Global Supply Chains, Productivity, and Inflation

RICHARD BALDWIN PROFESSOR OF INTERNATIONAL ECONOMICS THE GRADUATE INSTITUTE I GENEVA

NBER | NATIONAL BUREAU OF ECONOMIC RESEARCH

Working Papers

Risks and global supply chains: What we know and what we need to know

Richard Baldwin & Rebecca Freeman

SHARE 💟 间 🖸

DOI 10.3386/w29444

WORKING PAPER 29444

ISSUE DATE October 2021

1 March 2022, CompNet Podcast

=

Remarks in 2 parts:

#1. The new new globalisation (productivity & inflation) #2. GVCs risks



Arbitrage drives globalisation

"Three cascading constraints perspective"

Constrained by 3 costs

Trade costs (moving goods)

1UB: 1820-1990



Communication costs (moving information)

2UB: 1990-2016

Face-to-face costs (moving labour services)

3UB: 2016-???

"3 cascading constraints perspective" (3CC)

2UB: Global value chains opened a 'pipeline' for arbitrage of knowhow



High Tech + Low Wages Revolutionises World Manufacturing

3UB: Digital technology opened a 'pipeline' for labour arbitrage: "Telemigration"



FACTS "The future is already here—It's just not very evenly distributed" - William Gibson

Some services growing 2-3 times faster than trade

Digitech & service value chain unbundling

Global compound annual growth rate, 2007-17 % Service sectors Total goods 2.4 Total services 3.9 Telecom and IT 7.8 Business services 5.3 IP charges 5.2 Tourism² 3.7 Finance and 3.2 insurance Transport 1.7

Future of trade is services

- 1. Services barriers much higher than goods barriers
- Most service barriers are technological & digitech dropping them at an explosive pace (intermediate services)
- 3. EM capacity is not a limiting factor as in goods exports

ERGO

>Service trade will grow much faster than goods trade
>Think "Service Value Chains" as well as GVCs

Inflation & Productivity

- 1. G7 service prices are far above EM prices, so freer trade will lower relative price of services in G7 nations
 - Services are 40% of HICP
 - As cheaper goods suppressed inflation in 2000s, cheaper services will do same in 2020s
- Cheaper service inputs will boost G7 labour productivity but may lead to "Globotics Upheaval"
 - Service-sector automation too





About Global Supply Chains

Not one-size-fits all

Simple vs complex GSC

Simple

Sourcing simple inputs from abroad Complex Sourcing sophisticated inputs from abroad Or back-and-forth processing Reliance on foreign inputs

Mixed trends



IGSC risks

Not one-size-fits all

Richard Baldwin © 2022

Risks to GSCs

Sources

Supply shocks

Demand shocks

Transport shocks

Types <u>Idiosyncratic</u>: Earthquakes, strikes, etc

<u>Systemic</u>: C19, climate, US-CN geoeconomics

GSC recovery concepts

Robustness

Ability to continue during the shock Hard with complex GSCs

Resiliency

Ability to recover quickly after the shock

Are GSCs too risky?

Risk v Reward: Private trade-off



Public v Private Trade-off



Also possible: Misperceived risk



Reward (cost saving)

Are policies needed?

Three points

#1. Match policies & shocks **Demand shocks** Stockpiling, excess capacity Idiosyncratic supply shocks **Geo-diversify sources** International transport shocks **Re-shore sources** Systemic shocks

#2. No regrets policies

Supplier information is a public good

Stress test critical supply chains

#3. Macro circuitbreaker

Macro stabilisation & firm/worker support policies dampen snowball effects of disruptions & bankruptcy

Mismeasurement of foreign reliance

Where is a Detroit-made Ford made?

Domestic VA 1st level: Michigan Imported inputs 2nd level: Inputs to car "Leontief imports" 3rd level: Inputs to inputs

Foreign Input Reliance (FIR); foreign gross production (column nation) usage as share of domestic gross production (row nation)

	FIR - 2018						From											FIR – 1995 vs. 2018									
		USA	CAN	MEX	DEU	GBR	FRA	ITA	CHN	JPN	KOR	IND	ROW		USA		2	.4	0	0	1	1	2.6	-1.3	.1	.3	.4
ō	USA		1.7	1.1	.7	.6	.3	.3	3	.7	.5	.5	5.1		CAN	-4.7		.6	.2	5	1	1	4.5	-1.1	.2	.4	.4
	CAN	16		1.3	1.2	.7	.6	.5	5.1	1	.7	.6	7.7		MEX	1.8	.6		.8	0	.1	.4	8.8	2	1.2	.5	5.2
	MEX	18	1.2		1.6	.3	.5	.7	9	1.6	1.8	.5	8.5		DEU	1.3	0	.1		.2	.4	.4	3	2	.3	.4	11
	DEU	2.9	.3	.2		1.6	2.3	1.9	3.3	.8	.5	.5	21		GBR	.7	.3	0	2		4	3	2	6	.1	.5	3.6
	GBR	3.8	.7	.1	2.9		2	1	2.3	.7	.4	.6	14		FRA	.7	.1	.1	.7	.2		0	3	3	.2	.4	6.7
	FRA	2.9	.4	.1	4.3	2.2		2.2	3.3	.7	.4	.5	17		ITA	.3	1	.1	.5	4	6		2.6	3	.2	.5	7
	ITA	2	.2	.1	4.5	1.2	2.7		3	.5	.4	.6	20		CHN	9	0	.1	1	1	0	3		-3.8	.3	.3	2.4
	CHN	2.3	.4	.2	1.2	.4	.5	.3		2	2.5	.4	15		JPN	1.4	.4	.2	.6	.2	.2	.1	5.2		.9	.3	7.8
	JPN	3.5	.7	.2	1.1	.5	.4	.3	5.8		1.4	.4	13		KOR	.5	0	.3	.7	.1	.2	.1	10	-2.8		.3	6.7
	KOR	5.5	.7	.4	1.8	.9	.8	.6	12	4.2		1	23		IND	1.1	0	.2	1	2	0	1	4.2	2	.8		9.6
	IND	2.4	.3	.3	.9	.5	.4	.4	4.5	.9	1.1		18			USA	CAN	MEX	DEU	GBR	FRA	ITA	CHN	JPN	KOR	IND	ROW

Richard Baldwin © 2022

END

Thanks for listening

US auto reliance on Chinese inputs **Foreign Input**

Reliance

Hidden Exposure

