Global supply chains post-COVID-19

Prioritisation for future supply chains stability, security, sustainability and resilience

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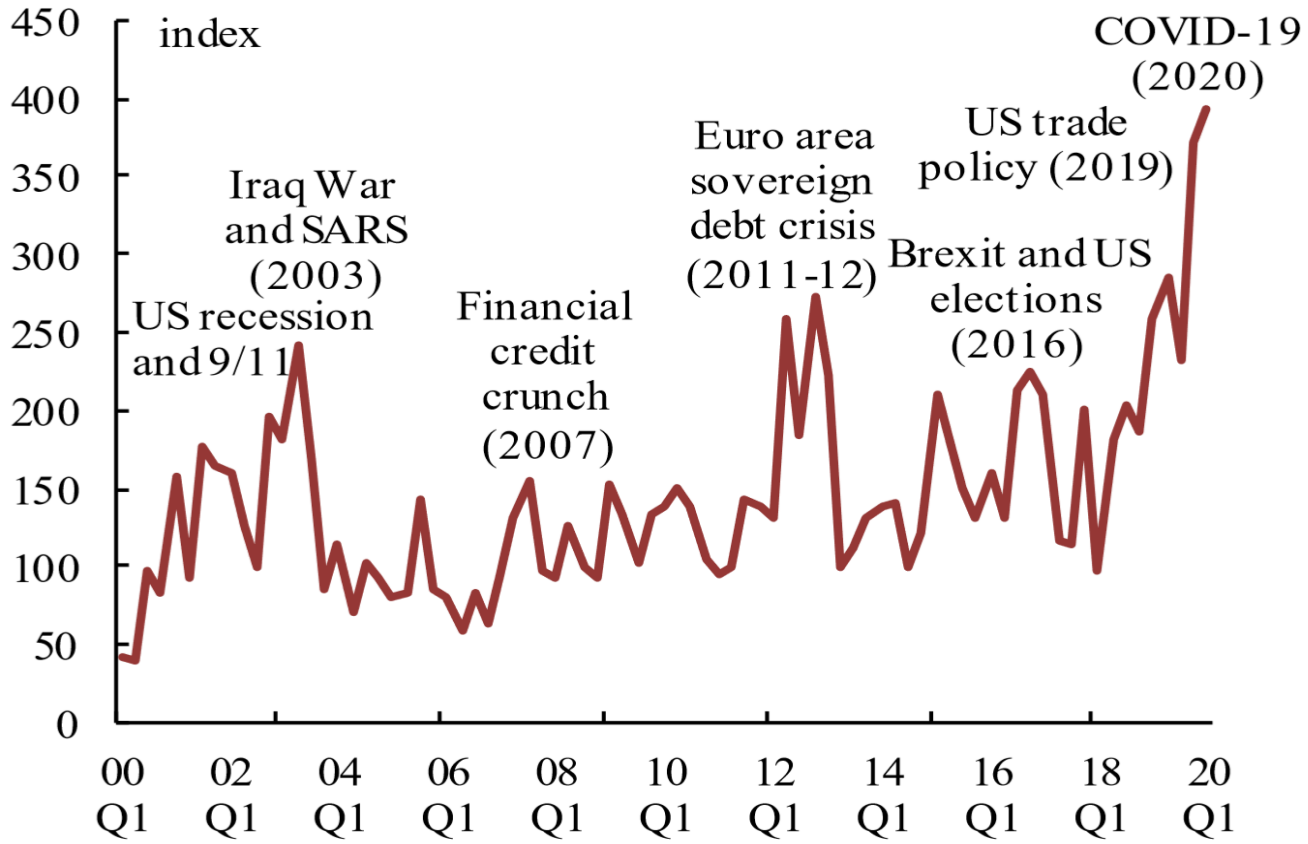
Graph I.1.13: **World Uncertainty Index**



Source: Ahir, H., N. Bloom, and D. Furceri (2018), "World Uncertainty Index", Stanford mimeo (data download in April 2020)

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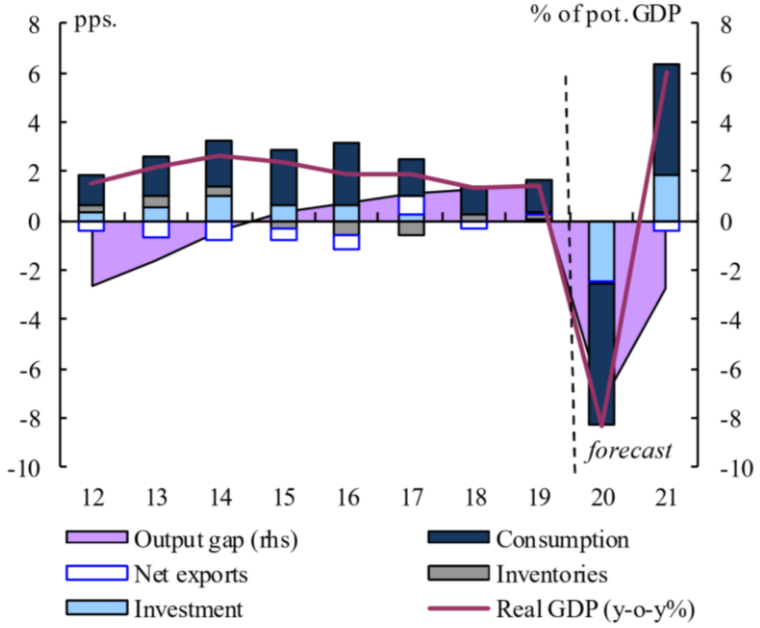
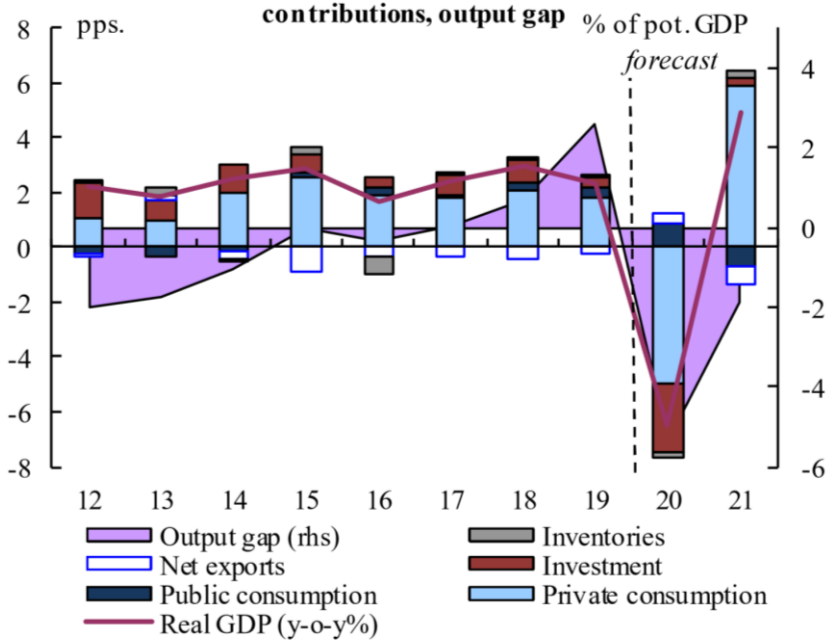
Graph II.33.1: **The United Kingdom - Real GDP growth and contributions, output gap**



Graph II.34.1: **US - Real GDP growth and contributions, output gap**



Graph II.36.1: **China - Real GDP growth and contributions**

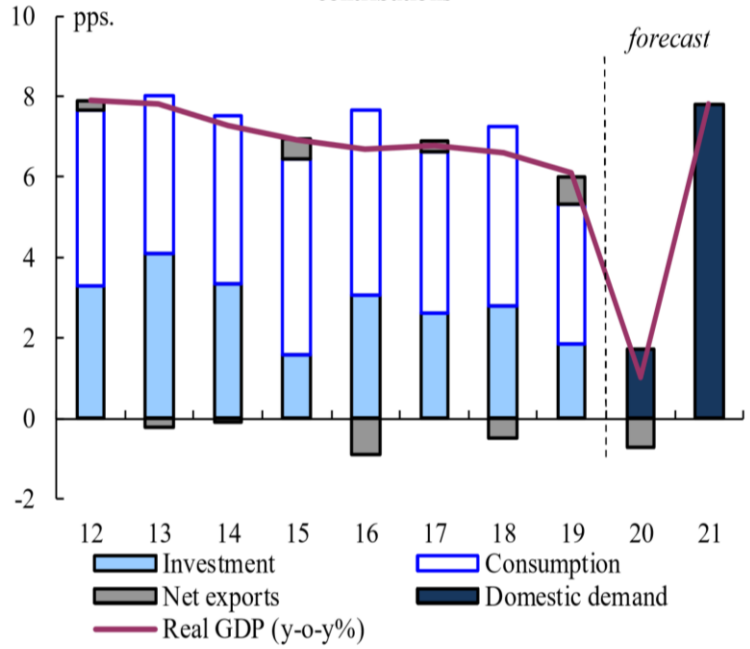


Table I.2.1:

International environment

(Annual percentage change)

					Spring 2020 forecast			*Autumn 2019 forecast*		
	(a)	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	***2019***	***2020***	***2021***
					Real GDP growth					
Japan	4.1	0.5	2.2	0.3	**0.7**	**-5.0**	**2.7**	*0.9*	*0.4*	*0.6*
United Kingdom	2.2	1.9	1.9	1.3	**1.4**	**-8.3**	**6.0**	*1.3*	*1.4*	*1.4*
United States	15.2	1.6	2.4	2.9	**2.3**	**-6.5**	**4.9**	*2.3*	*1.8*	*1.6*
Emerging and developing Asia	34.1	6.9	6.5	6.4	**5.6**	**0.6**	**7.2**	*5.7*	*5.6*	*5.5*
- China	18.7	6.8	7.0	6.7	**6.1**	**1.0**	**7.8**	*6.1*	*5.8*	*5.6*
- India	7.7	9.0	6.6	6.8	**5.3**	**1.1**	**6.7**	*5.6*	*6.1*	*6.3*
Latin America	7.5	-0.9	1.1	0.9	**-0.1**	**-5.6**	**2.4**	*-0.1*	*1.1*	*1.7*
- Brazil	2.5	-3.3	1.3	1.3	**1.1**	**-5.2**	**1.9**	*0.8*	*1.5*	*1.8*
MENA	6.5	4.6	1.9	1.0	**0.2**	**-3.8**	**2.0**	*1.0*	*1.8*	*1.9*
CIS	4.4	0.7	2.2	2.7	**2.1**	**-4.0**	**2.3**	*1.7*	*2.1*	*2.1*
- Russia	3.1	0.3	1.6	2.3	**1.3**	**-5.0**	**1.6**	*1.0*	*1.4*	*1.5*
Sub-Saharan Africa	3.2	1.1	2.6	2.6	**2.4**	**-4.1**	**2.1**	*2.7*	*2.8*	*2.8*
Candidate Countries	1.9	3.2	7.0	2.9	**1.1**	**-5.3**	**4.5**	*0.6*	*3.1*	*3.5*
World excluding EU	86.0	3.5	3.9	3.7	**3.0**	**-2.9**	**5.0**	*3.1*	*3.3*	*3.4*
					Trade of goods and services, volumes					
World excluding EU, import		1.3	6.0	4.1	**0.1**	**-10.3**	**6.7**	*0.5*	*2.1*	*2.5*
EU export market growth (b)		3.3	5.4	3.3	**2.2**	**-11.5**	**8.4**	*2.3*	*2.6*	*2.7*

(a) Relative weights in %, based on GDP (at constant prices and PPS) in 2018.(b) Imports of goods and services to the various markets (incl. EU-markets) weighted according to their share in country's exports of goods and services.

Tracking observations

- The US economy is expected to contract by 6½% in 2020 and then rebound by almost 5% in 2021
- The Chinese economy is expected to grow by about 1% in 2020 and to pick up by around 8% in 2021. Supply chain disruptions as well as significantly lower demand from the rest of the world due to the COVID-19 outbreak are projected to reduce China's exports massively, by more than 10% this year.
- The UK economy is expected to grow by about 6% in 2021, with a sharp drop at -8.3% in 2020.
- EU GDP is forecast to contract by about 7½% this year, far deeper than during the Global Financial crisis in 2009, and to rebound by only 6% in 2021. This suggests an only gradual ('U-shaped') recovery.
- Next year, non-EU world imports are set to increase by about 6¾%, a pace closer to global economic activity. A stronger rebound is unlikely, as trade policy uncertainty is assumed to remain unabated and the pandemic crisis is expected to trigger some permanent damage to global value chains.

Recovery

A bilateral resources deal between countries enable both to strengthen each other supply chains.

It is not just supply chains that compete, but also the strengths of their resources capital and resources sustainability.

The shortages as a result of increased demand from COVID-19 are ‘temporal outcome’ of resource scarcity due to:

- Fragmentation of resource capital
- Inefficient resources management
- Non-resilient supply chain resources sustainability (i.e. lack of such resources deal)

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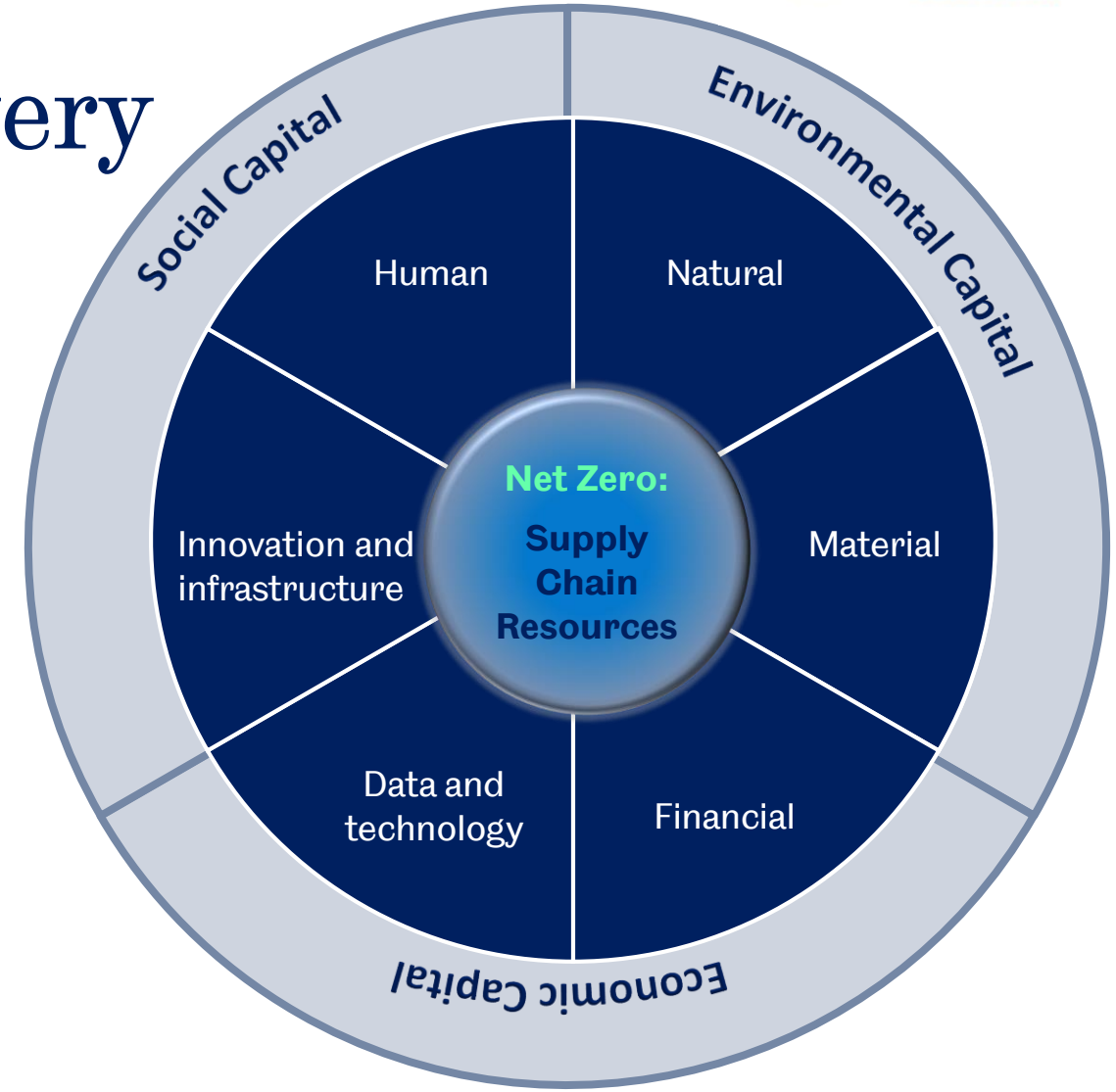
Green Recovery

The ability of a country to bounce back quickly from COVID-19 would depend on the supply chain resources efficiency



By capturing and quantifying these streams of capital for critical cycles of inputs and outputs, we can measure and manage supply chain resources sustainability more efficiently.

Global industrial and supply chain evolutions

Global industrial and supply chain evolutions

Trade - Global supply chains, regional supply chains, national supply chains

Structure - Upstream, midstream, downstream

- Industrial chains (upstream, midstream, downstream)
- Manufacturing supply chains (upstream and midstream)
- Service supply chains (downstream)

Supply chain resources

- Content, value, reliability, dependability

Materials and manufacturing

Energy

Food

Digital

Telecom

Transport

Health-pharma-medical

UK is a net importer

UK imported **US$689.6 billion** worth of goods from around the globe in 2019. That metric reflects a 9.4% increase since 2015 and a 3% uptick from 2018 to 2019.

UK has a net export deficit of US$220.4 billion in 2019

UK exported **US$469.2 billion** worth of goods around the globe in 2019. That dollar amount reflects a 0.6% increase since 2015 but a -3.7% decline from one year earlier in 2018.

UK Top-10 imports by value in 2019

	Type of Import	US $ Billion	Total of Imports %
1	Gems, precious metals	88.3	12.8
2	Machinery including computers	84.7	12.3
3	Vehicles	73.5	10.7
4	Electrical machinery, equipment	63.9	9.3
5	Mineral fuels including oil	56.2	8.1
6	Pharmaceuticals	28	4.1
7	Optical, technical, medical apparatus	19.1	2.8
8	Plastics, plastic articles	18.8	2.7
9	Furniture, bedding, lighting, signs, prefab buildings	11.9	1.7
10	Knit or crochet clothing, accessories	11.7	1.7

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UK Top-10 Exports by value in 2019

	Type of Export	US $ Billion	Total of Exports %
1	Machinery including computers	73.3	15.6
2	Vehicles	50.7	10.8
3	Gems, precious metals	42.4	9.0
4	Mineral fuels including oil	41.4	8.8
5	Electrical machinery, equipment	28.5	6.1
6	Pharmaceuticals	27	5.8
7	Optical, technical, medical apparatus	19.9	4.3
8	Aircraft, spacecraft	18.3	3.9
9	Organic chemicals	12.7	2.7
10	Collector items, art, antiques	12.3	2.6

UK Top-15 trading partners by value in 2019

	Trading Partner	US $ Billion	Total of Imports %
1	United States	72.6	15.5
2	Germany	46.6	9.9
3	France	31.2	6.7
4	Netherlands	30.3	6.5
5	China	30	6.4
6	Ireland	27.9	5.9
7	Belgium	16.8	3.6
8	Switzerland	15.5	3.3
9	Spain	13.7	2.9
10	Italy	12.8	2.7
11	Hong Kong	11.2	2.4
12	United Arab Emirates	9.9	2.1
13	Japan	8.3	1.8
14	Singapore	6.8	1.5
15	Poland	6.8	1.5

- Anglo American (diversified metals, mining)
- Associated British Foods (food processing)
- AstraZeneca (pharmaceuticals)
- BP (oil, gas)
- British American Tobacco (tobacco)
- Diageo (beverages)
- GlaxoSmithKline (pharmaceuticals)
- Imperial Tobacco Group (tobacco)
- Rio Tinto (diversified metals, mining)
- Rolls-Royce Holdings (aerospace & defense)
- SABMiller (beverages)

Post COVID-19 global supply chain collaboration-expansion

Key that all policy makers and industries globally must collaborate to see the role of resource efficiency and supply chain resource sustainability embedded in everything.

A world where decisions are made with the above in mind, improving supply chain resource forecasting, utilisation, and conflict resolution decisions, and contributes toward translating macro-level sustainability targets into specific production and operations objectives.

More of these type of new supply chains will emerge from post COVID-19 with win-win-win (economic, environmental and social) characteristics.

Future structure of the supply chain

COVID-19 instigated many changes within the supply chain, industry had to adapt and restructure.

Pre COVID-19: Priorities were focused on economics and less on the environmental and social aspects. The trend was for industry to offshore and move manufacturing abroad.

Post COVID-19: Governments prioritise supply chain stability, security, sustainability and resilience. All economics, environmental and social aspects increasingly essential.

Multilaterism	Global	Stability, security, sustainability and resilience	Eco (H), env (H), soc (H)
Regionalism	Regional	Security, sustainability and resilience	Eco (M), env (M), soc (M)
Unilaterism	National	Security, sustainability and resilience	Eco (L), env (H), soc (H)