

# Emerging Trends on Demand & Mode Choice –

Belt & Road Initiative (BRI) and Indian Ocean Rim Association (IORA)

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**1- KEY POINTS**

**2- CURRENT TREND**

**3- EFFECTS OF THE BELT & ROAD INITIATIVE + INDIAN OCEAN RIM ASSOCIATION**

**4- IMPLICATIONS**

**5- CONCLUSIONS**

## Key Points

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- The change in economic production to higher value-added goods, population growth, and economic growth in developing countries (China, India, and KSA) is having a number of implications on modal choice and fuel demand.
- Long-term objectives to shift from road to rail can be aided by investment in infrastructure and economic policies that showcase rail as an economically viable option.
- In the short-term, relieving urban air pollution can be done via efficiencies in vehicles and logistics.

## Current Trends in Fast Growing Economies

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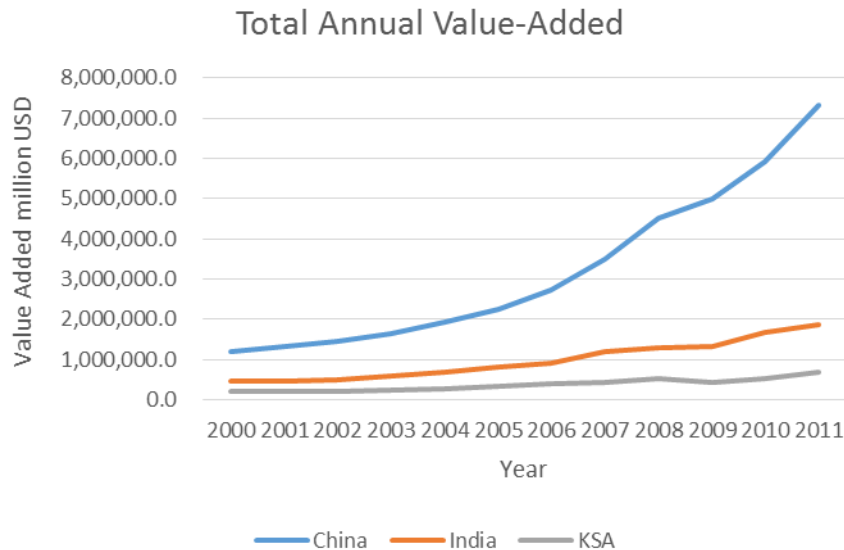
Changing the energy consumption demand and freight demand in 'fast growing' economics are caused by:

- 1) Growth in population
- 2) Changing production towards 'higher' value-added goods has lead to an
  - 2.1) Increase in per capita income (and more demand)
  - 2.2) Leading to demand for higher transport speeds and accessibility
- 3) Investment in national infrastructure and global connectivity (Belt & Road Initiative + Indian Ocean Rim Association)
- 4) Advancement in Technologies

## Current Trend:

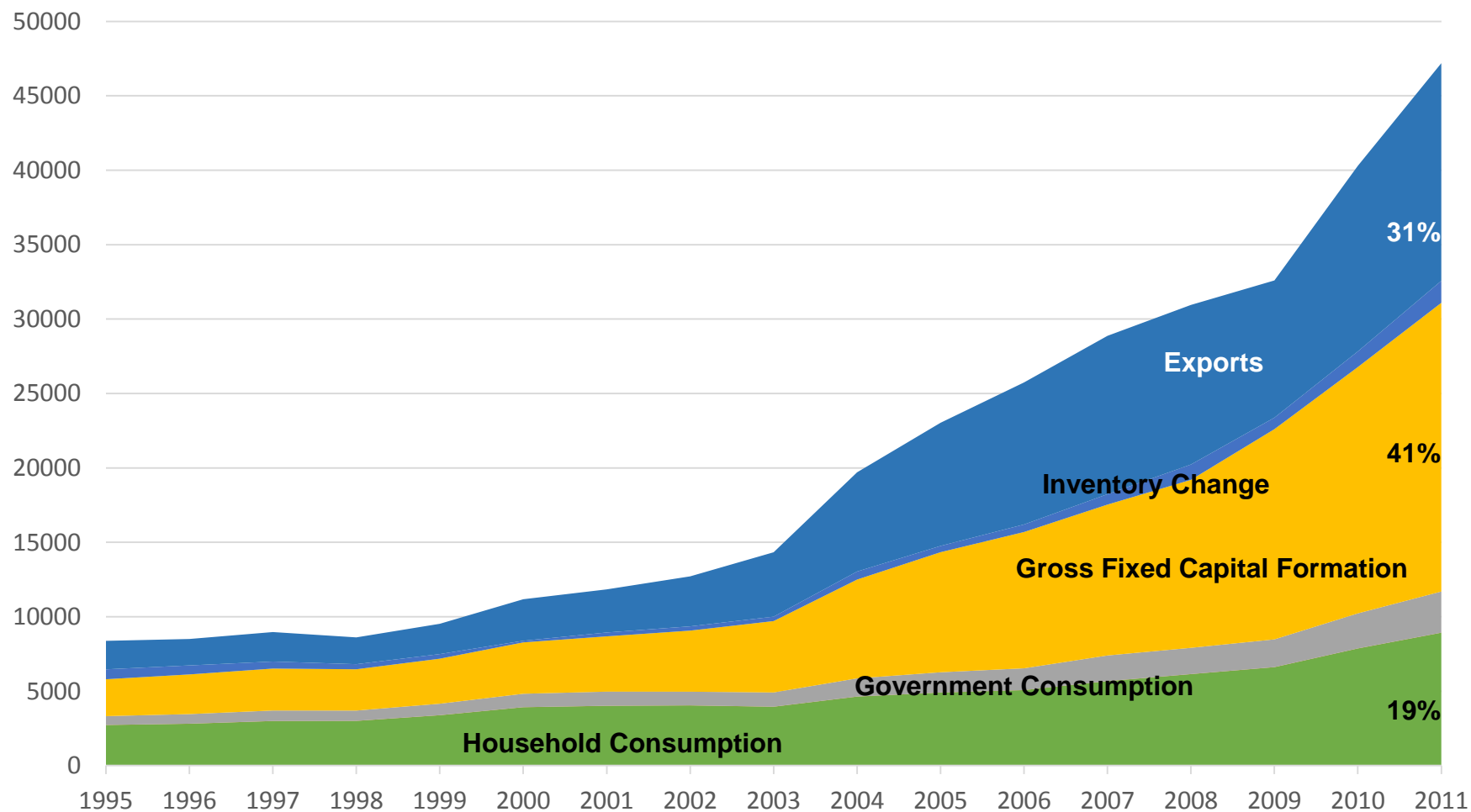
### Movement towards higher value-added goods

This growth is also related to the shift in these 'fast growing economies' towards higher value-added goods

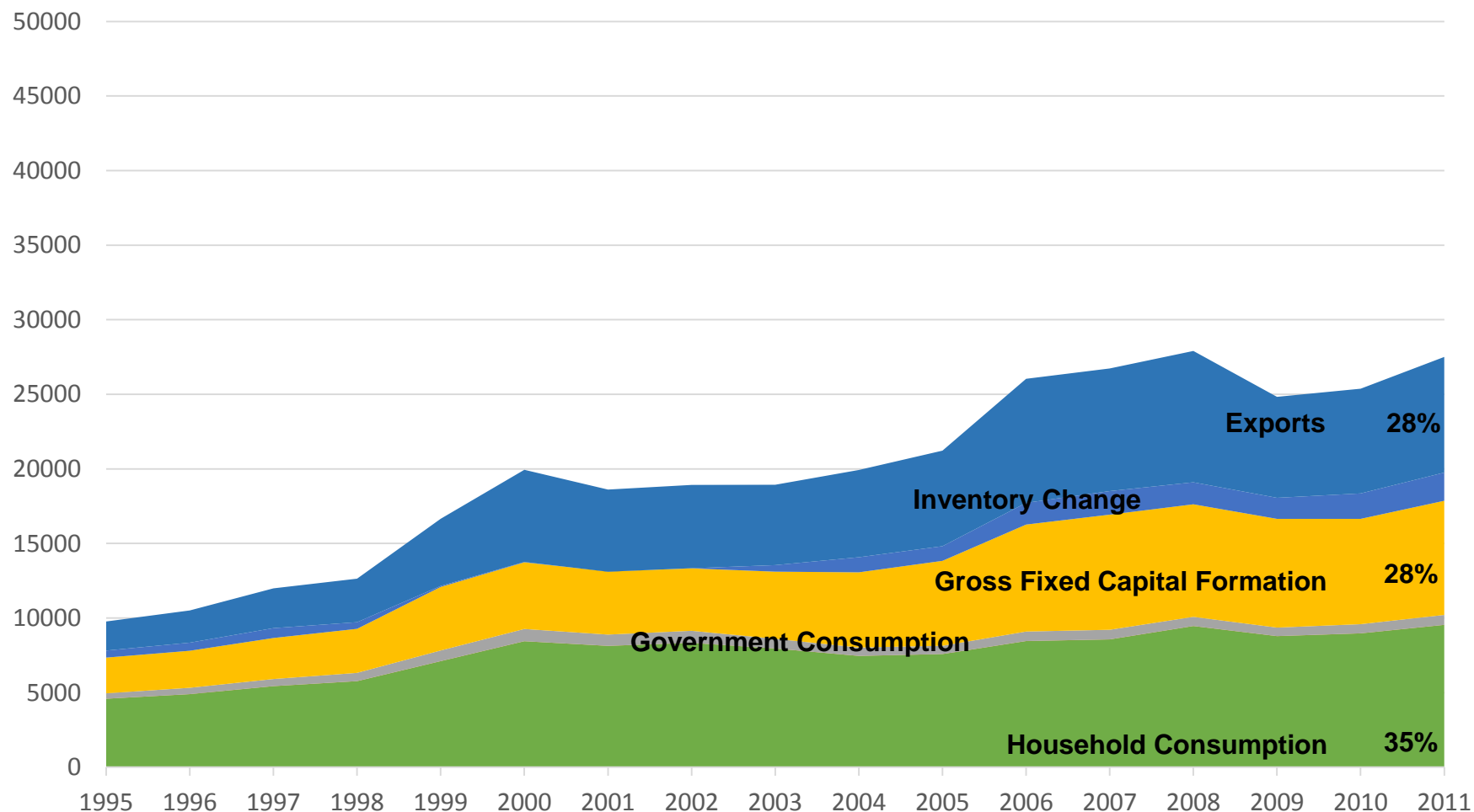


Source: OECD.stat

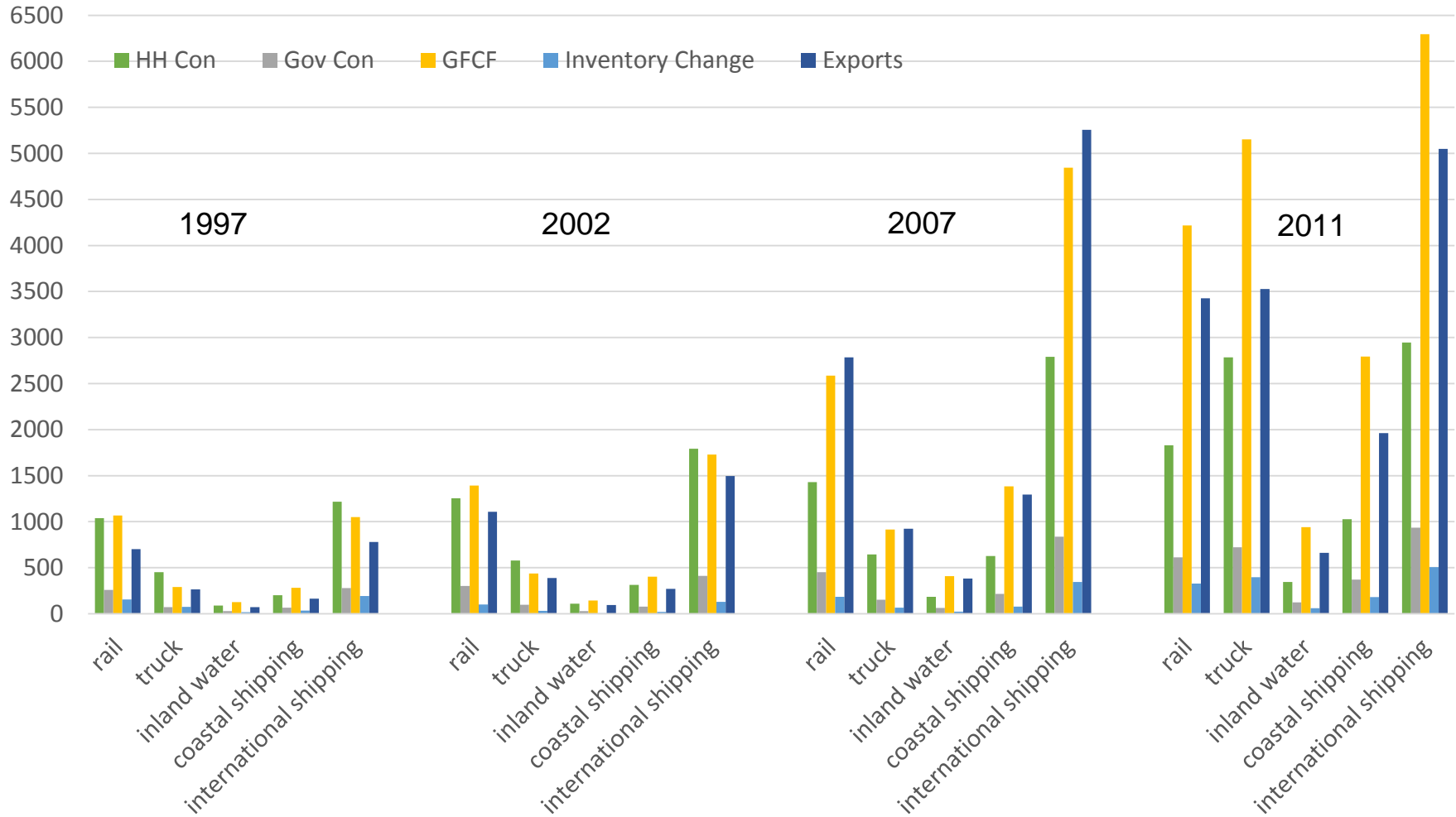
## Current Trend: China's freight movement by final demand 1995 - 2011 (billion TKM)



## Current Trend: India's freight movement by final demand 1995 - 2011 (million Ton)

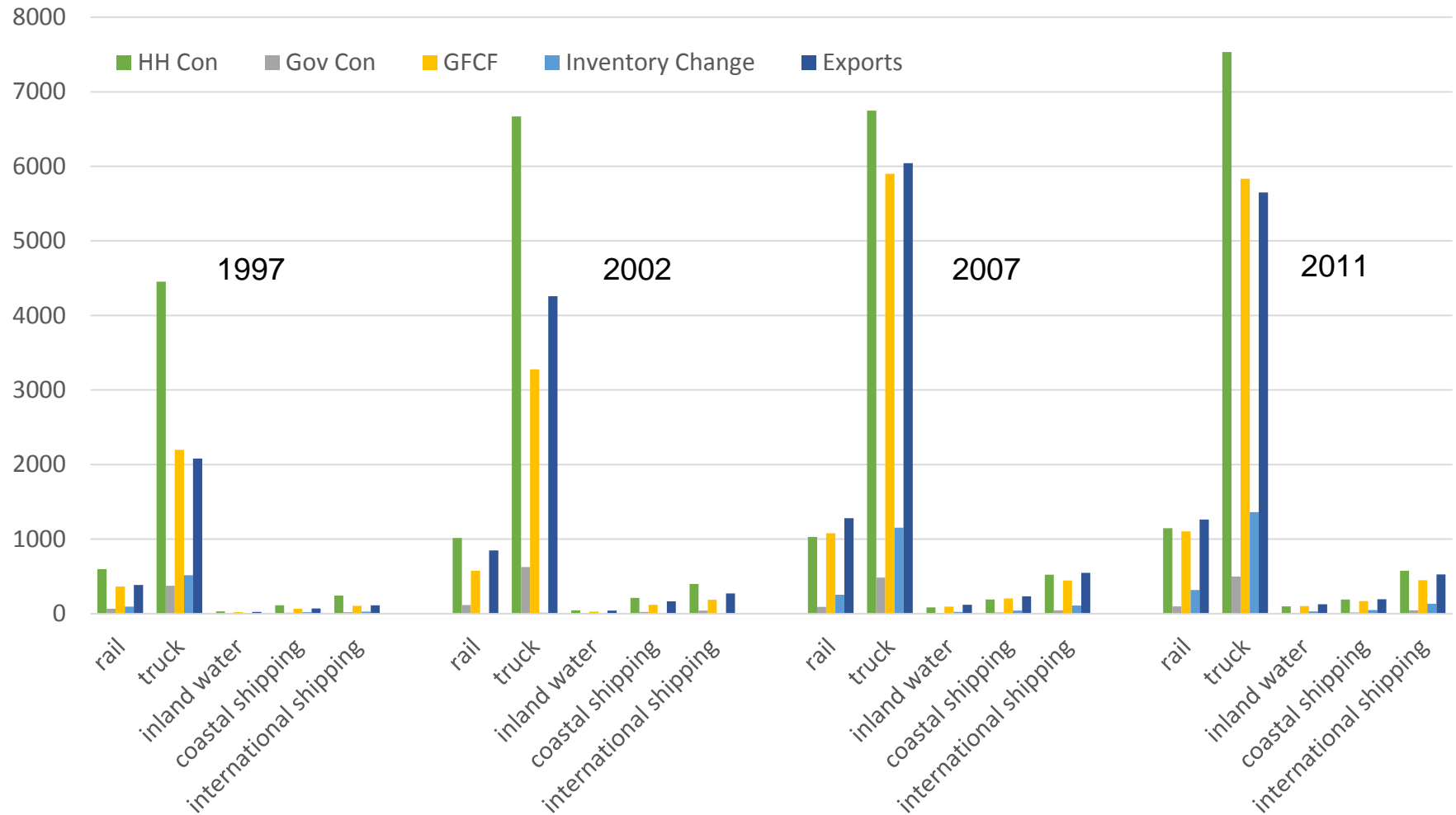


## Current Trend: China's freight movement by final demand & mode (billion TKM)





## Current Trend: India's freight movement by final demand & mode (million Ton)

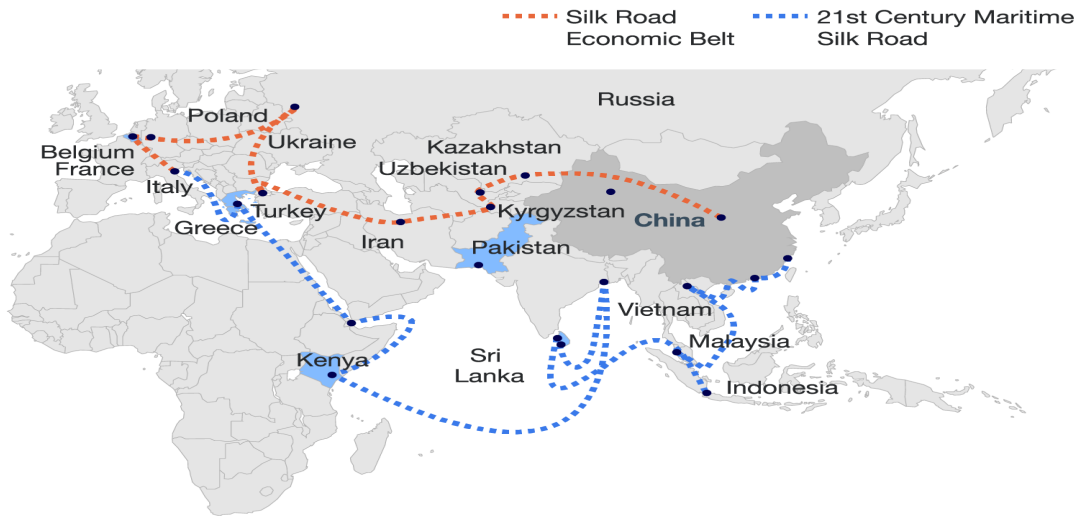


# Effects of BRI & IORA:

## Belt & Road Initiative (BRI)

- China's investments underway in BRI involved countries are an estimated \$900bn loans underwritten.
- An estimated 71 countries involved in the project along the route, including some:
  - Pakistan, Kazakhstan, Georgia, among others
- Move parts of manufacturing value chain to participating countries
- Active move towards Producing higher value-added goods

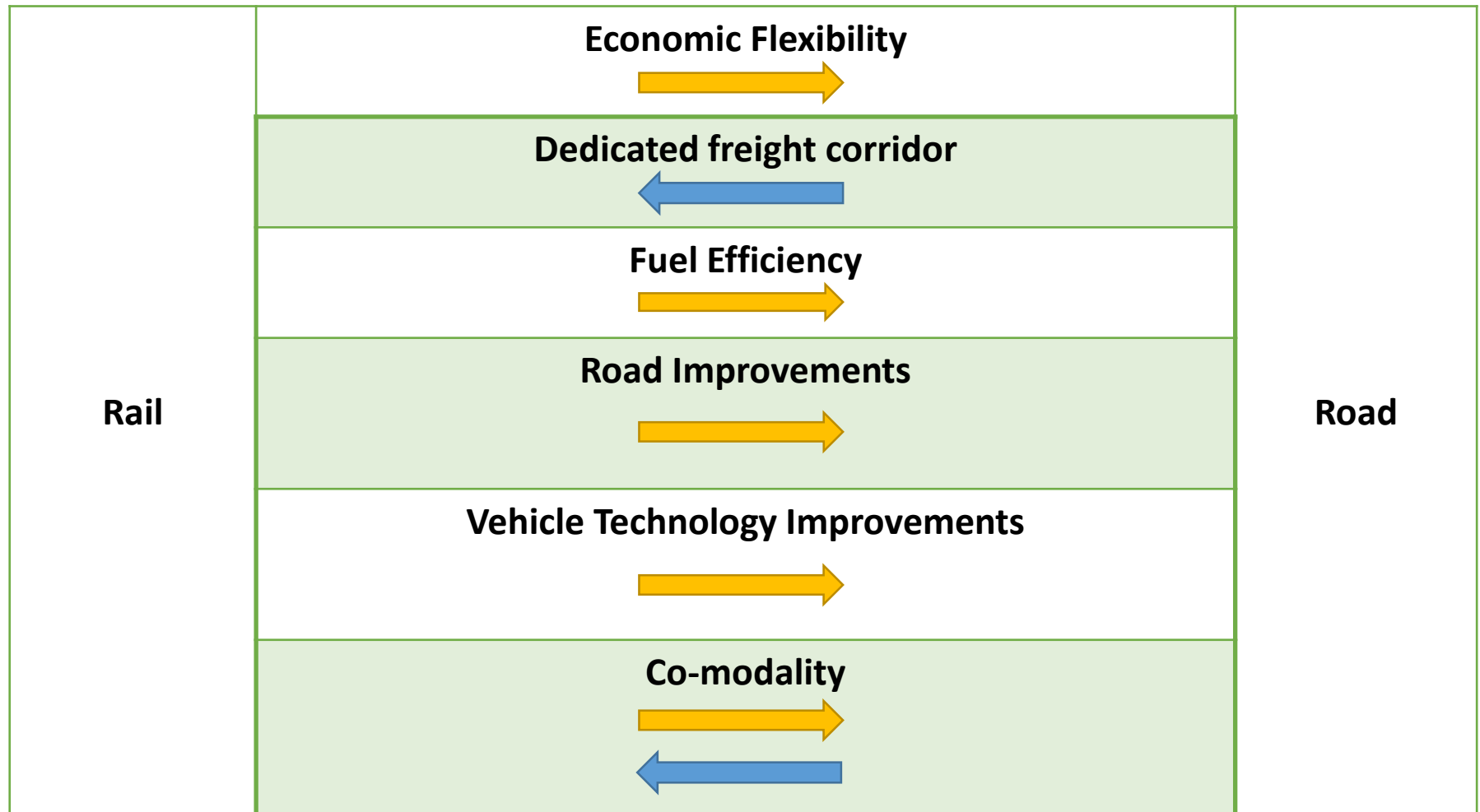
Several routes are proposed for the 'new Silk Road.'



## Indian Ocean Rim Association (IORA)

- IORA inter-governmental organization which aims to strengthen regional cooperation and sustainable development within Indian Ocean region
  - 21 member states & 7 dialogue partners
- Not an active creation of economic routes but rather a forum for dialogue on common issues, including:
  - Maritime safety & security
  - Trade & investment facilitation
  - Fisheries management
  - Disaster risk management
  - Tourism & cultural exchange
  - Academic, Science.& technology
  - Blue Economy
  - Women's. Economic Empowerment

## Mode Choice Implications



## Conclusion

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- The change in economic production to higher value-added goods, population growth, and economic growth in countries growing developing countries (China, India, and KSA) is having a number of implications on modal choice and fuel demand.
- Long-term objectives to shift from road to rail can be aided by investment in infrastructure and economic policies that showcase rail as an economically viable option.
- In the short-term, relieving urban air pollution can be done via efficiencies in vehicles and technologies.
- Co-modality is key to rationalizing the use of mode choice (rail+road).

## Questions

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**Given the difference in regulations and legislation in countries, can China's BRI create an environment for co-modality?**

**Will new technologies in road transport continue the reverse modal shift in international trade and local movement?**

**How will the economic repositioning of Chinese and Indian firms have an effect on global and national movements of goods and will it favor road even more?**



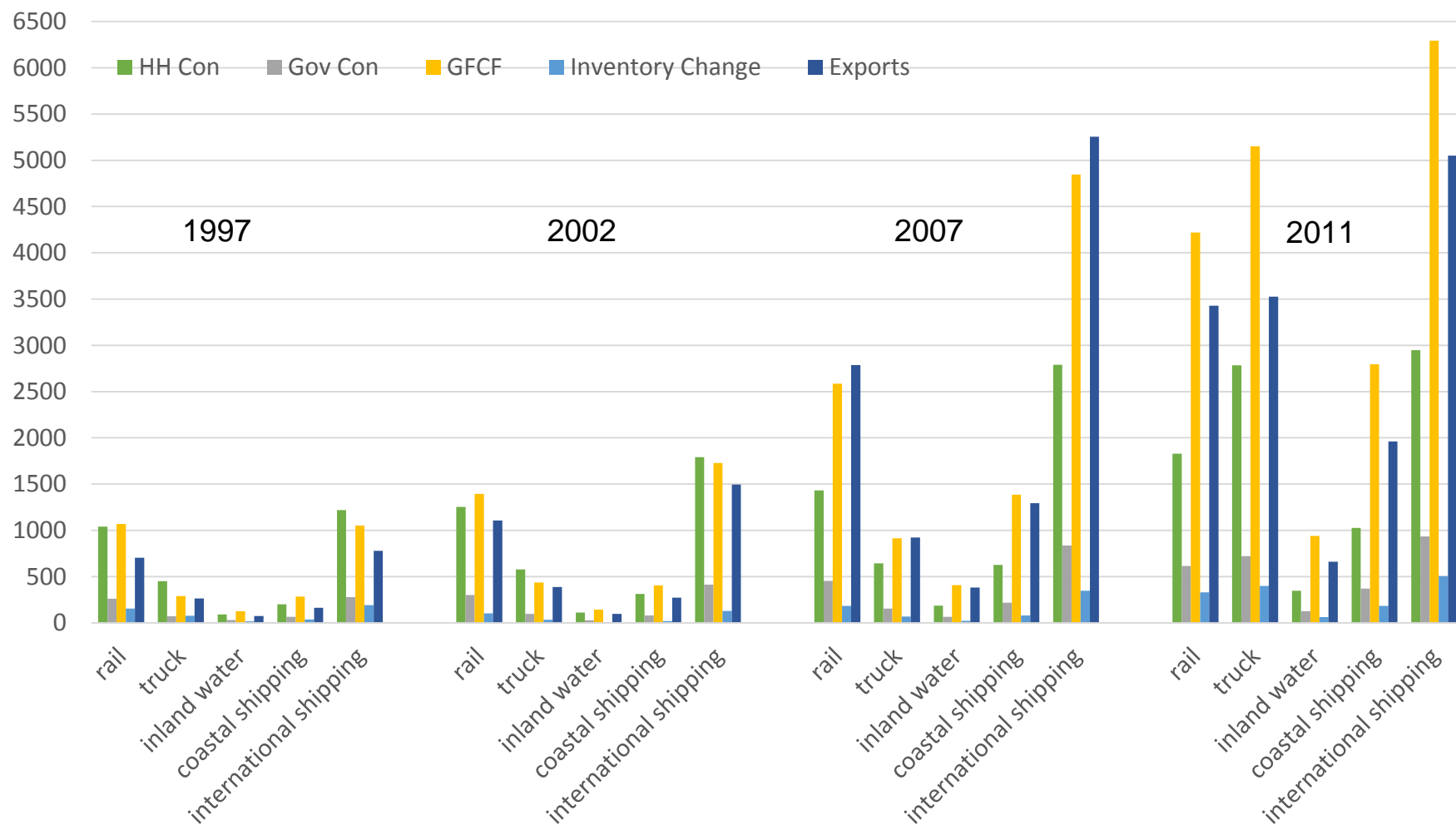
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# Thank You!

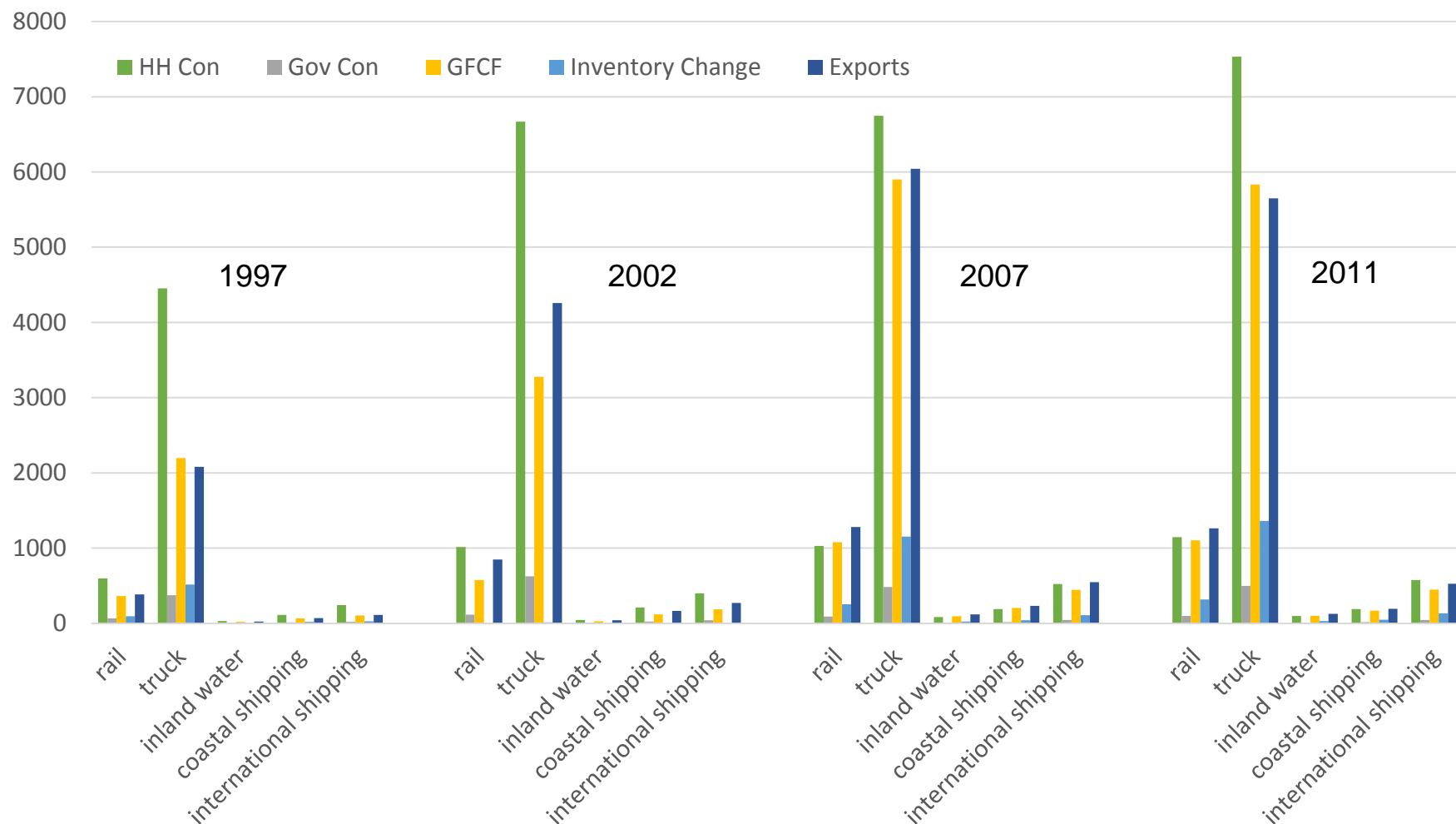
# Appendix

# China's freight movement by final demand & mode (billion TKM)

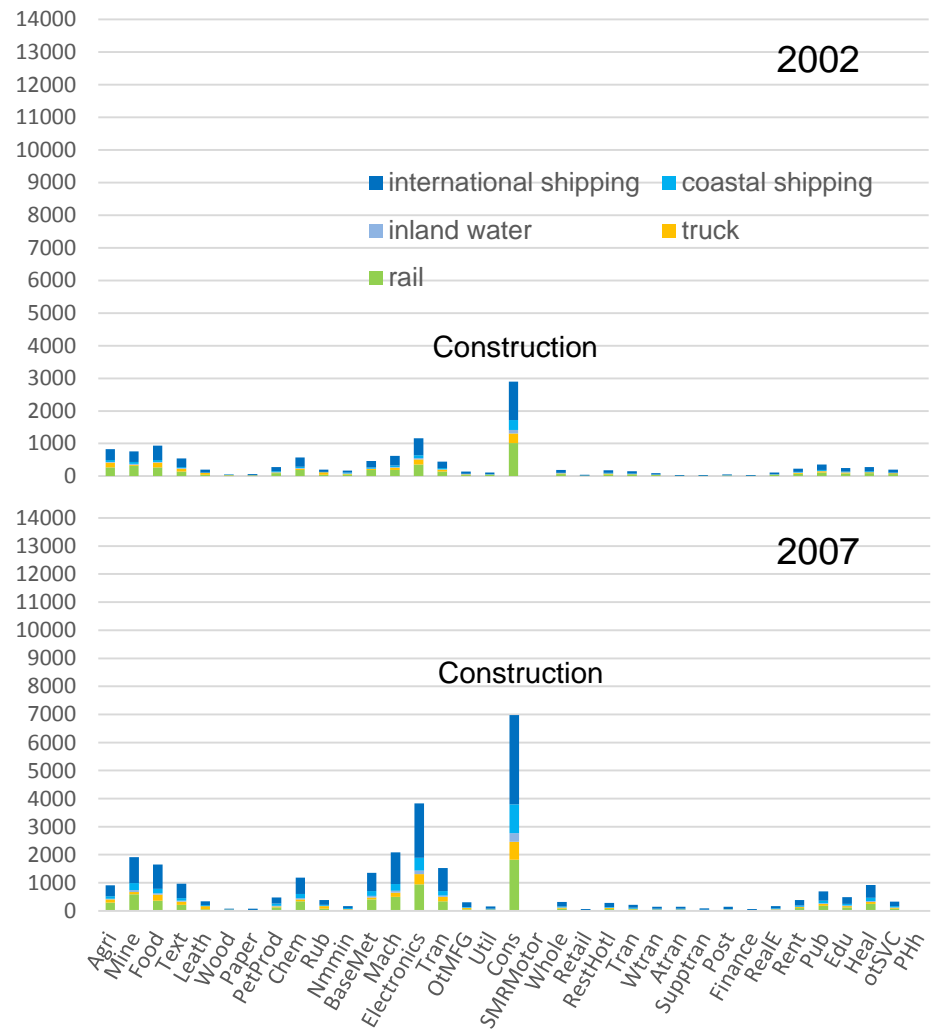
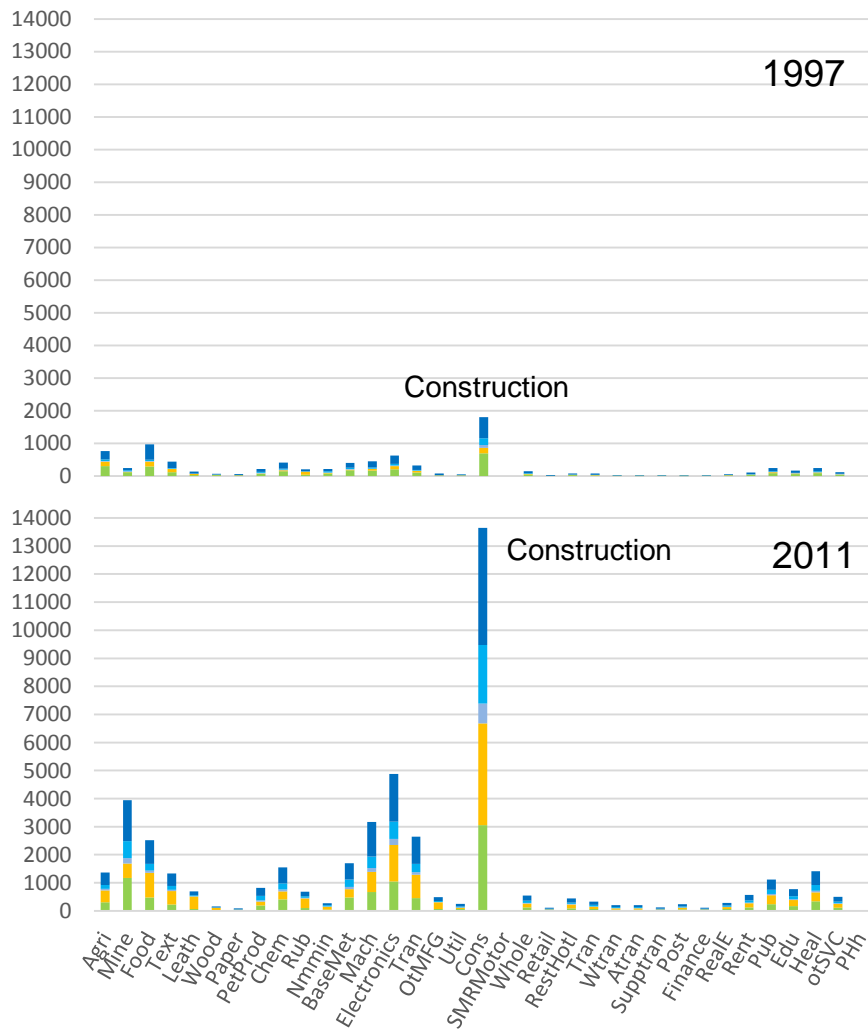




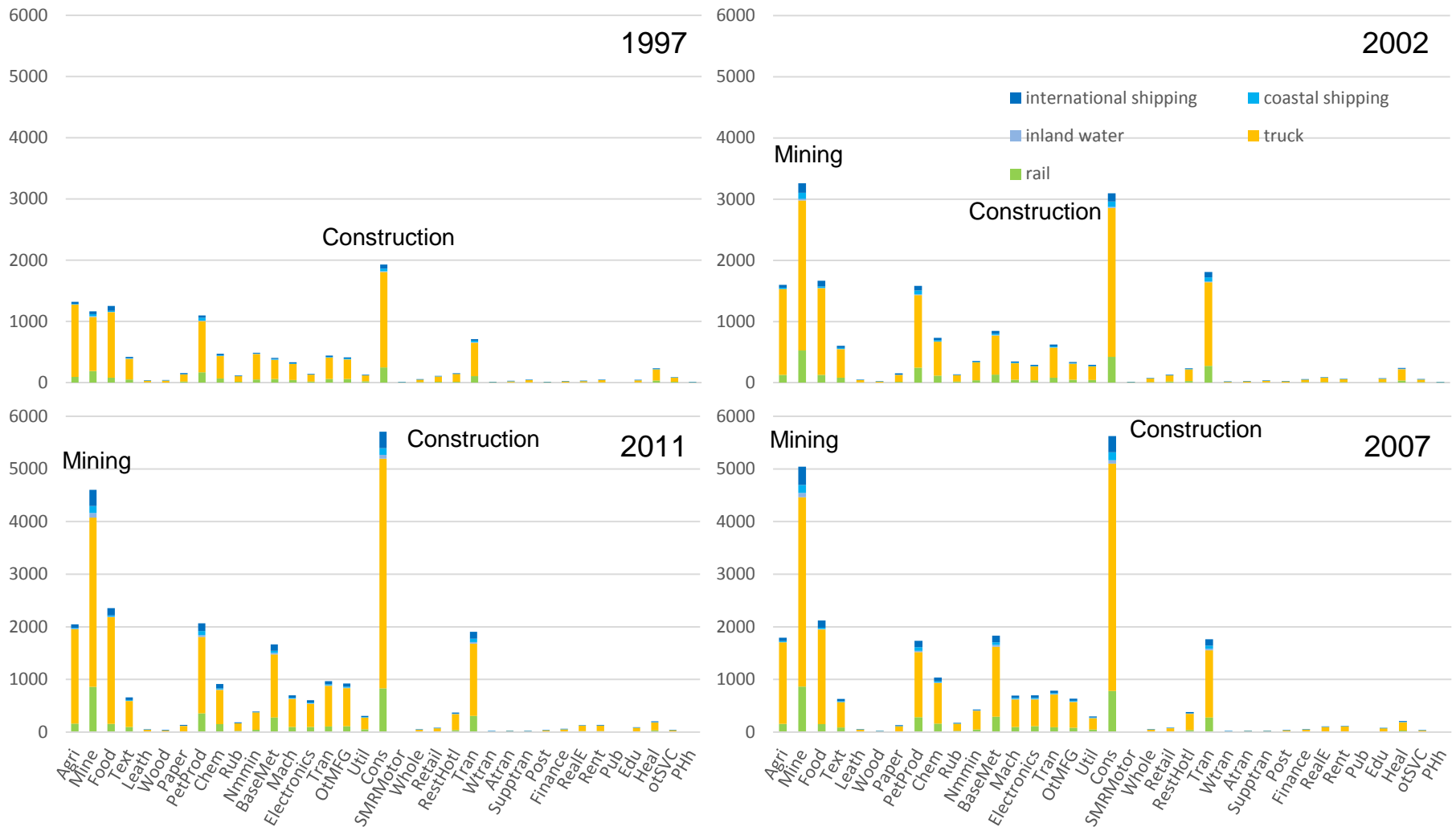
# India's freight movement by final demand & mode (million Ton)



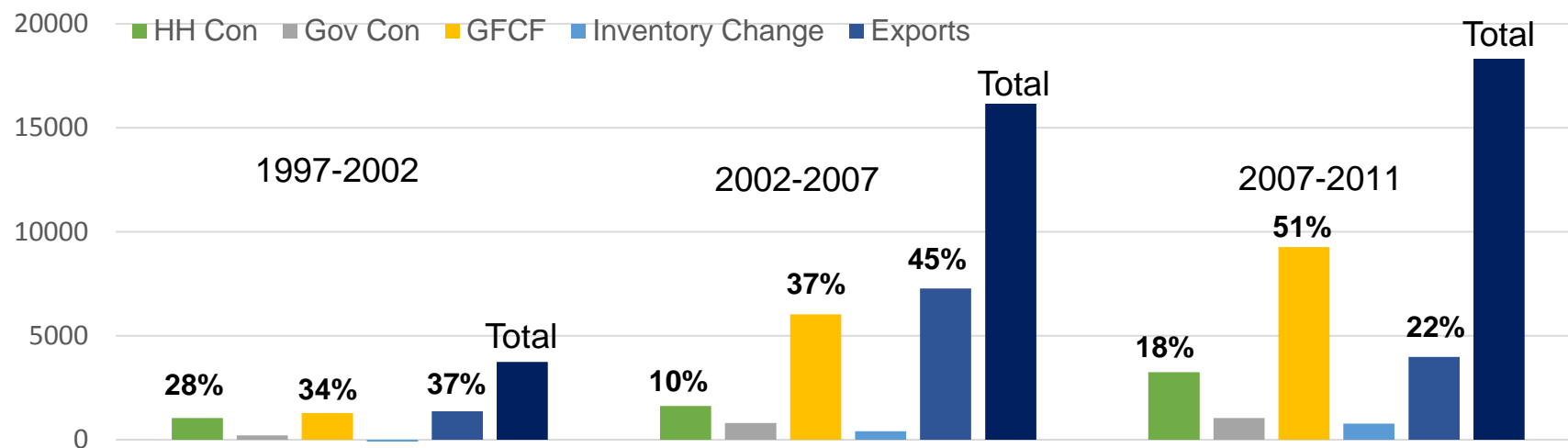
# China's freight movement by actual sectoral demand (billion TKM)



# India's freight movement by actual sectoral demand (million Ton)

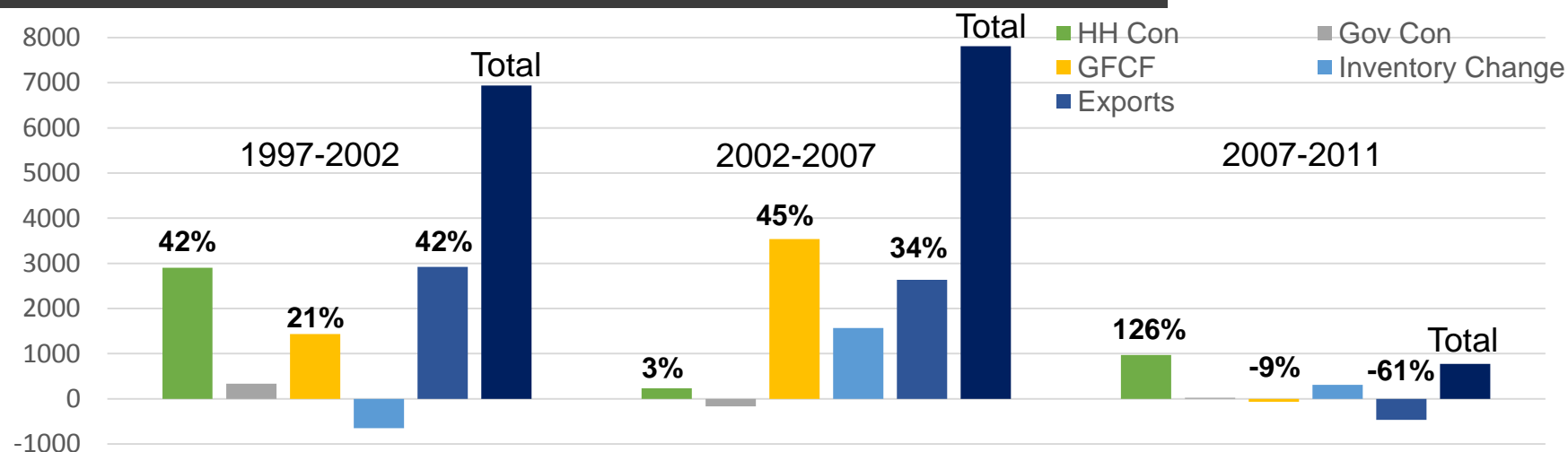


# Driving forces of China's freight movement by final demand (billion TKM)



	1997 - 2002		2002 - 2007		2007 - 2011	
<b>GFCF</b>	Cons	29%	Cons	25%	Cons	36%
	Mach	4%	Mach	5%	Mach	5%
	Tran	2%	Tran	4%	Tran	4%
<b>Exports</b>	Electronics	11%	Electronics	14%	Mine	10%
	Mine	8%	Mine	8%	Electronics	1%
	BaseMet	4%	BaseMet	4%	PetProd	1%
<b>HH Con</b>	Text	3%	Food	4%	Food	4%
	Mine	3%	Heal	2%	Agri	2%
	RestHotl	3%	Tran	1%	Text	1%

## Driving forces of India's freight movement by final demand (million Ton)



	1997 - 2002		2002 - 2007		2007 - 2011	
<b>HH Con</b>	Tran	15%	Food	4%	Agri	30%
	PetProd	9%	Agri	3%	Food	26%
	Food	5%	Cons	2%	Tran	25%
<b>GFCF</b>	Cons	15%	Cons	33%	Tran	10%
	BaseMet	3%	BaseMet	3%	OtMFG	4%
	Electron	1%	Tran	3%	Cons	3%
<b>Exports</b>	Mine	31%	Mine	11%	OtMFG	29%
	BaseMet	4%	BaseMet	7%	Electron	9%
	Chem	2%	OtMFG	4%	Tran	8%

# Freight movement and economic structural change

freight movement by economic sectors in China and India

- ❖ US benchmark: Commodity flow survey, Freight analysis framework
- ❖ Economic structural change among the most important determinants

