

# The Challenge of New Technologies to International Trade

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# Tech & Trade



January 2019

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## THE GLOBOTICS UPHEAVAL

Globalization, Robotics, and the Future of Work



# Old Globalisation

## Headquarter Economies (G7)

High Knowhow  
Labour

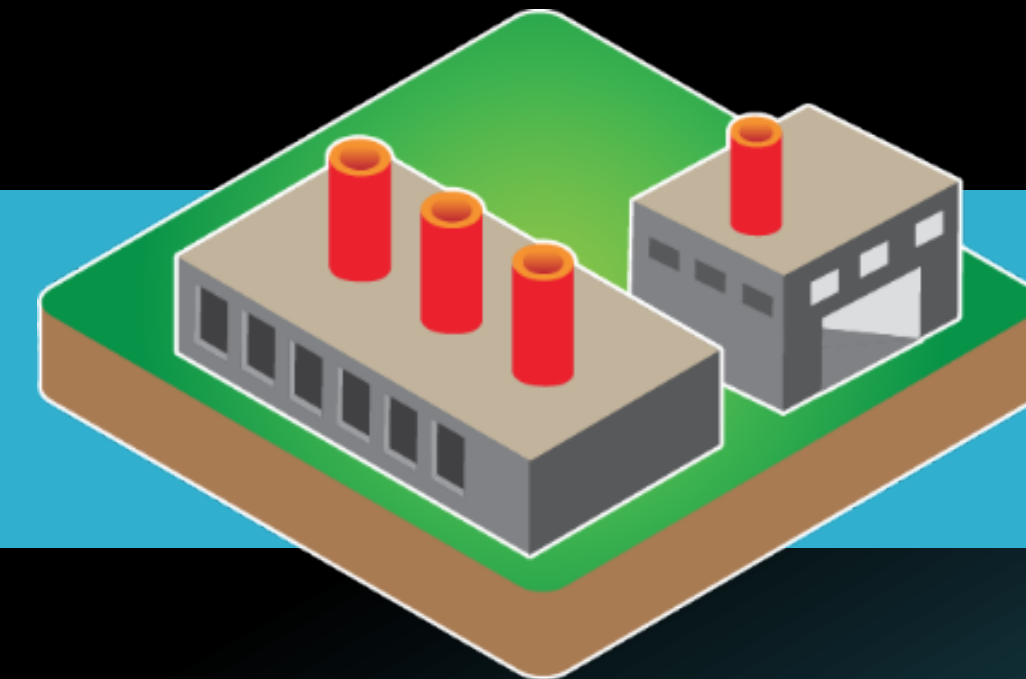
High wages



## Factory Economies

Low Knowhow  
Labour

Low wages



# New Globalisation = new “pipeline” for knowledge arbitrage

## Headquarter Economies (G7)

High Knowhow  
Labour

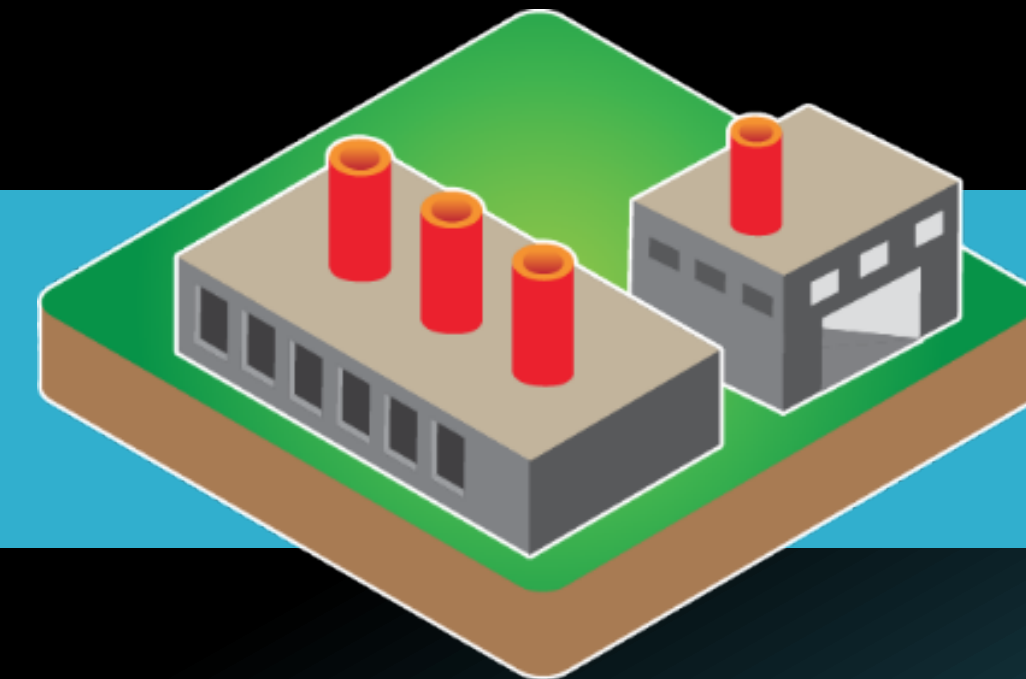
High wages



## Factory Economies

Low Knowhow  
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*High Tech + Low Wages Revolutionises World Manufacturing*

# Future Globalisation opens a “pipeline” for international wage competition

## Headquarter Economies (G7)

High Knowhow  
Labour

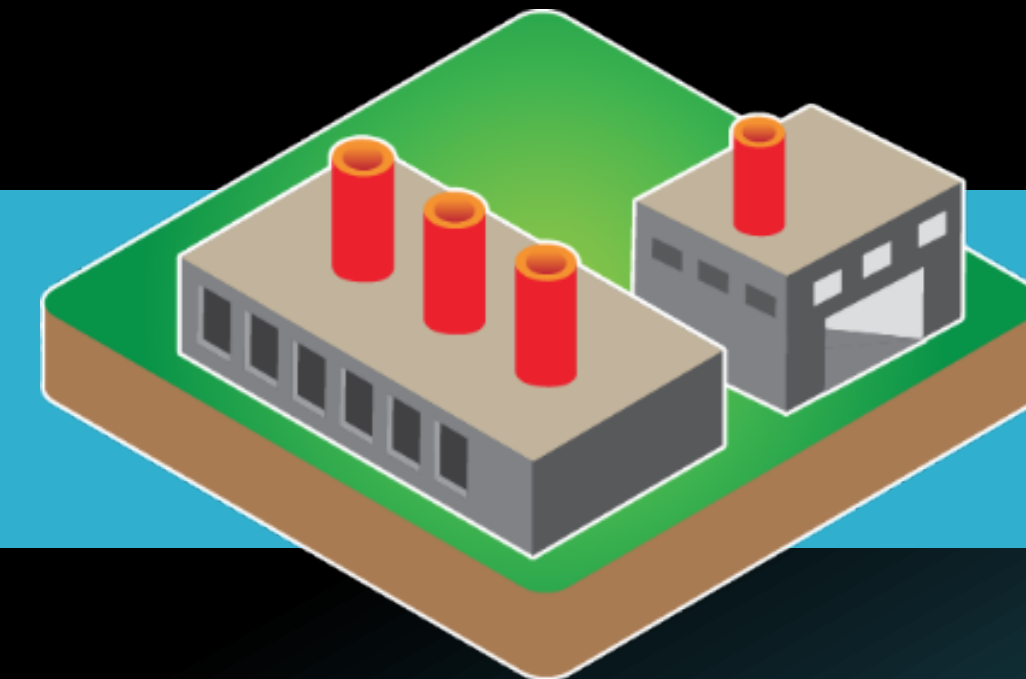
High wages



## Factory Economies

Low Knowhow  
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Low wages



*“Telemigration” becomes possible*

# Global “talent tsunami”

1990s: industry

2020s: services

Digital  
Technology

```
graph LR; A[Digital Technology] -- Globalization --> C[White-collar & Professional Jobs]; A -- Automation --> C;
```

The diagram features a large grey arrow pointing from left to right, containing the text 'Digital Technology'. Two smaller blue arrows branch off from this grey arrow, one labeled 'Globalization' and the other 'Automation', both pointing towards a dark blue rectangular box on the right. This box contains a red triangle with a yellow exclamation mark at the top, followed by the text 'White-collar & Professional Jobs'.

Globalization

Automation



White-collar  
&  
Professional  
Jobs





# Future globalisation

*The future is unknowable,  
but also inevitable*



What happens when digital  
technology makes remote workers  
much less remote?

# Tele-migration

People sitting in  
one nation &  
working in  
offices in  
another nation





Wage gap makes it profitable

Digitech makes it possible

# Digitech enables tele-migration

1. Domestic remote work paves the way.
2. Online “match making” platforms.
3. Advanced telecomms.
4. Machine translation.



IS THIS TIME  
DIFFERENT?

# Affecting  
service &  
professional  
jobs

Not just factory  
jobs





# Office workers & professionals are different

- Lots of people (80-90% of workforce)
- More flexible/easier to re-employ, but “downgrade” unemployment
- They are not ready for it

# # Digitech is ICT, but...

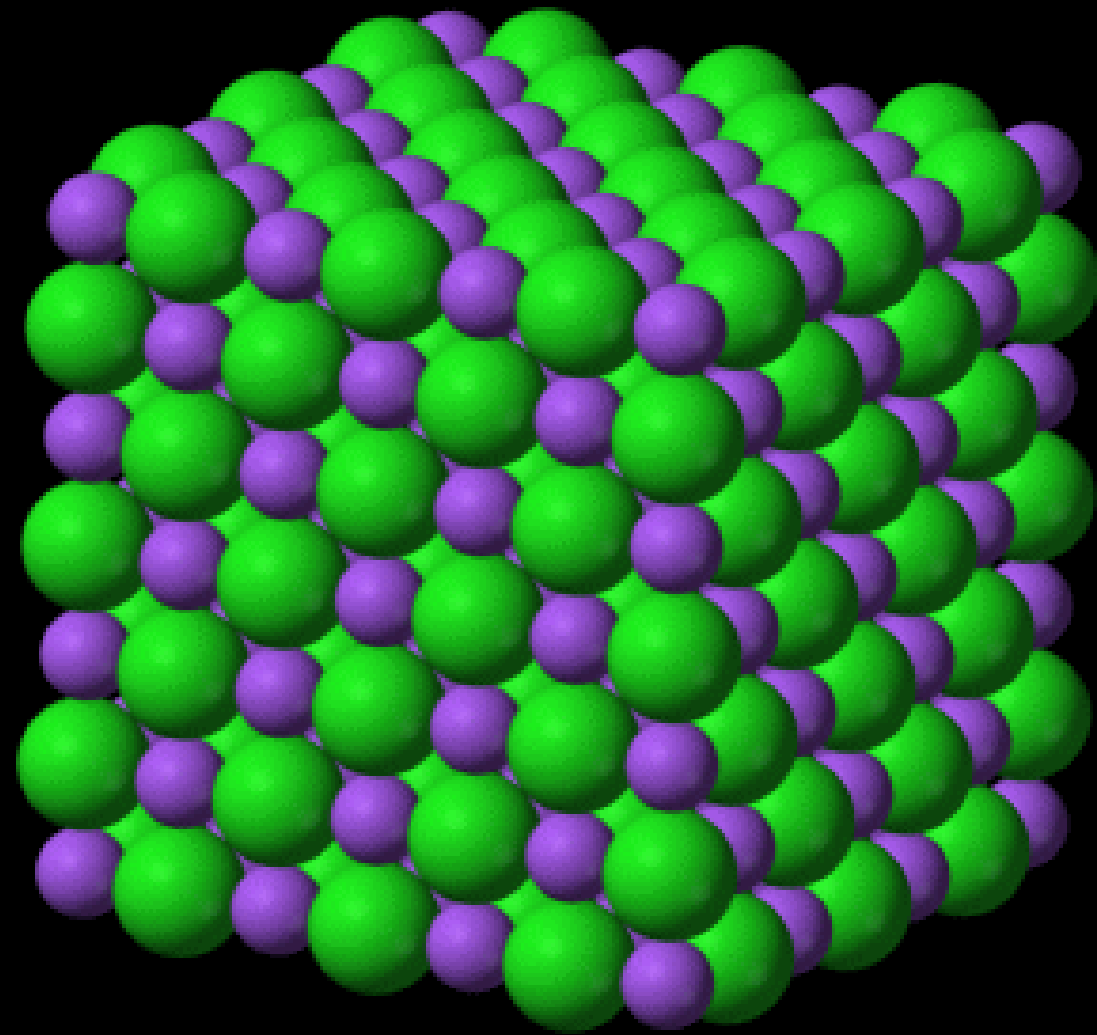
ICT applied to manufacturing (mostly physical + bit of “I” & “C”)

Digitech applied to services (mostly “I” & “C” + bit of physical)

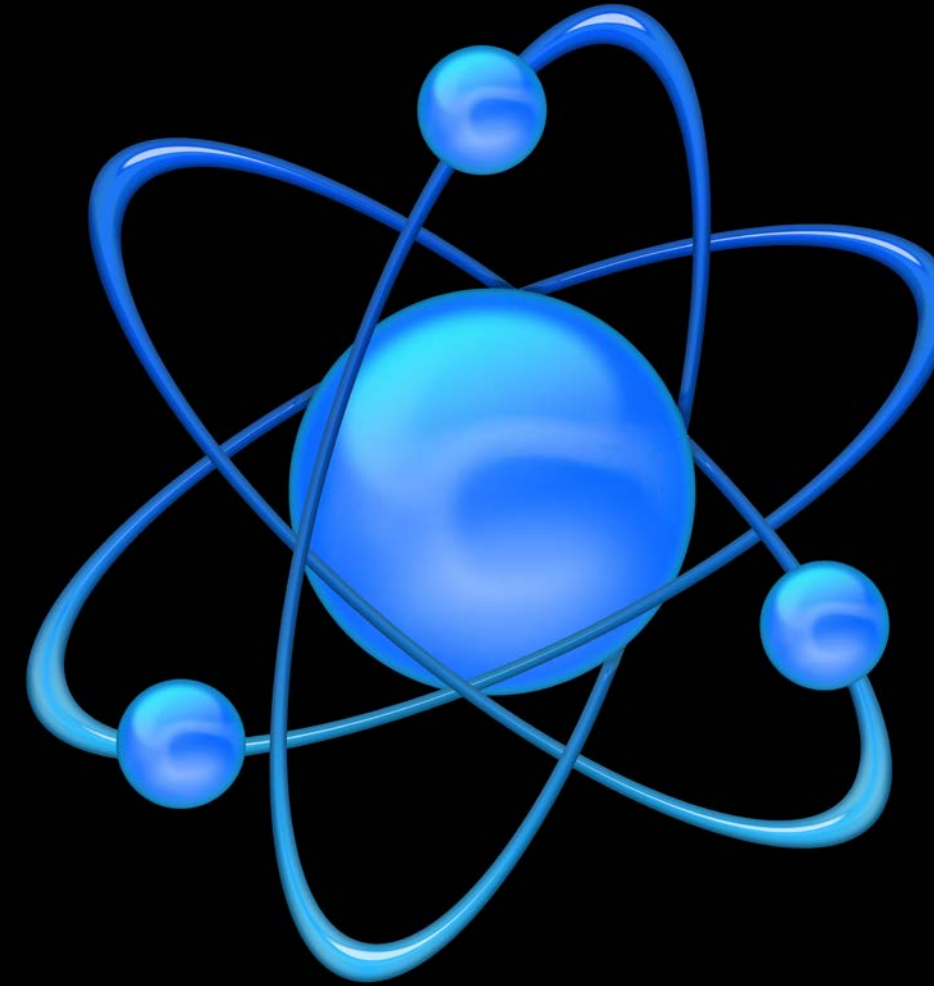


# Different physics applies

Matter



Electrons



*How fast to double flows?*

# # Today's AI is different

In 2019 computers can read, write, see, speak, understand speech, create visual output, recognize subtle patterns.

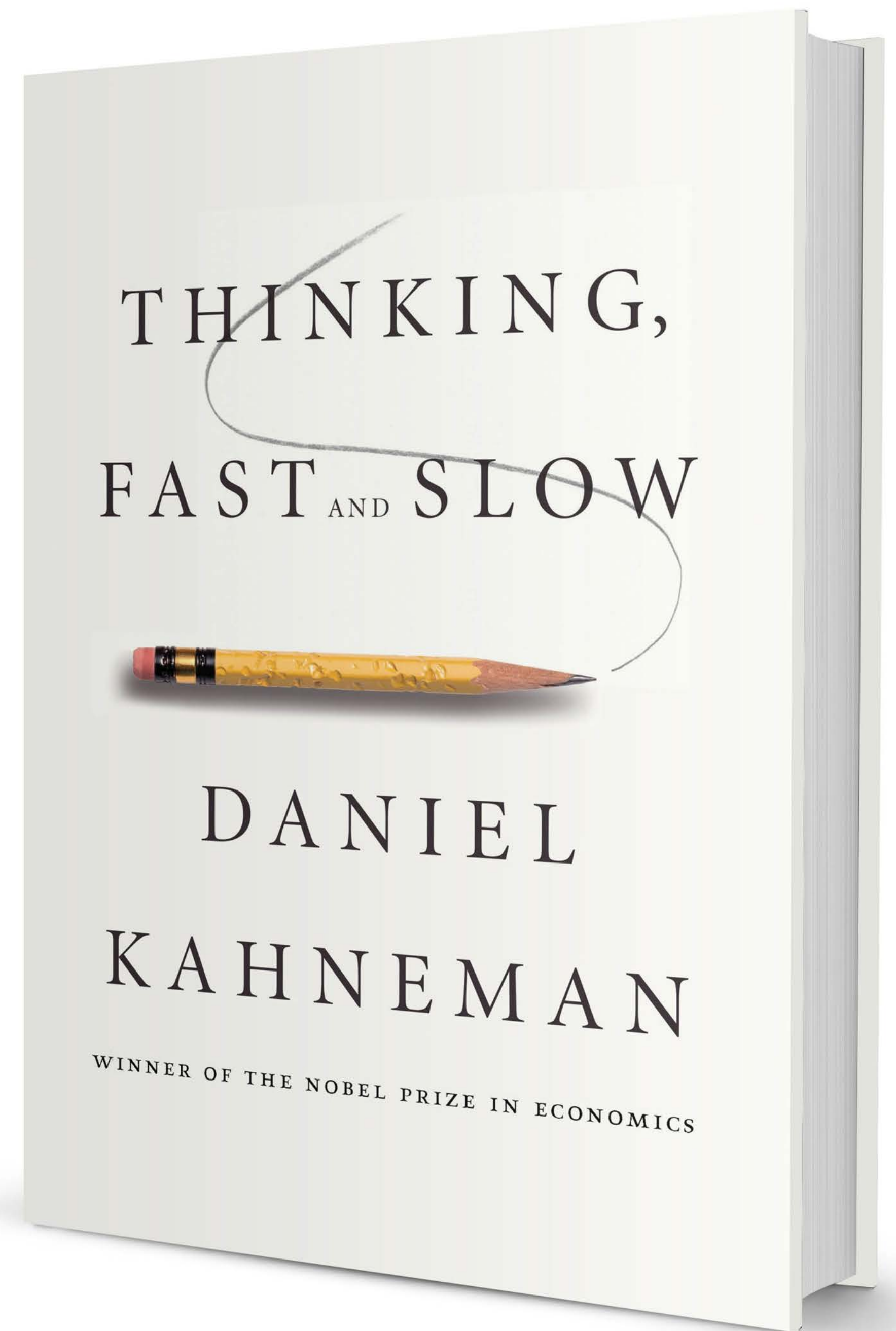
In 2015 they couldn't. What changed?



Programming is  
different

Coding =  
thinking slow

Machine learning =  
thinking fast



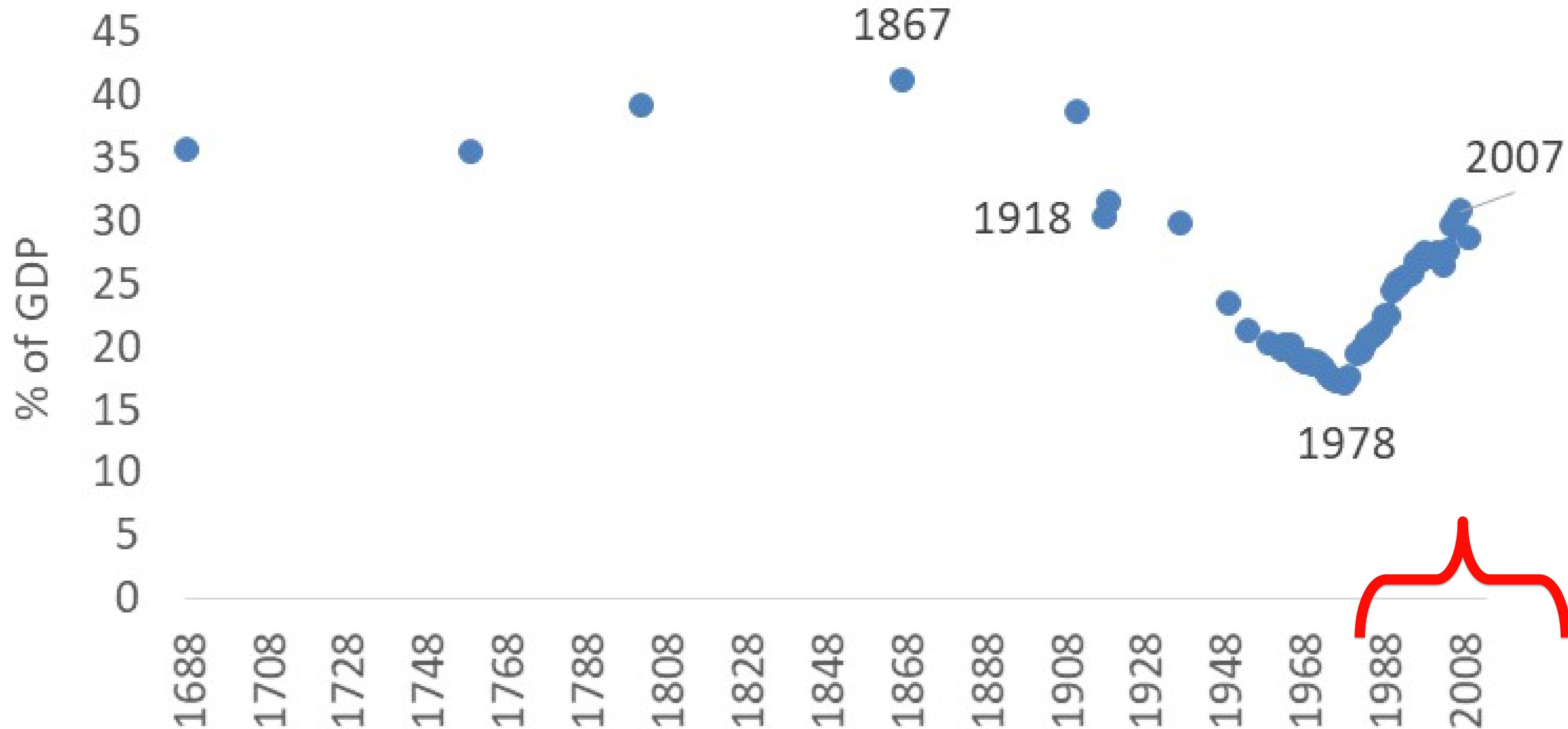
# Inequality may be different

Who gains most from new AI tools?

Below average thinkers or above average?



Share of income, top 5% earners, 1688 to 2009



**# Globotics is advancing at the explosive pace of digitech**

Past transformations were much slower

COMING IN  
WAYS FEW  
EXPECT



# It won't look  
like Janesville

No mass  
unemployment  
Rust-Belt style

Copyrighted Material

"Brilliant, probing, and disturbing. A gripping story of psychological defeat and resilience." —BOB WOODWARD, *The Washington Post*

# Janesville

AN AMERICAN STORY



AMY GOLDSTEIN

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# Think “iPhone infiltration”

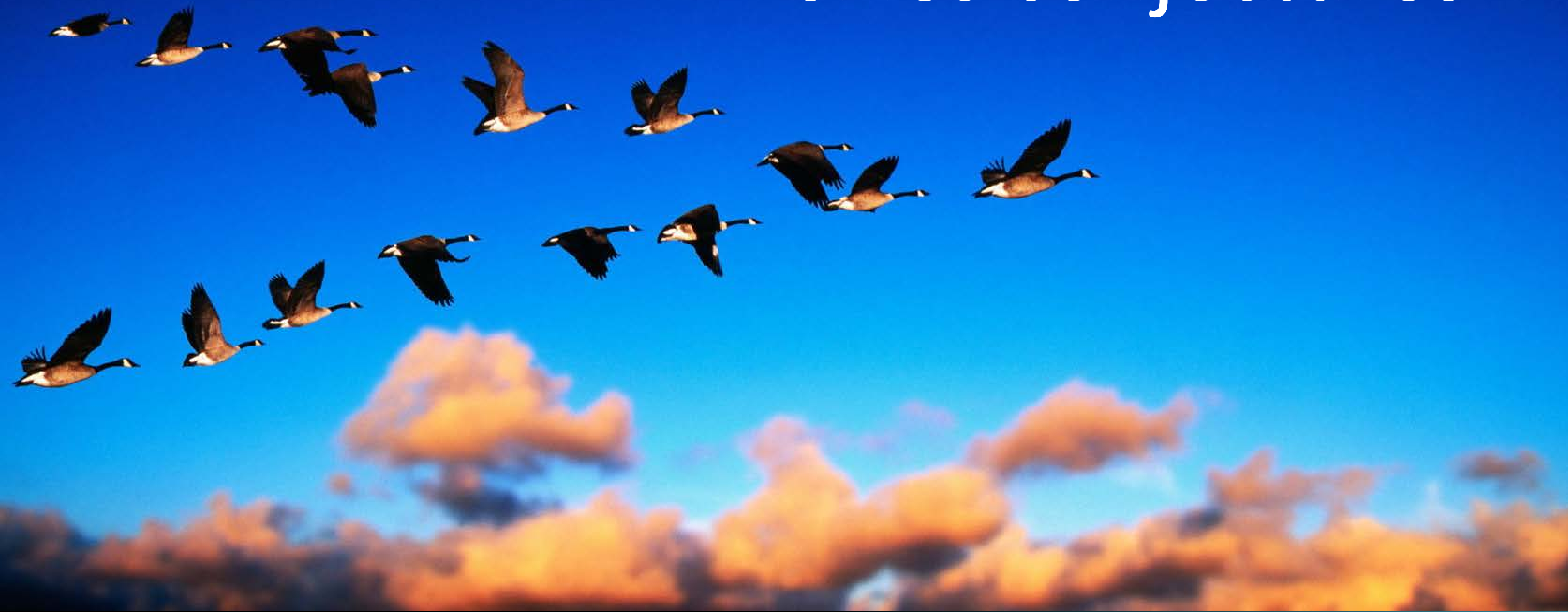


A scenic landscape photograph featuring a paved road that stretches from the bottom center towards the horizon. The sun is low on the horizon, creating a bright, warm glow and casting long, soft shadows. The sky is a deep blue with wispy white clouds. Bare trees line both sides of the road, and a field is visible in the foreground. The overall mood is serene and contemplative.

# *Questions for the trade system*



Thanks for listening to some blue  
skies conjectures



How digitech will make  
manufacturing jobless  
& nontraded, but  
services freely traded

Upheaval in advanced economies.

Export opportunities in emerging markets.



# Globalisation's inevitable challenge



More opportunities

More competition

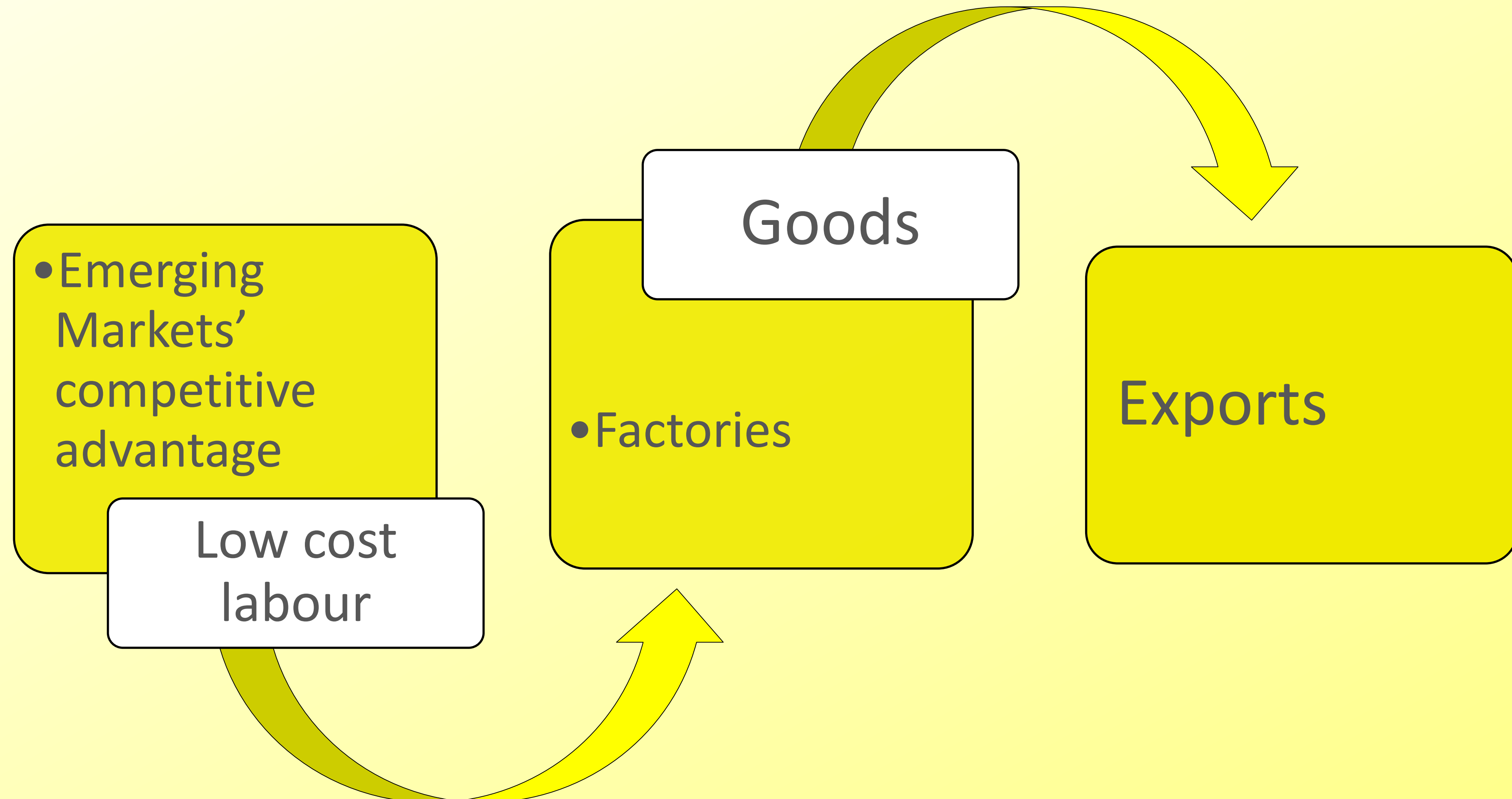
**1**

**The Emerging Market miracle  
will continue and spread**

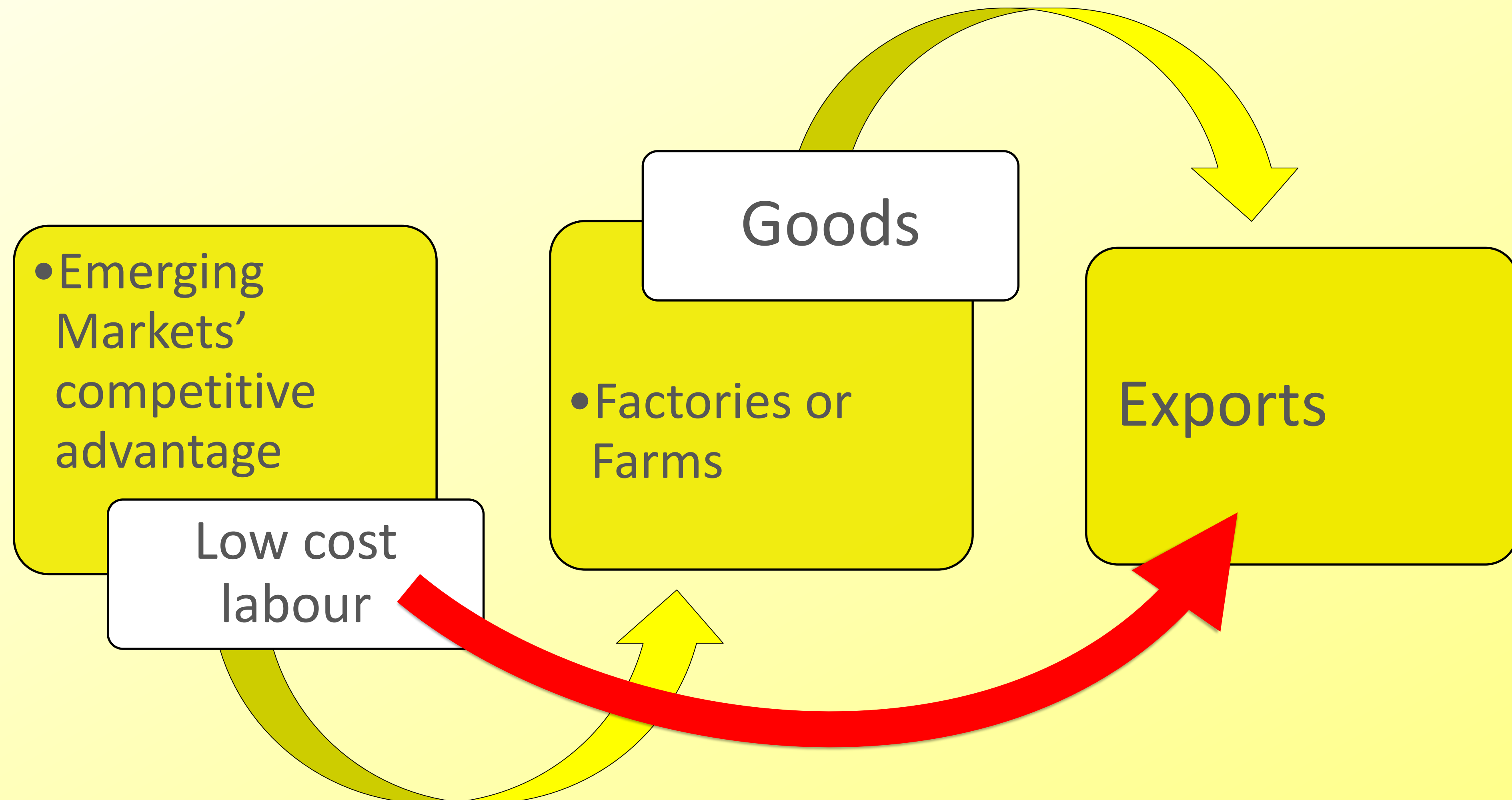
**Emerging Markets' true  
competitive advantage is  
quality-adjusted low-cost  
labour**



# But their advantage was “filtered” through goods; this made development difficult



# Telemigration allows Emerging Markets to export their advantage directly




# Services are easier

1. Lower scale economies
2. Less complex supply chains & logistics
3. Geographic distance matters less



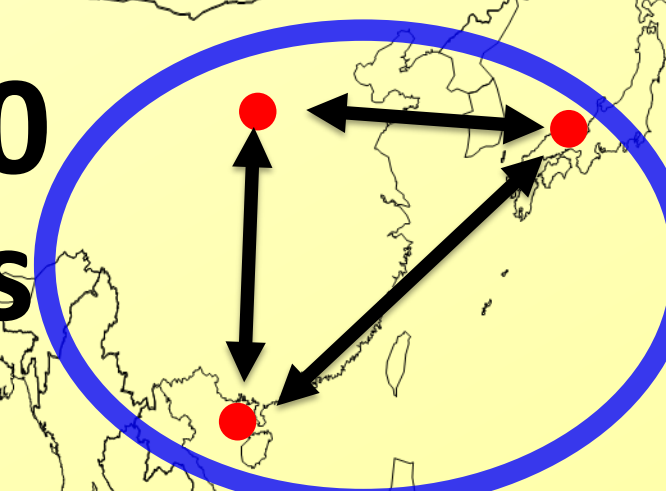
# Geography matters for manufacturing



**Factory N.Amer.**  
**(19%)**

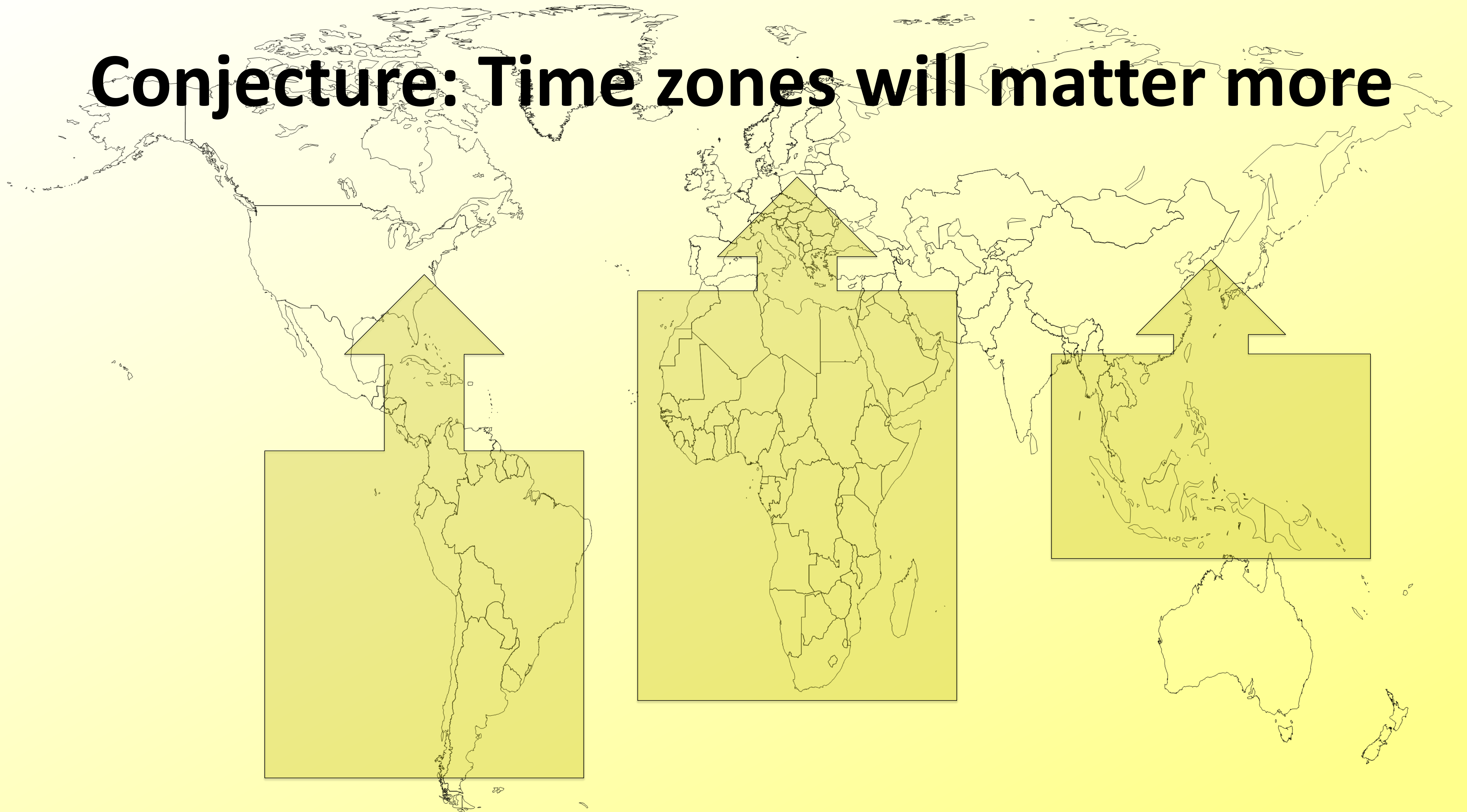


**Factory Europe**  
**(20%)**



**Factory N.E. Asia**  
**(38%)**

# Conjecture: Time zones will matter more





2

**“Service-led” development will  
replace “manufacturing-led”  
development**

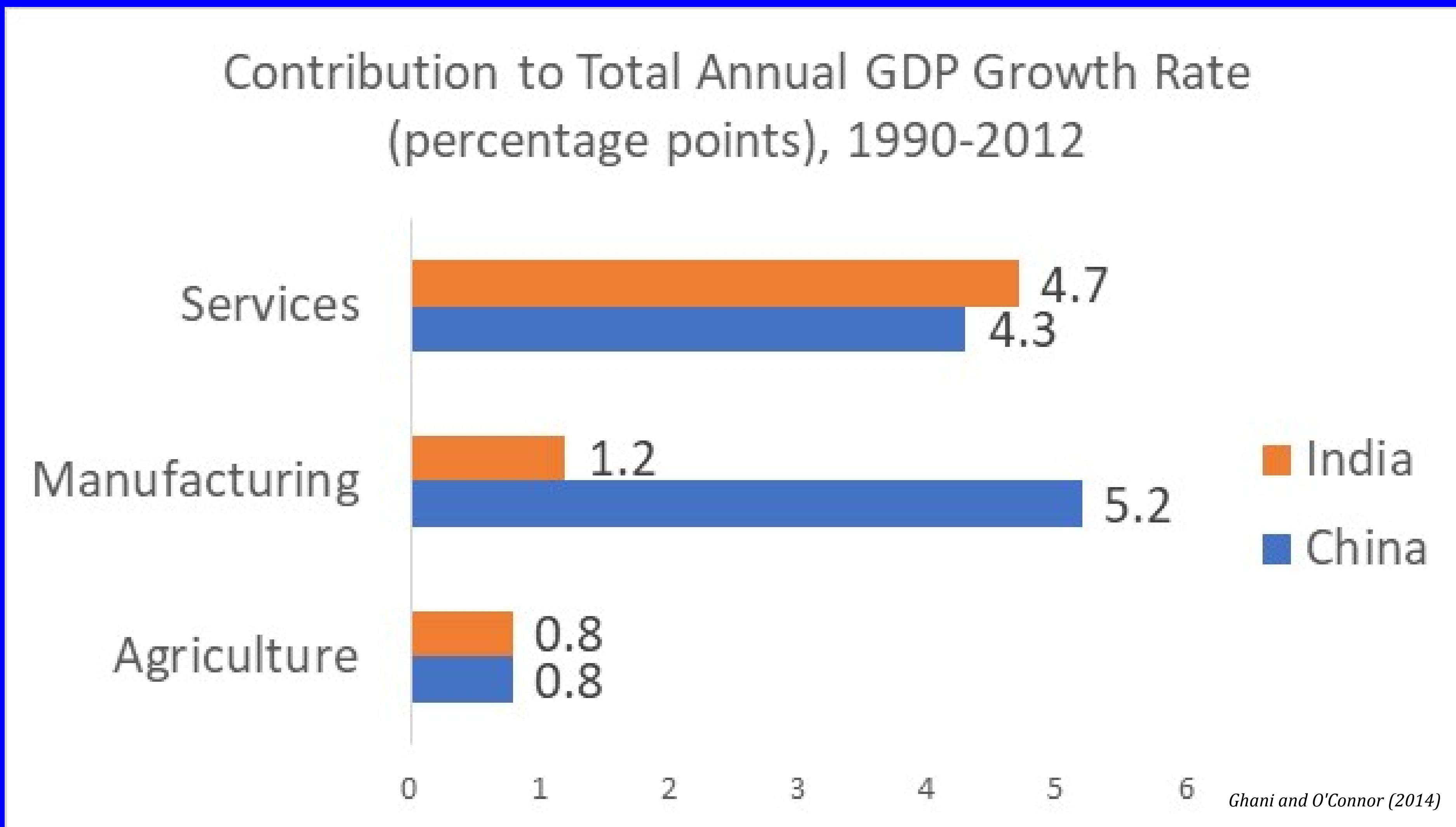


# **New role models**

**Think India, not China**

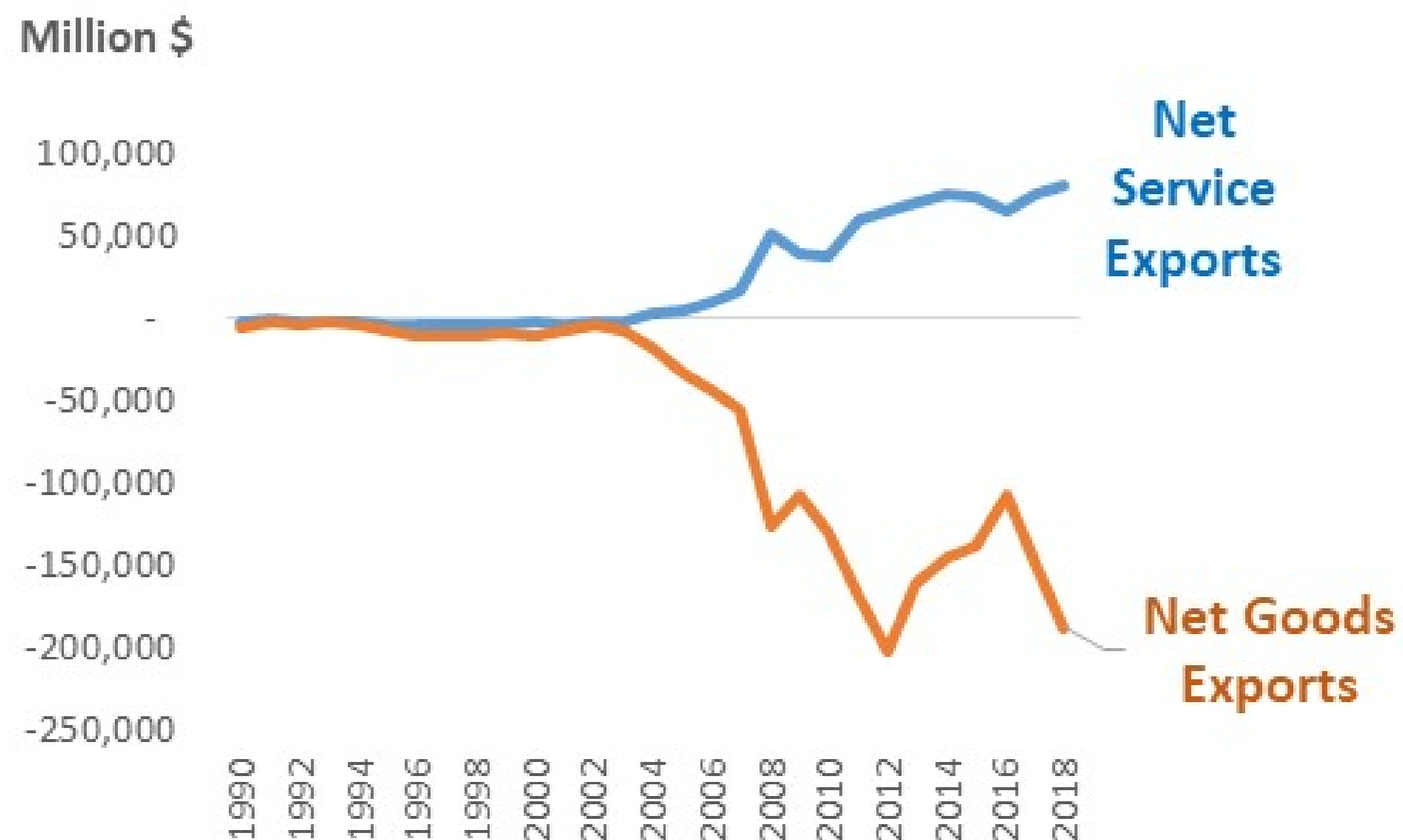
**Think “Service Value Chains”, not GVCs**

# India v China, Growth Sources

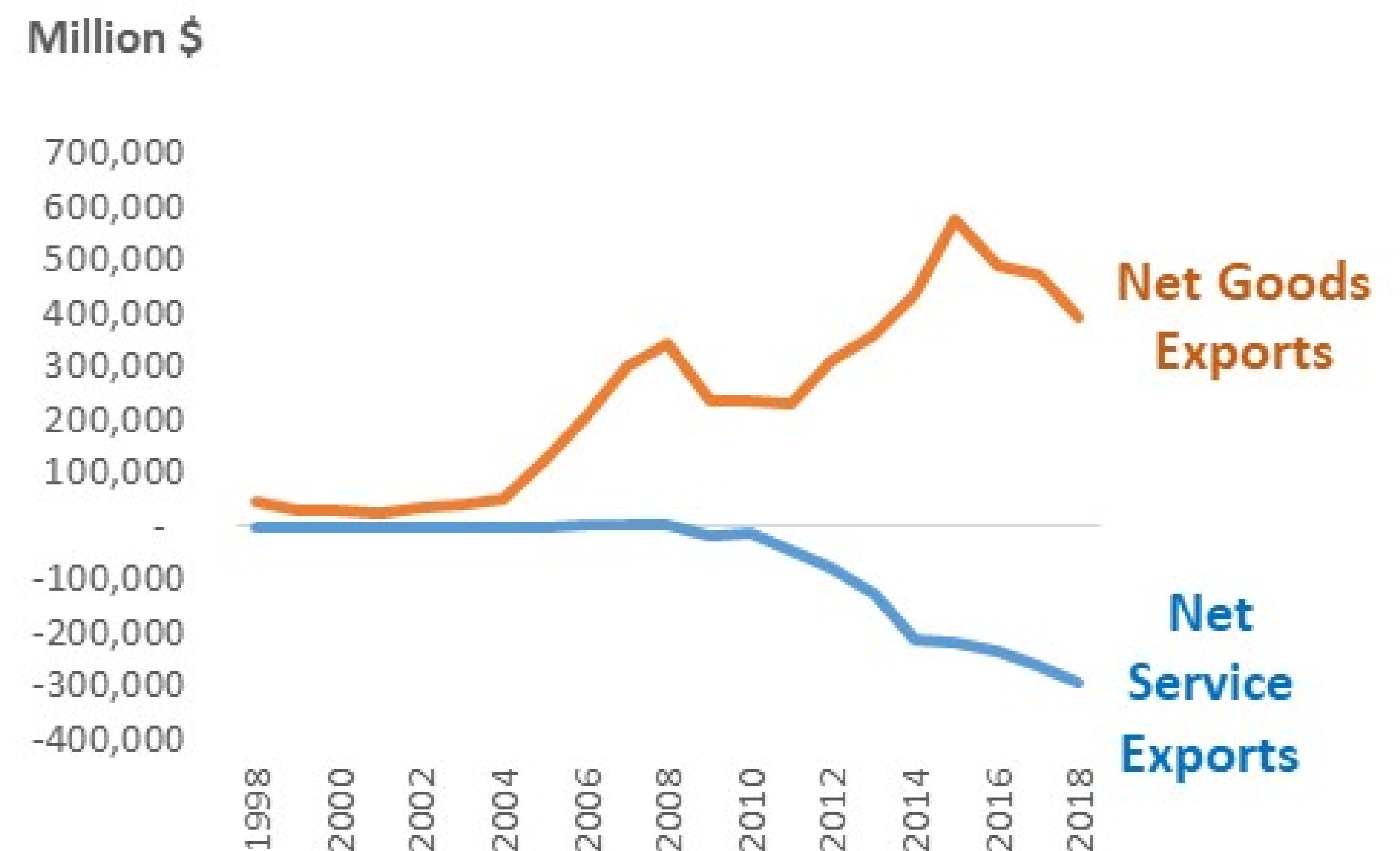


# India v China paths, Net Trade

India, 1990 - 2018



China, 1998 - 2018





# New Development Strategies

**Think cities, services, and training**

**Not factories, industrial equipment,  
and technology**

What is  
data?

We know how to regulate:

Goods, Services, IP, Investment,  
Fin'l Capital, & Migration

*Data flows are which of these?*



We need more  
nuance on data

- Classes of data?
- Key features?

# Thoughts on key data features

Durability

Sensitivity

Exclusivity

# Modes?

Class 1: Not durable, not sensitive, &/or not exclusive

Class 2: Exclusive and sensitivity, but not durable

Class 3: Exclusive, sensitive & durable



# Thanks for listening



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