Unequal Exchange and North-South Relations: Evidence from Global Trade Flows and the World Balance of Payment, 1800-2025

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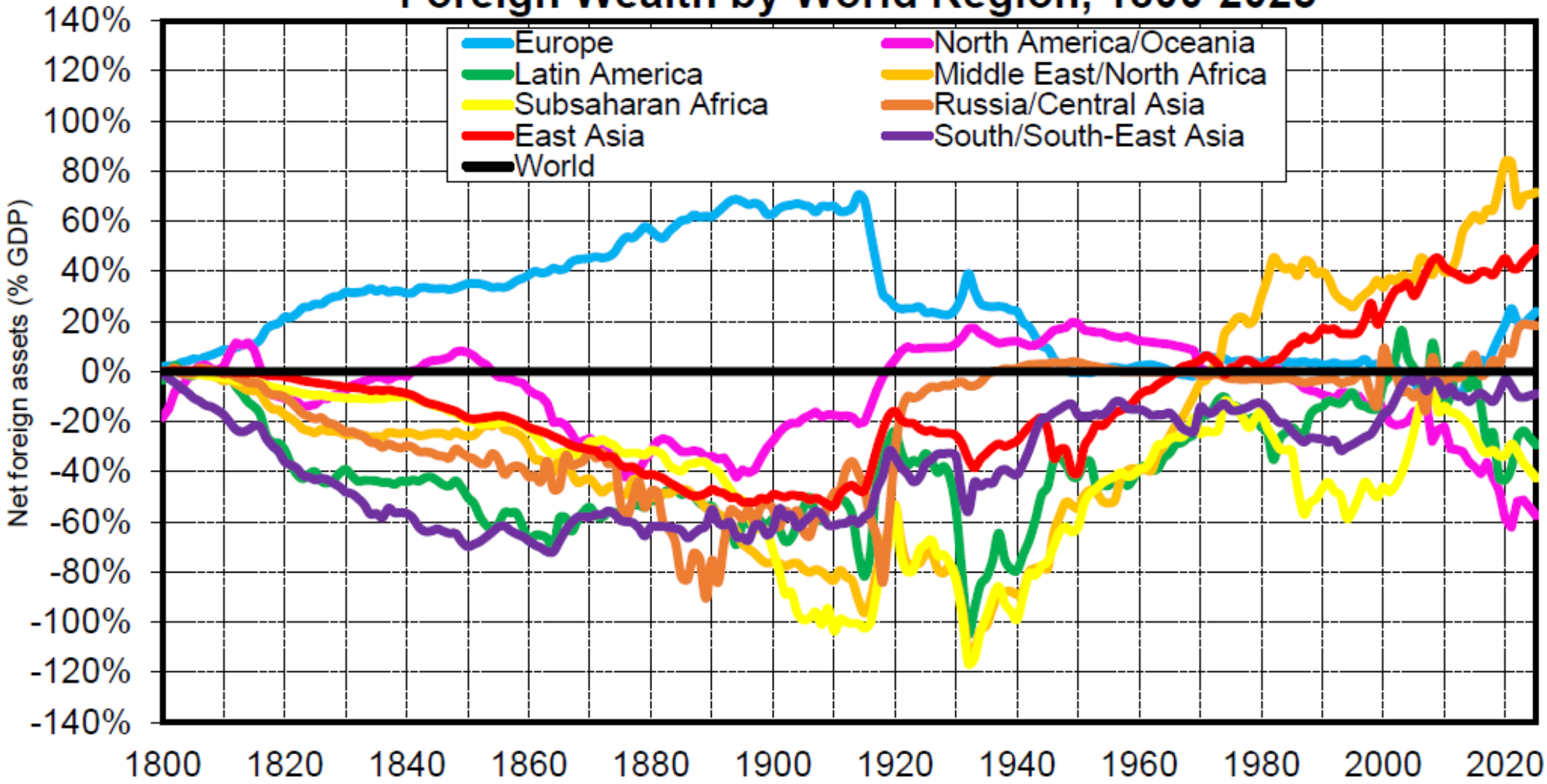
What We Do in this Research

We build a new database on global trade flows and the world balance of payment (including goods, services, income and transfers) covering 57 core territories (48 main countries + 9 residual regions) over the 1800-2025 period
Publicly available at wbop.world

This allows us to construct consistent global series on world trade imbalances, current account surplus/deficit and net foreign wealth over more than two centuries

Foreign Wealth by World Region, 1800-2025



Interpretation. Between 1800 & 1914, Europe owns a rising fraction of the rest of the world. In 1914, Europe's foreign wealth (i.e. net foreign assets held by European residents in the rest of the world) reach about 70% of Europe's GDP. These foreign assets vanish between 1914 and 1950. They are partly replaced by foreign assets owned by the US between 1920 and 1970 and by oil countries (particularly in the Middle East) and East Asia since the 1970s-1980s. **Sources and series**: wid.world

Main objective: we want to compare current imbalances (2025) with previous global imbalances (in particular 1914)

Differences: larger imbalance in 1914 (as % world GDP), key role of colonial transfers & low commodity prices (forced labour etc.) in order to build foreign wealth (**Europe never in trade surplus 1800-1914!**)

Similarities: in both cases, **low commodity prices play critical role for wealth accumulation** by manufacturing power (Europe or East Asia)

→ **Small changes in bargaining power & terms of exchange can completely reverse relative wealth position of North vs South**

Q.: Are global economic relations characterized by **self-correcting market mechanisms** or by **persistent imbalances & power relations**?

A.: **Persistent imbalances and power relations have always played a critical role over 1800-2025 period**, & self-correction can end badly

→ International economic relations can be mutually beneficial, but in order to reach their full potential we need collective rules & a more inclusive trade and monetary system
(≈ Keynes ICU 1943) (International Clearing Union: exchange rates closer to parity and/or common currency (Bancor or higher IMF SDRs), centralized credits/debits, common borrowing rate, corrective tax on excessive current account surpluses, etc.)

Outline of the talk

(1) **Sources/methods** & contribution to the literature

(2) **Magnitude & composition** of global trade & BoP flows 1800-2025

(3) **Global pattern of current account surpluses/deficits and foreign wealth accumulation** across world regions 1800-2025

(4) **Decomposing global imbalances** 1800-2025: primary commodit., manufactured goods, services, income flows, transfers

(5) **Counterfactual simulations** on foreign wealth accumulation under alternative trade & monetary regimes 1800-2025

Sources/methods and contribution to the literature

(1) We start from official IMF BoP series 1970-2023:

Current account surplus/deficit CA_{it}

= Net trade in **goods** + Net trade in **services** + Net **income** inflows + Net **transfer** inflows

(2) We use historical trade data (goods only) 1800-2023 to complete IMF

WTO/UNComTrade and **Frederico-Tena 2016** (Historical Trade Database, 1800-1938)

Conte-Cotterlaz-Mayer 2023 (Gravity, 1948-2021)

Fouquin-Hugot 2017 (TradeHist, 1827-2014)

Deninger-Girard 2017 (RICardo, 1800-1938)

(3) We estimate missing items 1800-1990 ("**invisible flows**") from:

LoN 1920-1938: first official BoP (BIS) **IMF** official BoP **1950-1990** (incomplete)

Country studies for historical BoP in large economies:

Imlah 1952, 1958 UK 1800-1950, **North 1960** US 1800-1955, **Levy-Leboyer 1977** FR 1827-1914, **Nogues-Marco 2021** IN 1800-1950, **Smits et al 2000** NL 1800-1998, **Van der Eng 1998** ID 1800-1950, **Francos 1987** BR 1876-1970, **Ferreres 2010** AR 1901-1970, **Gregory 1979** RU 1881-1914, **Yan-Xin 2023** CN 1800-1950, etc.

For other countries-years we make assumptions about missing BoP items on the basis of similar countries & in order to insure **global consistency** (net zero for each item: services, income, transfers)

Consistency check: by cumulating current account surpluses/deficits ($NFA_{it+1}=NFA_{it}+CA_{it}$), we are able to approximately match **stock-based estimates of net foreign assets in 1880-1914** (using financial data on foreign portfolio & major assets: railways, canals, banks, public debt, etc.)(**Giffen 1889, Foville 1893, Colson 1903, Hobson 1902, Hilferding 1910, Lenin 1916,** Twomey 2000) & net foreign assets in 1970-2023 (IMF, WID, Lane-Milesi-Ferretti 2018, Nievas-Sodano 2024)

Our series are not frozen in stone: they will be updated as new country studies on historical BoP become available

Unequal exchange literature

Our work is also close in spirit to the classic works by **Prebisch 1950, Frank 1967, Emmanuel 1972, Amin 1978 and Cardoso and Faletto 1979**.

Also related to more recent work by **Cahen-Fourot et al 2024, Hickel et al 2021, 2022, 2024 and Magalhaes et al 2019**.

Our conclusions are broadly consistent with these.
Our **contribution** is to offer a long-run, quantitative global perspective on trade and financial flows, which leads us to stress the transformation but also the persistence of unequal exchange over the past two centuries.

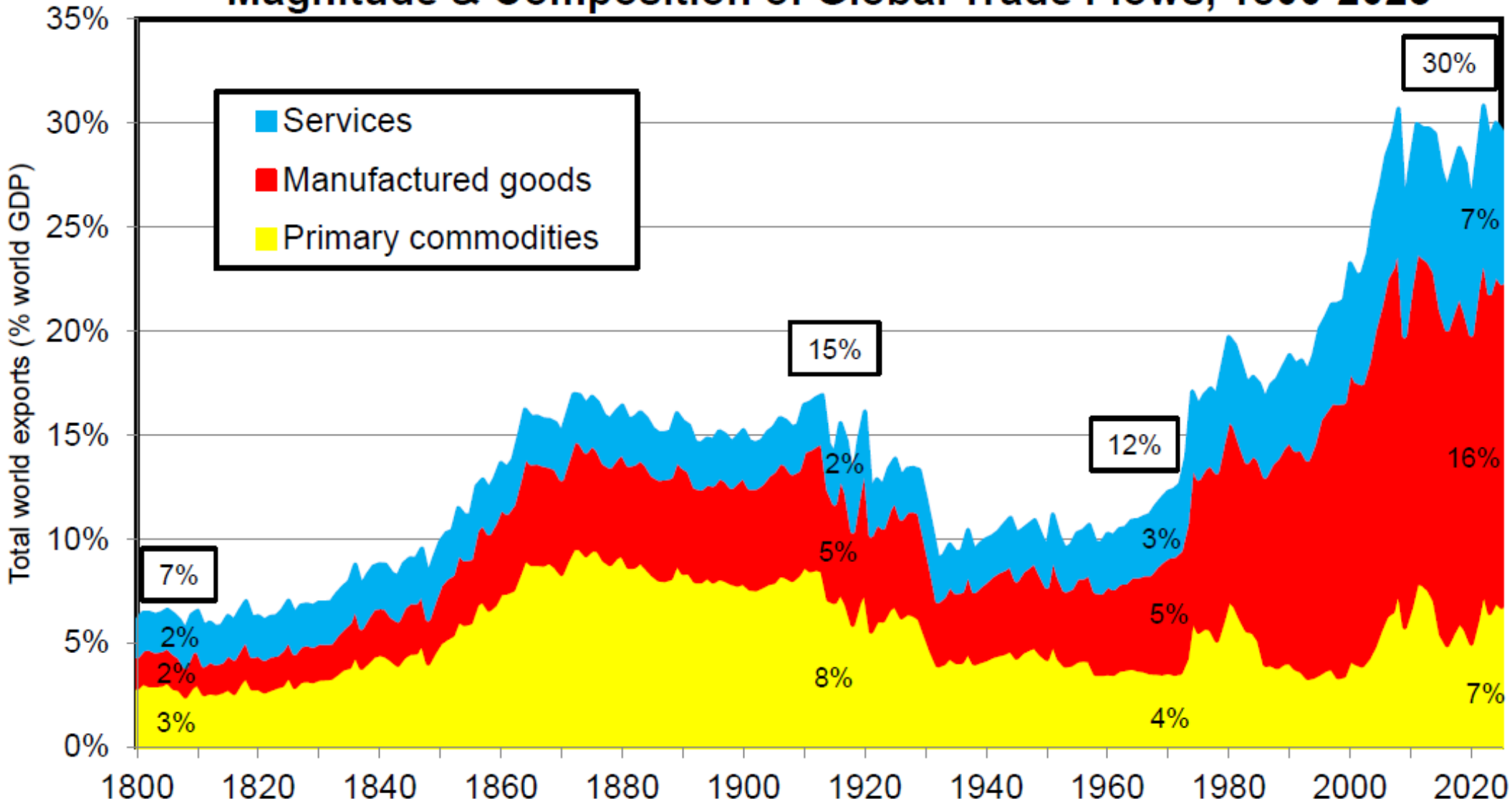
Magnitude & composition of global trade and BoP flows 1800-2025

The **U-shaped pattern of global trade**:
1800-1914 ↑, 1914-1970↓, 1970-2025↑

The **changing composition** of global trade: **primary commodities**, **manufactured goods**, **services**

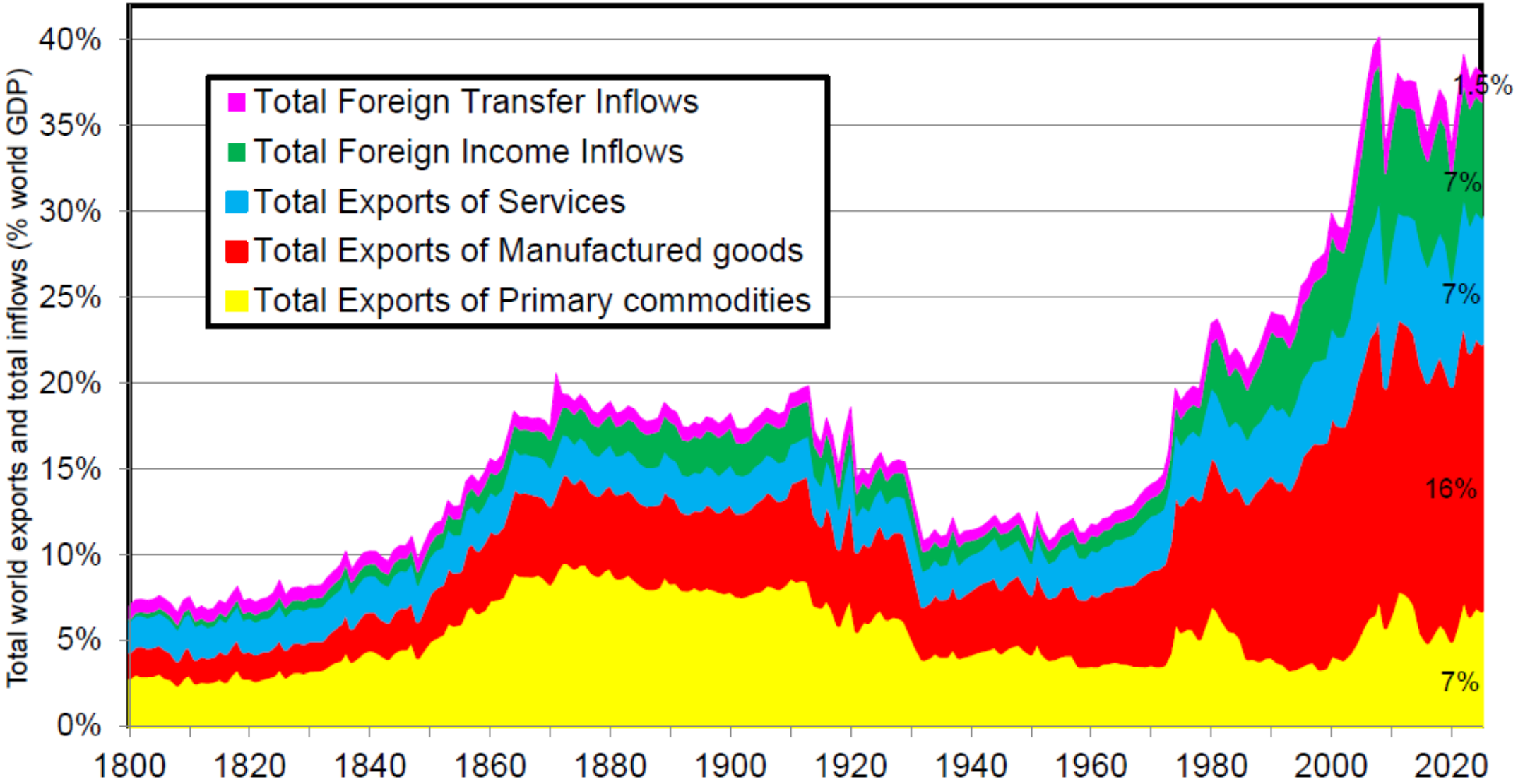
The changing magnitude and composition of **foreign income flows** and **foreign transfer flows**

Magnitude & Composition of Global Trade Flows, 1800-2025



Interpretation. Total world exports have risen from about 7% of world GDP in 1800 to about 15% in 1914, 12% in 1970 and 30% in 2025, with a collapse in the 1930s, a steep rise in the 1970s (oil price shock) and a plateau since the 2008 financial crisis. Primary commodities include agricultural products, fuels and mining products (SITC 0-4 + 68). Manufactured goods include all other goods. Services include transport/freight (about 1.5% of world GDP in 2025, vs 1% in 1970), travel/tourism (about 1.5% in 2025, vs 1% in 1970) and other services (insurance, banking, consulting, digital, etc) (about 4% in 2025, vs 1% in 1970). **Sources and series**: wid.world

The World Balance of Payment: Trade, Income & Transfer Flows



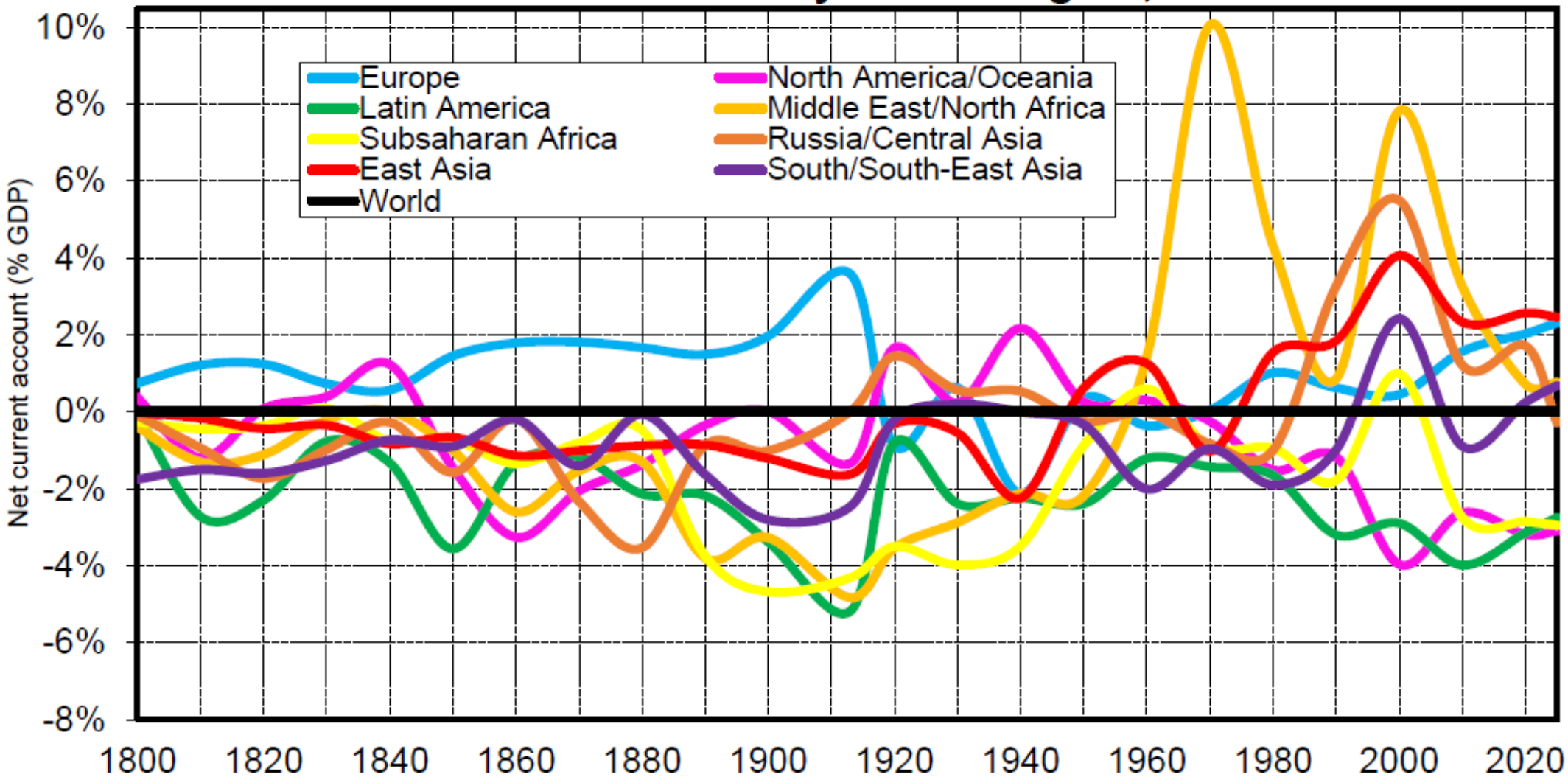
Interpretation. Gross flows of foreign income (in practice mostly capital income) and foreign transfers (private and public) have always been smaller in magnitude than gross trade flows, but they have increased over time. Income flows now make about 7% of world GDP (vs 0.1% in 1800, 2% in 1914 & 1% in 1970), reflecting an enormous rise in gross foreign assets and liabilities (cross-border ownership). Transfer flows now make about 1.5% of world GDP (mostly private remittances going from North to South, and to a lesser extent public aid), vs 0.5-1% in 1800-1914 (mostly public colonial transfers from South to North) and in 1970 (mostly private remittances). **Sources and series**: wid.world

Global pattern of current account surpluses/deficits and foreign wealth accumulation across world regions 1800-2025

In 1800-1914 Europe accumulates large current account surpluses and foreign wealth holdings in the rest of the world

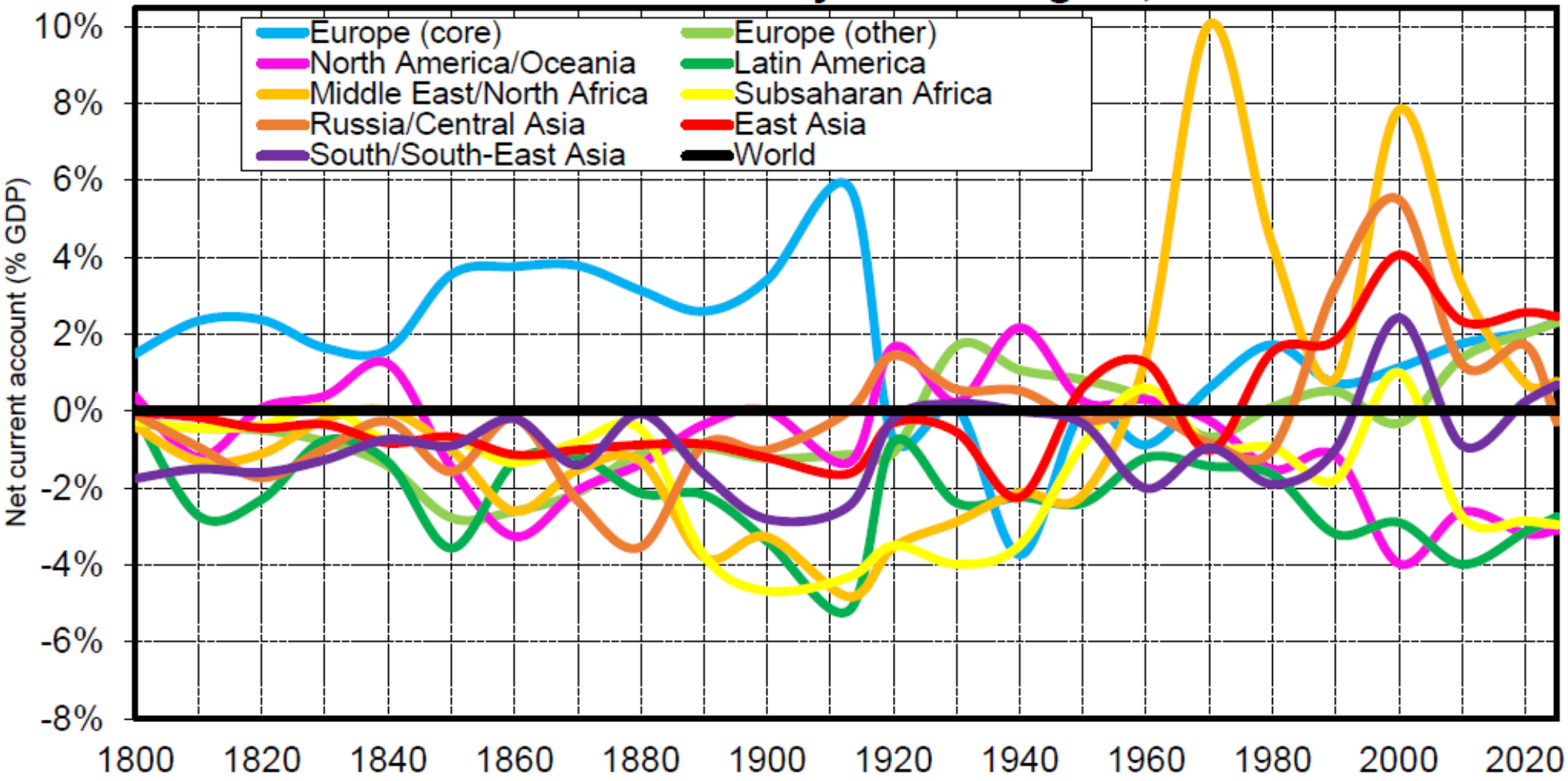
Like East Asia (and oil countries) **in 1970-2025**, but with a much larger magnitude relative to world GDP, and a very diversified world portolio in 1914

Net Current Account by World Region, 1800-2025



Interpretation. Between 1800 & 1914, Europe has a permanent current account surplus (close to 2% of its GDP on average, and rising over time) while the rest of the world has a permanent deficit. Since the 1970s-1980s, the main surpluses come from oil countries (Middle East, Russia) and East Asia. **Note**. The values reported here are decennial averages: 1800 refers to 1800-1809, 1810 to 1810-1819, etc. **Sources and series**: see wid.world

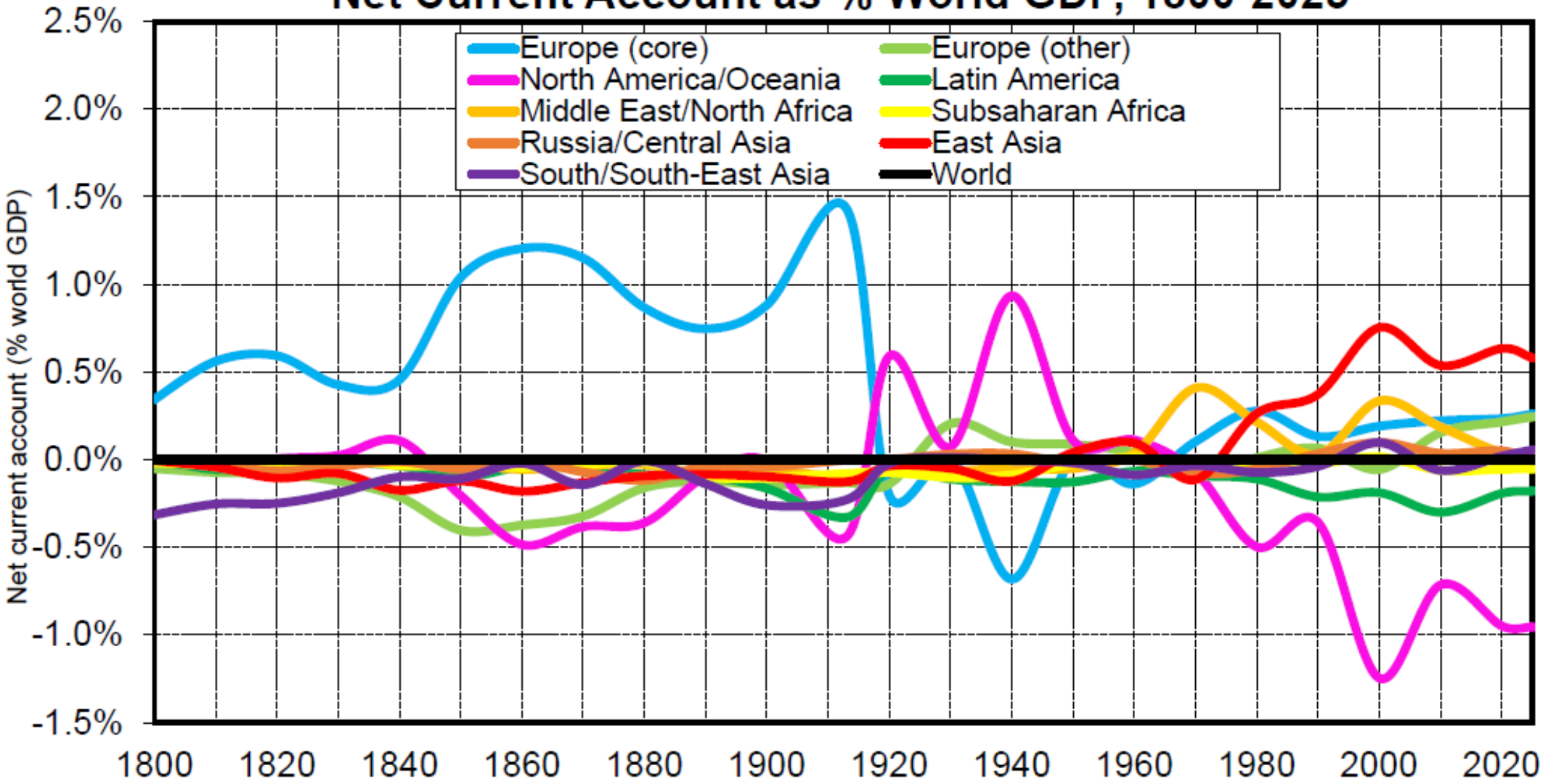
Net Current Account by World Region, 1800-2025



Interpretation. If we concentrate on core European colonial powers (Britain, France, Germany, Netherlands), then the current account surplus looks even larger between 1800 and 1914 (as large as 3-4% of GDP, or even 6% at the eve of World War 1).

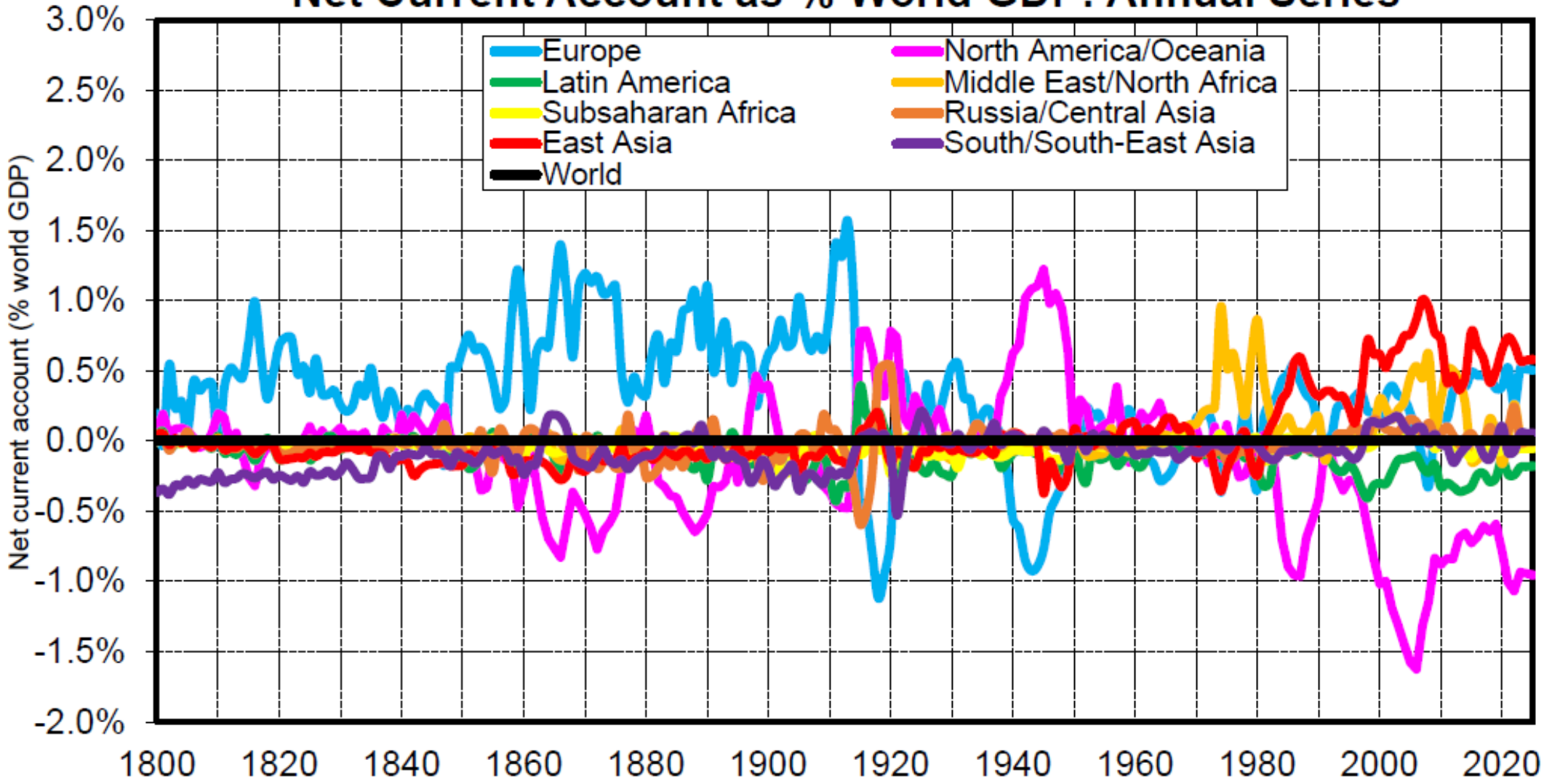
Note. The values reported here are decennial averages: 1800 refers to 1800-1809, 1810 to 1810-1819, etc. **Sources and series**: see wid.world

Net Current Account as % World GDP, 1800-2025



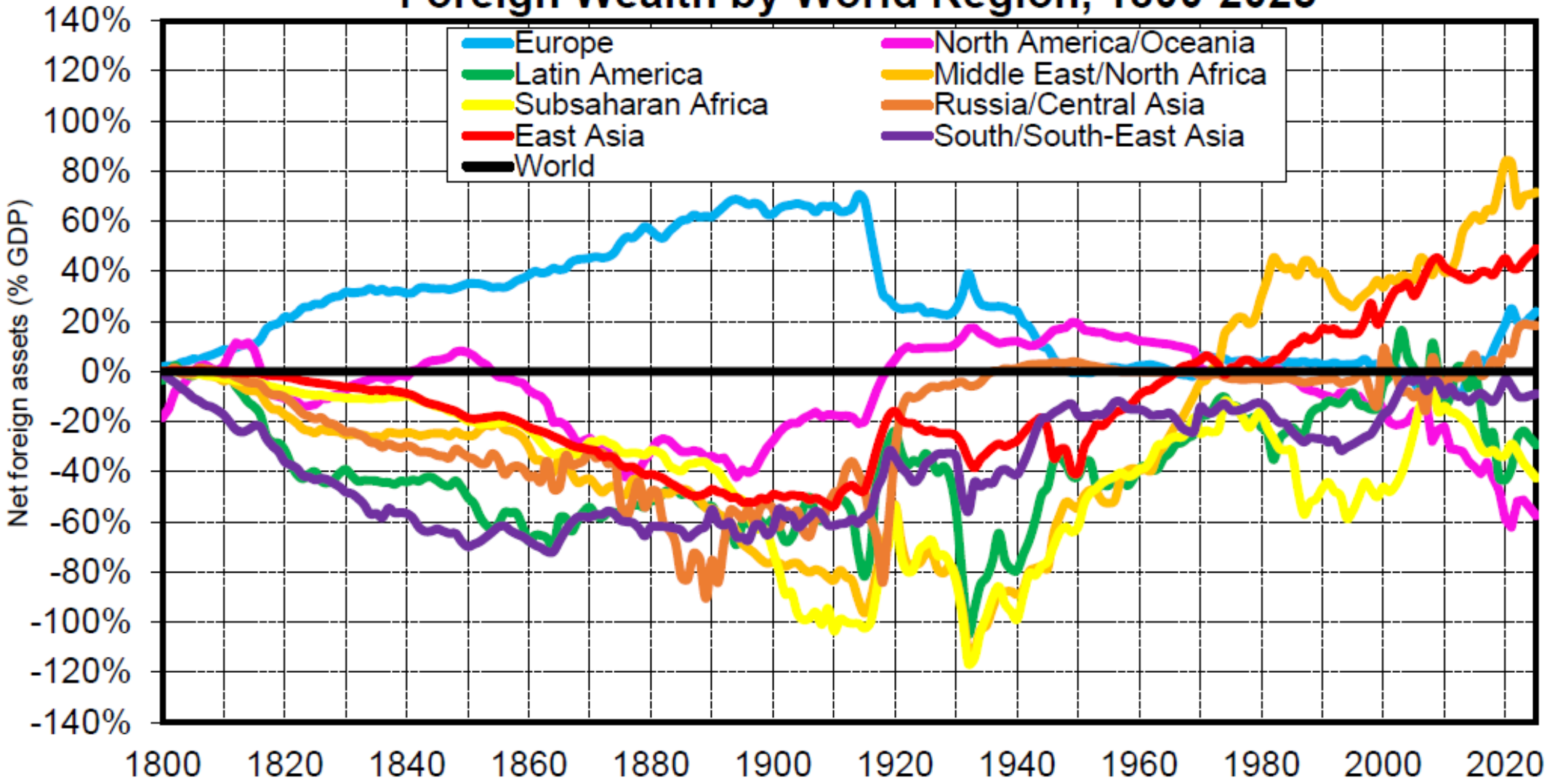
Interpretation. If we concentrate on core European colonial powers (Britain, France, Germany, Netherlands), we find that Europe's current account surplus between 1800 and 1914 looks even larger as compared to the surplus of East Asia and Middle East since the 1970s-1980s.
Note. The values reported here are decennial averages: 1800 refers to 1800-1809, 1810 to 1810-1819, etc. **Sources and series**: see wid.world

Net Current Account as % World GDP: Annual Series



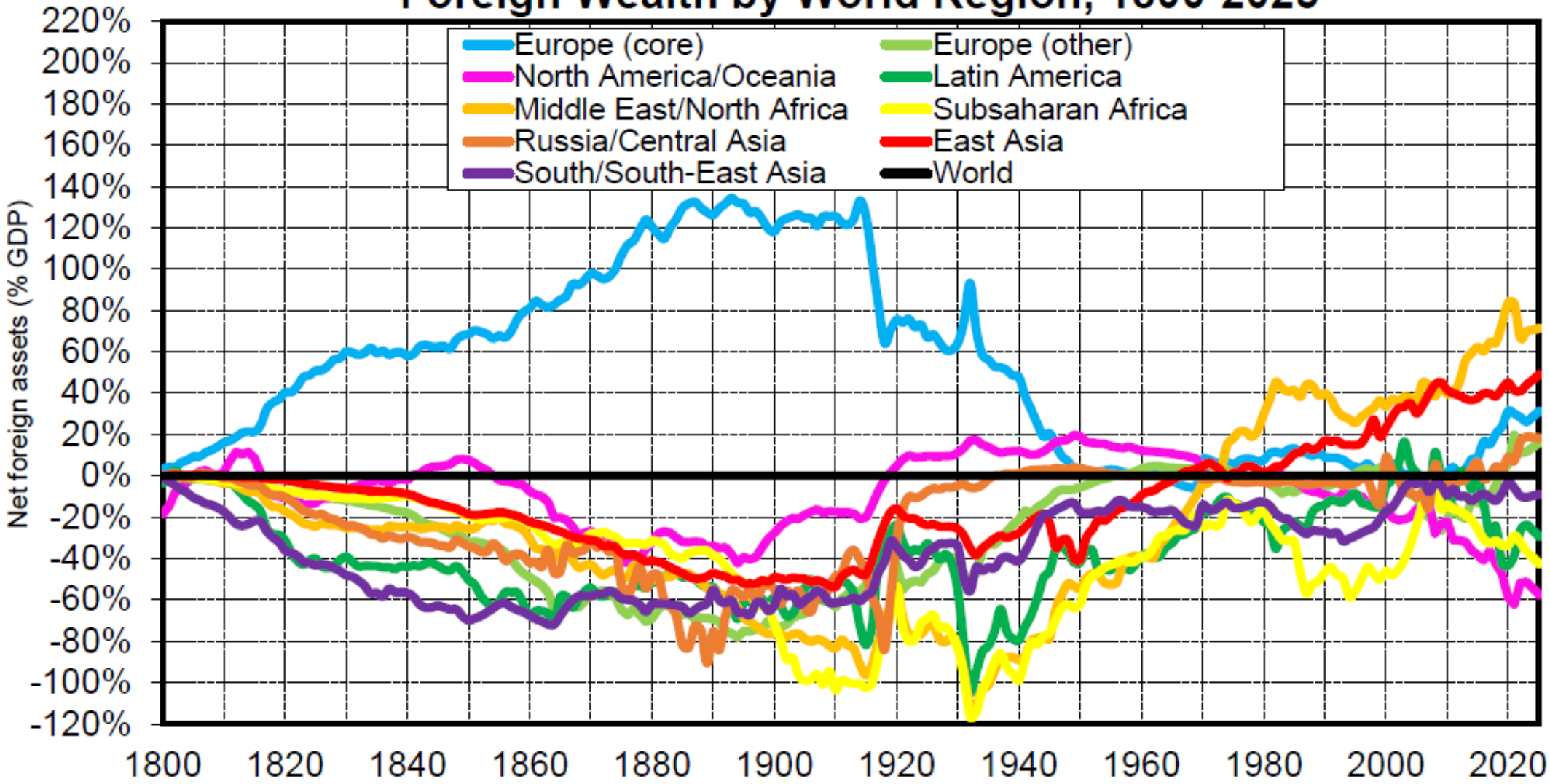
Interpretation. Annual series on current account surpluses and deficits are very bumpy, due to a large numbers of shocks (world wars, oil shocks, etc.), but they also show clear patterns: permanent European surplus between 1800 & 1914, large European deficits during wars (and US surpluses), large MENA and East Asia surpluses (and US deficits) since the 1970s-1980s. **Sources and series**: see wid.world

Foreign Wealth by World Region, 1800-2025



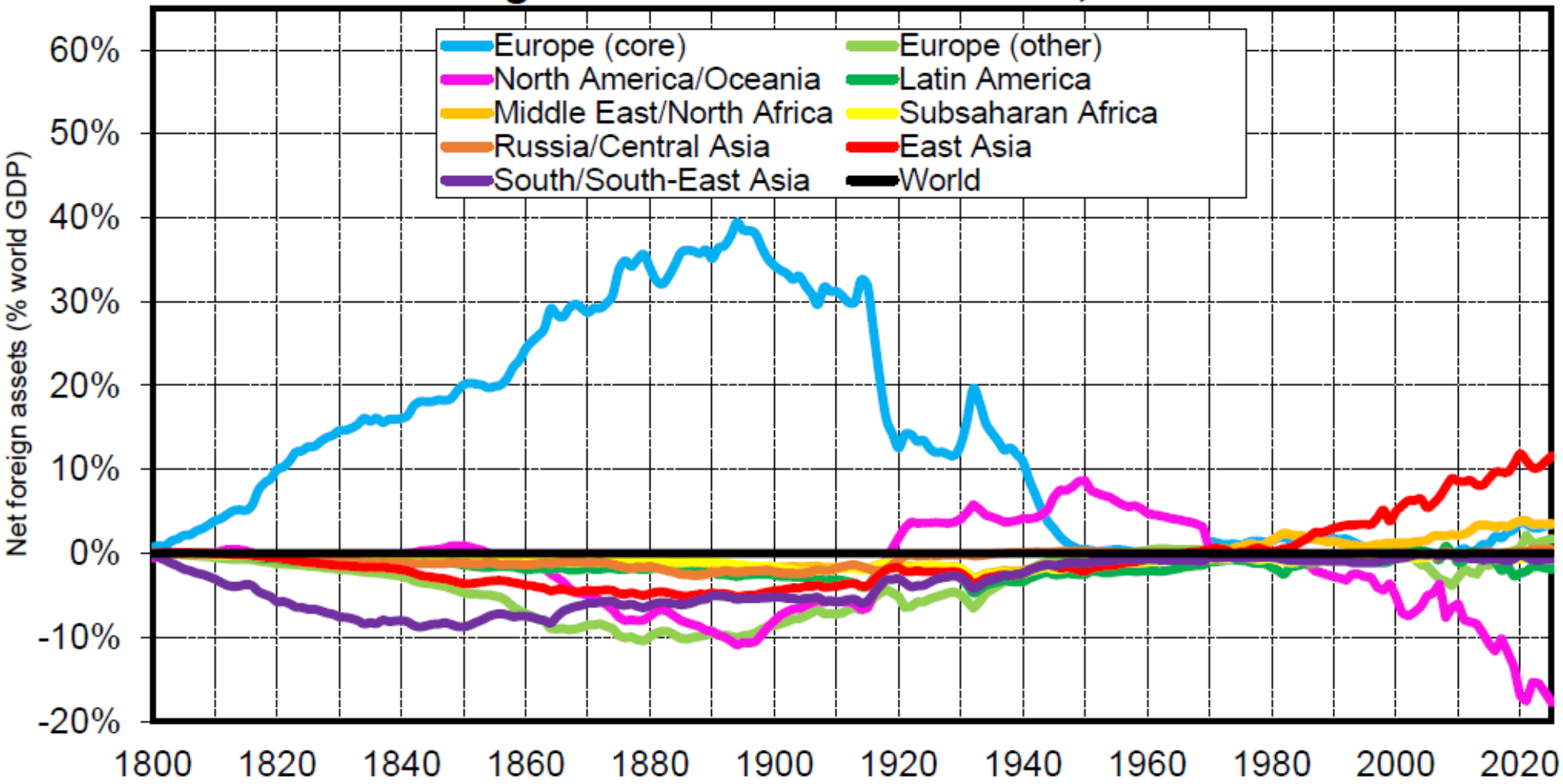
Interpretation. Between 1800 & 1914, Europe owns a rising fraction of the rest of the world. In 1914, Europe's foreign wealth (i.e. net foreign assets held by European residents in the rest of the world) reach about 70% of Europe's GDP. These foreign assets vanish between 1914 and 1950. They are partly replaced by foreign assets owned by the US between 1920 and 1970 and by oil countries (particularly in the Middle East) and East Asia since the 1970s-1980s. **Sources and series**: wid.world

Foreign Wealth by World Region, 1800-2025



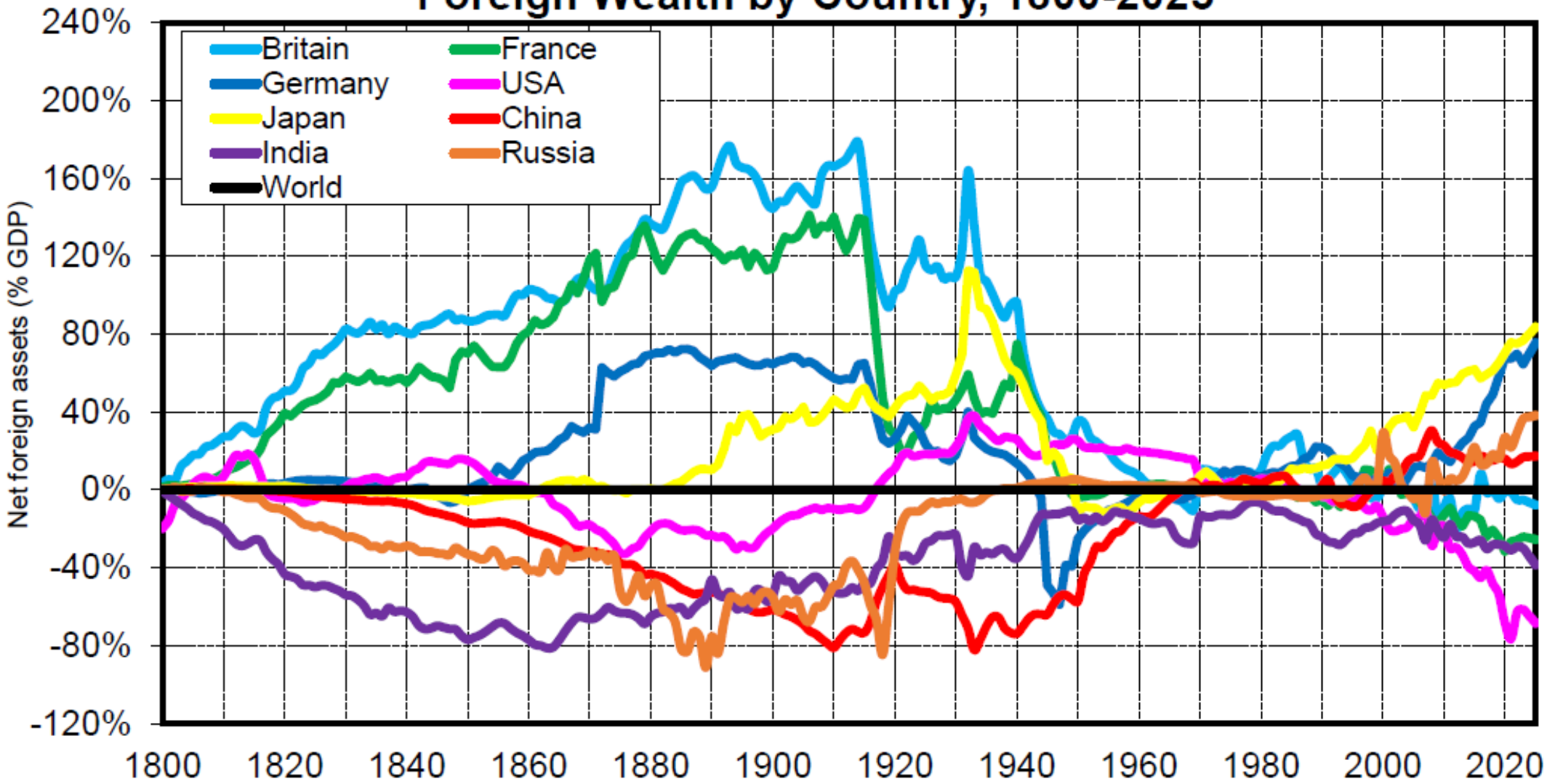
Interpretation. If we look at core European colonial powers (Britain, France, Germany, Netherlands, making 68% of Europe's GDP in 1914), we find that their net foreign assets reach over 130% of their GDP in 1914. In contrast other European countries have large negative foreign wealth (approximately of the same magnitude as other parts of the world). I.e. core European powers own assets in South Europe, Eastern Europe and Nordic Europe with approximately the same proportions as in the rest of the world. **Sources and series**: wid.world

Foreign Wealth as % World GDP, 1800-2025



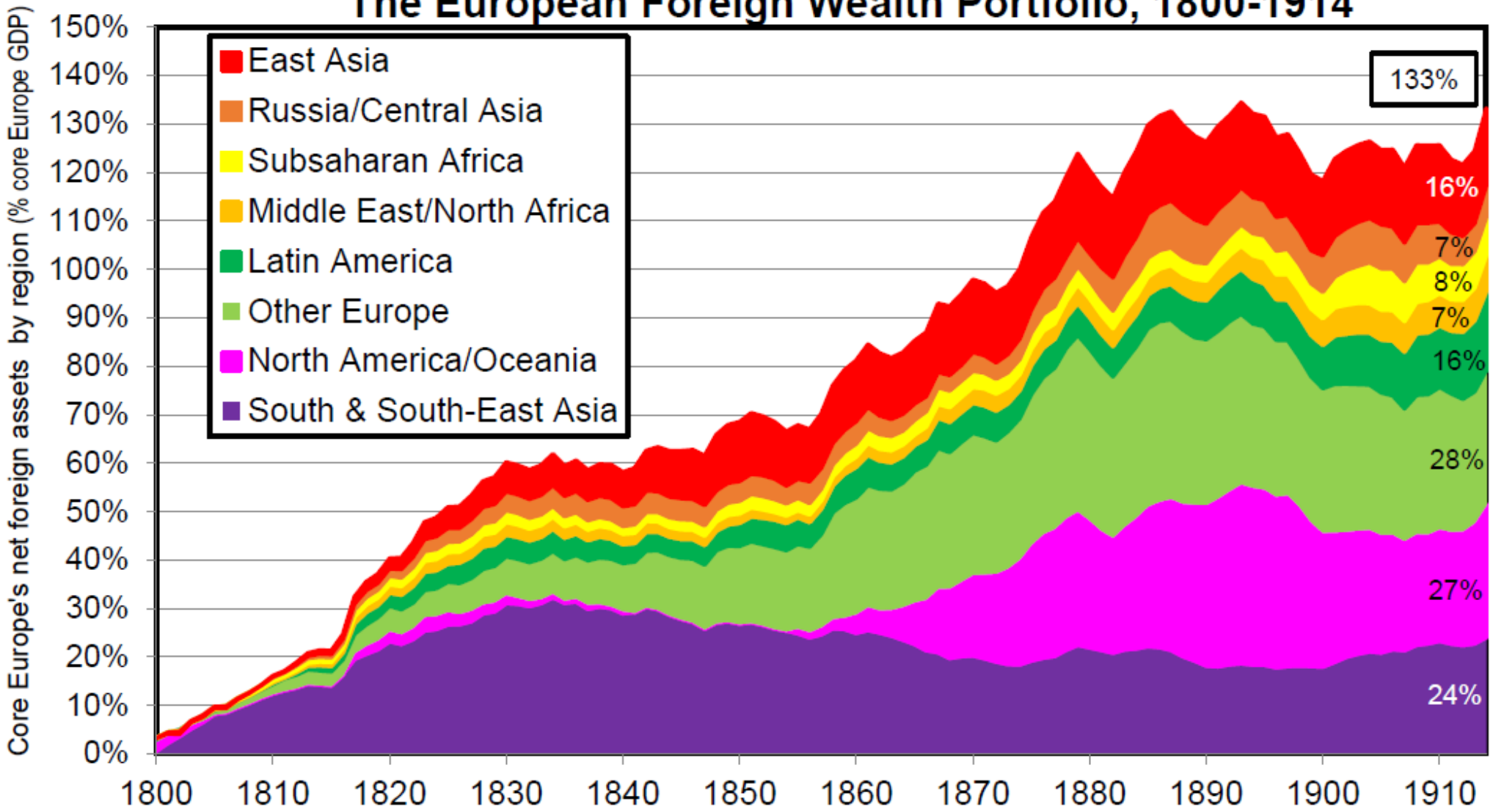
Interpretation. If we express net foreign assets as a fraction of world GDP (rather than as a fraction of the GDP of each country or region), then we find that pre-WW1 foreign wealth helf by core European colonial powers (Britain, France, Germany, Netherlands) is about 3-4 times larger than East Asia's foreign wealth today (and 8-10 times larger than Middle East's foreign wealth today). In effect, at the eve of WW1, European powers had a very balanced wealth across all other world regions. **Sources and series**: wid.world

Foreign Wealth by Country, 1800-2025



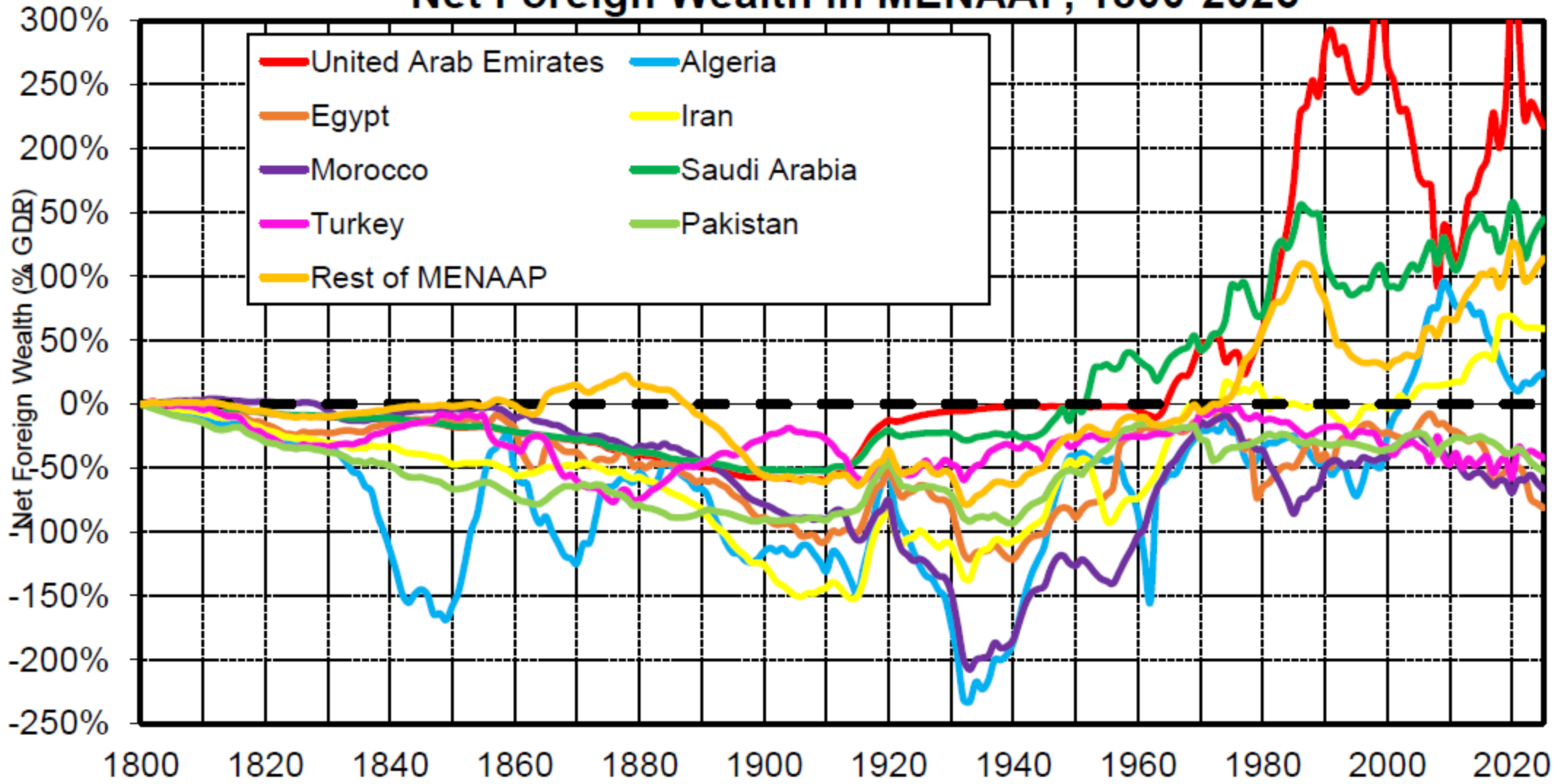
Interpretation. Between 1800 & 1914, Europe's accumulation of foreign assets is driven primarily by Britain (about 180% of GDP in 1914) and France (140%), and to a lesser extent Germany (70%). Between 1980 and 2025, Germany and Japan have also been accumulating large foreign assets (about 80% of their GDP in 2025), though still substantially smaller than Britain and France in 1914. **Sources and series**: wid.world

The European Foreign Wealth Portfolio, 1800-1914



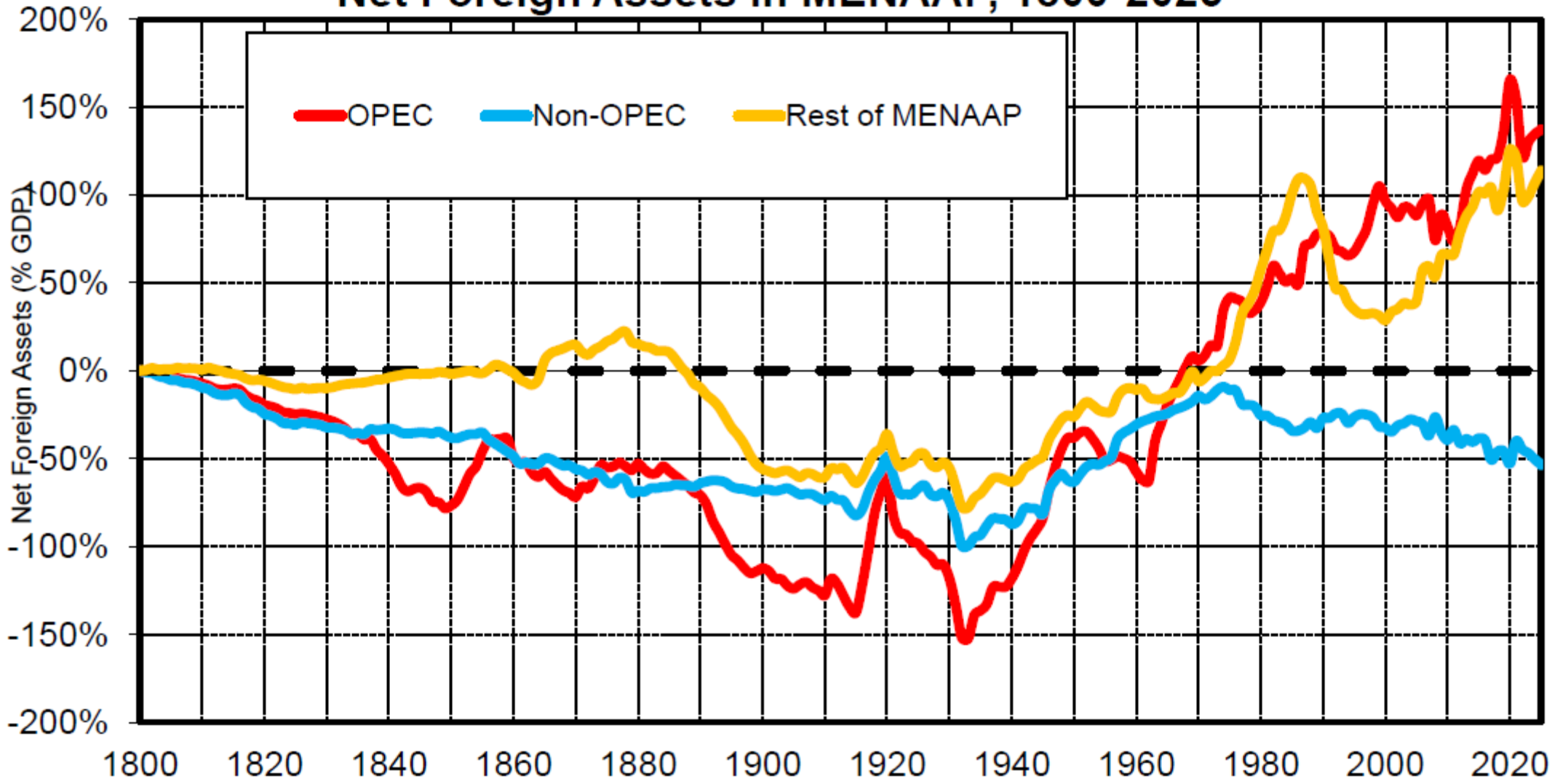
Interpretation. Between 1800 & 1914, core European colonial powers (Britain, France, Germany, Netherlands) accumulate a very large and diversified foreigh wealth porfolio in the rest of the world. By 1914, they own the equivalent of 133% of their GDP in net foreign assets. South & South-East Asia assets are particularly important in the 1800-1840 period - especially British and Dutch holdings in India & Indonesia. Other Europe (including South, Nordic and Eastern Europe), Russia/Central Asia and Middle East/North Africa play a very large role in French and German holdings in the 1880-1914 period. **Sources and series**: wid.world

Net Foreign Wealth in MENAAP, 1800-2025



Source: wbop.world

Net Foreign Assets in MENAAP, 1800-2025



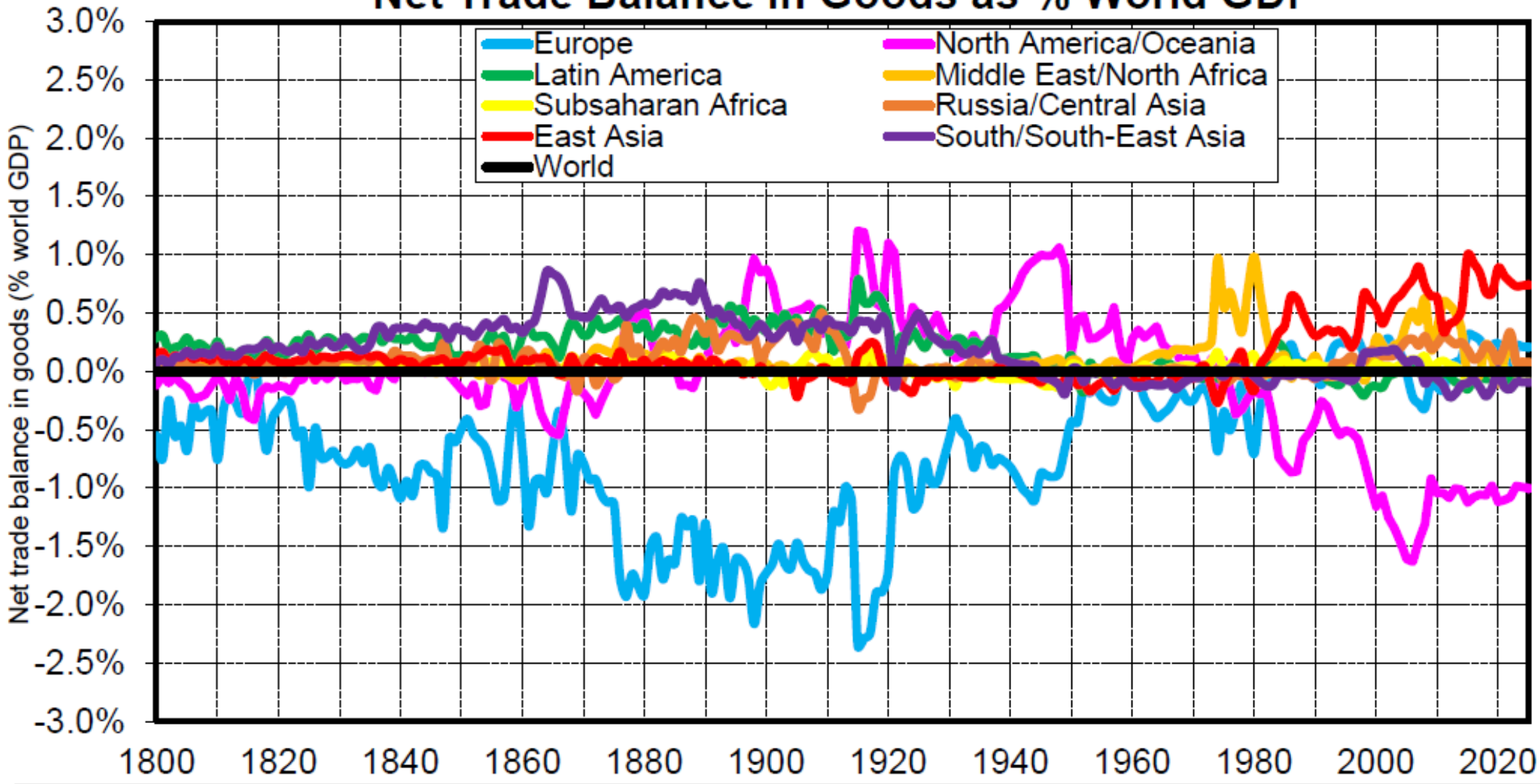
Interpretation. **Source**: wbop.world

Decomposing global imbalances 1800-2025: primary commodities, manufactured goods, services, income flows, transfers

Key role of colonial transfers, low commodity prices (forced labour etc.) and capital income in order to build Europe's foreign wealth: **Europe never in trade surplus 1800-1914!**

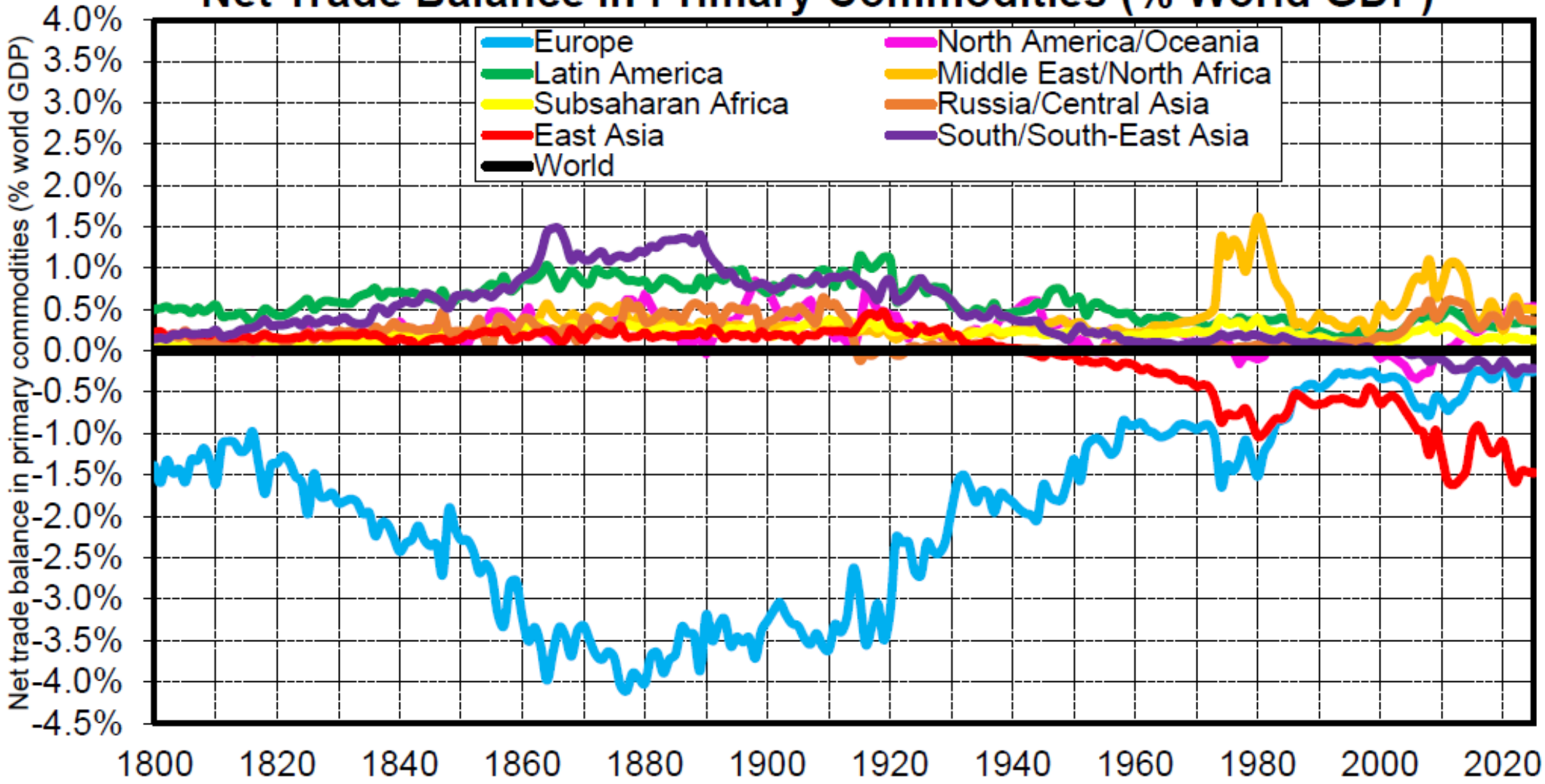
Both in 1800-1914 & in 1970-2025, **low commodity prices play a critical role for wealth accumulation** by manufacturing power (Europe or East Asia)

Net Trade Balance in Goods as % World GDP



Interpretation. Between 1800 and 1914, Europe has a large permanent deficit in trade for goods. I.e. Europe's large current account surplus over this period comes entirely from other BoP items (services, income, transfers). In recent decades, US deficit in trade for goods has been of comparable magnitude, but with insufficient compensating items in the world balance of payment. **Sources and series**: see wid.world

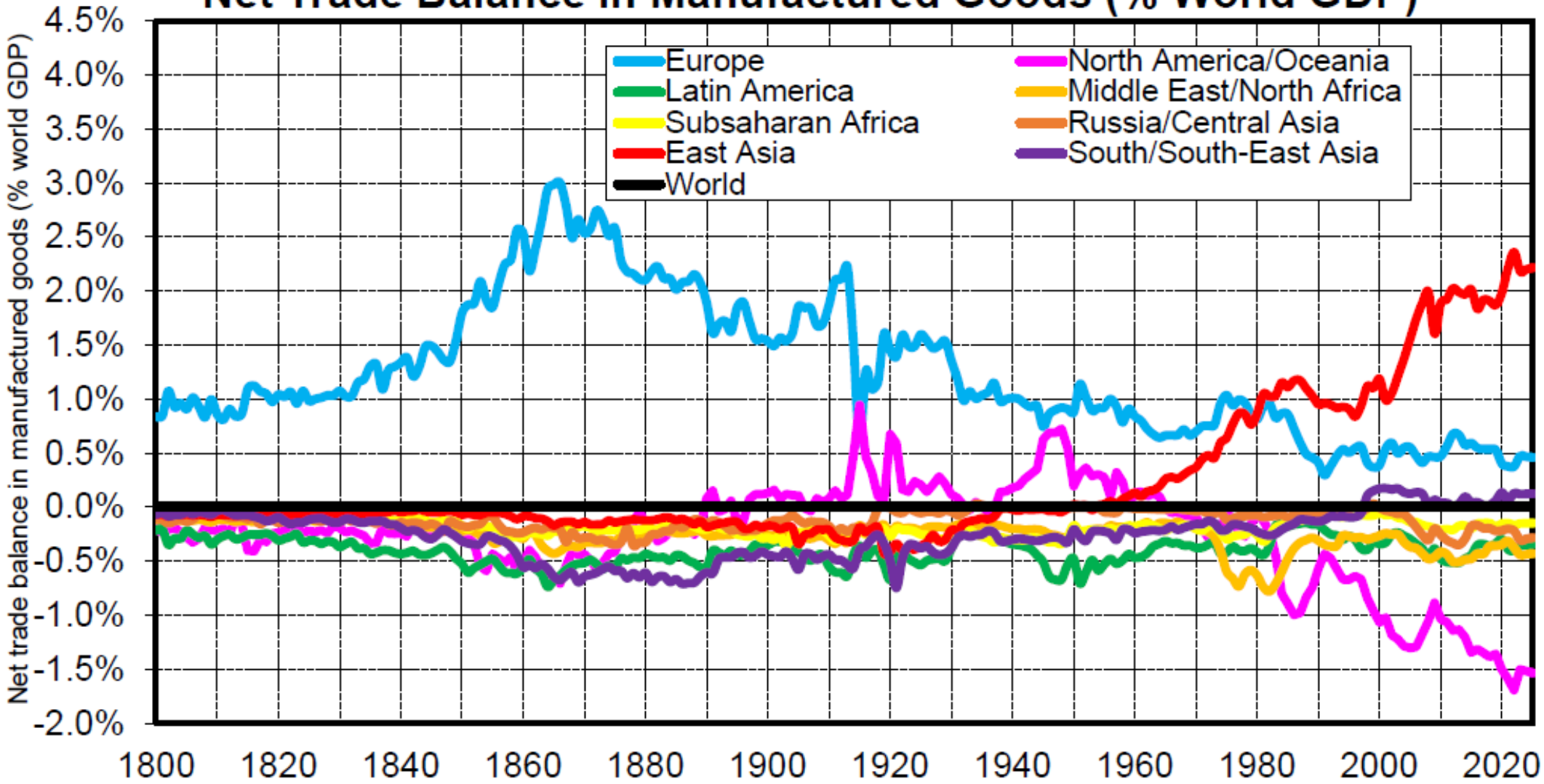
Net Trade Balance in Primary Commodities (% World GDP)



Interpretation. Between 1800 and 1914, the very large European deficit in trade of goods is entirely driven by an enormous deficit with primary commodities. In effect, the equivalent of over half of the world production of primary commidities is exported to Europe from the rest of the world. We observe a similar flow going to East Asia (Japan, China) in recent decades, albeit of smaller magnitude so far.

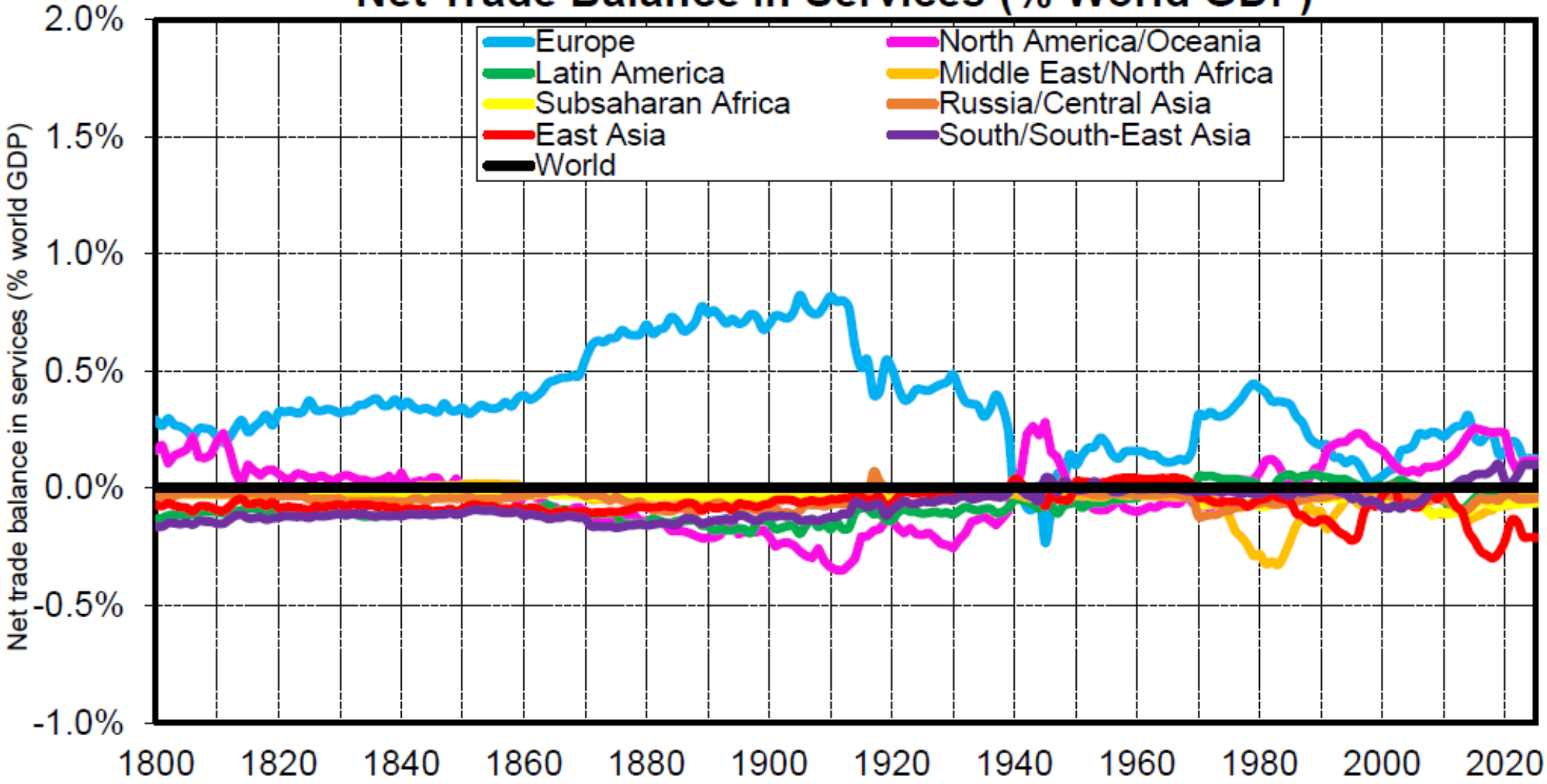
Sources and series: see wid.world

Net Trade Balance in Manufactured Goods (% World GDP)



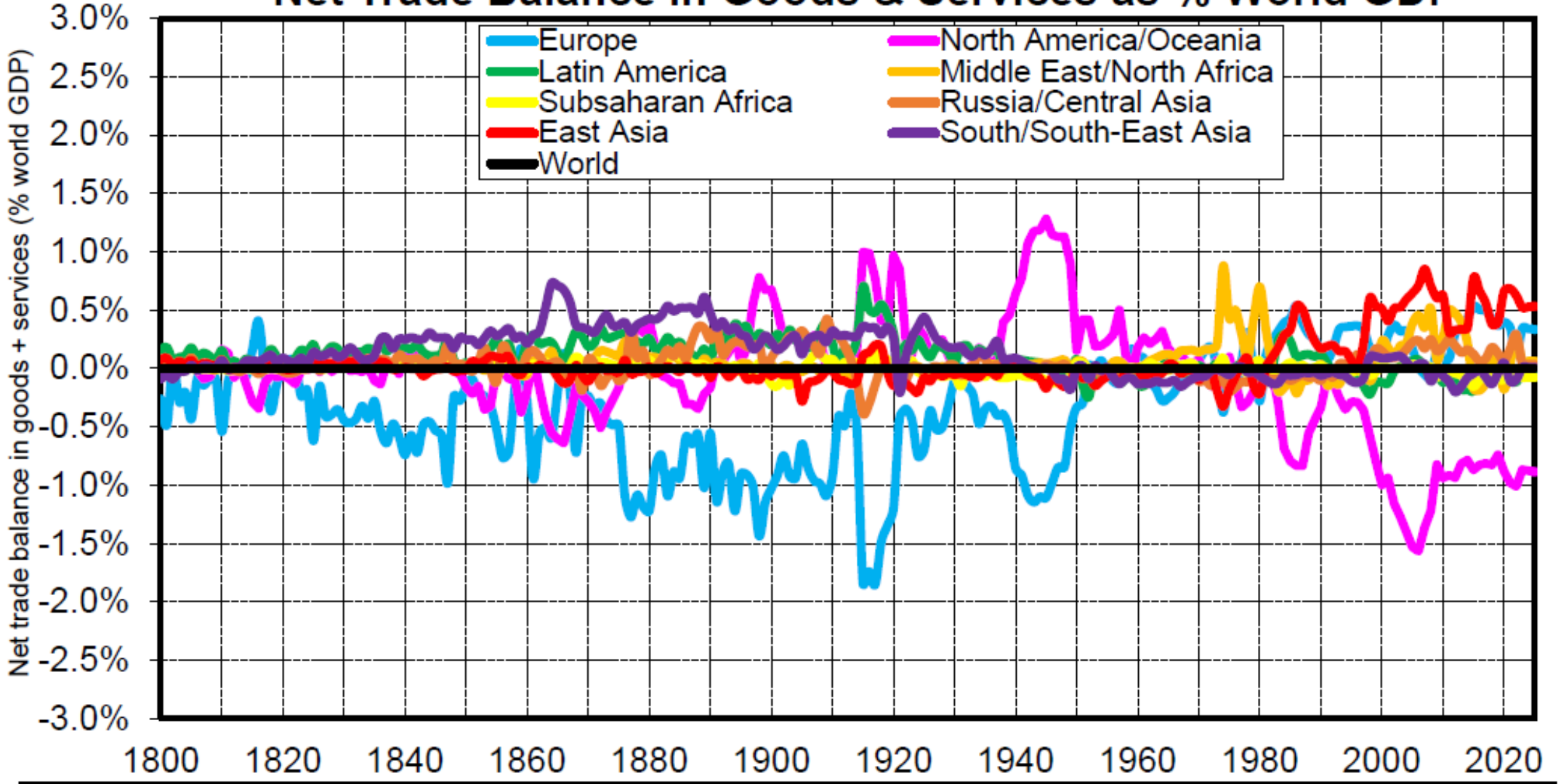
Interpretation. Between 1800 & 1914, Europe is making a large trade surplus in manufactured goods (especially Britain), but it is insufficient to compensate for the huge deficit in primary commodities. In contrast, the trade surplus in manufactured goods of East Asia in recent decades has been of sufficient magnitude to turn the primary commodities deficit into a net surplus. **Sources and series**: see wid.world

Net Trade Balance in Services (% World GDP)



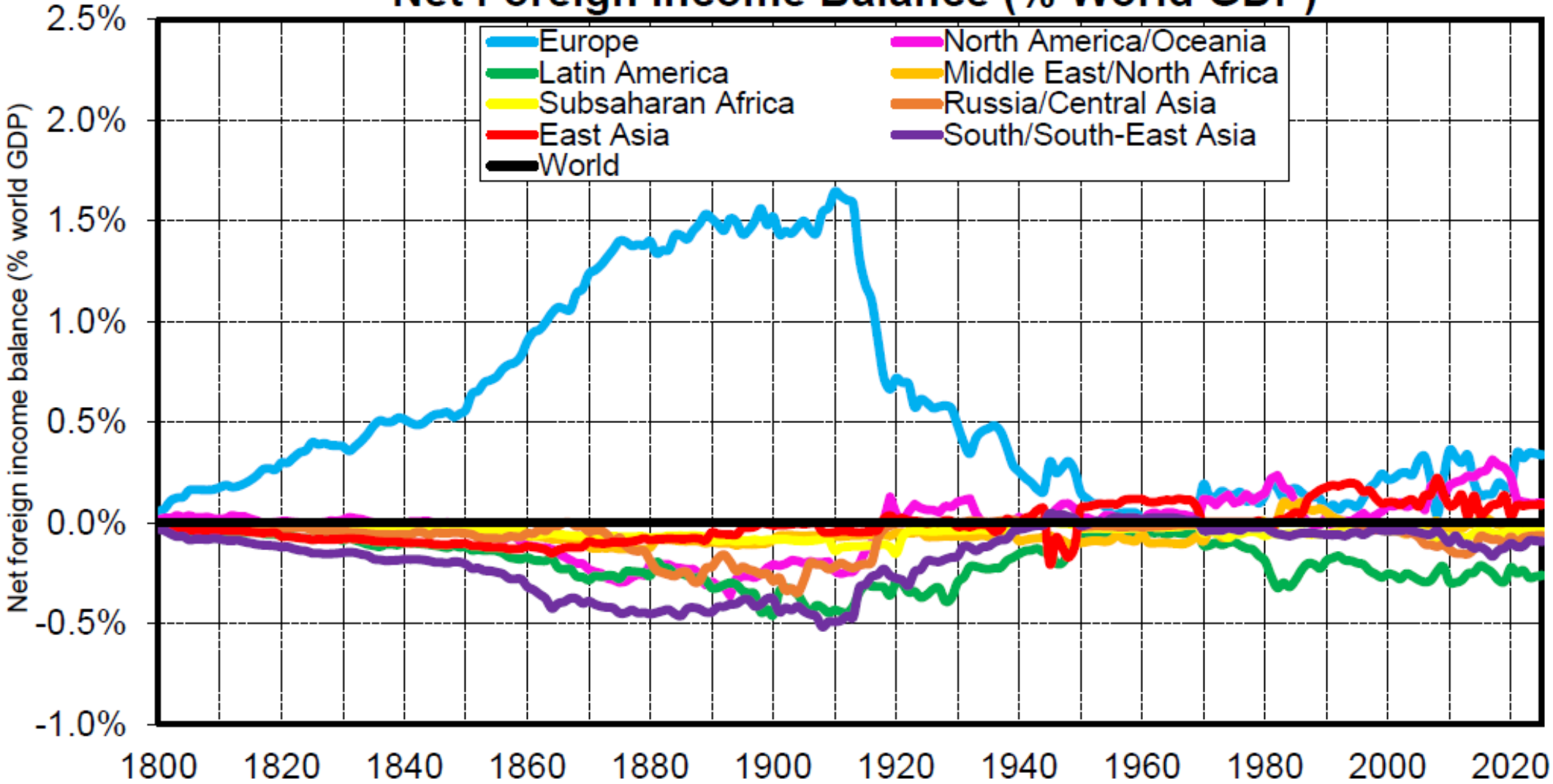
Interpretation. Between 1800 and 1914, Europe is making a permanent surplus in trade for services, particularly Britain in maritime transport, trading services, insurance, etc. (except during Napoleonic wars when US fleet gets a bigger share of freight). However this surplus alone is insufficient to compensate for the deficit in trade for goods. **Sources and series**: see wid.world

Net Trade Balance in Goods & Services as % World GDP



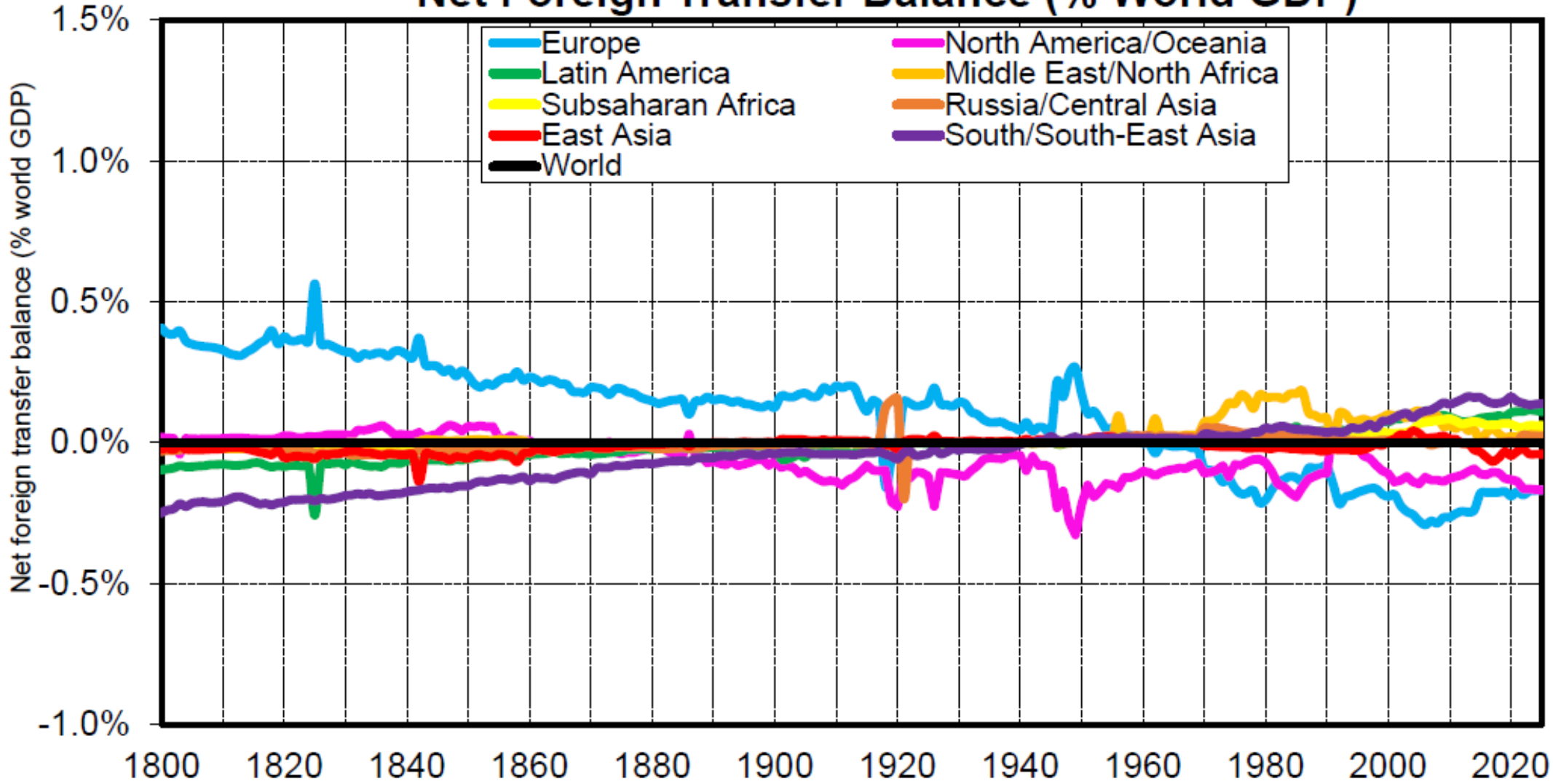
Interpretation. Between 1800 and 1914, Europe has a large permanent deficit in trade for goods, which is only partially compensated by the trade surplus in trade for services (in particular freight/insurance & trading services). I.e. Europe's large current account surplus over this period comes entirely from other BoP items (income, transfers). In recent decades, US deficit in trade for goods and services has been of comparable magnitude, but with insufficient compensating items in the world balance of payment. **Sources and series**: see wid.world

Net Foreign Income Balance (% World GDP)



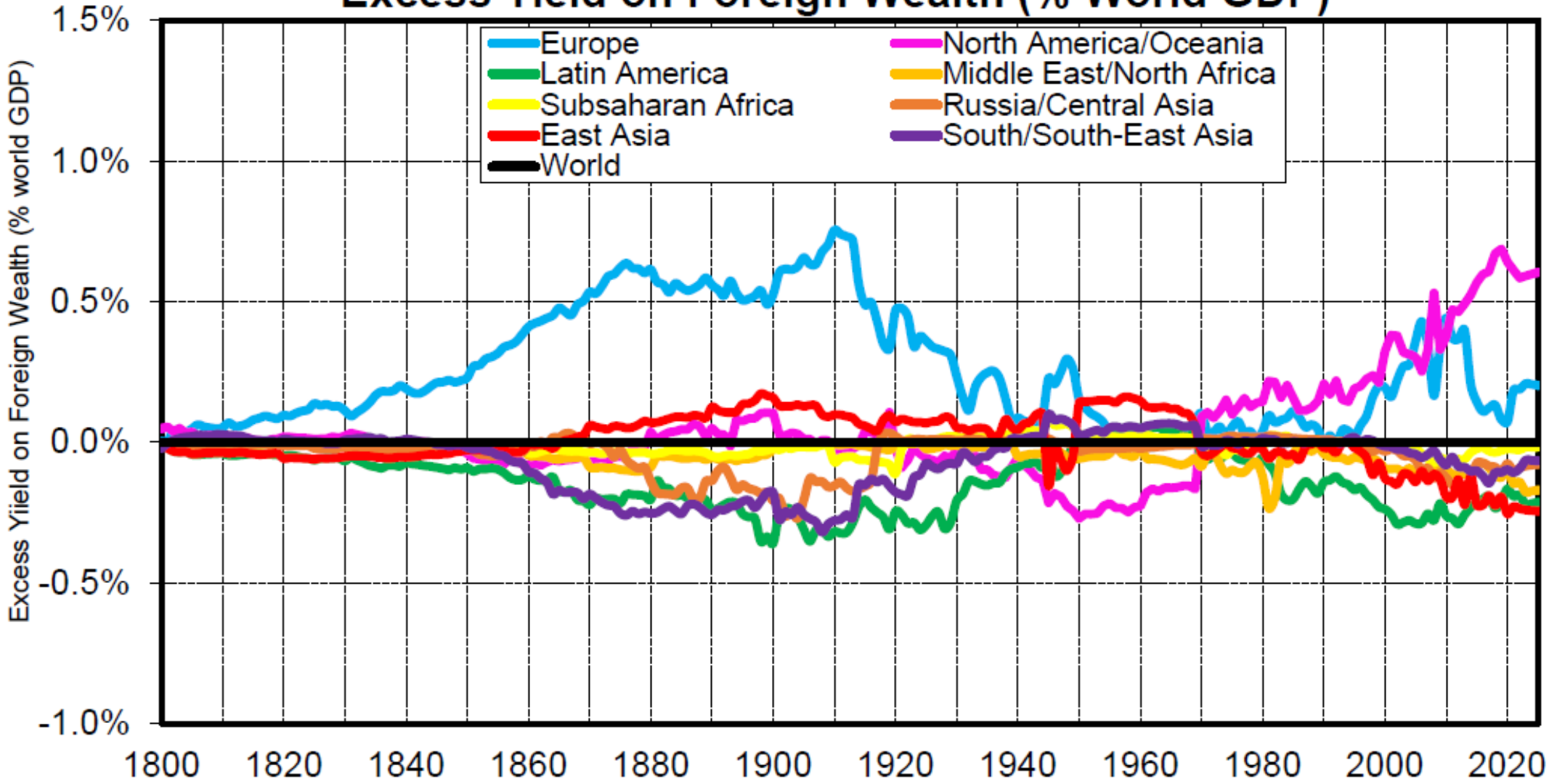
Interpretation. Between 1800 and 1914, Europe is receiving a rising share of world GDP as foreign capital income payments from the rest of the world. In 1880-1914, Europe receives the equivalent of 1.5% of world GDP in net income flow each year, enough to cover the trade deficit and obtain a large current account surplus. However this is is not the case in 1800-1840 and 1840-1880, when net income flows alone are insufficient to cover the trade deficit. **Sources and series**: see wid.world

Net Foreign Transfer Balance (% World GDP)



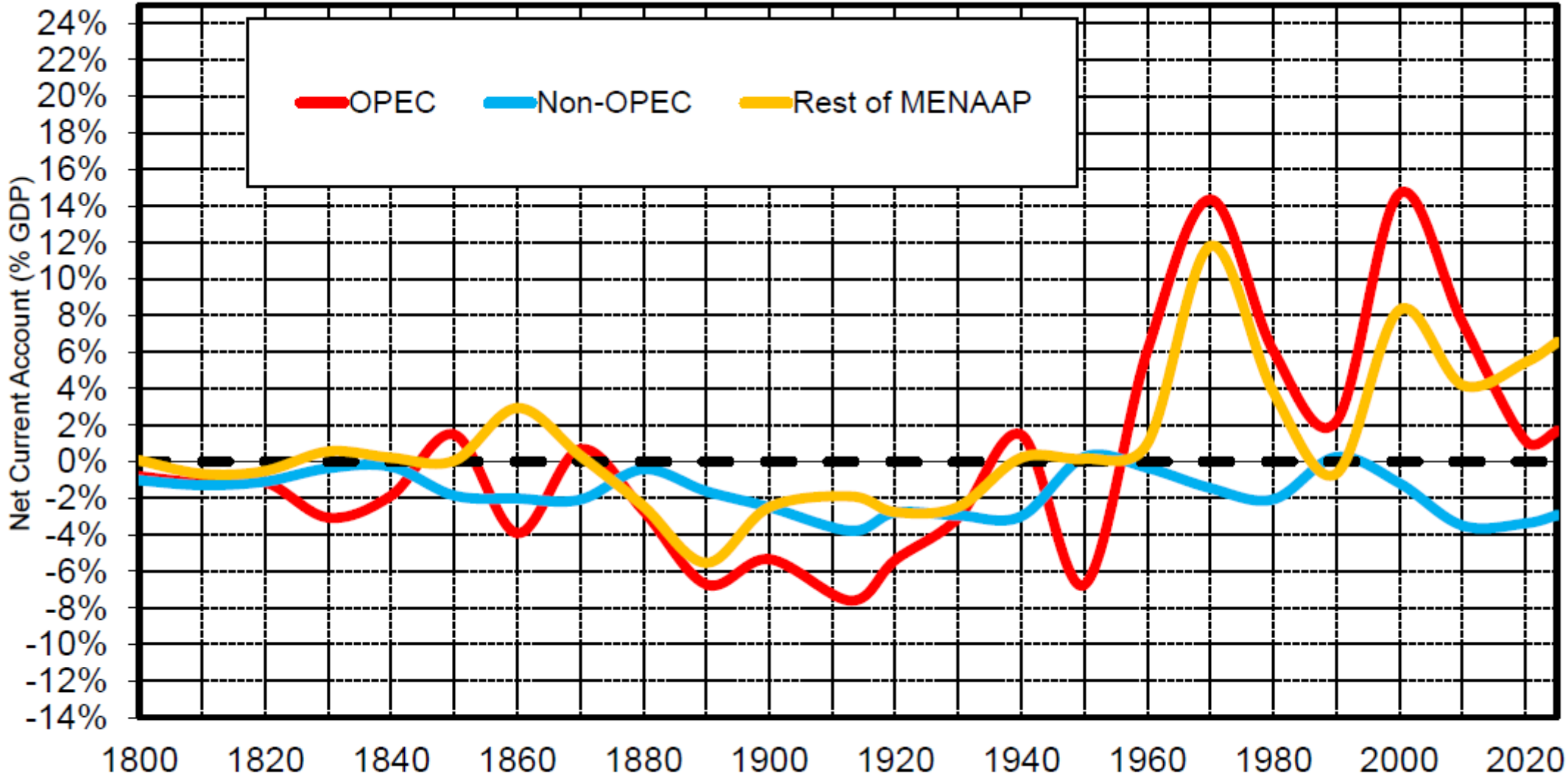
Interpretation. Between 1800 and 1914, Europe is earning a permanent the surplus in net foreign transfers, reflecting a combination of war and colonial tributes (French tribute to Haïti 1825, British tribute to China 1842, etc.) and permanent transfers via colonial budgets, especially from India to Britain (so-called "Home charges") and Indonesia to the Netherlands. Although this surplus is smaller in magnitude than the capital income surplus in 1880-1914, it plays a critical role to generate Europe's current account surpluses in 1800-1880. **Sources and series**: see wid.world

Excess Yield on Foreign Wealth (% World GDP)



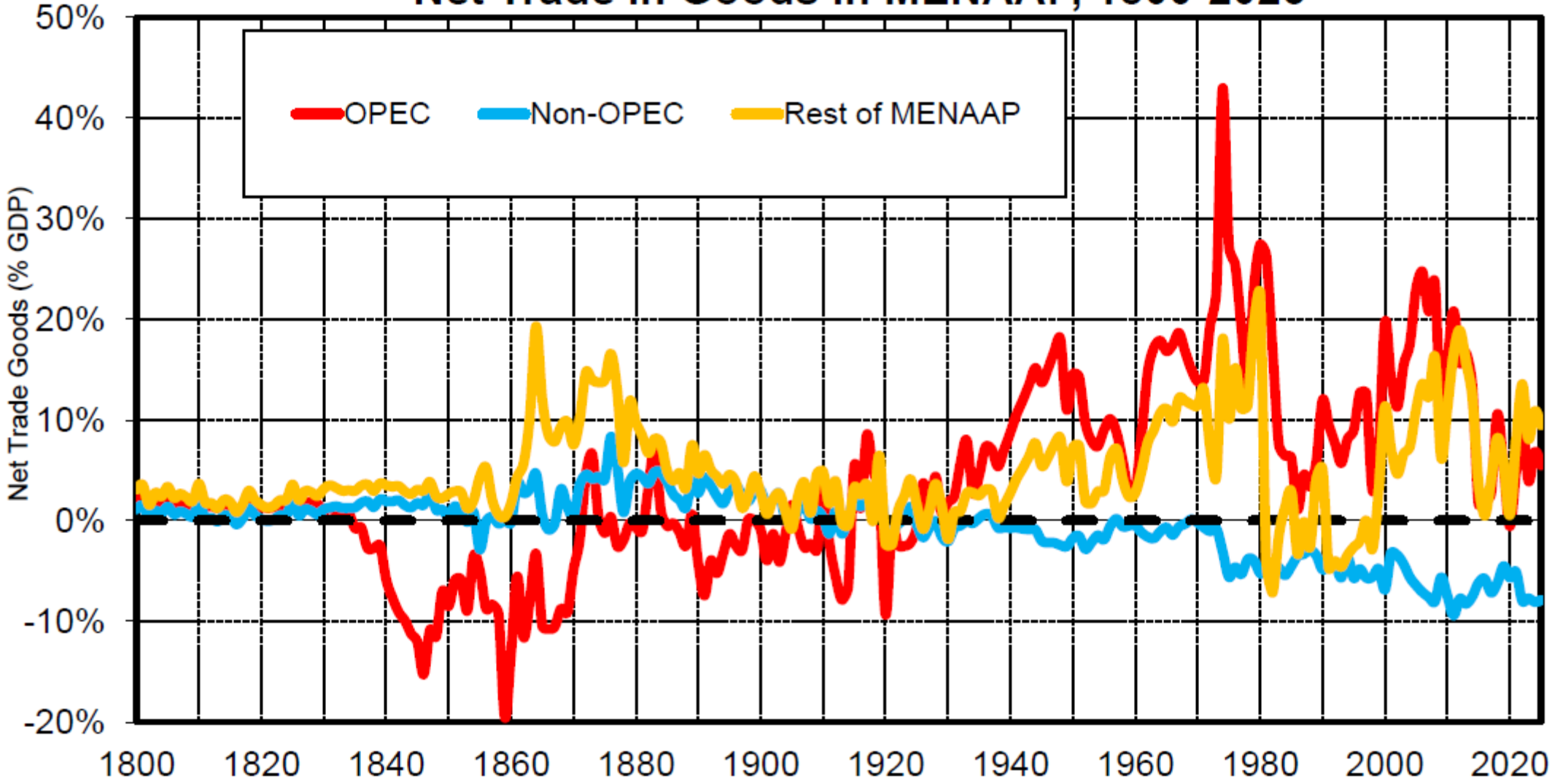
Interpretation. In 2000-2025, USA and Europe are obtaining together about 0.5-1% of world GDP each year from the rest of world in excess yield on foreign wealth (i.e. due to the differential between their rate of return on gross foreign assets and gross foreign liabilities). We observe a similar surplus for Europe in 1800-1914, but due to data imperfecttions this might also reflect other terms (such as unmeasured colonial payments) rather than excess yield strictly speaking. **Sources and series**: see wid.world

Net Current Account in MENAAP, 1800-2025



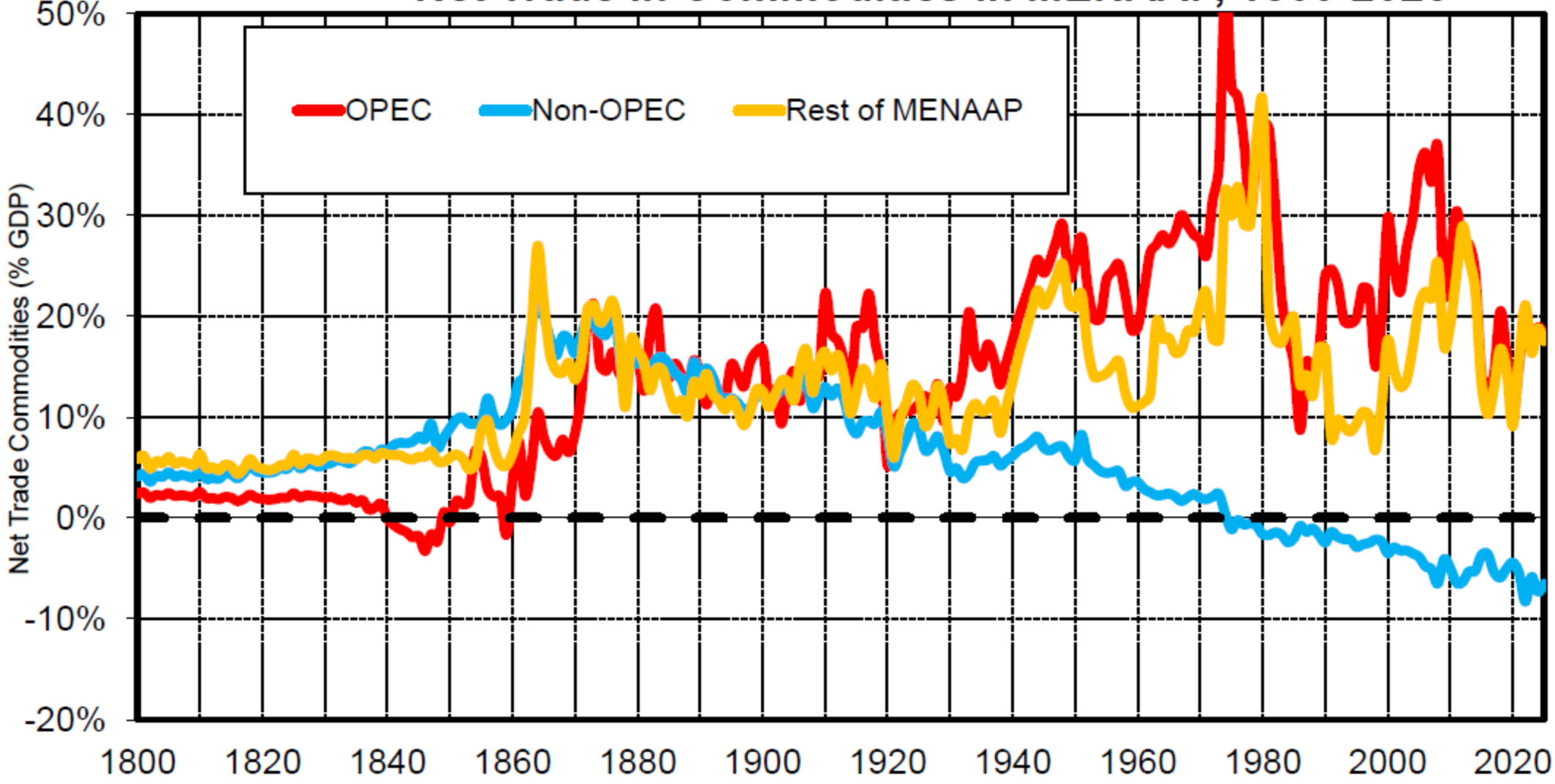
Interpretation. **Source**: wbop.world

Net Trade in Goods in MENAAP, 1800-2025



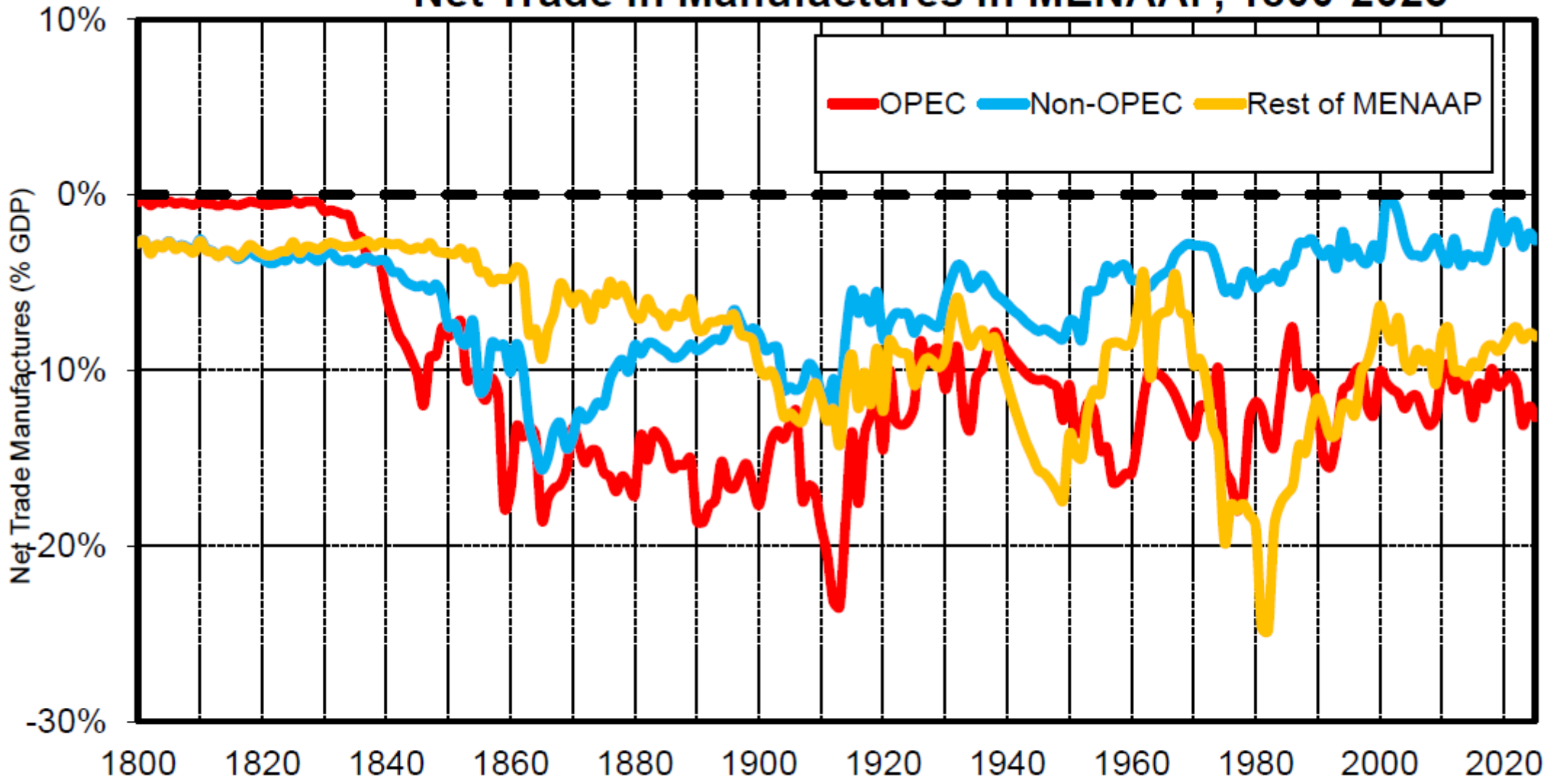
Interpretation. **Source**: wbop.world

Net Trade in Commodities in MENAAP, 1800-2025



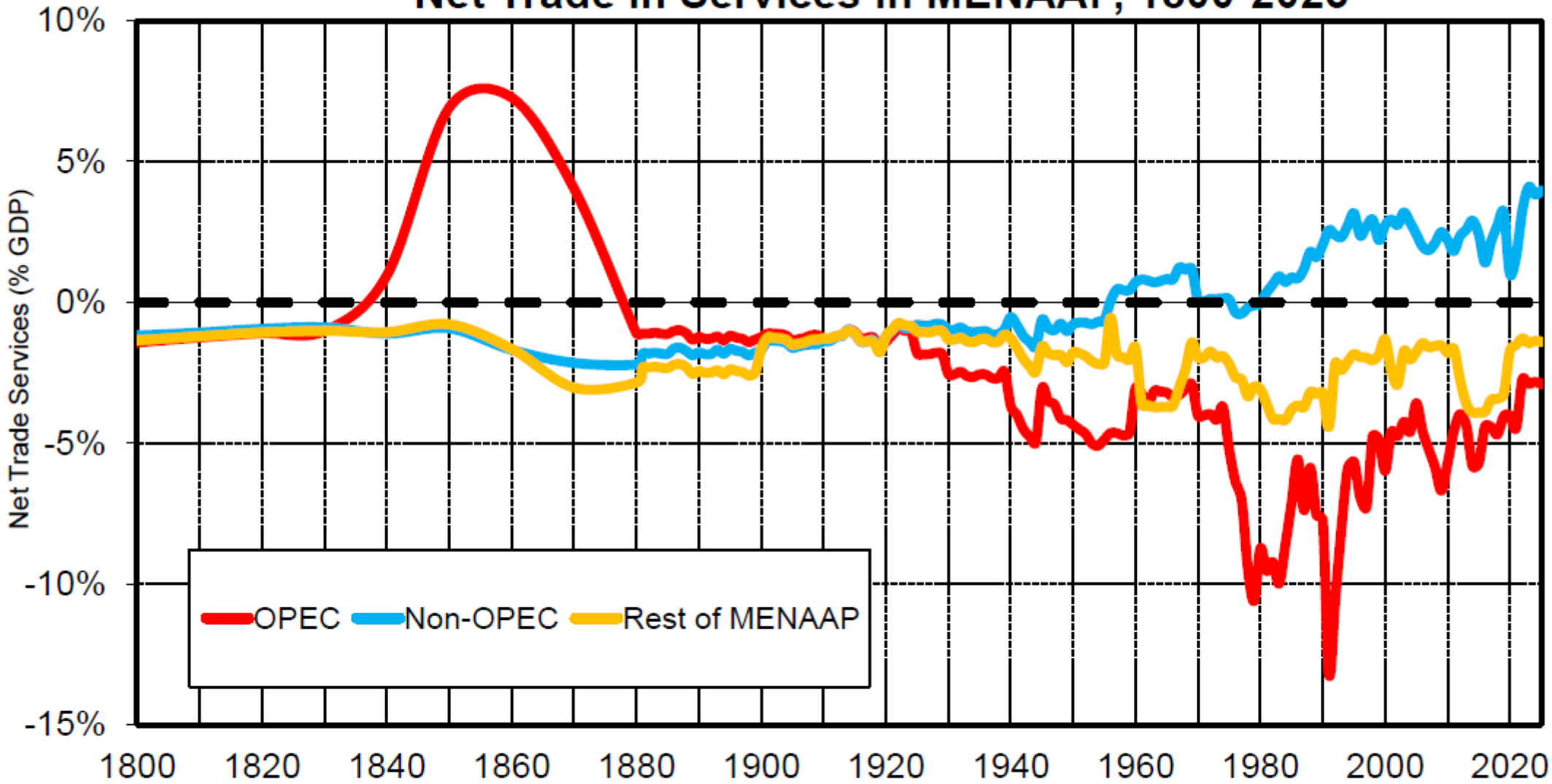
Interpretation. **Source**: wbop.world

Net Trade in Manufactures in MENAAP, 1800-2025



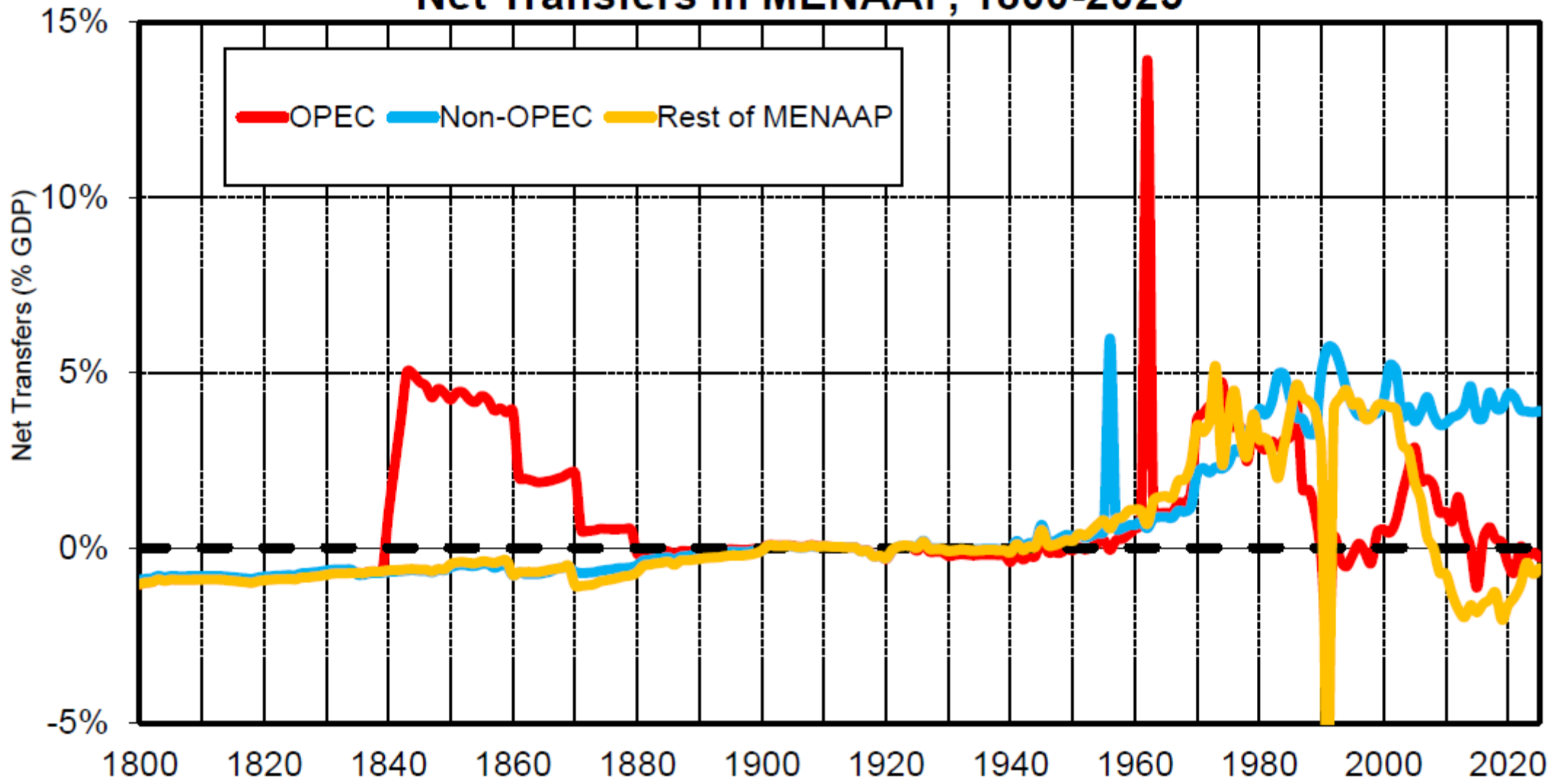
Interpretation. **Source**: wbop.world

Net Trade in Services in MENAAP, 1800-2025



Interpretation. **Source**: wbop.world

Net Transfers in MENAAP, 1800-2025



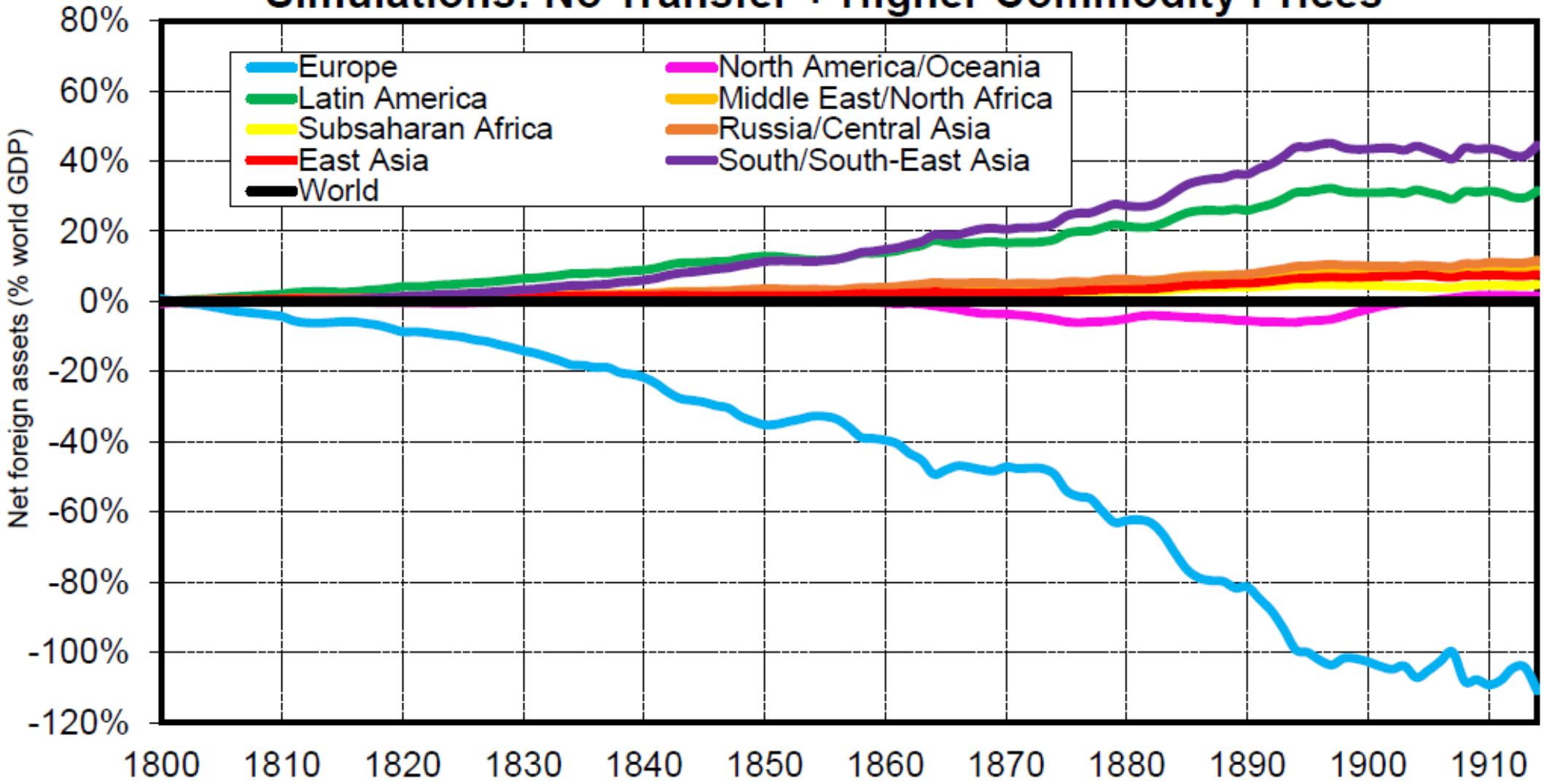
Interpretation. **Source**: wbop.world

Alternative scenarios on foreign wealth accumulation under alternative trade & monetary regimes 1800-2025

Financial scenario. We set colonial transfers to zero (or raise commodity prices) and leave all other flows unchanged, and look at impact on net foreign wealth in 1914 or 2025.

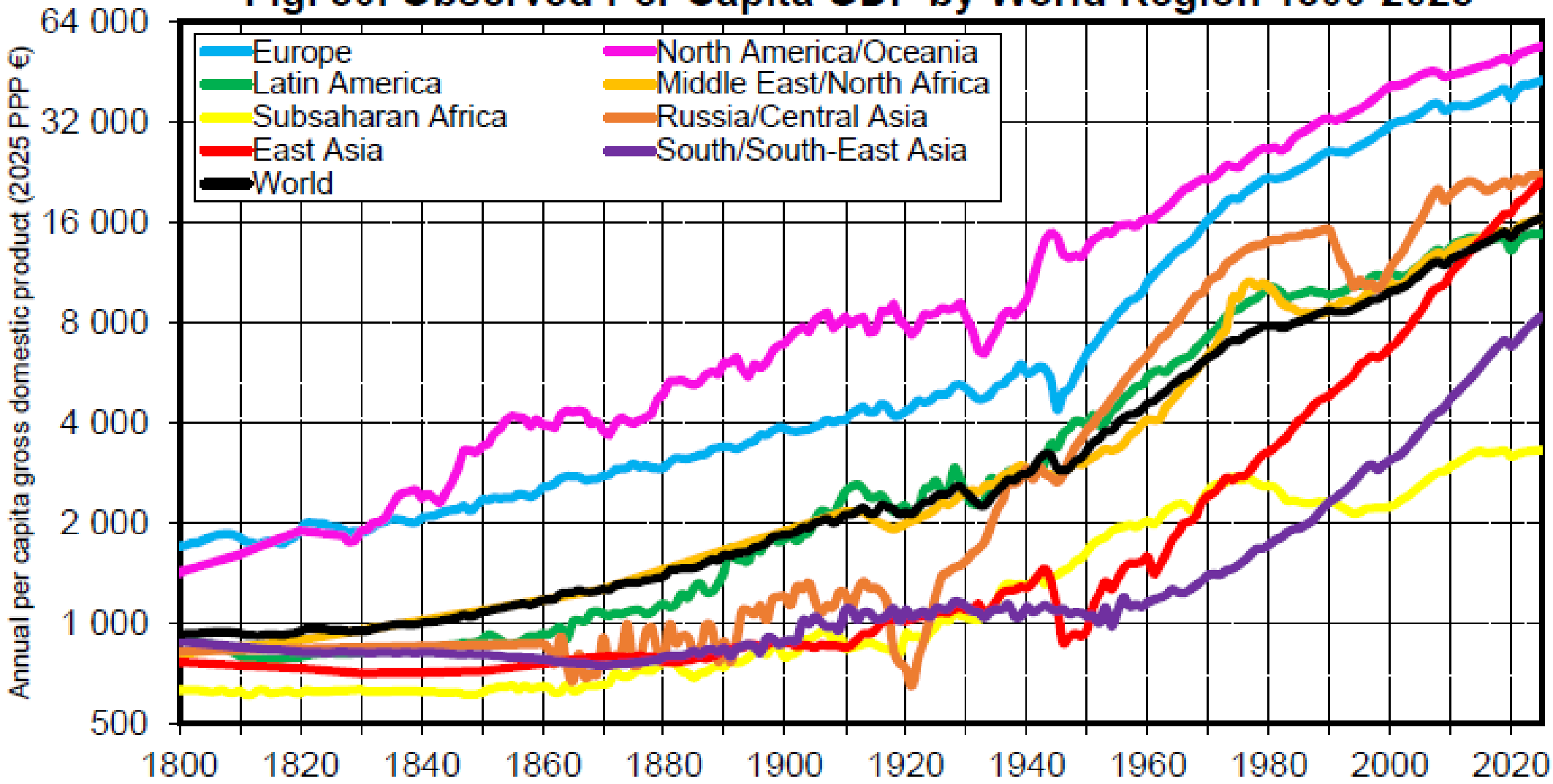
Economic scenario. We assess external wealth and assume that poor countries invest the surplus resulting from improved terms of trade in human capital, observing the results in the development process.

Simulations: No Transfer + Higher Commodity Prices



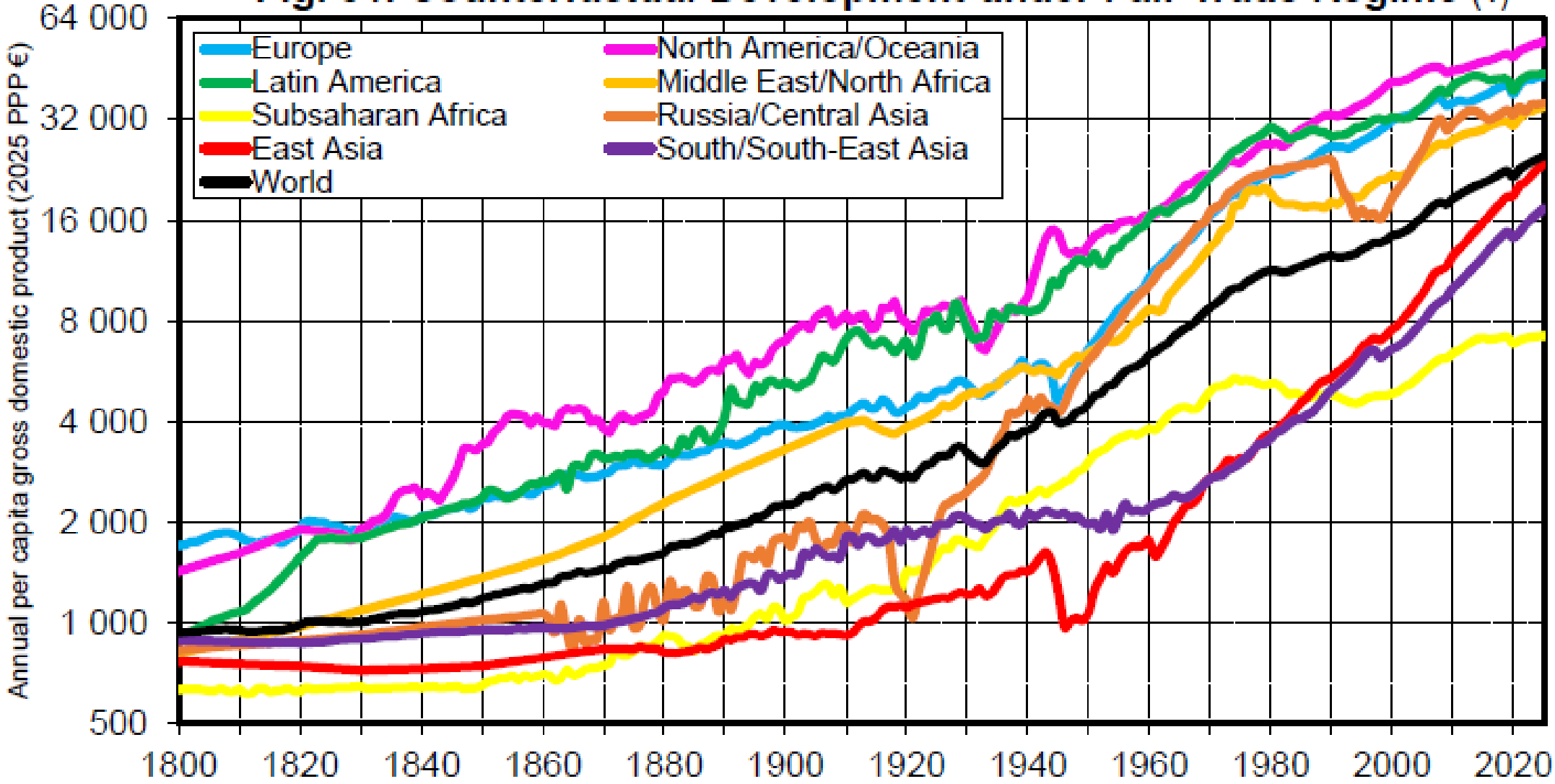
Interpretation. Assuming both no colonial transfers and higher commodity prices, and leaving all other flows unchanged, Europe would have had an enormous negative wealth position by 1914 (about -100% of world GDP, i.e. about -300% of Europe's GDP), to the benefit of all other regions. In particular, South & South East Asia would owen about 40% of world GDP in foreign assets (about 500% of their GDP) and Latin America about 30% of world GDP (over 700% of their GDP). **Sources and series**: wid.world

Fig. 30. Observed Per Capita GDP by World Region 1800-2025



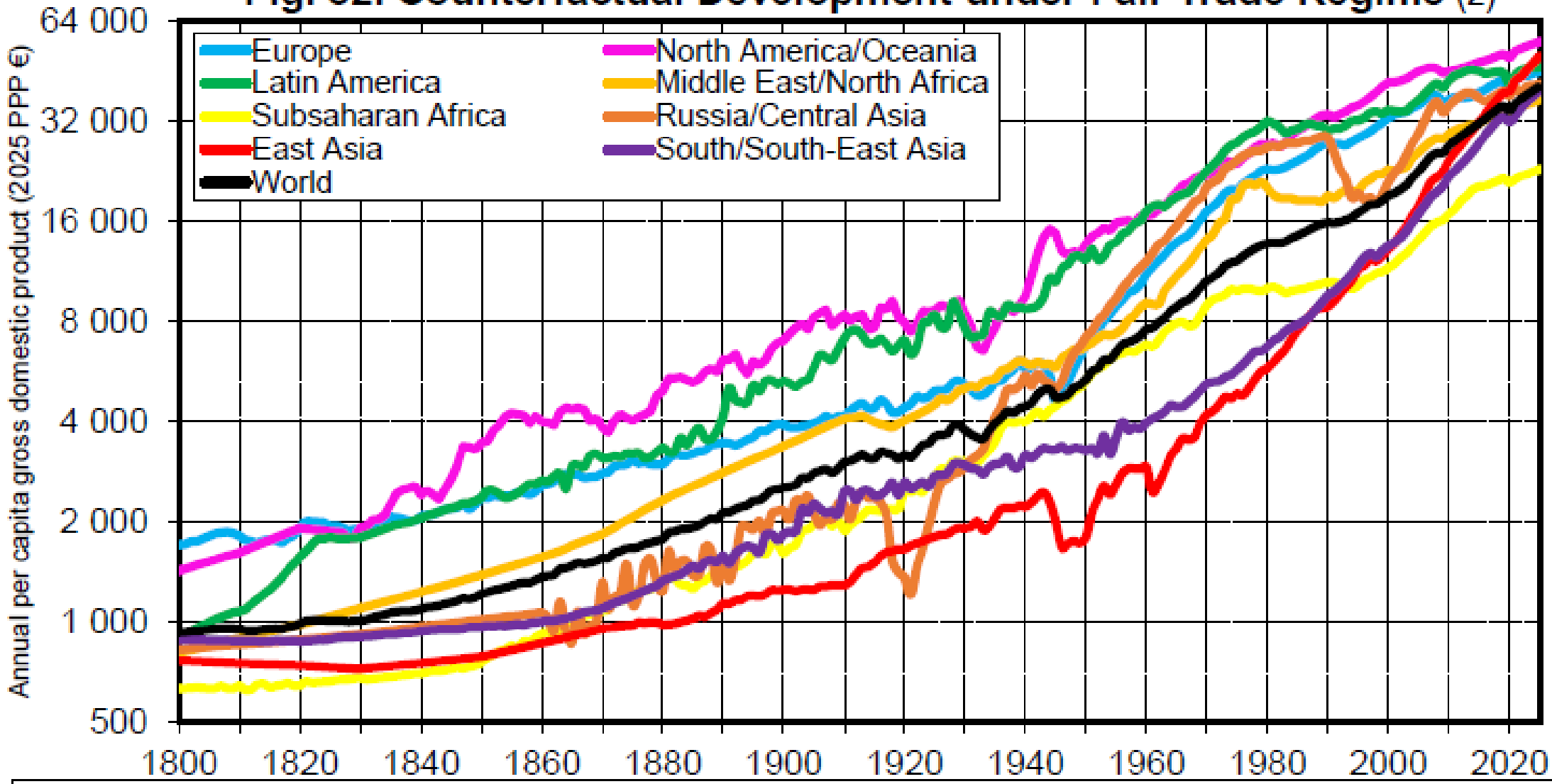
Interpretation. Expressed in 2025 PPP €, annual per capita gross domestic product (GDP) rose from about 900€ in 1800 to about 16 000€ in 2025 at the global level, with large disparities across world region: about 3 000€ in Subsaharan Africa, vs 40 000-50 000€ in Europe and North America/Oceania. Between 1800 and 2025, per capita GDP was multiplied by about 18 at the world level in PPP terms, which corresponds to average annual real growth rate of 1,3% per year. **Sources and series**: see wid.world

Fig. 31. Counterfactual Development under Fair Trade Regime (1)



Interpretation. Average per capita GDP at the world level would be substantially larger in 2025 (and inequality between world regions a lot smaller) under the following counterfactual development scenario: no colonial transfers over 1800-1914 period + higher commodity prices over 1800-2025 period (+20%) + the corresponding gains are invested in domestic human capital investment in the benefiting countries + the corresponding losses are absorbed by consumption cuts by the rich in other countries, in particular in Europe. **Sources and series**: see wid.world

Fig. 32. Counterfactual Development under Fair Trade Regime (2)



Interpretation. Average per capita GDP at the world level could be even larger in 2025 (and inequality between world regions even smaller) if we further assume better terms of exchange for poor countries throughout the 1800-2025 period (+30% in terms of exchange for countries with per capita GDP lower than 70% of world average, for instance via a Global Clearing Union and/or Common Currency). The bottom line is that different power relations, institutions and trade rules can have a major impact on comparative development. **Sources and series**: see wid.world

Concluding comments

Thanks to a new database on global trade flows and the world balance of payment over 1800-2025 period, we were able to compare different episodes of major imbalances (2025 vs 1914)

Power relations matter: small changes in bargaining power and commodity prices can completely reverse relative wealth position of North vs South. Trade/monetary regimes play a critical role.

Discussions about sustainable development should include the structural transformation of the world trade & financial system

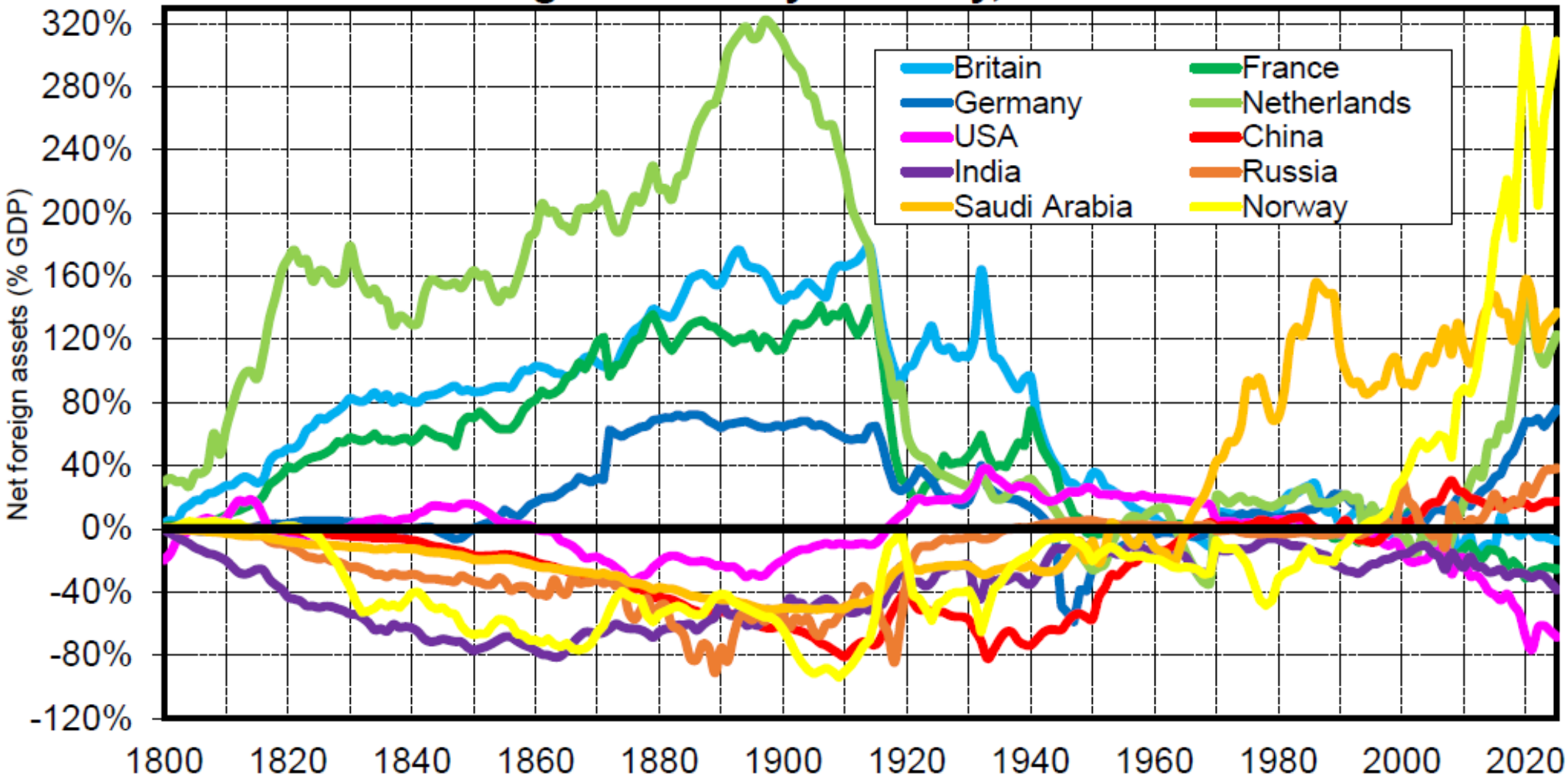
Without major reform of IMF-WB-UN-OECD etc., hard to achieve IPCC goals

In future research, we plan to focus on counterfactual development trajectories, both retrospective (1800-2025) and prospective (2025-2100), taking into account the interplay between alternative trade-monetary-financial regimes, within-country inequality, human capital accumulation, sectoral productivity growth & carbon emissions

Gracias !

Supplementary slides

Foreign Wealth by Country, 1800-2025



Interpretation. If we include smaller economies into the picture, we find that net foreign assets can be as large as 300% of a country's GDP or more, such as the Netherlands in 1900 (a small country with large colonial holdings in Indonesia) or Norway in 2025 (a small country with enormous oil and gas reserves that were transformed into a large sovereign fund in a recent decades).

Sources and series: wid.world

Sources of Europe's foreign wealth accumulation, 1800-1914

	Net foreign assets (% GDP)		Decomposition of Net foreign assets/GDP ratio at time t+n (% GDP t+n)						
			Initial foreign wealth	Cumulated trade surplus or deficit (goods)			Cumulated trade surplus or deficit (services)	Cumulated foreign income inflow or outflow	Cumulated foreign transfer inflow or outflow
	β_t	β_{t+n}		Total	Primary commodities	Manufactured goods			
Europe (GB-FR-DE-NL)	**3%**	**133%**	**0%**	**-141%**	-417%	276%	**61%**	**197%**	**22%**
Great Britain	**3%**	**178%**	**0%**	**-268%**	-664%	396%	**117%**	**293%**	**42%**
France	**1%**	**140%**	**0%**	**-44%**	-281%	237%	**13%**	**187%**	**-6%**
Germany	**0%**	**64%**	**0%**	**-66%**	-244%	177%	**42%**	**76%**	**16%**
Netherlands	**30%**	**176%**	**5%**	**-136%**	-220%	85%	**-15%**	**257%**	**77%**

Sources of Europe's foreign wealth accumulation, 1800-1914

	Net foreign assets (% GDP)		Decomposition of Net foreign assets/GDP ratio at time t+n (% GDP t+n)						
			Initial foreign wealth	Cumulated trade surplus or deficit (goods)			Cumulated trade surplus or deficit (services)	Cumulated foreign income inflow or outflow	Cumulated foreign transfer inflow or outflow
	β_t	β_{t+n}		Total	Primary commodities	Manufactured goods			
Europe (GB-FR-DE-NL)	**3%**	**133%**	**0%**	**-141%**	-417%	276%	**61%**	**197%**	**22%**
1800-1840	**3%**	**58%**	**2%**	**-44%**	-169%	125%	**31%**	**37%**	**32%**
Great Britain	3%	81%	1%	-77%	-292%	215%	48%	52%	57%
Netherlands	30%	129%	24%	-158%	-165%	7%	-9%	190%	83%
1840-1880	**58%**	**120%**	**26%**	**-67%**	-304%	237%	**40%**	**118%**	**18%**
1880-1914	**120%**	**133%**	**54%**	**-103%**	-247%	145%	**37%**	**137%**	**7%**

Sources of foreign wealth accumulation, 1970-2025

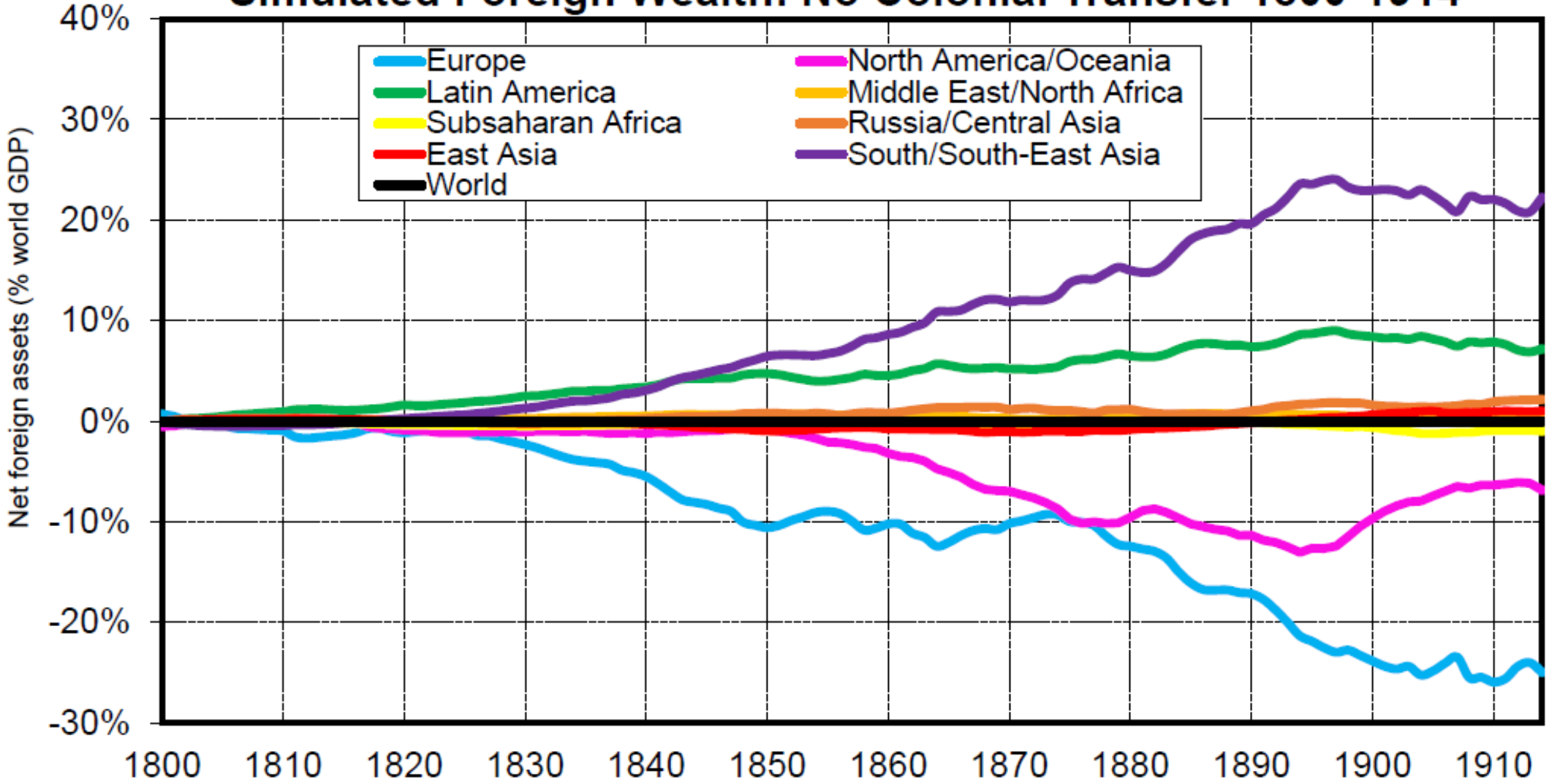
	Net foreign assets (% GDP)		Decomposition of Net foreign assets/GDP ratio at time t+n (% GDP t+n)							
			Initial foreign wealth	Cumulated trade surplus or deficit (goods)			Cumulated trade surplus or deficit (services)	Cumulated foreign income inflow or outflow	including cumulated excess yield	Cumulated foreign transfer inflow or outflow
	β_t	β_{t+n}		Total	Primary commodities	Manufactured goods				
Europe	**6%**	**24%**	**0%**	**7%**	-42%	48%	**18%**	**21%**	18%	**-18%**
North America/Oceania	**1%**	**-57%**	**0%**	**-64%**	11%	-75%	**10%**	**10%**	29%	**-8%**
Subsaharan Africa	**-25%**	**-42%**	**-1%**	**29%**	199%	-170%	**-78%**	**-56%**	-30%	**64%**
East Asia	**5%**	**49%**	**0%**	**52%**	-92%	144%	**-12%**	**9%**	-13%	**-1%**

Main results from financial simulations.

1800-1914. If colonial transfers (war and colonial tributes) **are set to zero**, and/or **primary commodity prices are raised by 20%** (a lower bound estimate for the value of unpaid forced labor in export production of cotton, sugar, grain, etc.), **then Europe ends up with huge negative foreign wealth in 1914.**

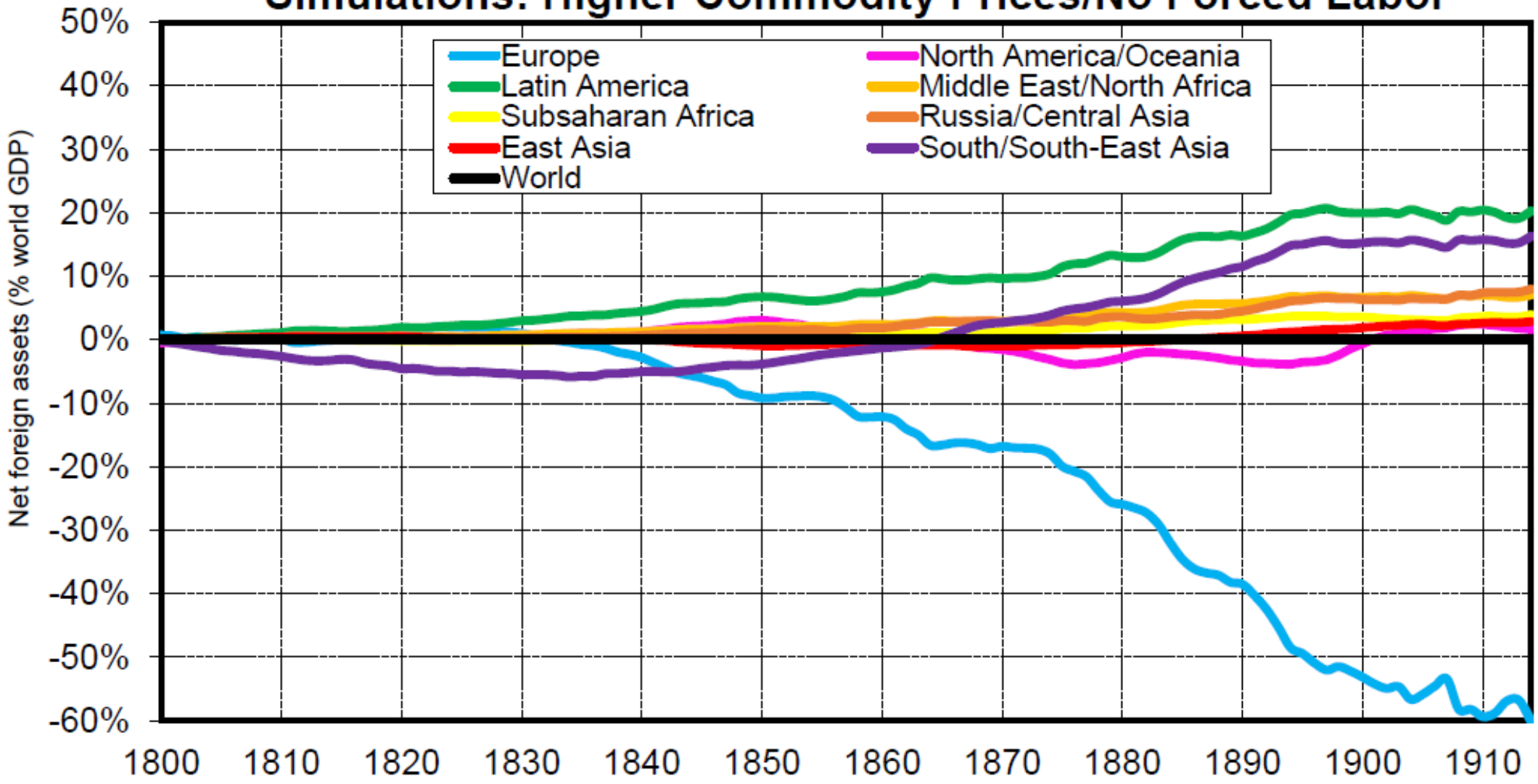
1970-2025. **If primary commodity prices are raised by 20%** (still a lot less than PPP), **then Subsaharan Africa owns substantial positive foreign wealth in 2025** (larger than East Asia).

Simulated Foreign Wealth: No Colonial Transfer 1800-1914



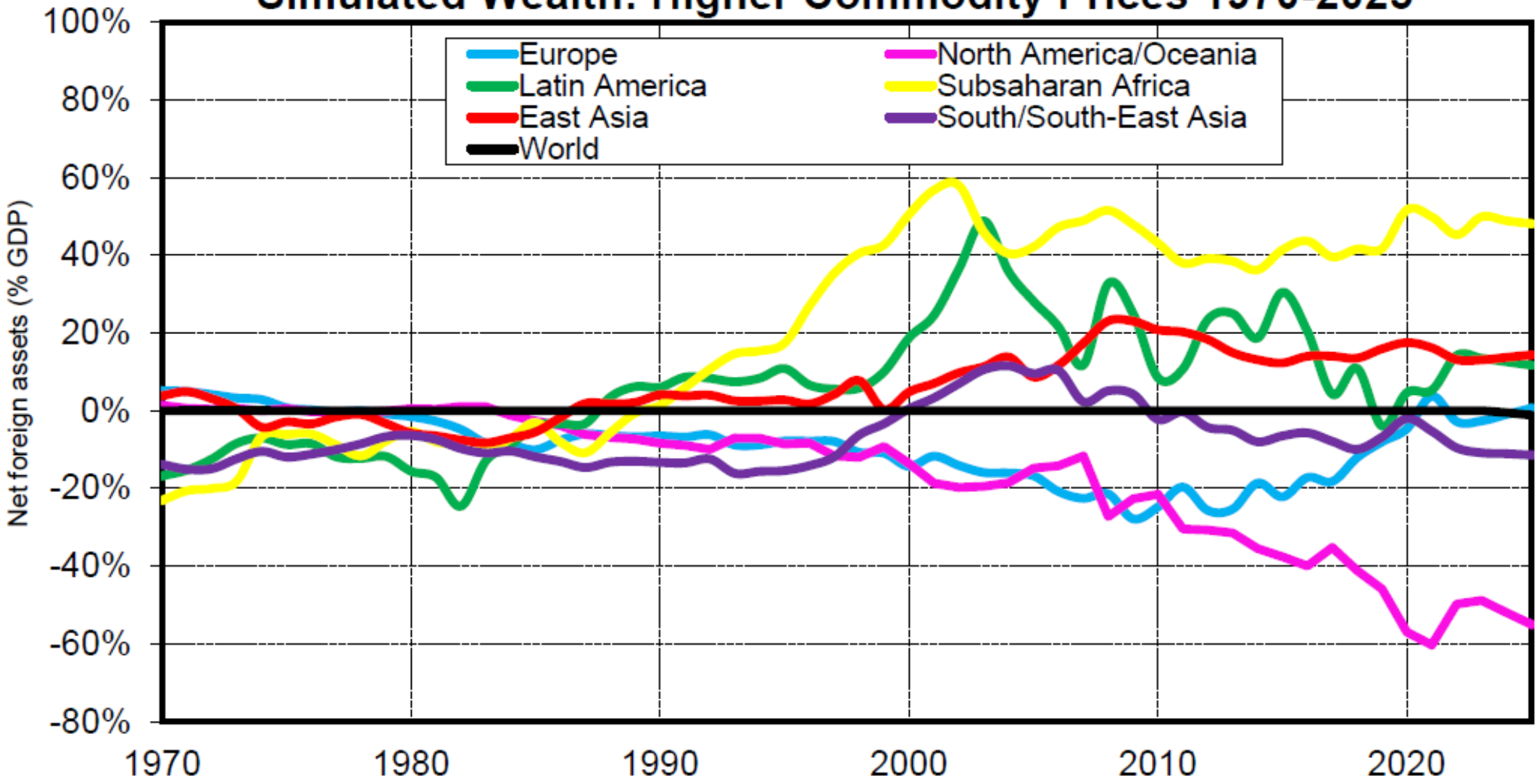
Interpretation. In the absence of the net transfer flows received by Europe in 1800-1914 (war tributes paid by Haïti and China to France and Britain, "Home charges" paid by India and Indosesia to Britain and the Netherlands, etc.)., and leaving all other flows unchanged, Europe would have had a very large negative wealth position by 1914, mostly to the benefit of South/South-East Asia (and to a lesser extent to Latin American, due to large transfer from French and British West Indies in 1800-1850). **Sources and series**: wid.world

Simulations: Higher Commodity Prices/No Forced Labor



Interpretation. Assuming that primary commodity prices would have been 20% higher than what they were betwen 1800 and 1914 (which corresponds to a lower bound estimate of the value of unpaid forced labor in the export production of cotton, sugar, grain, etc.. over this period), and leaving all other flows unchanged, Europe would have had a very large negative wealth position by 1914 (about -60% of world GDP, i.e. about -160% of Europe's GDP), to the benefit of all other regions (including North America/Oceania). **Sources and series**: wid.world

Simulated Wealth: Higher Commodity Prices 1970-2025



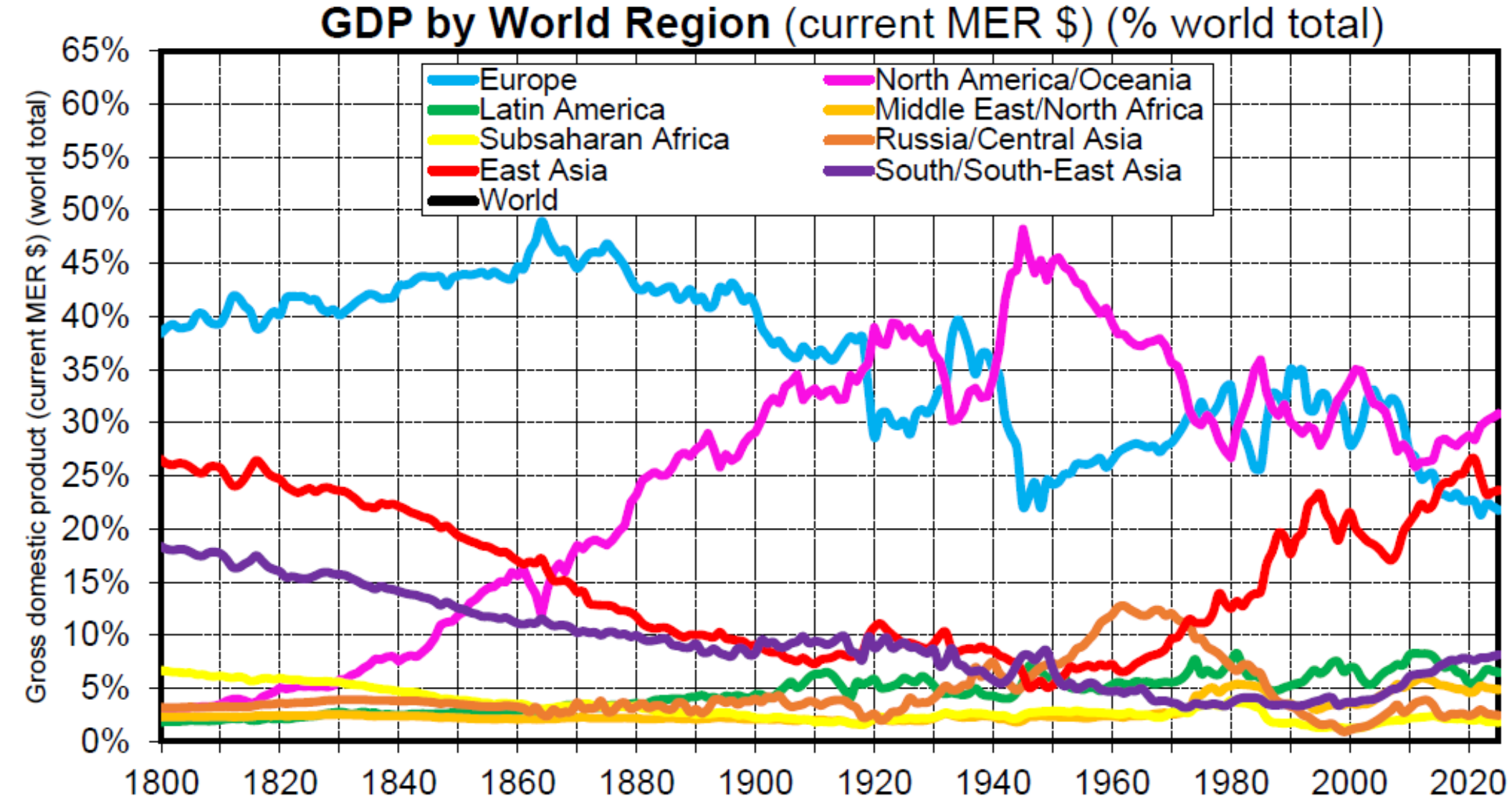
Interpretation. Assuming that primary commodity prices would have been 20% higher than what they were betwen 1970 and 2025, leaving all other flows unchanged, then Subsaharan Africa would own substantial foreign wealth (+48% of its GDP, vs -42% in reality), more than East Asia (+14% of its GDP, vs +49% in reality), and a lot more than Europe (+1% of its GDP, vs +24% in reality).

Sources and series: wid.world

Main results of the economic simulations.

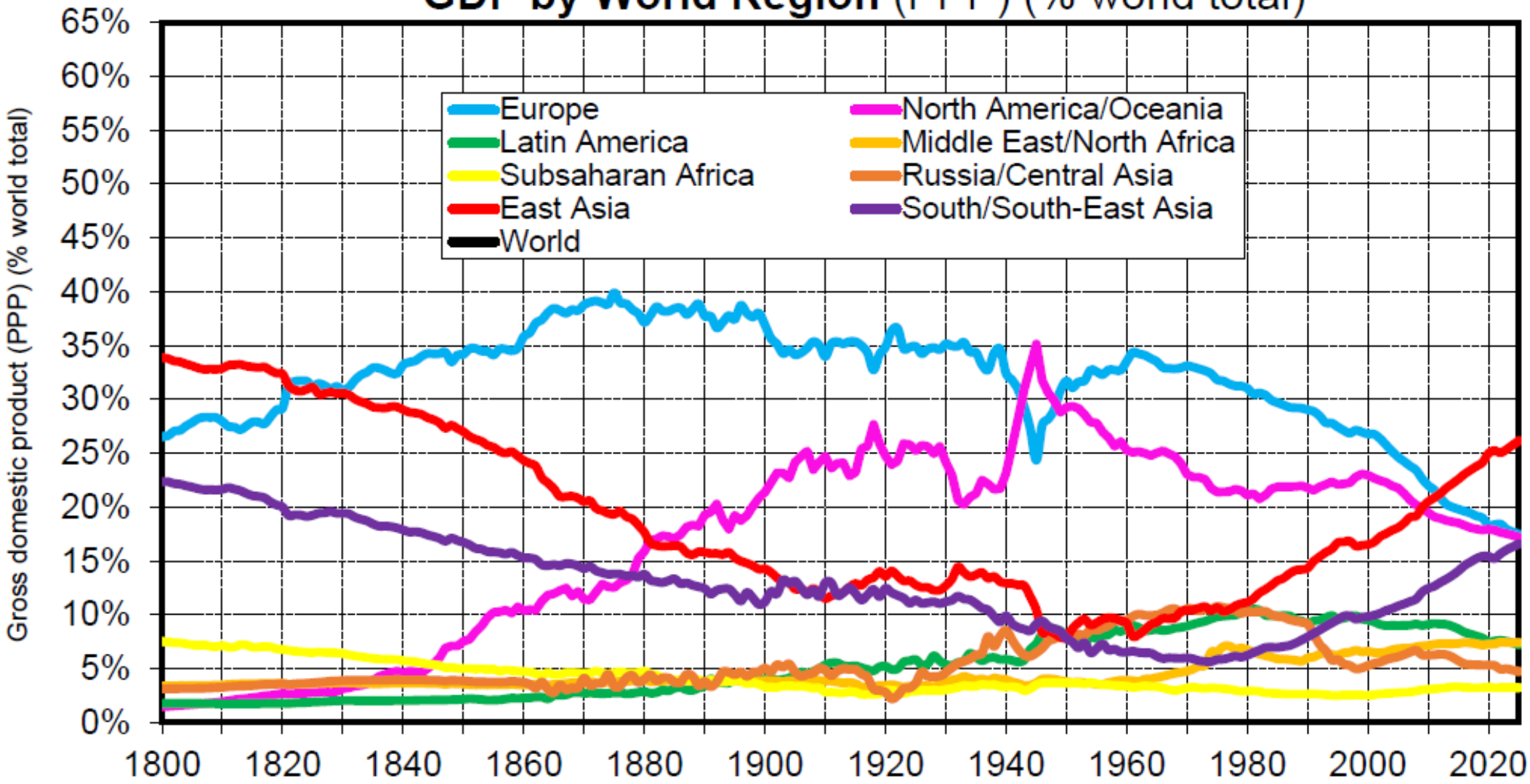
If colonial transfers (1800-1914) (war and colonial tributes) **are set at zero and commodity prices are raised by 20% (1800-2025**), assuming that the gains are invested in human capital in the benefiting countries and the losses are absorbed by consumption cuts in the losing countries, **then average global GDP per capita would be substantially higher in 2025, decreasing inequality between regions.**

To achieve near-complete convergence of per capita GDP, a 30% increase in the terms of trade would be required, benefiting the poorest countries (e.g., GDP pc below 70% of the world average). **A development policy would be necessary.**



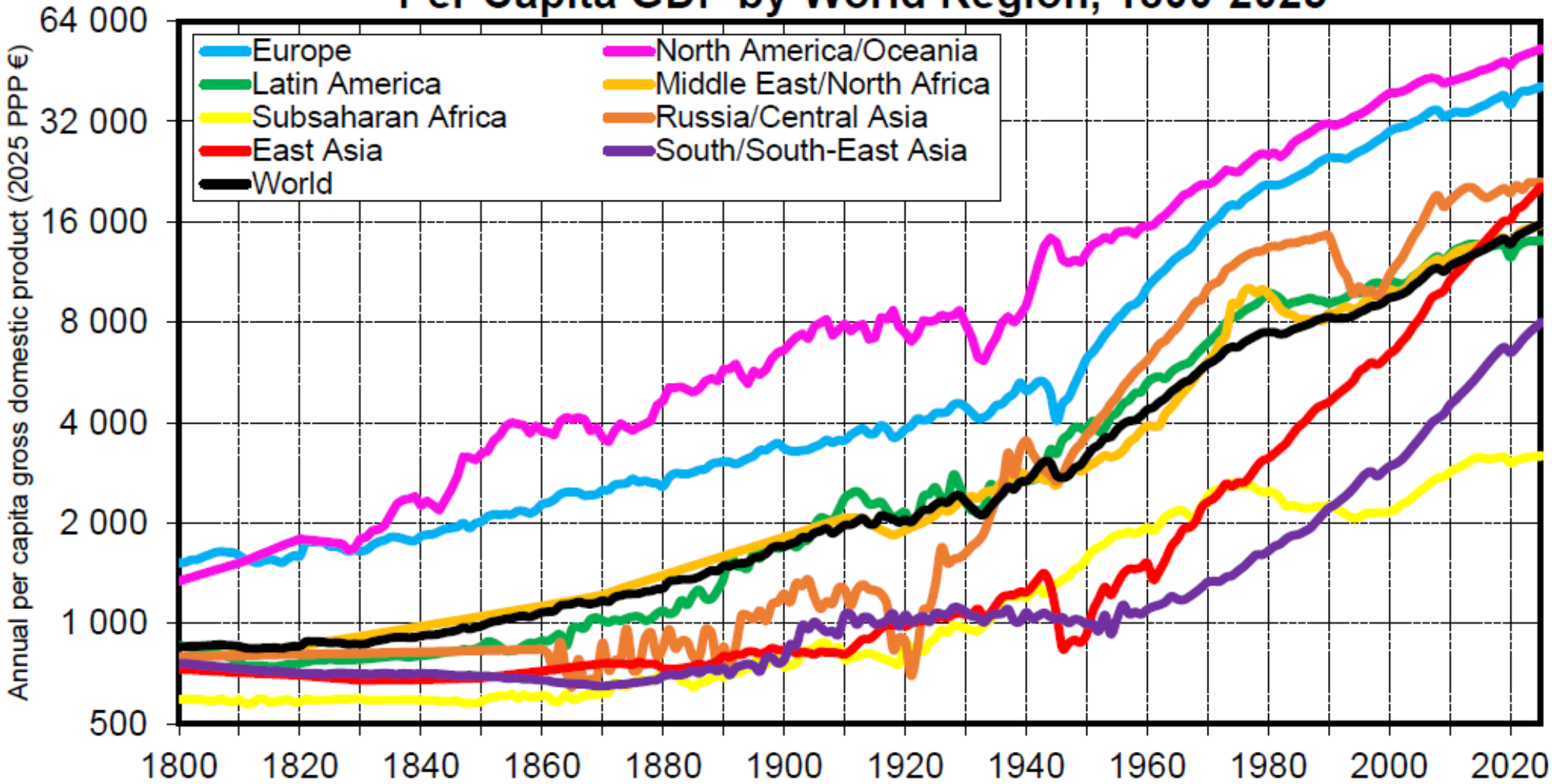
Interpretation. Using current MER $ (market exchange rates), North America/Oecania represents about 30% of world GDP in 2025 (about the same level as in 1900), vs 23% for Europe (41% in 1900) and 24% in East Asia (8% in 1900). **Sources and series**: see wid.world

GDP by World Region (PPP) (% world total)



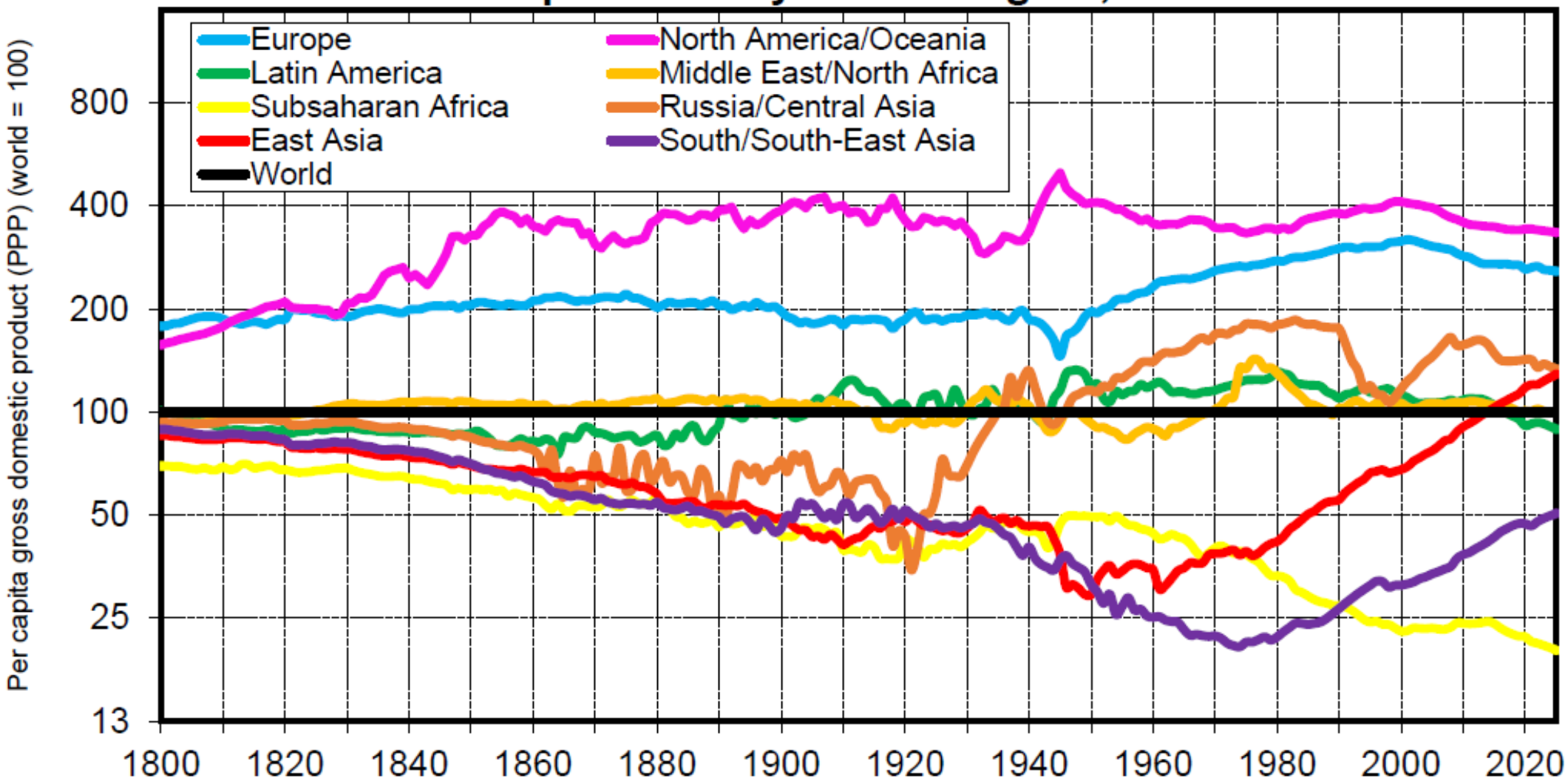
Interpretation. Using PPP values (purchasing power parity), North America/Oecania represents about 17% of world GDP in 2025 (25% in 1900), vs 17% for Europe (37% in 1900) and 26% in East Asia (14% in 1900). Generally speaking, the share of NAOC and Europe in world GDP has always been substantially smaller if we use PPPs rather than MERs (market exchange rates). **Sources and series**: see wid.world

Per Capita GDP by World Region, 1800-2025



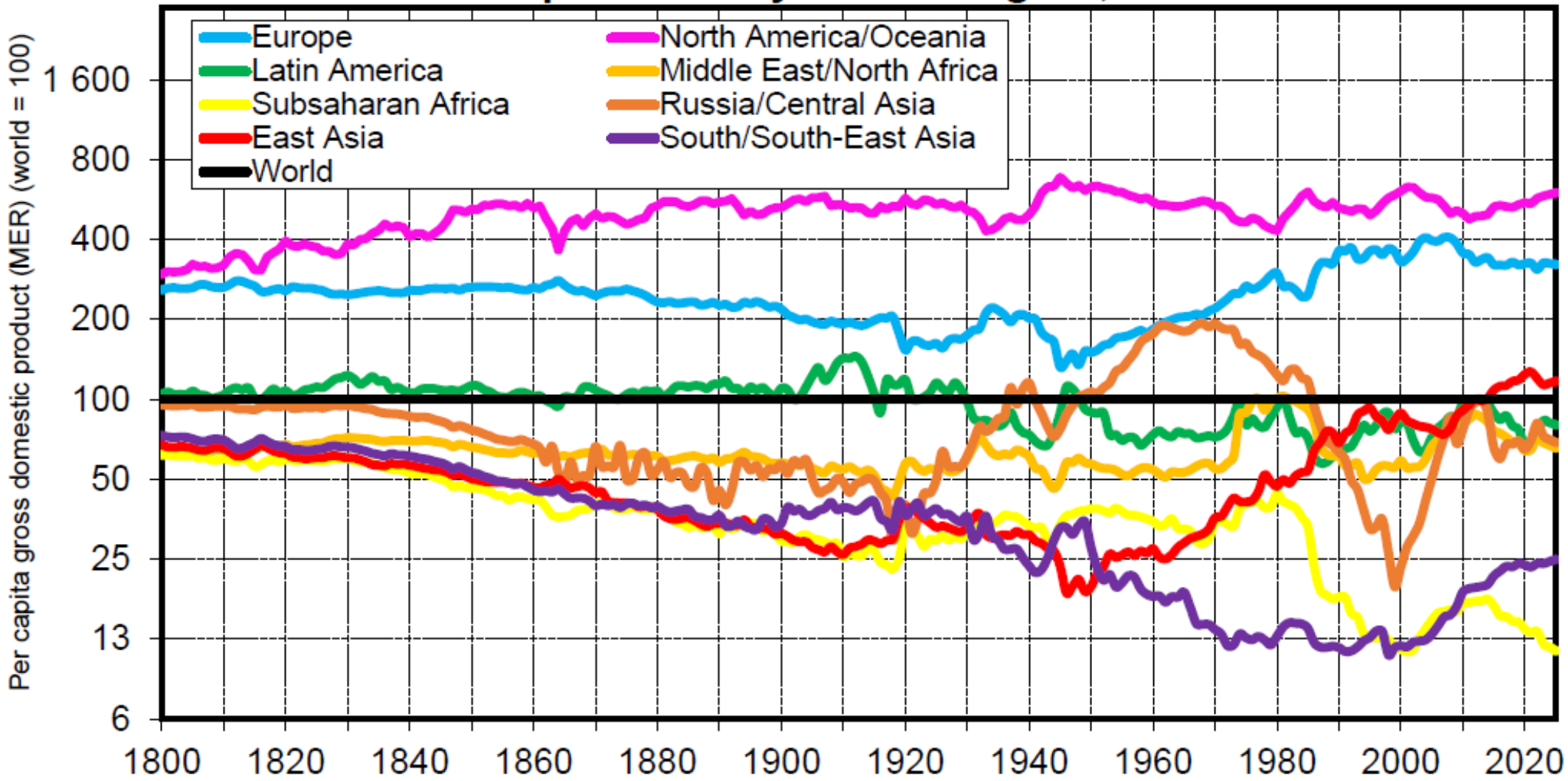
Interpretation. Expressed in 2025 PPP €, annual per capita gross domestic product (GDP) rose from about 900€ in 1800 to almost 16 000€ in 2025 at the global level. I.e. it was multiplied by about 18, which corresponds to average annual real growth rate of 1,3% per year, with large variations over time and across regions. **Sources and series**: see wid.world

Per Capita GDP by World Region, 1800-2025



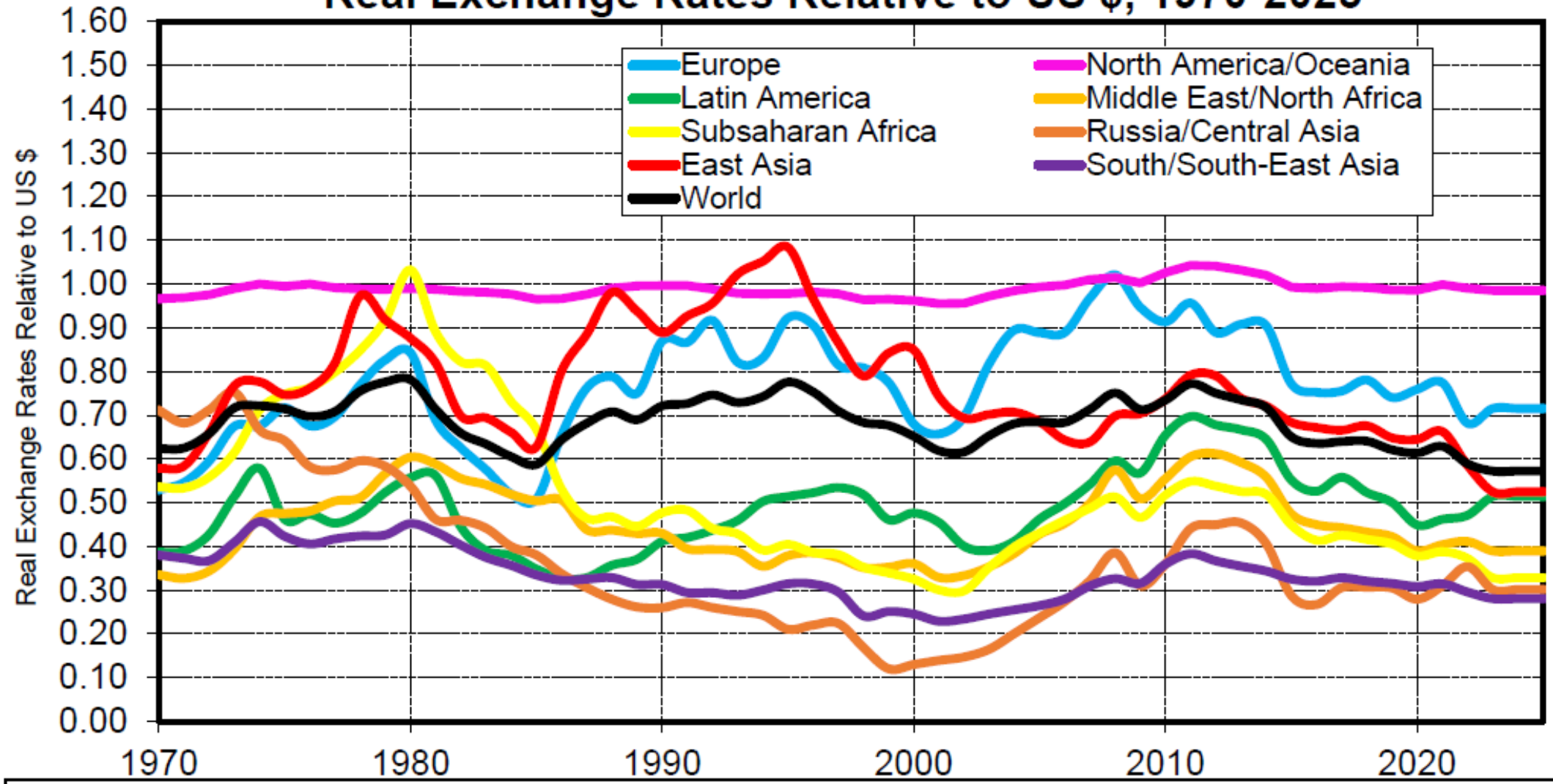
Interpretation. Per capita GDP gaps have widened during the 1800-1914 period and have started to catch up in Russia/Central Asia since 1920 and in East Asia and South/South-East Asia since 1950-1960. **Sources and series**: see wid.world

Per Capita GDP by World Region, 1800-2025



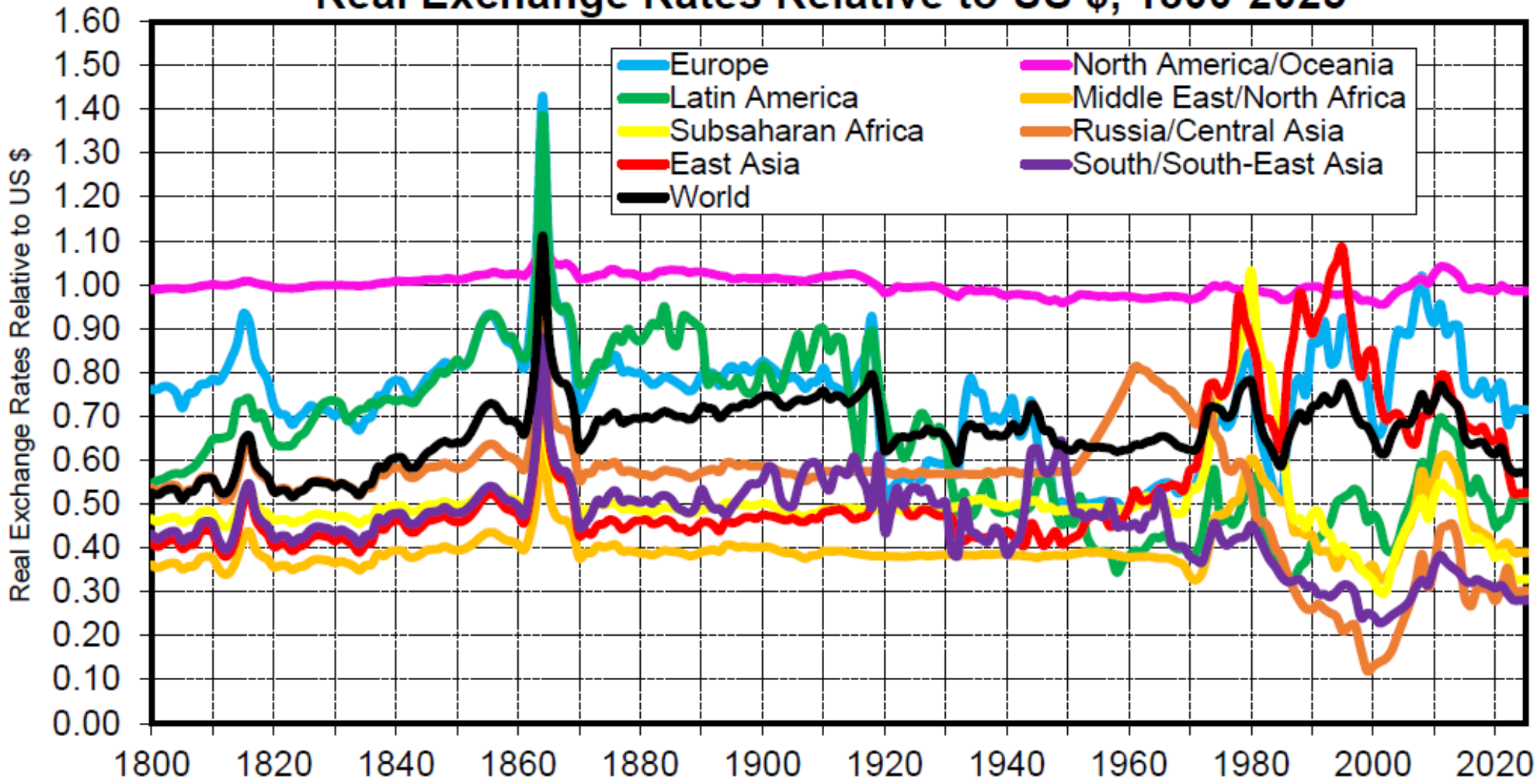
Interpretation. Per capita GDP gaps have always been larger if we use MERs estimates (market exchange rates) rather than PPP estimates (purchasing power parities). **Sources and series**: see wid.world

Real Exchange Rates Relative to US $, 1970-2025



Interpretation. Real exchange rates relative to US $ have generally been less than 1, and as low as 0.3-0.4 on average for countries in Subsaharan Africa or South & South-East Asia. I.e. if they were trading at PPP (purchasing power parity) rather than MER (market exchange rate) they would get about 3 times as much value for their exports. **Note**. Real exchange rates relative to US $ are defined as the ratio between GDP using MER with US $ and GDP using PPP. RERs below 1 mean that domestic currency should appreciate (and/or US $ dollar should depreciate) in order to restore price parity. Since the 1970s-1980s, prices are compared using ICP surveys (here we use the latest one: 2021). **Sources and series**: see wid.world

Real Exchange Rates Relative to US $, 1800-2025



Interpretation. Real exchange rates relative to US $ have generally been less than 1, except in the 1860s during US Civil War ($ depreciation), and to a lesser extent in the 1990s (high yen and Japanese prices). **Note**. Real exchange rates relative to US $ are defined as the ratio between GDP using MER (market exchange rate) with US $ and GDP using PPP (purchasing power parity). RERs below 1 mean that domestic currency should appreciate (and/or US $ dollar should depreciate) in order to restore price parity. Since the 1970s-1980s, prices are compared using ICP surveys (here we use the latest one 2021). Before the 1950s avilable national price indexes are much less comprehensive than recent indexes and many of our GDP series are expressed in US $. **Sources and series**: see wid.world