Global Value Chain Development through Facilities Connectivity
-a very preliminary result

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• finding and suggestion
• Facilities connectivity is the priority area of Belt&Road “five links”, we believe it is also the most important fundamental area.

- based on the “Vision and Action of Promoting the Construction of the Silk Road Economic Belt and the Marine Silk Road in the 21st Century” (2015.3.28 NDRC, MFA, MOFCOM)
- Transportation infrastructure
- Promoting the Establishment of a Unified Coordination Mechanism for Whole-journey Transportation. Achieving International Transport Facilitation

**Five priority areas for cooperation:**
- policy coordination
- facilities connectivity
- unimpeded trade
- financial integration
- people-to-people bonds

**Important guarantee**
**Priority areas**
**Important content**
**Important supporting**
**Social foundation**
Estimate the Belt & Road infrastructure investment demand

McKinsey

- The current global investment in the construction of transport, energy, water, and telecommunications is $2.5 trillion.

- From 2016 to 2030, the world infrastructure investment needs $3.3 trillion every year.

- Emerging economies account for 60% of the world total demand.
Estimate the Belt&Road infrastructure investment demand

• According to DRC of State Council, China estimation, 2016-2020, Belt&Road countries, including energy, traffic and municipal public infrastructure investment needs at least US$10.6 trillion

• According to ADB estimation, demand for infrastructure investment in Asia Pacific region by 2030 will be $22.6 trillion ($1.5 trillion per year). It will increase to $26 trillion ($1.7 trillion per year) if climate change mitigation and adaptation costs are taken into account

• Meeting the rapid growth of infrastructure investment needs in those countries is of great significance for achieving the United Nations Sustainable Development Agenda for 2030
introduction

• Transportation infrastructure construction will reduce the average transportation time from 1.2% to 2.5%, so as contribute to reduce the trade cost (World Bank, 2018.10)
• Trade Cost = Tariff(fixed) + Transportation Cost(fixed) + Time Cost 贸易成本=关税+运输成本+时间成本
• using 191 economies over 1000 cities at 47-sector level data

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<th>Max</th>
<th>Mean</th>
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*Note: Summary statistics across all country-pairs and sectors in the world.*
introduction

- B&R Cross-border Road Transport Facilitation Index (NDRC, Tsinghua U., China Communications Construction Group (CCCG), International Road transport Union (IRU))

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introduction

• B&R Cross-border Road Transport Facilitation Index (NDRC, Tsinghua U.)
data and model

• Data source: WIOD for 2000, 2005, 2010-2014

• Method: GVC model-KWW (Zhi Wang, Shang-Jin Wei, 2013) (Zhi Wang, e.d.c, 2017a, NBER)

• Main B&R Initiative economies in WIOD database

   中东欧Central and Eastern Europe: Czech Republic(CZE), Croatia(HRV), Hungary(HUN), Lithuania(LTU), Latvia(LVA), Poland(POL), Slovenia(SVN)

   西亚:Greece(GRC), Turkey(TUR)  东盟：Indonesia (IDN), China(CHN)

   南亚：India (IND)  独联体：Russia(RUS)

   其他发达经济体：USA, Japan(JPN), Korea(KOR)
KWW (Koopman, Wang Zhi and Wei. 2013) (Zhi Wang, e.d.c, 2017a, NBER)

- (1) Domestic Value Added (DVA) - Value added in export and absorbed abroad.
- (2) Returned Domestic Value Added (RDV) - Value added first exported but returned home
- (3) Foreign Value Added (FVA) - Foreign value added in export
- (4) Pure Double Counted (PDC) - Pure double counted terms
data and model
data and model

Foreign value-added (FVA)
- Foreign value-added used in final goods exports (FVA_FIN)
- Foreign value-added used in intermediate exports (FVA_INT)

Pure double counting (PDC)
- Pure double counting from foreign sources (FDC)
- Pure double counting from domestic sources (DDC)

(T11) Sourced from the direct importer
(MVA_FIN)
(T14) Sourced from other countries
(OVA_FIN)
(T12) Sourced from the direct importer
(MVA_INT)
(T15) Sourced from other countries
(OVA_INT)
(T13) Due to the direct importer exports production
(MDC)
(T16) Due to other countries exports production
(ODC)
(T9) Due to final goods exports production
(DDC_FIN)
(T10) Due to intermediate exports production
(DDC_INT)
Results

- The total trade of economies of B&R Initiative with the world was increasing between 2012 and 2014, and was fallen after as global economic slowdown after 2014.
- The total exports and imports of economies of B&R Initiative with the world was 10200 billion US dollars in 2017.
- The total exports and imports of economies of B&R Initiative with each other was 4100 billion US dollars in 2017.

Data source: UN Comtrade
Results

- The FDI inflow and outflow of B&R economies increased rapidly
- The infrastructure investment of energy and transportation accounted for above 60%

Data source: United Nation 《World Investment Report》
Results

The infrastructure investment driven the rapid growth of intermediate goods.

- In global, intermediate goods accounted for 87.6% of general trade and became the main trade form
  Intermediate goods: 9.13%, 9.33% and 6.37%
  Final goods: 9.22%, 6.58% and 4.51%
Results

The rapid growth of intermediate goods strengthened the production of economies of B&R Initiative

- The linkages with each other were much more stronger
Results

The rapid growth of intermediate goods strengthened the production of economies of B&R Initiative

- The trend of continuous enhancement remains keeping after 2012
Results

- The Increasing participation in GVCS of the sectors
Results

• The Increasing participation in GVCS of the sectors

The Forward GVC Participation Degree of Manufacture of computer, electronic and optical products of Major Economies of B&R Initiative in 2012

The Backward GVC Participation Degree of Manufacture of computer, electronic and optical products of Major Economies of B&R Initiative in 2012

The Forward GVC Participation Degree of Manufacture of computer, electronic and optical products of Major Economies of B&R Initiative in 2014

The Backward GVC Participation Degree of Manufacture of computer, electronic and optical products of Major Economies of B&R Initiative in 2014
Results

- The Increasing participation in GVCS of the sectors
Results

• The Comparative Advantage Index of the special sectors
finding and suggestion

• Connecting UN 2030 agenda SDGs, the national development strategy and their implement mechanism with Belt&Road priority areas’ targets, to promote especially infrastructure projects financing

• Transportation infrastructure construction will promote the facilities connectivity, then reduce the trade cost so as to increase the GVC participation of B&R countries and around the world

• The infrastructure investment of energy and transportation among B&R countries increased rapidly and stimulate the growth of intermediate goods trade

• The rapid growth of intermediate goods strengthened the production of B&R countries thus increasing participation in GVC

• Increasing participation in GVC contributes to enhance industrial competitiveness and highlight the advantages of B&R countries
• 谢谢
• thank you