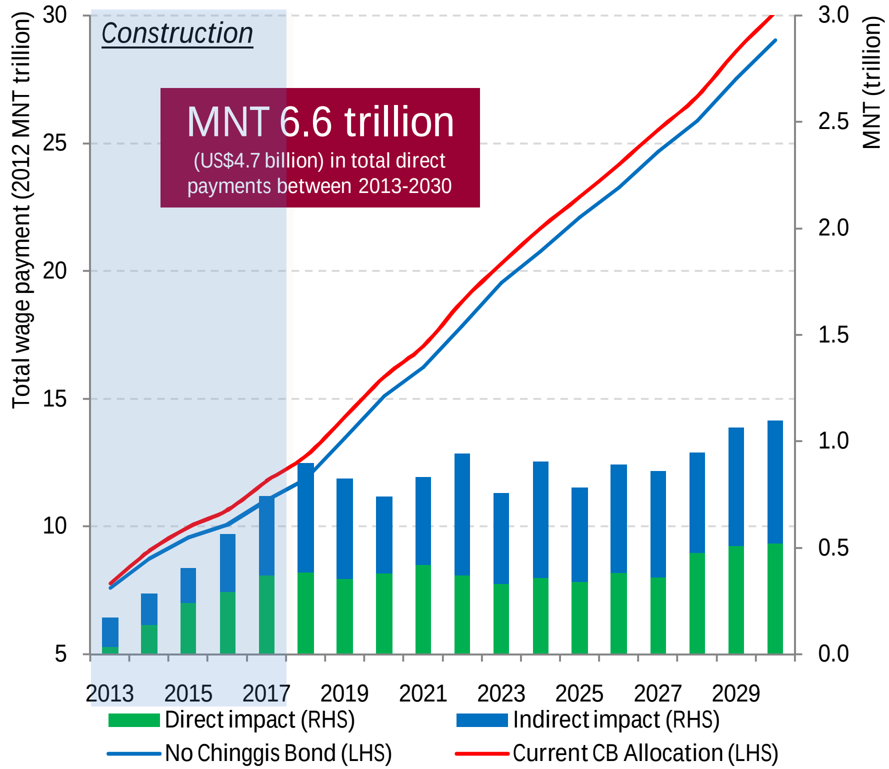
Agriculture Mining Manufacturing Transport Electricity Construction Services

The value added increases in the mining sector indirectly due to the relevance of the power plant and railway that decreases key operating costs at OT and TT (transport and electricity)

Although over 4,000 new jobs will be created for Mongolians, this can only be achieved with a workforce of 12,000 skilled foreign labours

Impact on total domestic wage payment

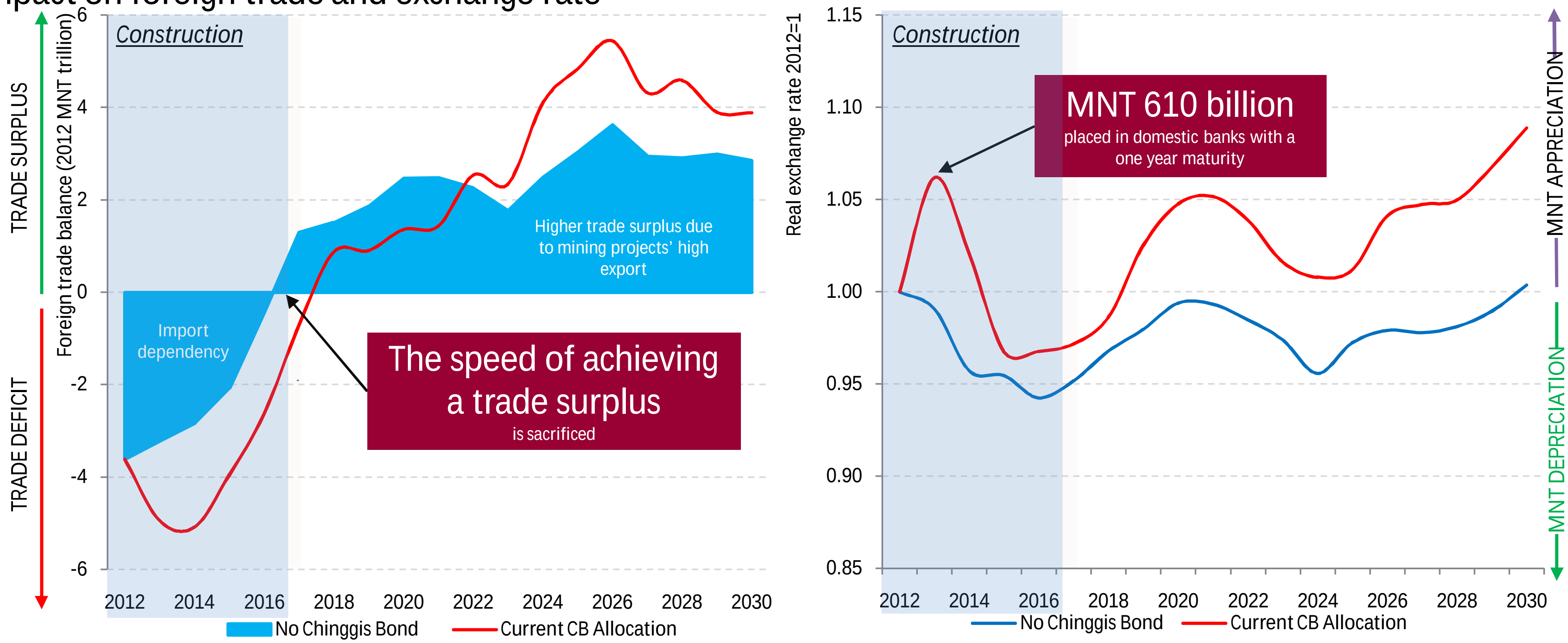




Indirect wage payment by direct suppliers to projects and indirectly impacted sectors will increase the impact on total wage payment to MNT 14 trillion (US$10 billion) in 2013-2030

A power plant will substitute the need for importing electricity, while rail enables cost efficiency in the tradable sectors, with both enabling the domestic exchange rate to appreciate

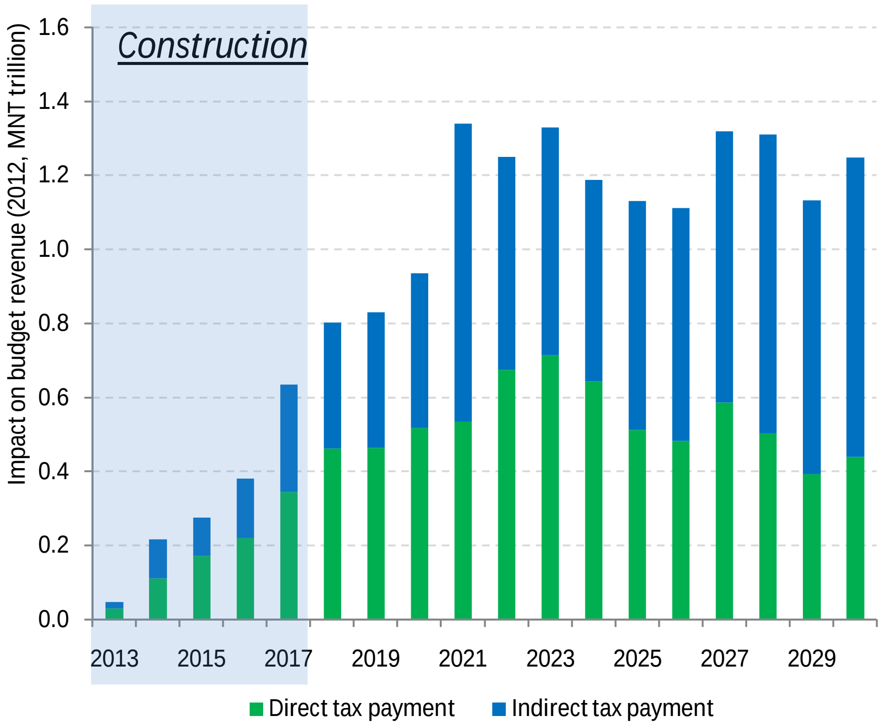
Impact on foreign trade and exchange rate

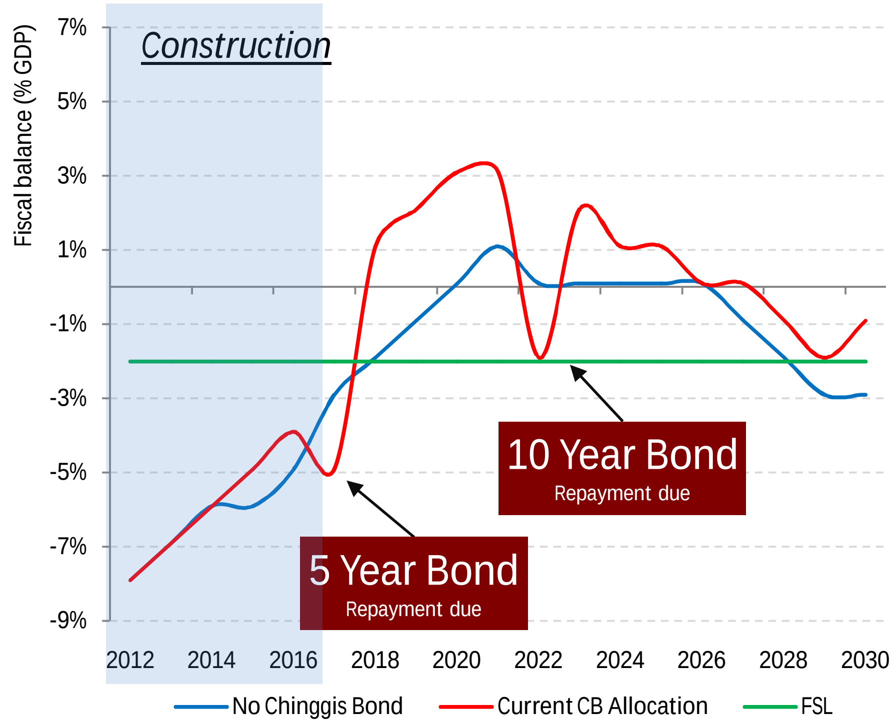


During construction high imports of machinery, equipment and construction materials will cause a higher trade deficit relative to the base case

Although the GoM will gain US$15 billion (MNT 20 trillion) in tax income over the next 18 years, the significance can only be realized after the bond has been repaid (2024)

Impact on budget revenue and fiscal balance

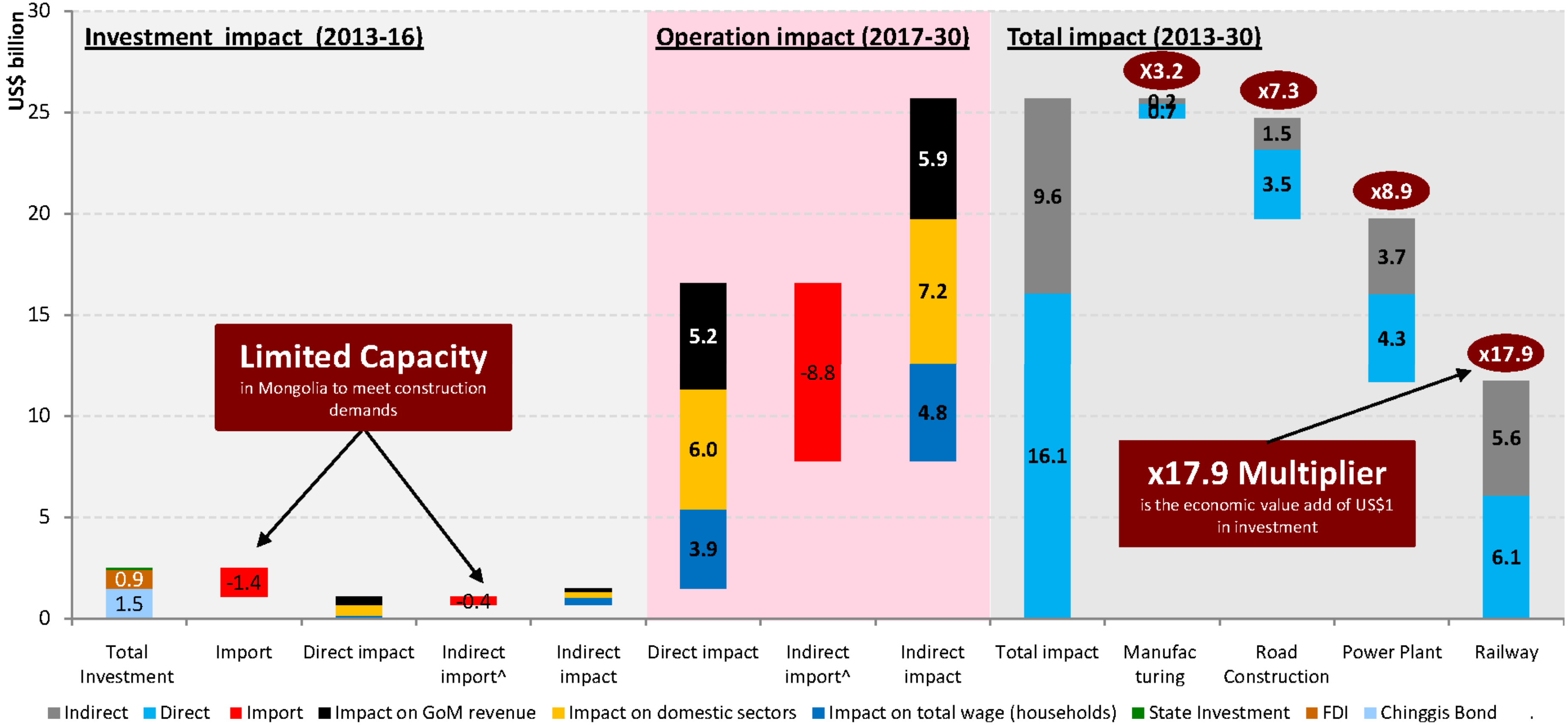




Even though spending of Chinggis bond is classified as off-budget (no direct impact on budget expenditure), repayments will be made from budget revenue

Total impact is US$26 billion, however rail has a significant multiplier for the economy due to the additional benefits of decreasing high transport costs in the mining sector

Summary of current Chinggis Bond Allocation impact on the economy (2012 price)



But what if the GoM spent all of the Chinggis Bond on rail infrastructure...?

Policy Case 2:

Rail Assumption

IMPLICATION

IF 100% of bond IS SPENT ON rail INFRASTRUCTURE

To estimate the total economic impact if 100% of the Chinggis Bond is invested in rail as the highest economic multiplier and alternate scenario has been considered

Base Case:
No Chinggis Bond
(hypothetical)

- No new power plant at TT: OT and TT will use imported power from China
- No railway from TT to Chinese border: TT hauls its coal to the border by trucks
- No new additional highways: Poor infrastructure in UB and Mongolian provinces makes the tradable sectors more expensive
- Growth in the manufacturing sectors is driven by demand for goods and the input prices (no additional support or subsidization from the GoM)

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Current Chinggis Bond Allocation

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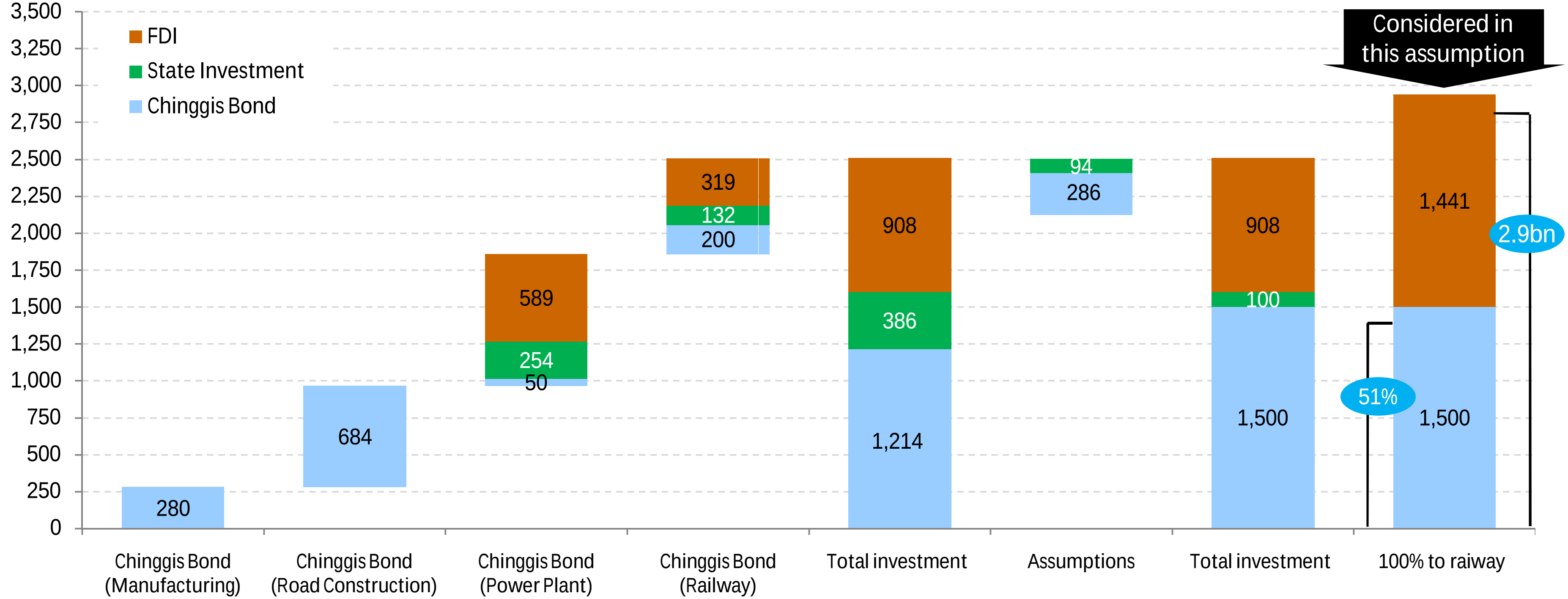
Policy Case 2:
Rail Assumption
(hypothetical)

- No new power plant at TT: OT and TT will use imported power from China
- No new additional highways: Poor infrastructure in UB and Mongolian provinces makes the tradable sectors more expensive
- Growth in the manufacturing sectors is driven by demand for goods and the input prices (no additional support or subsidization from the GoM)
- A new railway with 51% state ownership will carry ~1Bt of coal and other goods, decreasing transportation costs for both imports and exports

If Mongolia invested the total US$1.5 billion Chinggis Bond only into rail, by virtue of the GoM 51% participation, a further US$1.4 billion would also be invested in rail projects

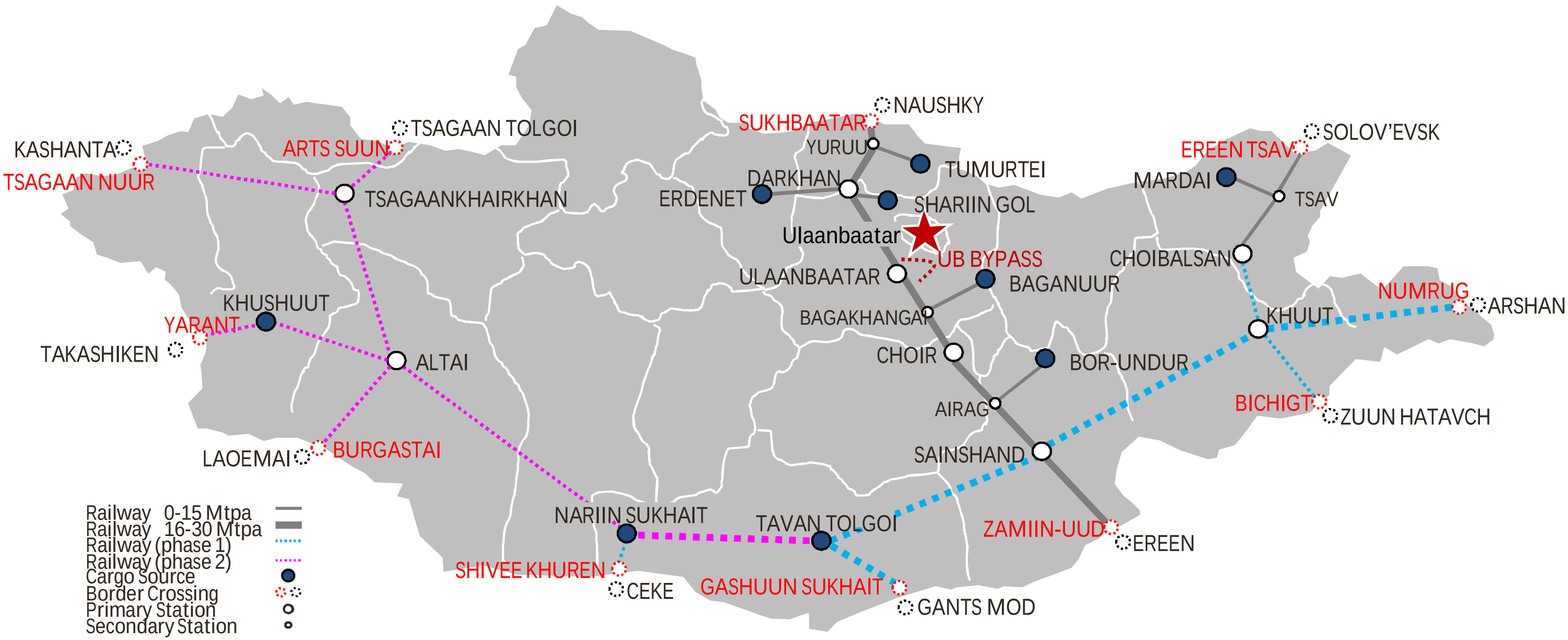
Investment assumptions (US$ million)



Assuming the GoM's mandatory 51% ownership in rail would be maintained, this would enable a total of US$2.9 billion to be invested in rail infrastructure

With all US$2.9 billion of investment, Mongolia is able to build 1,200km of rail which is four times longer than the capacity planned under the Current CB Allocation

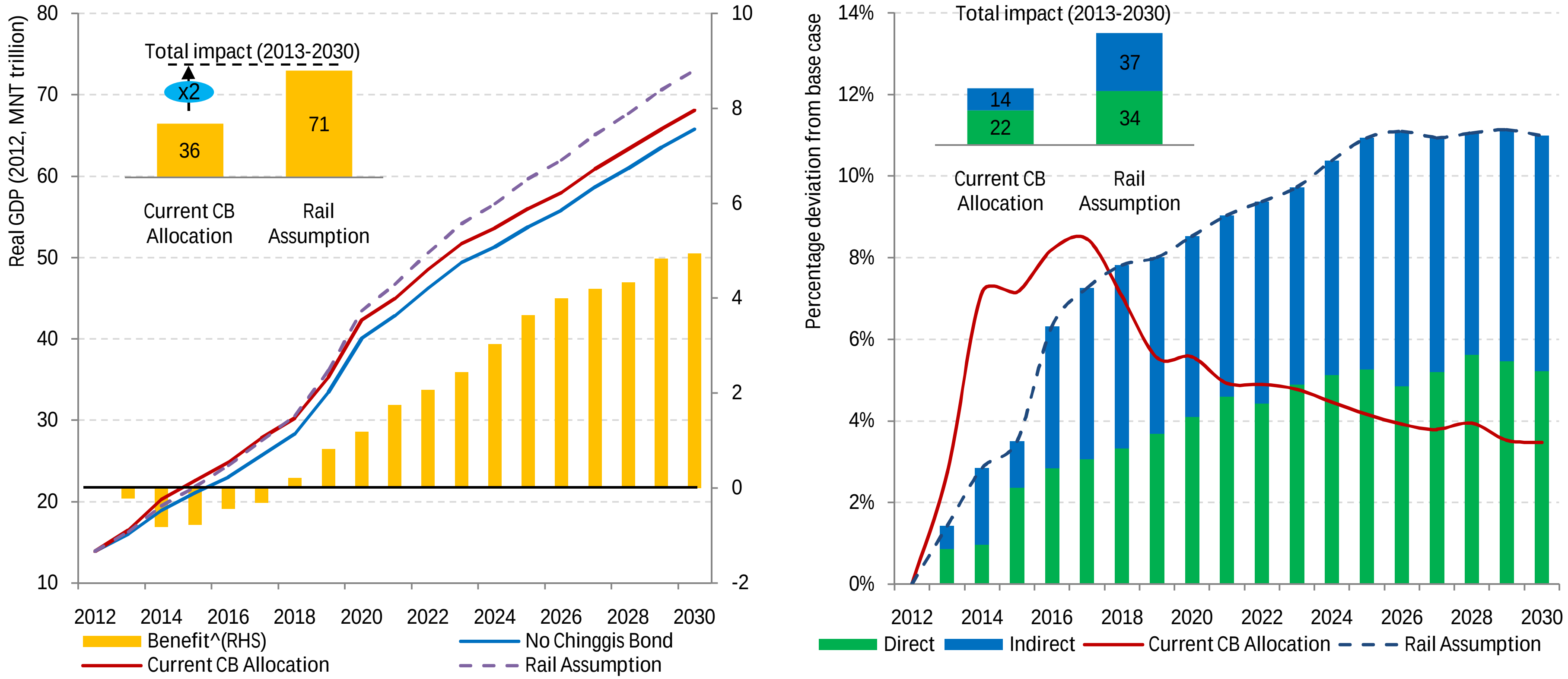
Mongolian rail development plans



Expanding Mongolia's rail network by 1,200km would enable the planned phase 1 of the rail plan to be complete and enable ~2.6Bt* of freight capacity over an 18 year period (2013-2030)

Under this Rail Assumption the long term impact is twice the size of the Current CB Allocation because of higher direct and indirect benefit associated with additional private investment and reduced transport costs.

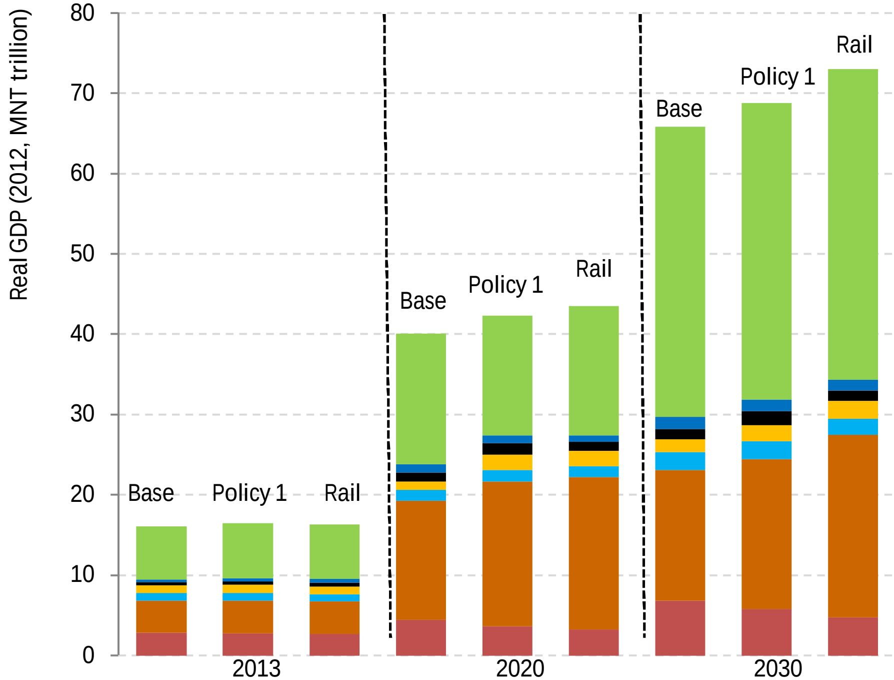
Impact on real GDP

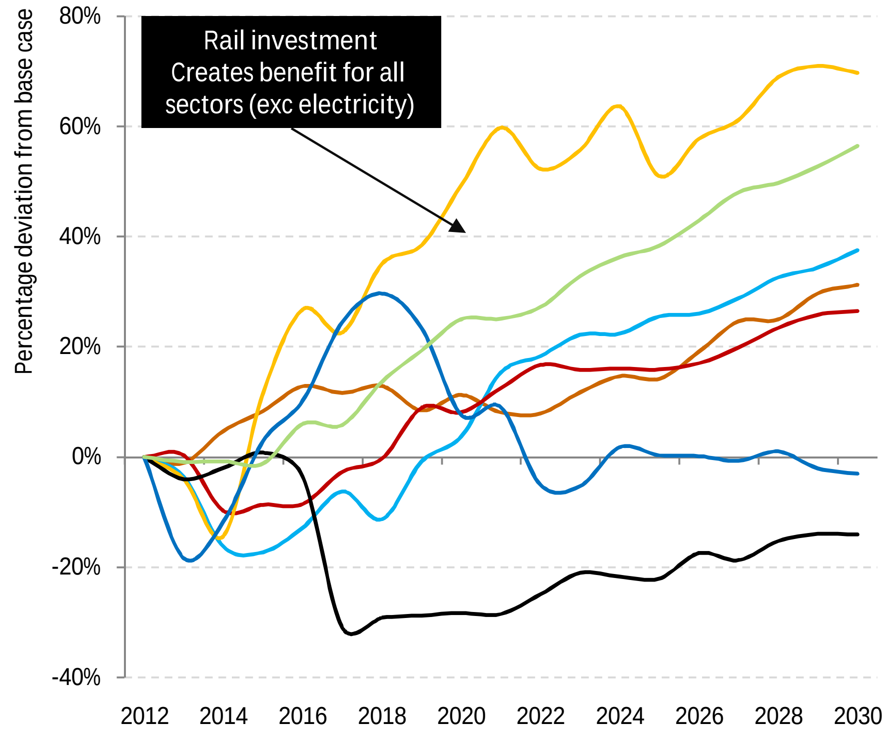


Further railway investment in Mongolia has the potential to reduce transport costs for imported goods and provide optionality for exported goods (commodities)

The Rail investment will decrease transport costs and makes Mongolia's tradable sectors more competitive compared to the Current CB Allocation

Impact on real sectors



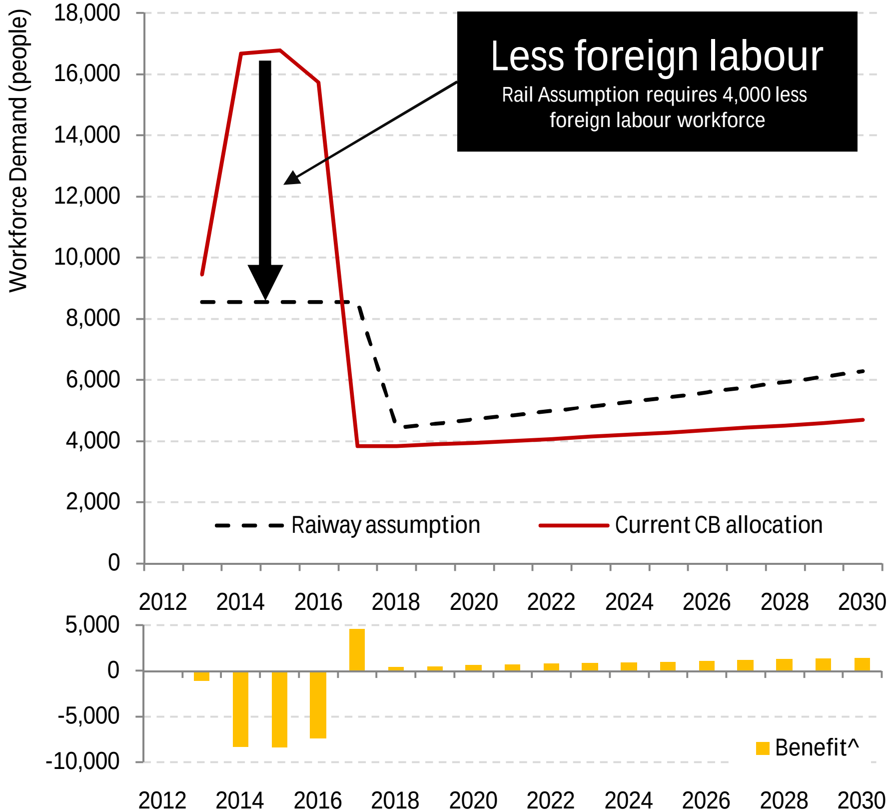


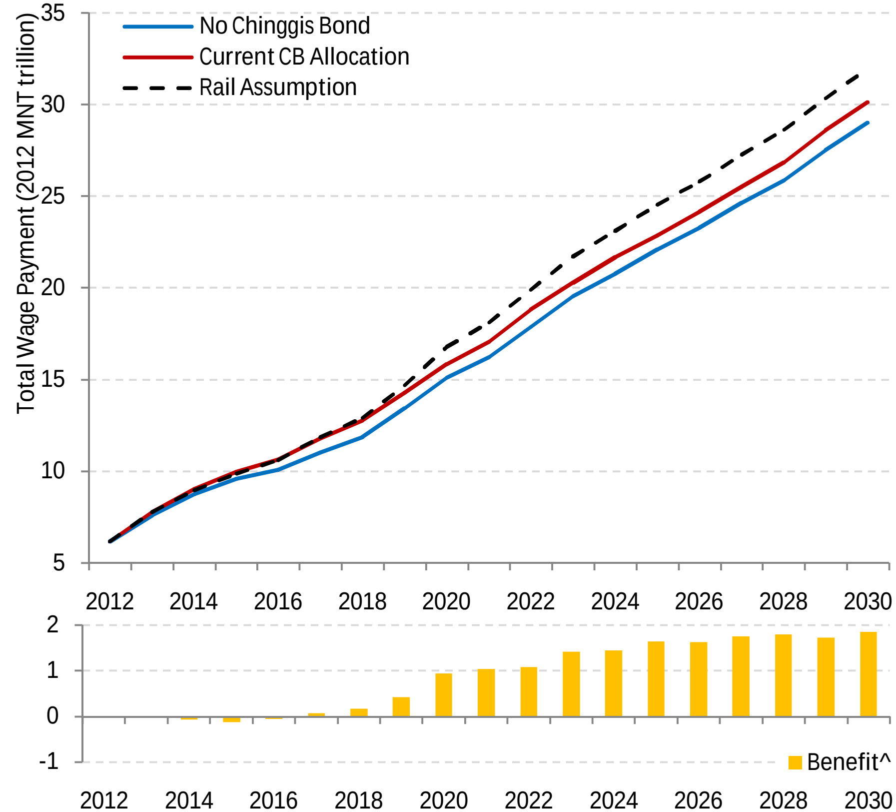
Agriculture Mining Manufacturing Transport Electricity Construction Services

Compared to the *Current CB Allocation,* the economy (excluding electricity) indicates a diversified economy is possible under the *Rail Assumption*

Under the Rail Assumption, only 4,000 foreign workers are required compared to 12,000 under the Current CB Allocation

Impact on total domestic wage payment

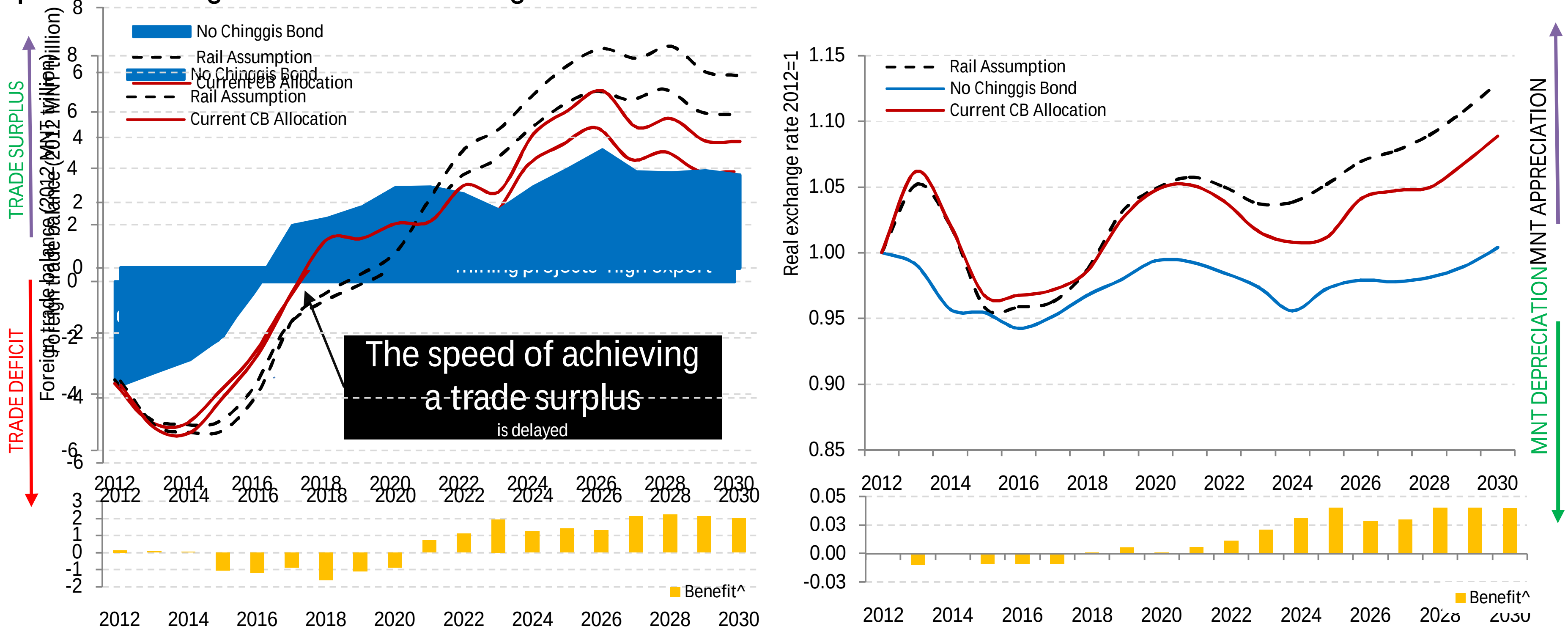




Total wage payment to Mongolia will increase by US$16.8 billion (MNT 12 trillion) relative to the *Current CB Allocation* impact

Although machinery and equipment imports will increase during the construction, more significant trade surplus will be realized because rail enables greater export volumes

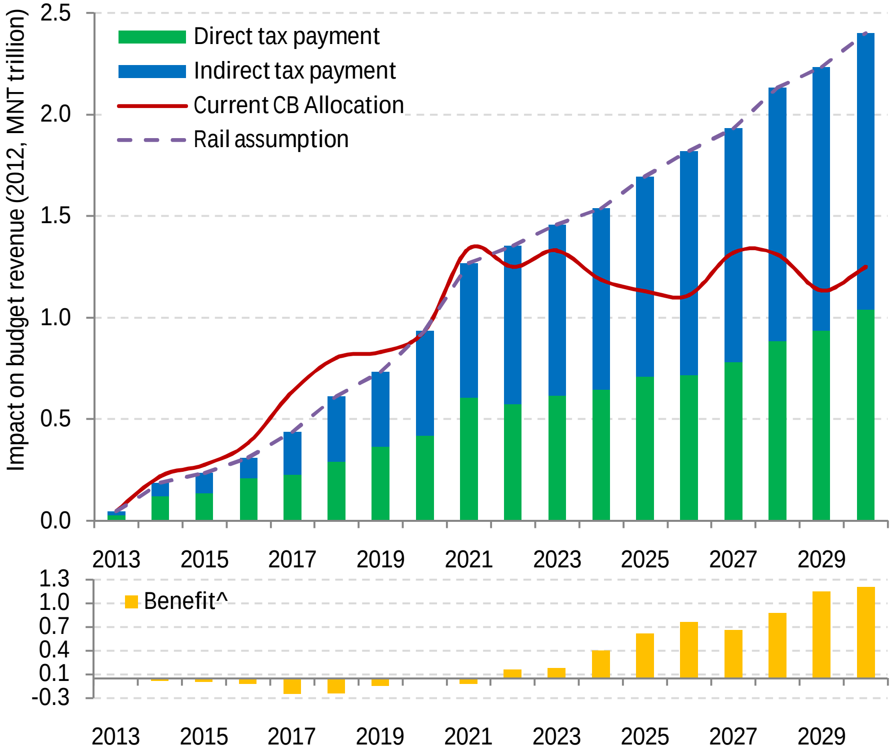
Impact on foreign trade and exchange rate

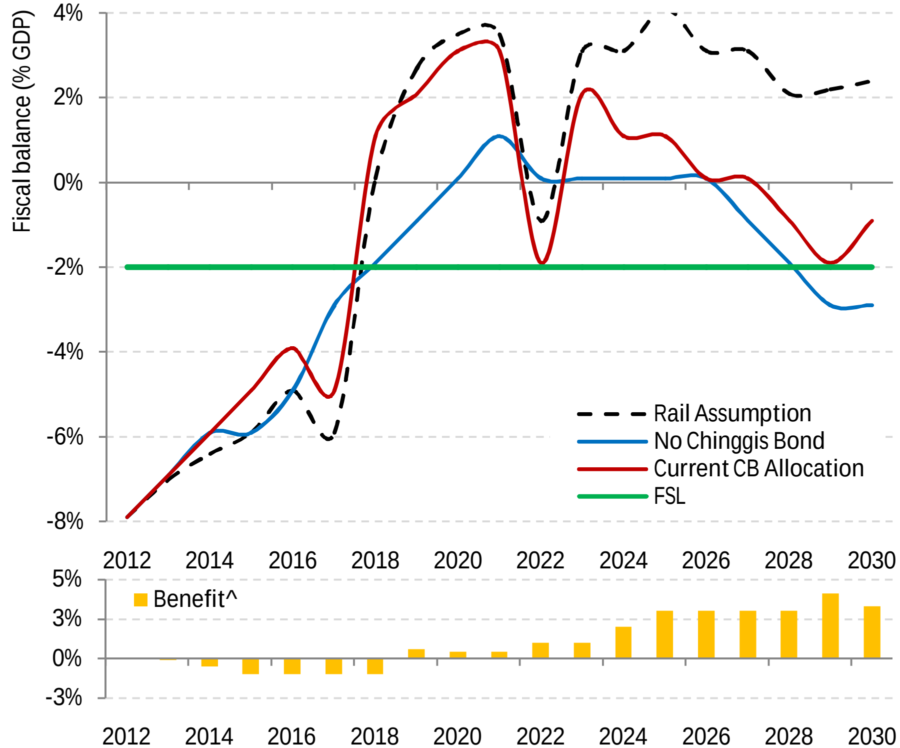


Although an increase in imports will accompany the construction that will result in short term depreciation of the currency, it is expected that it will appreciate gradually thereafter

Under the Rail Assumption the GoM can collect US$4.8 billion (MNT 6.7 trillion) more in tax compared to the Current CB Allocation resulting in a sustainable budget surplus of 3% by 2024

Impact on budget revenue and fiscal balance





Even though spending of Chinggis bond is classified as off-budget (no direct impact on budget expenditure), <u>repayments will be made from budget revenue</u>

Summary Findings

Economic Indicators (2012 MNT trillion)

	Now: 2012	By 2030, we expect: Base Case: No Chinggis Bond *(hypothetical)*	Policy Case 1: Current CB Allocation^	Policy Case 2: 100% of CB spent on Rail
GDP	14.6	65.8	68.1	73.1
Private consumption	7.4	27.1	27.8	28.3
Government consumption	2.0	16.3	16.6	17.3
Investment	8.8	19.6	20.1	21.6
Export	7.1	19.5	19.8	24.8
Import	10.7	16.7	16.2	18.9
Total wage payment	6.2	29.0	30.1	32.0
Budget revenue	4.9	22.8	24.0	25.2