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The impact of AI on global trade & e-commerce

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Image credit: NASA

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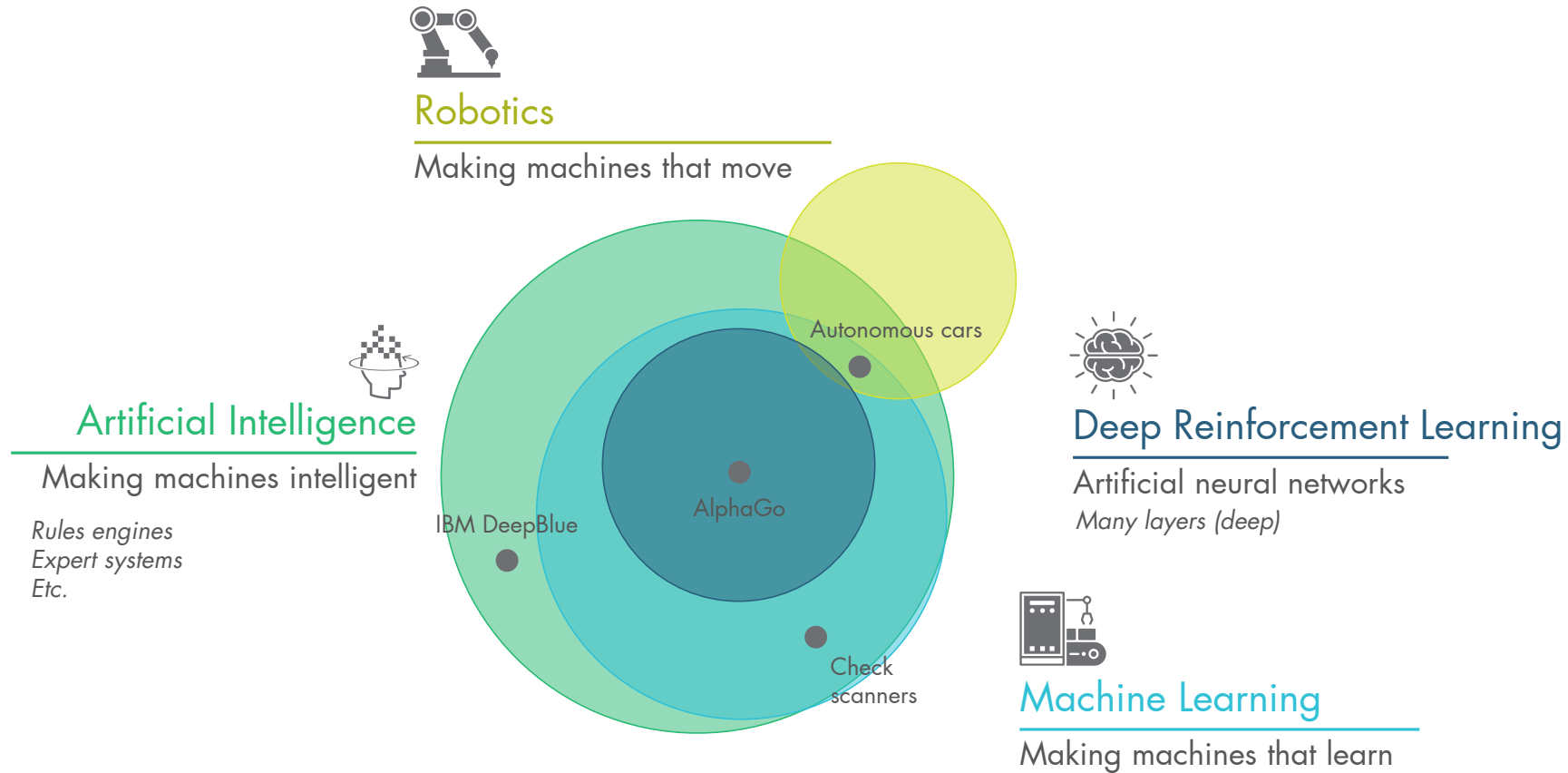
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Our mission is to **advance the governance of AI** as it relates to **ethics, safety and human flourishing.**

The Future Society is a US-based 501(c)(3) charitable not-for-profit organization. Find out more at TheFutureSociety.org

What is Artificial Intelligence?

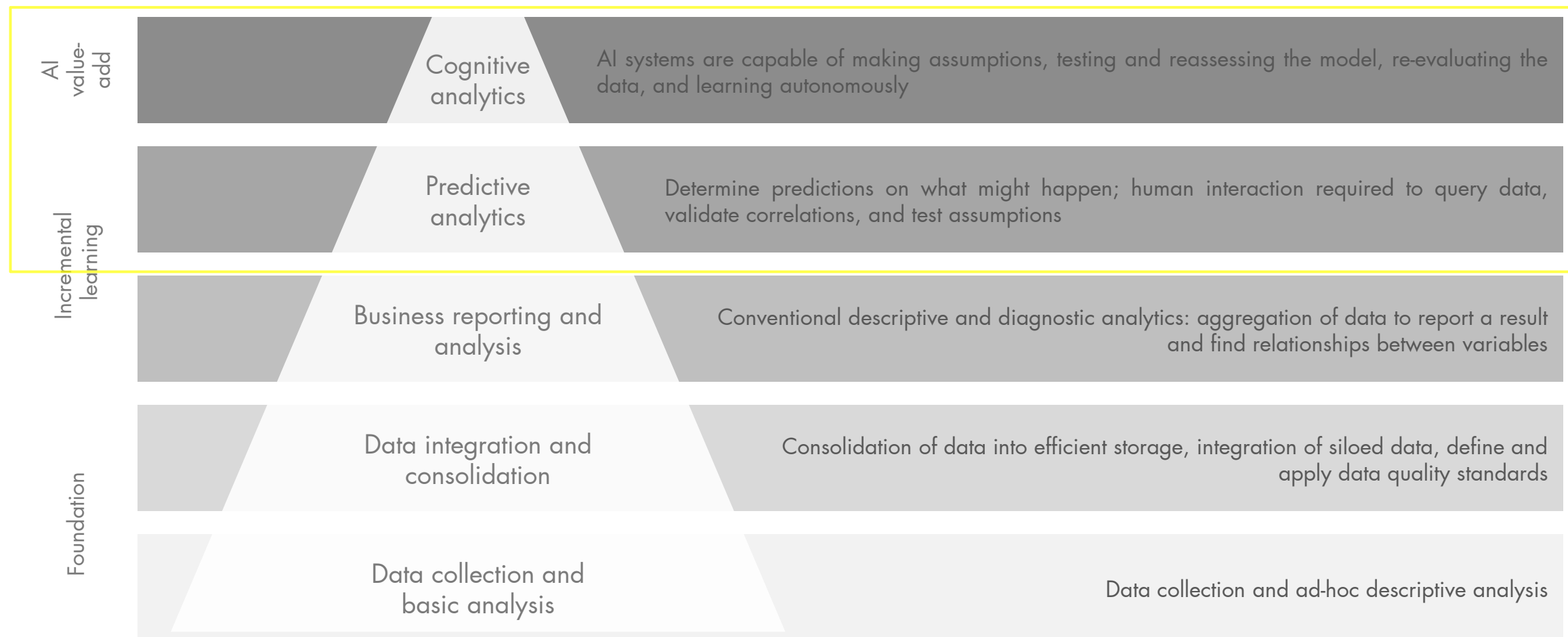
The Technical View



AI is not necessarily similar or equivalent to human intelligence.

What is Artificial Intelligence?

The Data Analytics View



In what ways will AI be changing the Global World Order?

Hard
power

Soft
power

Military & Security



Offensive capabilities
Defensive capabilities

Surveillance & Control



Interference in domestic dynamics
Government control

Economics & Welfare

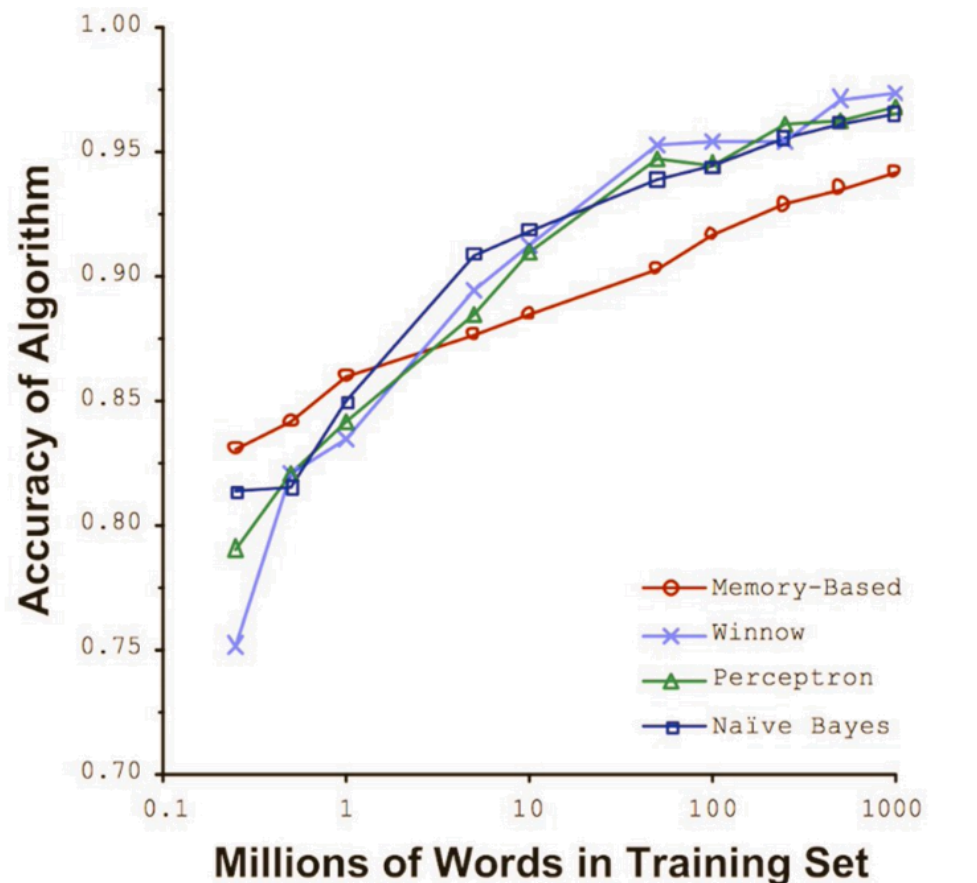


Prosperity & trade
Talent & immigration
Long-term sustainability

Pertaining to trade, we need to start with how AI adds value

- AI = Prediction machines
 - traditional prediction tasks (inventory and demand forecasting)
 - new tasks (navigation and translation)
- Cost of prediction will go down
 - increase of value of complements (data, CPU/GPU performance, human insight generation [data scientists etc.])
 - diminishing the value of substitutes (human prediction)

Data governance will be key enabler or barrier to efficacy of AI










- Market critical mass (integrated EU digital market vs. US vs. China vs. India vs. Russia vs. Brazil)
- Portability of data (key for latecomers to 'catch-up')
- Regulation of personal data collection/storage/processing/ownership (EU vs. US, China, India, Russia...)
- Technical standards governing data sharing (W3C)

Source: Banko and Brill, 2001

The multiple ways AI/digital influences trade and e-commerce

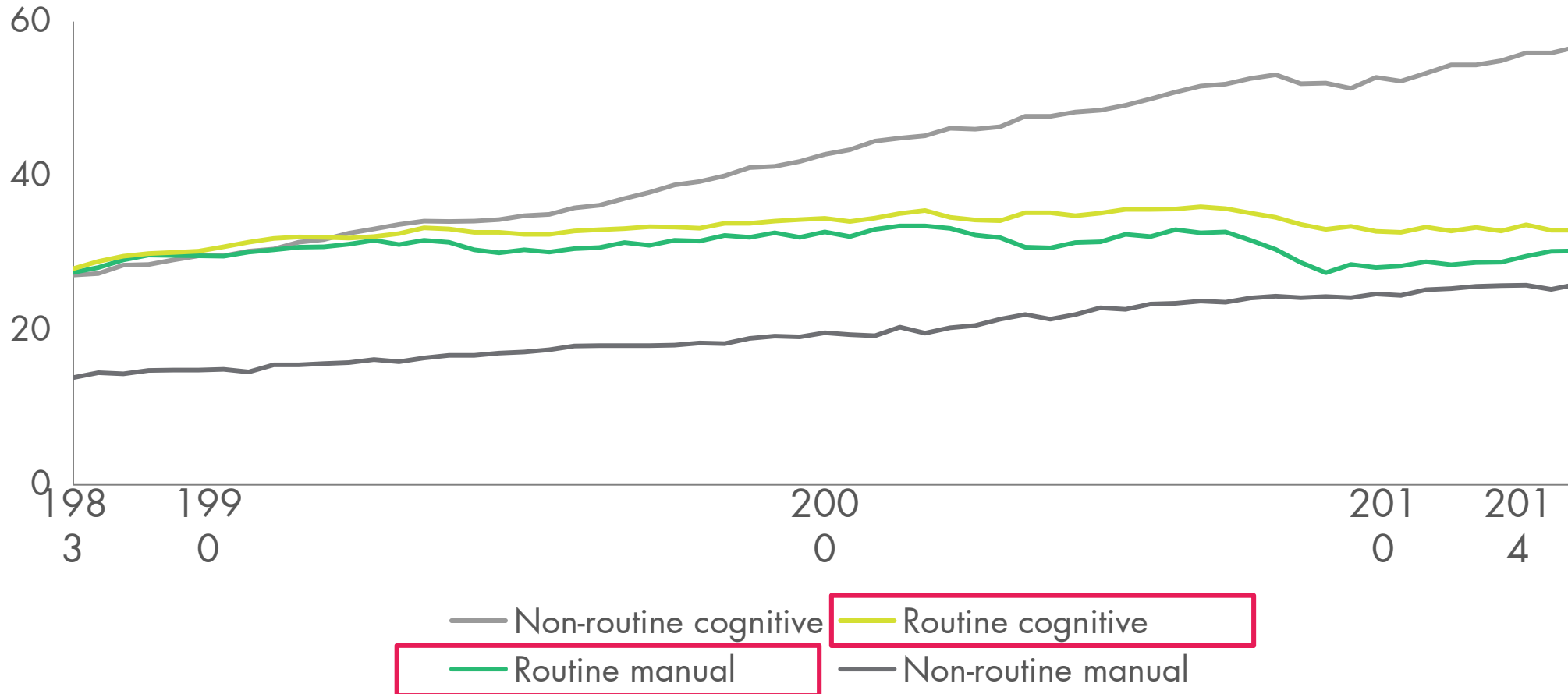
Vectors

Examples

1	Adds value to existing business models (e.g., travel booking, eDiscovery)	 
2	Creates new opportunities (C2C home & car sharing)	 
3	Disrupts labor markets and 'ways of working'	Administrative support, transportation, radiologists
4	Greases international value and supply chains	
5	Changes on-shoring/off-shoring trade-off	3D printing
6	Directly influences share of exports <ul style="list-style-type: none">• Digital platforms easier to scale across borders• AI-facilitated interactions across borders• AI-enabled trade classification systems	<ul style="list-style-type: none">• eBay's automatic translation• HS code categorization
7	Contributes to political, military and geopolitical shifts	 

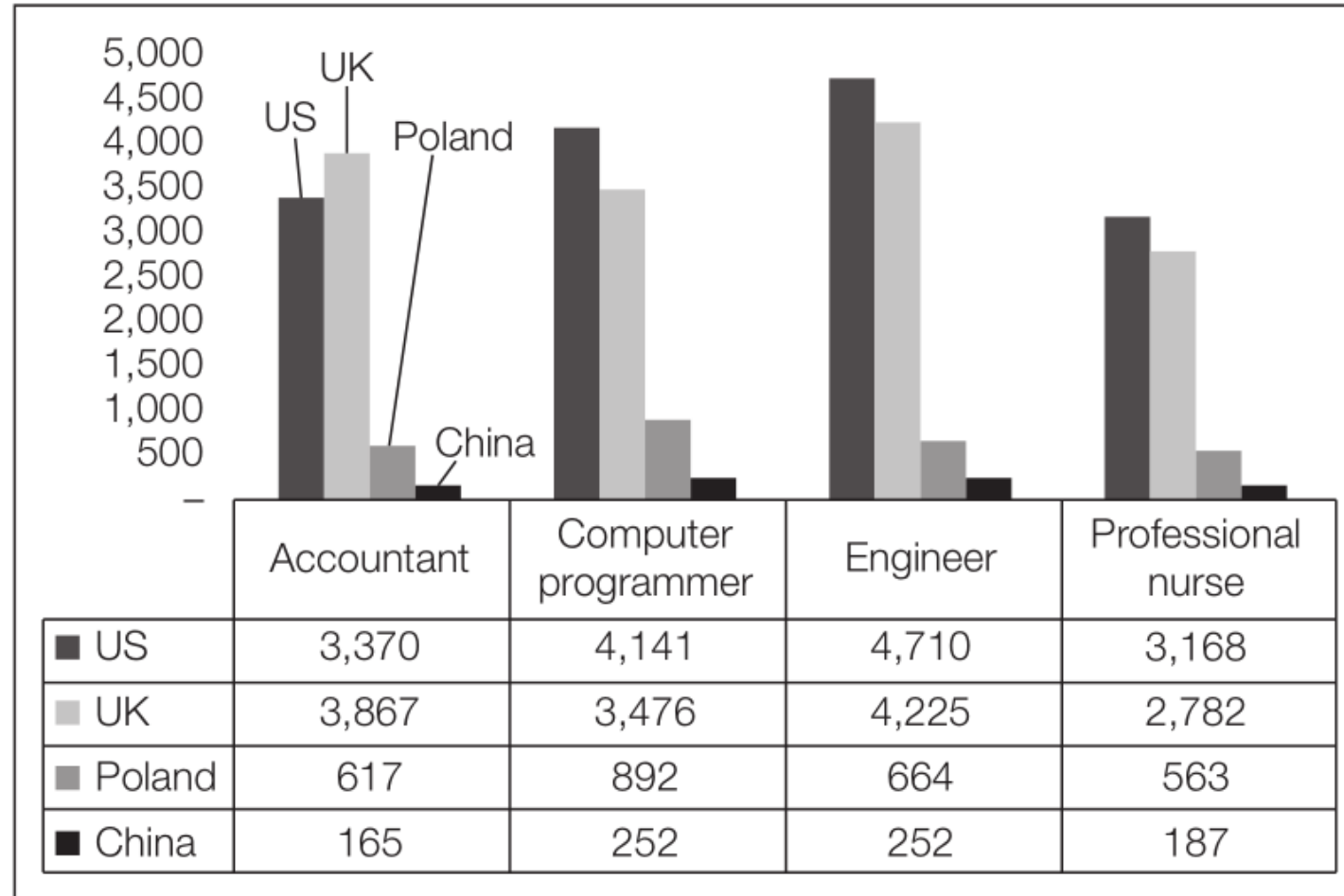
Rise of Automation: Demand for non-routine, cognitive jobs has steadily increased; demand for routine jobs has leveled off

United States employment, by type of work, M

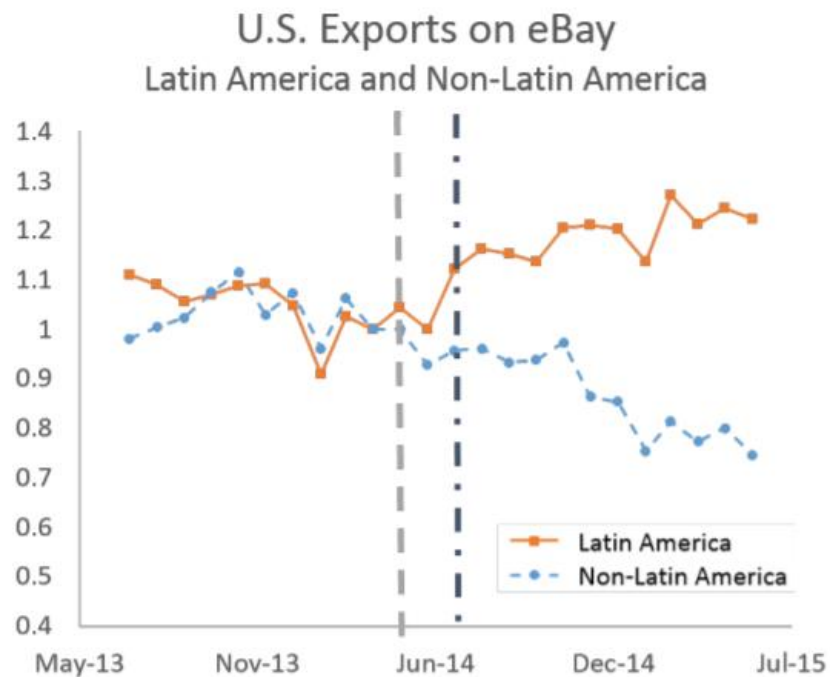


Source: US Population Survey; Federal Reserve Bank of St. Louis (data / analysis limited to 1983-2014)

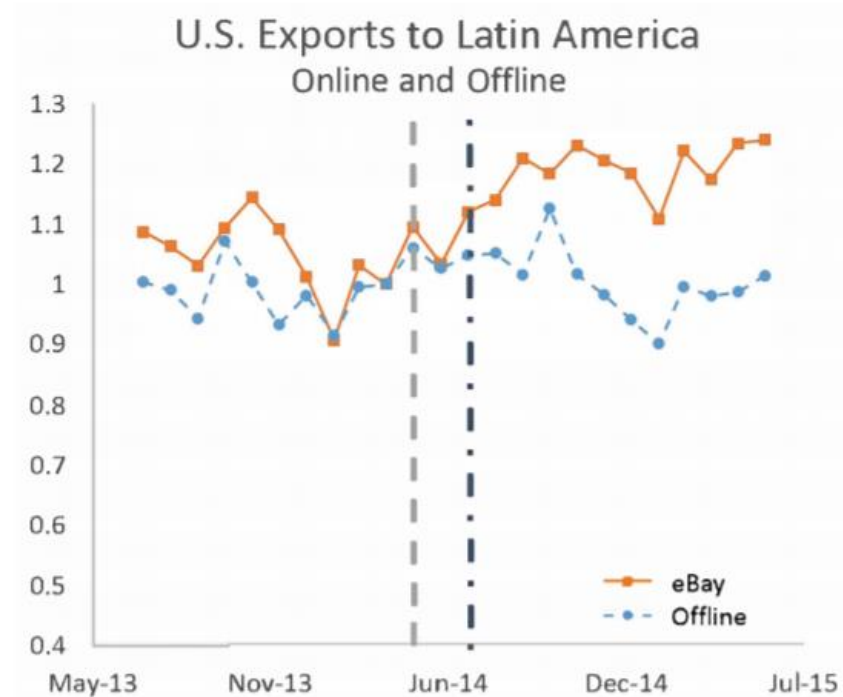
"Tele-migration": Factor costs orders abroad of magnitude cheaper



Machine translation facilitates cross-border trade



(a)



(b)

Figure 2: Export Trends Diverge After Introduction of Machine Translation

Trade-related challenges



Data availability: Data typically localized, not connected and siloed

- Restrictions on transmission of data of domestic users to a foreign country/company
- Restrictions on cross-border data flows are likely to have greatest impact on smaller (and often developing) countries



Privacy: Domestic privacy standards (GDPR) – fair, lawful, secure, collected for specific legitimate purpose, adequate/limited, accurate/up-to-date, identifiable only as long as necessary



International standards (e.g. AV standards)



IP protections of source code; and use of training data (fair use principles). Legal copying of data to develop AI in the US might be deemed illegal in other jurisdictions



National security related issues

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Thank you!



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