

# UNEQUAL EXCHANGE AND NORTH-SOUTH RELATIONS: EVIDENCE FROM GLOBAL TRADE FLOWS AND THE WORLD BALANCE OF PAYMENTS 1800-2025

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

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**Abstract.** This paper constructs a new database on global trade flows and the world balance of payments (including goods, services, income and transfers) covering 57 core territories (48 main countries + 9 residual regions) over the 1800-2025 period. This allows us to analyze patterns of global imbalances, current account surplus/deficit and net foreign wealth accumulation over more than two centuries. We quantify the role of colonial transfers and low commodity prices (due to forced labor and other factors) in the build-up of Europe's foreign wealth during the 1800-1914 period. We compare this experience to the global imbalances which developed during the 1970-2025 period. We stress the persistent role of unequal bargaining power and terms of exchange and the need for collective rules. We also provide counterfactual simulations on foreign wealth accumulation under alternative trade & monetary regimes.

\*All series constructed in this research are available online in the World Historical Balance of Payments Database ([wbop.world](http://wbop.world)), together with a detailed replication package including raw data sources, methods and codes. All series are also available and will be regularly updated in the World Inequality Database ([wid.world](http://wid.world)).

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## **1. Introduction**

Are today's trade and current account imbalances unique in history? How do current patterns of global surpluses/deficits and foreign wealth accumulation compare to those of the past? More generally, are international economic relations characterized by self-correcting market mechanisms, or by persistent imbalances and power relations between nations? What does this imply about the need for collective regulation and the organization of the international monetary system and global trade rules?

In order to bring new answers to these core questions, we construct a new database on global trade flows and the world balance of payments (including goods, services, income and transfers) covering the entire planet over the 1800-2025 period. This allows us to analyze patterns of global imbalances, trade and current account surplus/deficit and net foreign wealth accumulation over more than two centuries. We quantify the role of colonial transfers and low commodity prices (due to forced labor and other factors) in the build-up of Europe's foreign wealth during the 1800-1914 period. We compare this experience to the global imbalances which developed during the 1970-2025 period. We stress both the differences and similarities, and in particular the persistent role of unequal bargaining power and terms of exchange and the need for collective rules. We also provide counterfactual simulations on foreign wealth accumulation under alternative trade and monetary regimes.

One of our main objectives is to offer a comprehensive comparison of the global imbalances which developed during the 19<sup>th</sup> century and until World War 1, particularly during the 1880-1914 period (a period sometimes referred to as the "first globalization"), and those which developed over the 1990-2025 period (the "second globalization").<sup>1</sup> Thanks to our new database, we are able to systematically compare the structure and magnitude of cross-country ownership patterns in both episodes – and over the entire 1800-2025 period – and how they came into being. One of our first basic results is summarized on Figure 1, where we divide the planet into 8 large world regions and plot the patterns of net foreign asset position held by each region (as a proportion of regional GDP) between 1800 and 2025.

Between 1800 and 1914, Europe owns a rising fraction of the rest of the world. On the eve of World War 1, Europe's foreign wealth – i.e. net foreign assets owned by European residents in the rest of the world – reaches about 70% of Europe's GDP,

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<sup>1</sup> Modern globalization begins with Europe's overseas expansion around 1450-1550, a lot before 1880-1914. However, regarding the magnitude of global trade flows and cross-border financial assets, the 1880-1914 globalization is more directly comparable to the 1990-2025 period, as we shall see below.

while all other parts of the world have a negative foreign asset position. Between 1914 and 1950, Europe's foreign assets vanish. They are partly replaced by foreign assets owned by the US between 1920 and 1970 and later by oil countries (particularly in the Middle East) and especially by East Asia (especially Japan and China) since the 1970s-1980s. By 2025, the magnitude of cross-border foreign positions (expressed as fraction of regional GDPs) seems at first sight to have recovered to a level comparable to that observed in 1914, albeit with a very different geography of creditor and debtor regions (see Figure 1). While some of these facts are relatively well-known at a general level, the main novelty is that we are able to offer a systematic quantitative study of the structure and evolution of cross-border wealth positions over more than two centuries for the entire world, together with a comprehensive analysis of the patterns of trade surpluses and deficits (broken down for primary commodities, manufactured goods and services) and other items of the balance of payments (including foreign income and transfers) which gave rise to these positive and negative positions.

Our main conclusions are the following. Generally speaking, the two peaks in foreign wealth positions reported in Figure 1 (the 1914 peak and the 2025 peak) are very different in many ways, but they also share important similarities which are arguably even more striking than the differences, in particular regarding the role of unequal North-South exchange and power relations in the making of global imbalances.

First, regarding the differences, we will show that the magnitude of the 1914 peak is actually much larger than the 2025 peak, especially if we take into account the fact that only a subset of core European powers (Britain, France, Germany, Netherlands) held substantial positive foreign wealth (while the rest of Europe had a negative position and was to a large extent owned by core European powers, like the rest of the world). Also, and most importantly, the higher magnitude of the 1914 peak is even more striking if we express all positions as a proportion of world GDP (rather than regional GDP), which arguably provides a better way to compare global imbalances and their evolution over time, as we shall see. For instance, the positive wealth position of oil countries in 2025 may seem large relative to their GDP (see Figure 1), but their share in world GDP is actually much smaller than that of Europe in 1914, so that the corresponding foreign assets are in fact much less significant for the world economy as a whole than those held by European powers in 1914. The foreign assets held by East Asia in 2025 are substantially larger than those held by oil countries as a share of world GDP, but they are still much smaller than Europe's 1914 assets.

Next, another major difference between the two contexts is that the leading economic power of the 20<sup>th</sup> century and early 21<sup>st</sup> century (namely the US) has a sizable negative foreign wealth position in 2025, while Britain-led Europe had a very large positive position in the 19<sup>th</sup> century and up until 1914 (and to a lesser extent until 1950).

Finally, an even more striking difference between the two peaks is that Europe was able to build a very large positive position without ever running trade surpluses over the entire 1800-1914 period. As we shall see, initial accumulation of foreign wealth was to a large extent made possible by colonial transfers (which we might also call colonial extraction).<sup>2</sup> These transfers took the form of either one-off tributes (like the large slave debt imposed by France on Haïti in 1825 or the opium war debt imposed by Britain on China in 1842) or permanent transfers of tax revenues from the colonies to the metropolis (like those imposed by the British in India or the Dutch in Indonesia between 1800 until the 1930s-1940s). This made it possible for Europe to start accumulating foreign wealth and to receive larger and larger capital income payments from the rest of the world. These income payments reached enormous proportions in the late 19<sup>th</sup> century and early 20<sup>th</sup> century, which allowed European powers not only to finance their enormous trade deficit – around 3-4% of GDP on average between 1880 and 1914, i.e. approximately as much as the US between 1990 and 2025 – but also to keep accumulating wealth in the rest of the world. In contrast, the positive foreign wealth accumulation of the recent decades looks more standard – and closer in spirit to what economics textbooks describe. I.e. the countries with positive foreign wealth in 2025 – either Japan, China or oil countries – are those which have accumulated large trade surpluses since the 1970s-1980s.

In spite of all these key differences, the two periods share important similarities, especially regarding the role of unequal exchange and power relations in the making of global imbalances. In particular, both European powers in the 1800-1914 period and East Asian powers in the 1970-2025 period are characterized by enormous trade deficits in primary commodities (especially vis-a-vis South & South-East Asia, Latin America and Subsaharan Africa) and trade surpluses in manufactured goods. Our counterfactual simulations show that relatively small changes in bargaining power and terms of exchange can completely reverse the relative wealth position of the various countries and world regions. E.g. a 20% increase in relative price of primary commodities over the 1800-1914 period (i.e. a change of smaller magnitude than the

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<sup>2</sup> We prefer to use the less loaded term of “transfers”, which corresponds in our accounting framework to the notion of unilateral international transfers used in IMF BoP nomenclature. See section 2 below. However it is clear than from a modern perspective this looks very much like colonial extraction (imposed by higher military capacity and unequal bargaining power).

value of unpaid forced labor in cotton production and other primary commodities over this period) is sufficient to transform entire regions of the global South (especially South & South East Asia and Latin America) into large net creditors and Europe into large net debtor by 1914. The overall effect is substantially larger than the repeal of colonial transfers. Similarly, a 20% increase in relative price of primary commodities over the 1970-2025 period (i.e. a change of relatively small magnitude as compared to the very low market exchange rates of many global South countries over this period) is sufficient to turn Sub-Saharan Africa into a large creditor by 2025, with a bigger positive foreign wealth position than East Asia. We also show that this effect is even larger in magnitude than that of the “exorbitant privilege”, i.e. the existence of differentials between rates of return on gross foreign assets and liabilities benefiting rich countries (and particularly the US in recent decades) and hurting poorer countries. Finally, we analyze counterfactual simulations where the extra revenue is used by poor countries to raise domestic investment in human capital (and the income loss in rich countries is paid for by reduced consumption of top income groups). We find that the magnitude of the effect is sufficiently large to generate quasi-complete productivity convergence between poor and rich countries over the course of the 1800-2025 period. In other words, unequal comparative development largely stems from unequal exchange, in the sense that a different set of trade rules and institutions could have led to a different pattern of comparative development, and could contribute to do so in the future.

The present work is closely related to several research literatures at the intersection of economic history, international macroeconomics, trade and development economics. First, there exists a long tradition of research on the structure and evolution of net foreign asset positions. In the late 19<sup>th</sup> century and early 20<sup>th</sup> century, many economists used available data sources (in particular foreign investment statistics) in order to estimate the stock of foreign assets held in the rest of the world by the main European colonial powers, especially Britain and France (see e.g. Giffen (1889), De Foville (1893), Colson (1903)).<sup>3</sup> Up until World War 1, a growing literature stressed the enormous magnitude of the foreign asset positions accumulated by European powers and the increasingly dangerous imperialist rivalries involved in this process (see e.g. Hobson (1902), Hilferding (1910), Lenin (1916)). Unfortunately, this literature largely consisted of portfolio estimates for a few key countries and isolated years, and these authors never attempted to provide consistent series on the distribution of net foreign asset position for both creditor and debtor countries at the world level (not to mention the origin of these positions). In recent decades, a more systematic literature

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<sup>3</sup> See Piketty and Zucman (2014) for extensive references on pre-WW1 estimates of national wealth and national balance sheets (including foreign wealth).

developed in order to construct annual series on the global structure of net foreign assets and liabilities (see e.g. Lane and Milesi-Ferretti (2007, 2009, 2018)). This literature has stressed the role of the US “exorbitant privilege” in limiting the magnitude of net foreign debt accumulation by the US (see Gourinchas and Rey (2007a, 2007b) and Nievas and Sodano (2024)). One important limitation is that these works usually begin their investigation of net foreign asset positions around 1970 or 1980. The novelty of our approach is that we are able to offer a much longer historical perspective (1800-2025), which allows us to bring new light to current discussions on global imbalances. We are also able to put the issue of “exorbitant privilege” into the broader context of “unequal exchange”, including both the trade and financial aspects and the colonial and post-colonial dimensions.

Next, we also build heavily on the historical literature on balance of payments. Beginning in the 1950s, several scholars have attempted to reconstruct annual series on the balance of payments for the largest western economies (see the classic work of Imlah (1952, 1958) on Britain, North (1960) on the US, Levy-Leboyer (1977) on France, Smits et al (2000) and Toussaint et al (2022) on the Netherlands). These series generally start in the early 19<sup>th</sup> century (typically 1800) and sometime go back to the early 18<sup>th</sup> century (see e.g. Brezis (1995) for the case of Britain). In recent decades, incomplete historical series on the balance of payments have also been reconstructed for a number of non-Western countries (see Nogues-Marco (2021) on India, Van der Eng (1998) for Indonesia, Franco (1983) on Brasil, Ferreres (2010) on Argentina, Gregory (1979) on Russia, Yan and Xin (2023) on China).

However, to our knowledge, there exists no work so far attempting to combine these estimates in order to analyze the world balance of payments in a consistent manner at the global level over the long-run. This is the gap that the present research aims to fill. For the recent period (1990-2025), official IMF BoP series cover virtually the entire world, and we make very minor corrections and additions to these official series. For earlier periods (1800-1990 and particularly 1800-1950), there exists no official global BoP series, and our work is the first attempt to combine in a systematic manner all existing country BoP series with our own new estimates of key BoP items for missing countries-years so as to cover the entire world in a coherent way. We also use existing stock estimates of foreign assets (and particularly the pre-World War 1 estimates referred to earlier) in order to test the consistency of the flow series. In effect, what we do in this work is to propose a plausible reconciliation of all available evidence on global stocks of foreign assets and liabilities and global flows of exports, imports, foreign income and foreign transfers over the 1800-2025 period. We attempt to make this

reconciliation as transparent, plausible and reliable as possible. We provide a number of consistency checks, variant estimates and alternative series suggesting that our main conclusions are unlikely to be affected by alternative assumptions. We should make clear, however, that we certainly do not believe that the historical BoP series constructed in this research (and now available on-line in the World Historical Balance of Payments Database, [wbop.world](http://wbop.world)) to be the final statement on the issue. As new country research will become available on historical BoP series, WBOP series will be revised and updated accordingly. We are grateful in advance to all interested readers for their reactions and suggestions to help improve the database.

Our work is also related to the extensive literature on colonial wealth drain and post-colonial reparations. In particular, there exists a relatively vast literature on resource extraction in the context of British India (see e.g. Naoroji (1901), Maddison (1971), Patnaik and Patnaik (2021)) and Dutch Indonesia (see Van der Eng (1998)). There also exists a number of works trying to quantify the magnitude of post-slavery reparations, by focusing both on the value of unpaid slave labour between 1450 and 1888 (most of it between 1800 and 1888, given the very large rise in the number of slaves employed in the plantation system between 1750 and 1860) and the value of bad treatments (see Bazelon et al (2023) and Robinson (2023)). Generally speaking, our findings are consistent with this literature, especially regarding the high level of colonial transfers. One important difference is that these works generally focus on one particular aspect of North-South relations (e.g. Indian wealth drain or Atlantic slavery). In contrast, we attempt to provide global historical estimates and to put these different aspects together into a consistent macroeconomic framework. Regarding the debate on reparations, our main contribution is that we attempt to describe explicitly how reparations resources could be used in order to lead to alternative development trajectories. We hope that this approach based on counterfactual simulations can contribute to reframe the discussion in a forward-looking manner.

Our work is also close in spirit to the literature on unequal exchange (see the classic works by Prebisch (1950), Frank (1967), Emmanuel (1972), Amin (1978) and Cardoso and Faletto (1979)). Our results are broadly consistent with this research. The main difference is that we are able 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. Our research is also related to the more recent work by Cahen-Fourot et al (2024), Hickel et al (2021, 2022, 2024) and Magalhaes et al (2019), who analyze unequal exchange patterns in terms of volume of material resources and labour traded between different world regions. Our



approach is complementary with these works. We analyze global trade flows expressed in monetary values but we distinguish between different trade components (in particular primary commodities vs manufacturing goods) and we show that relatively small changes in bargaining power and terms of exchange can lead to radically different patterns of foreign wealth and comparative development.

Finally, our work is closely related to existing discussions on the reform of the international monetary system, international organizations and global trade rules. Generally speaking, our results suggest that collective rules and institutions matter a lot for the dynamics of global trade and comparative development. Global economic relations appear to be characterized by persistent imbalances and power relations rather than by self-correcting market mechanisms. Changes in bargaining power and terms of exchange can have enormous consequences on the relative wealth of nations and on their development opportunities. In order to design a more inclusive and mutually beneficial trade and monetary system, more discussion is needed on structural reforms of the international monetary and exchange system. This could involve a mixture of new monetary rules – including pegged exchanged rates closer to purchasing power parities and/or a common currency (the Bancor in Keynes' 1943 International Clearing Union proposal, or higher quotas of IMF SDRs in the current institutional system, together with a reform of voting rights granting more power to the global South) –, a centralized system of credits/debits with a common borrowing rate, as well as a corrective tax on excessive current account surpluses (as originally discussed by Keynes and in more recent proposals; see e.g. the discussions in Nievas and Sodano (2024) and Morgan and Patomaki (2025)). We feel that our counterfactual simulations can also be a useful tool in order to clarify some of the main issues at stake in these discussions. In particular, one of our key results is that relatively small changes in terms of exchange can have an enormous impact on foreign wealth patterns and comparative development trajectories.

The rest of this paper is organized as follows. We start by presenting in section 2 our sources, methods and concepts. We then describe in section 3 our main results on global patterns of current account surplus and deficit and foreign wealth accumulation at the world level over the 1800-2025 period. In section 4 we analyze the role of trade balance for goods (primary commodities vs manufactured goods) and services and the impact of foreign income and transfers in order to account for these patterns. We present in section 5 our results from counterfactual simulations on alternative development trajectories. Finally, we provide concluding comments and discuss research perspectives in section 6.

## **2. Sources, Methods and Concepts**

This research relies on the construction of a new database, the World Historical Balance of Payments Database (WBOP). All WBOP series are available online on a dedicated website ([wbop.world](http://wbop.world)), together with a detailed replication package including raw data sources, methods and codes. All series are also available and will be regularly updated in the World Inequality Database ([wid.world](http://wid.world)). We refer all interested readers to the dedicated website and the replication package for all technical details about the construction of the series. In what follows, we describe the main steps of our methodology and focus on the most substantial issues.

### **2.1. Geographical Coverage and Conceptual Framework**

Generally speaking, we aim to provide series on global trade flows and the world balance of payments (including goods, services, income and transfers) covering the entire planet over the 1800-2025 period. The geographical coverage of our database is described on Table 1. We divide the world into 57 core territories (48 main countries and 9 residual regions) and provide annual series covering the entire 1800-2025 period for all 57 core territories. These 57 core territories are defined so as to cover 100% of world population and GDP over the entire period. Note that all countries, territories and jurisdictions are defined throughout the 1800-2025 period on the basis of their 2025 territorial borders. I.e. all raw historical series were corrected accordingly so as take territorial changes into account. Our 48 main countries represent about 85-90% of world population and world GDP (measured either using market exchange rates (MER) or purchasing power parities (PPP)), while the 9 residual regions make the remaining 10-15% (see Figure 2).

The main annual series, variables and decompositions included in the WBOP database are described in the following equations:

$$CA_{it} = NTG_{it} + NTS_{it} + NFY_{it} + NFT_{it} \quad (1)$$

With:  $CA_{it}$  = Net current account

$NTG_{it}$  = Net trade balance in goods

(= Exports in goods  $XG_{it}$  – Imports in goods  $XM_{it}$ )

$NTS_{it}$  = Net trade balance in services

(= Exports in services  $XS_{it}$  – Imports in services  $MS_{it}$ )

$\text{NFY}_{it}$  = Net foreign income inflows

(= Foreign income inflows  $\text{XY}_{it}$  – Foreign income outflows  $\text{MY}_{it}$ )

$\text{NFT}_{it}$  = Net foreign transfer inflows

(= Foreign transfers inflows  $\text{XT}_{it}$  – Foreign transfer outflows  $\text{MT}_{it}$ )

We also provide a decomposition of goods trade into two components:

$$\text{NTG}_{it} = \text{NTP}_{it} + \text{NTM}_{it} \quad (2)$$

With:  $\text{NTP}_{it}$  = Net trade balance in primary commodities

(= Exports in primary commodities  $\text{XP}_{it}$  – Imports in primary commodities  $\text{MP}_{it}$ )

$\text{NTM}_{it}$  = Net trade balance in manufacturing goods

(= Exports in manufacturing goods  $\text{XM}_{it}$  – Imports in manufacturing goods  $\text{MM}_{it}$ )

In addition, we also provide series for foreign wealth:

$$\text{NFW}_{it} = \text{GFA}_{it} - \text{GFL}_{it} \quad (3)$$

With:  $\text{NFW}_{it}$  = Net foreign wealth

$\text{GFA}_{it}$  = Gross foreign assets

$\text{GFL}_{it}$  = Gross foreign liabilities

All series are annual over the 1800-2025 period and cover all 57 core territories. Regarding the recent decades (1970-2025), we also provide the same annual series using the full set of 216 countries and jurisdictions used to define the world in the World Inequality Database,<sup>4</sup> together with some additional decompositions for trade in services (transport, travel/tourism, other services), foreign income flows (capital income, labour income, taxes/subsidies) and foreign transfer flows (private remittances, public transfers, other transfers).<sup>5</sup> For the previous period (1800-1970), available data sources do not allow us to provide such decompositions for all countries

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<sup>4</sup> See Moshrif et al (2024). For the 1970-2025 period, all series covering the 9 residual regions described on Table 1 are constructed by adding up the series covering the 168 small countries and jurisdictions covered in WID and which are not part of the 48 main countries. Regarding the 1800-1970 period, we have full population series for all 216 countries so we can compute the population of the 9 residual regions (see Gomez Carrera et al (2024)). We also have GDP and BoP series for some of the 168 small countries (but not all) and we make plausible assumptions about the evolution of the relative positive of the missing countries with respect to the rest of the region. Given that the 9 residual regions together represent about 10-15% of world GDP, these assumptions have negligible impact on our results. See online replication package for robustness checks.

<sup>5</sup> All these annual series are available in WID and were estimated on the basis of IMF BoP series, as explained in the online replication package.

and years. We do have estimates for some of the main countries, but we choose not to integrate them into our formal database, due to incomplete coverage.

All benchmark series in our WBOP database – GDP, trade balance, current account, foreign assets and liabilities – are expressed in current USD (using market exchange rates) and can easily be converted in % of each country's or region's GDP or world GDP. We also provide in WID additional annual series for country price indexes, market exchange rates between local current unit (LCU) and USD, real exchange rates between LCU and USD, and GDP expressed in constant LCU 2025 and constant PPP USD 2025 and PPP EUR 2025 for all 57 core territories over the 1800-2025 period. These series play no role for the analysis of the pattern of current account surpluses and deficits and foreign wealth accumulation developed in this paper, which is entirely conducted using our benchmark series expressed in current USD and/or in % of each country's or region's GDP (or world GDP, all expressed in current USD). We should also stress that many of our raw sources for GDP, trade balance and BoP items regarding the 1800-1950 period are available directly in USD (or in GBP, FRF or other major currencies of the time), and that LCU series are often derived from USD series.<sup>6</sup>

Regarding our conceptual framework, we follow very closely the latest edition of the IMF “Balance of Payments and International Investment Position Manual” (Sixth Edition, BPM6, 2009). Over the 1970-2025 period we rely heavily upon official IMF BoP series, with relatively minor additions and corrections (see below). Regarding the 1800-1970 period, we do our best to apply very strictly the modern IMF BoP concepts in order to construct series that are as homogeneous and as comparable as possible to the recent series. In particular, following modern BoP guidelines, our series on exports and imports in goods are always recorded “free on board” (fob), i.e. excluding the costs associated to freight, insurance, etc., which in our series are treated as exports and imports in services. The only significant difference with the standard BoP categories is that we put all unilateral foreign transfers into the same category of “foreign transfers”, whether they are current transfers or capital transfers.<sup>7</sup>

## **2.2. Sources and Methods**

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<sup>6</sup> Due to incomplete sources, we use USD, GBP or FRF as conventional LCU for a number of countries before a certain date (generally 1910 or 1950), so that some of the market exchange rates are conventionally pegged to USD, GBP or FRF before a certain date. See online replication package.

<sup>7</sup> In practice it is often difficult with available historical sources to draw a firm line between the two. I.e. a capital transfer – like the tribute imposed by France to Haïti in 1825 or by Britain to China in 1842 – is equivalent to a large current transfers – like the annual transfers paid from Indian or Indonesian tax revenues to Britain or the Netherlands. Both have the same impact on the evolution of net foreign wealth, and we include both of them under the heading of foreign transfers.

The main sources and methods that we have used to construct our series are the following. We start with GDP, then proceed with trade in goods (the so-called “visible flows” of the BoP), and finally deal with the other BoP items (the so-called “invisible flows”: trade in services, foreign income and foreign transfers), which is really where our main contribution lies.

### **2.2.1. GDP, Price Indexes and Exchange Rates**

Regarding GDP, price indexes and exchange rates, we have extended and further homogenized the historical series already included in the WID, which were largely based on the Maddison database (Maddison (2001)) and additional works by Piketty and Zucman (2014) and Chancel and Piketty (2021). Our new extended series also make use of the JST database (Jorda, Schularick and Taylor (2019)) as well as the updated version of the Maddison Project Database (MPD 2023) (Bolt and Van Zanden (2024)). There is nothing really new here, except that we provide fully annual and consistent 1800-2025 series for all 57 core territories covering the entire world, both in current USD (using market exchange rates) and in purchasing power parity terms. Our PPP estimates are based upon the latest available price surveys organized by the UN, the World Bank and country statistical offices in the context of the “International Comparison Program” (ICP 2021) and upon the country-level price indexes. Throughout the 1800-2025 period, the share of the richest world regions (Europe and North America/Oceania) in world GDP appears to be substantially larger in MER terms than in PPP terms (see Figures 3a-3b). This reflects the fact the real exchange rate of European countries vis-a-vis USD is generally close to one (typically around 0.8-0.9, and sometimes around 1-1.1), while the real exchange rate of poorer countries and world regions tends to be substantially below one (typically around 0.4-0.6, with very large short-term variations but not noticeable long-term trend).<sup>8</sup> This implies that, for poorer countries, the market exchange rate tends to undervalue domestic output relative to PPP-adjusted levels. As we already noted above, our analysis of the trade balance, the balance of payments and foreign wealth accumulation developed in this paper solely relies on current MER USD series.

### **2.2.2. “Visible Flows”: Trade in Goods**

Regarding trade in goods, there exists plentiful of raw data sources going back to the early 19<sup>th</sup> century for a large number of countries in the world. For the recent period (1970-2025), we rely for the most part on IMF BoP series. However these series offer

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<sup>8</sup> See Appendix Figures K3a-K3b. See also Couharde et al (2018).

a complete world coverage (95-98% of world GDP or more) only for the post-1990 period, and for earlier years we need to complete these series with other sources. Regarding the 1948-2025 period, we used the WTO/UNComTrade series so as to complete and extend IMF BoP series. For the 1800-1938 period, we rely for the most part on the historical trade database developed by Federico and Tena (2016). We also compare the series – and sometimes complete some missing countries – using the historical series provided by Conte, Cotterlaz and Mayer (2023) (Gravity database, 1948-2021), Fouquin and Hugot (2016, 2017) (TradeHist database, 1827-2014), and Deninger and Girard (2017) (RICardo database, 1800-1938).<sup>9</sup>

The raw series available in these sources are usually expressed in current USD, or sometimes in current GBP, in which case we convert them into current USD based on market exchange rates, so that all series are expressed in current USD. There are many gaps and inconsistencies in sources for war years (especially during WW2), and solving all these inconsistencies is far beyond the scope of the present paper, where we are primarily interested in long term trends. For simplicity, we complete the missing years over the 1938-1948 period by assuming linear trends of each country's exports and imports (expressed as a fraction of their GDP).

Generally speaking, it is well-known that raw exports and imports in goods never perfectly match at the world level. This is particularly true for more ancient periods, due to various data limitations and inconsistencies, which in principle can go both ways. In addition, many raw trade sources tend to measure exports in “fob” terms (free on board, i.e. without including the costs of insurance, freight, etc.) and imports in “cif” terms (i.e. including the costs of insurance, freight, etc.), so that world imports tend to be artificially larger than world exports. This bias does not apply to IMF BoP series (where, although goods trade for exports and imports is always measured “fob”, the global discrepancy still persists, with a smaller magnitude), but it applies to most historical data sets. It should be noted, however, that in practice the gap between raw exports and imports is relatively small as compared to the magnitude of trade flows and their variations over time (see Figure 4).<sup>10</sup> In this research, we apply a proportional adjustment factor to all country exports and imports so that by construction world

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<sup>9</sup> Some of these databases – in particular Gravity and RICardo – provide bilateral trade series. However in the context of the present research we only use aggregate series, i.e. global exports from a given country to the rest of the world (all countries combined) and global imports to a given country from the rest of the world (all countries combined). One advantage of the RICardo database is that it starts in 1787 rather than 1800, so that it offers a perspective on pre-revolutionary trade. See also Daudin's Toflit database on 18<sup>th</sup> century trade. One advantage of the TradeHist database is that it also offers interesting series on tariffs rates (see e.g. Fouquin and Hugot (2016, Figure A10)).

<sup>10</sup> See also Fouquin and Hugot (2017, Figure 17). See also North (1960) and Chuchko (2022) for interesting discussions of gaps between exports and imports in 19<sup>th</sup> century trade data.

exports and imports are always exactly equal to each other (and are equal to the average of raw world exports and imports). We also try other adjustment methods and check that our results are unaffected.<sup>11</sup> Future research should further investigate the sources of this global discrepancy (see e.g. Fisman and Wei (2004) and Chalendar et al. (2023)), but this question is outside of the scope of this paper.

The main novelty of our goods trade series – apart from providing fully annual and consistent 1800-2025 series for all 57 core territories covering the entire world – is that we break down all goods trade series into two subcomponents: primary commodities and manufacturing goods. Primary commodities include agricultural products, fuels and mining products (SITC 0-4 + 68). Manufacturing goods include all other goods. For the 1800-1938 period we rely for the most part on the breakdown provided by Federico and Tena (2016).<sup>12</sup> We also use the detailed decompositions included in the retrospective volume “International Trade Statistics 1900-1960” published by the UN in 1965, and which also includes some countries not covered by Federico-Tena. For the post-WW2 period, we use primarily the WTO/UNComTrade series (1948-2025). We use the same method as for trade in goods in order to insure that world exports and imports of primary commodities are exactly the same, and similarly for manufactured goods. In the same way as for total trade in goods, the raw gaps between imports and exports are relatively small.

### **2.2.3. “Invisible Flows”: Trade in Services, Foreign Income, Foreign Transfers**

The main novelty and research contribution of our database has to do with the so-called “invisible flows” of the world balance of payments: trade in services, foreign income and foreign transfers. By definition, these flows are more difficult to measure than the trade balance for goods. We proceed in two steps.

In the first step, we collect and closely examine all the main historical BoP series constructed by economists and economic historians. This includes the classic work of Imlah (1952, 1958) on Britain,<sup>13</sup> North (1960) on the US, Levy-Leboyer (1977) on France, Smits et al (2000) and Toussaint et al (2022) on the Netherlands. These series generally start around 1800 and sometime go back to the early 18<sup>th</sup> century (see e.g. Brezis (1995) for the case of Britain). The advantage of these series is twofold: they follow modern IMF guidelines and concepts, and their authors explain very precisely

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<sup>11</sup> See online replication package.

<sup>12</sup> See Federico and Tena (2017, 2018, 2019).

<sup>13</sup> See also Feinstein (1995).

how they estimated the various items for trade in services (including maritime transport, travel/tourism and other services like insurance, banking, trade services and other business services), foreign income (usually with a focus on portfolio capital income and direct investment income, and very little information on foreign labor income) and foreign transfers (including private remittances and various forms of public transfers).

In recent decades, historical series on the balance of payments going back to 1800 have also been reconstructed for a number of non-Western countries (see Nogues-Marco (2021) on India; Van der Eng (1998) on Indonesia; Franco (1983) on Brasil; Ferreres (2010) on Argentina; Gregory (1979) on Russia; Yan and Xin (2023) on China; see online replication package for additional references and the way we use them).<sup>14</sup> The case of India has received a lot of attention in its relation to Britain (see especially Cuenca-Esteban (2001, 2007) and Nogues-Marco (2021)) and is particularly important in quantitative terms.<sup>15</sup>

When we combine them together, all these historical BoP series cover a large part of the world GDP (generally around 70-80% throughout the 1800-2025 period). However we stress that non-Western historical BoP series are less systematic than the series covering the main Western countries. They often include missing items and years, especially before 1880-1900. Generally speaking, we have good estimates going back to 1800 for the invisible flows flowing into European countries (especially Britain, France and the Netherlands), but we have only incomplete and piecemeal estimates for the counterpart invisible flows flowing out from other parts of the world (including Latin America, South & South East Asia, East Asia, Middle East/North Africa and Russia/Central Asia). We hope this research encourages economic historians working on underrepresented regions to further estimate long-run, consistent historical BoP

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<sup>14</sup> See also Esteves and Khoudour (2009, 2011) on historical estimates of private remittances.

<sup>15</sup> See also Maddison (1971, p.92-93) on the role of so-called “Home Charges” (including expenses of Indian colonial administration in the UK and other official transfer of funds, like debt service, pensions, purchases of military items and railways equipment), and various remittances by European officials and businessmen. See also Banerji (1963) and Naoroji (1901, p.34-39) for an early analysis of the main sources of drain providing the counterpart for India’s huge trade surplus, namely government and private transfers from India to England (remittances of European officials of their saving, pensions and salaries directly paid in England, direct financing of India Office in London and English military budget, including spending not only in India but also in England and overseas), and quasi-monopoly of the British on almost all trade and important industries (resulting into very large profits repatriated to Britain, including some of the profits coming from opium production in Bengal exported to China). See also Mukherjee (2010, p.77-80), who stresses that the drain initially took the form of spices, cotton and textiles, but was quickly replaced by other commodities (by 1855 Indian exports of opium to China paid almost entirely for the imports in tea and silk which Britain took from China). The term « unrequited exports » has often been used to refer to the general idea of wealth drain, i.e. exports without counterparts. The work by Nogues-Marco (2021) provides one of the most detailed analysis of EIC wealth drain over the 1758-1857, with unrequited exports financed by large land taxes in India and profits from opium and salt trade. See also Cuenca-Esteban (2001, 2007) and Patnaik and Patnaik (2021).



series for these countries, which can be progressively integrated into the WBOP database ([wbop.world](http://wbop.world)).

We also use the first official BoP estimates published in the interwar period by the League of Nations, in collaboration with the Bank of International Settlements (BIS), an institution which was also created in the aftermath of World War I (one of its missions was the monitoring of post-war reparations, hence a particular focus on BoP estimates). The estimates published by the League of Nations provide very valuable information on the BoP during the 1920s-1930s (including for a number of countries in the global South like India, with interesting estimates of the large public transfer outflow going from India to Britain) and sometimes include approximate estimates for 1914 for comparison purposes. These first official BoP constitute very important historical materials, which we use together with the first IMF BoP series starting in 1950, and which become more systematic over time and gradually reach full global coverage between 1970 and 1995. Unfortunately they do not cover at all the period prior to 1914.

In the second step of our method, we make plausible assumptions about missing BoP items for all countries-years where some estimates are missing (especially before 1880-1900). We make these assumptions on the basis of similar countries for which we have complete series.<sup>16</sup> In addition, we ensure that all series are consistent at the global level. I.e. we impose a net zero condition separately for each item (trade in services, foreign income, foreign transfers), in the same way as for trade in goods.<sup>17</sup>

Finally, and most importantly, we perform a number of consistency checks. The main consistency check is the following. By adding up the different BoP items, we compute the net current account surplus or deficit of each country  $CA_{it}$  (expressed in current USD) by using equation (1) above (i.e.  $CA_{it} = NTG_{it} + NTS_{it} + NFY_{it} + NFT_{it}$ ). We make simple assumptions on the starting net foreign asset positions of each country in 1800,<sup>18</sup> and we cumulate the nominal current account surpluses and deficits (in current

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<sup>16</sup> We also take into account the observed trade balance in goods. For instance, if we observe large trade surpluses in goods (say, in Latin American countries in the early 19<sup>th</sup> century), and if we know from later series and other Latin American countries that these surpluses are compensated by invisible flows going in the other direction (so that in effect the country is not accumulating foreign wealth out of these trade surpluses in goods) then we make a similar assumption. All such assumptions are made explicit in the online replication package and can be easily modified so as estimate alternative series and/or integrate in future versions of the WBOP new historical research on the BoP of specific countries.

<sup>17</sup> That is, we apply a proportional adjustment to all raw series on exports and imports of services so that world exports are equal to world imports (and are equal to the average of raw world exports and imports of services), and we do the same (separately) for foreign income inflows and outflows on the one hand, and foreign transfer inflows and outflows on the other hand. In the same way as for trade in goods, we try alternative adjustment methods, and find that this has no impact on our main results.

<sup>18</sup> On the basis of classic studies on the historical BoP of Britain, the US, France and the Netherlands, we assume in 1800 a set of mutually balanced foreign asset positions, including small positive positions

USD) in order to compute the evolution of the net foreign wealth position of each country  $i$  between time  $t$  and  $t+1$ :<sup>19</sup>

$$NFW_{it+1} = NFW_{it} + CA_{it} \quad (4)$$

We can then compare our results with independent estimates of the stock of foreign assets that were made at different points in time, with a special focus on 1914 and 1970. In particular, many authors attempted to construct estimates of foreign assets for the main Western countries during the 1880-1914 period (see e.g. Giffen (1889), De Foville (1893), Colson (1903) and other references provided in the introduction; see also Twomey (1998, 2000) and Piketty and Zucman (2014) for detailed reviews of these contemporary estimates and comparisons with modern estimates).<sup>20</sup> The important point is that in order to make their computations these authors did not cumulate current account flows series (which did not exist at the time) but rather used direct estimates of the stock of foreign assets (in particular foreign investment statistics and balance sheets of major banks). By cumulating current account flows, we find estimates of net foreign assets in 1914 that are relatively close to the contemporary stock estimates, in particular regarding the stock of foreign assets held by the main European colonial powers (with gaps not exceeding about 5-10% of contemporary stock estimates), which is relatively reinsuring.<sup>21</sup>

Our second main comparison point is 1970. Beginning in 1970, we have systematic annual series on foreign assets and liabilities for all countries (see Lane and Milesi-Ferretti (2007, 2009, 2018) and Nievas and Sodano (2024)), so that we can explicitly

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for Britain and France (less than 5% of GDP), a larger positive position for the Netherlands (about 35-40% of GDP) and moderate negative positions for the US, Canada and the West Indies (included in the residual region “other Latin America”) (between -15% and -25% of their respective GDP). Given the enormous growth of the world economy between 1800 and 1914 and the magnitude of BoP flows, these assumptions on initial wealth positions in 1800 have little impact on our main results and conclusions. See the discussion in section 6.2 below.

<sup>19</sup> The only exception which we make to this simple accumulation equation in nominal USD is the following: over the period 1862-1878, we index past foreign assets to the sterling rather than to the dollar. Given that the dollar falls abruptly between 1862 and 1864 and recovers gradually between 1864 and 1878, this delivers a more realistic pattern of foreign wealth positions over this period (otherwise Europe’s foreign assets would fall abruptly and artificially between 1862 and 1864 and recover between 1864 and 1878). This has virtually no impact after 1878. See online replication package.

<sup>20</sup> Note that Twomey (1998, 2000) also provides historical estimates of foreign assets not only from the viewpoint of creditor countries but also with decomposition from the viewpoint of debtor countries in all other parts of the world (including Latin America, Sub-Saharan Africa, East Asia, South & South-East Asia & Middle East/North Africa), which we also use in order to test the consistency of our assumptions.

<sup>21</sup> Generally speaking, contemporary stock estimates of European foreign portfolios tend to focus on the most visible foreign assets (railways, canals, banks, public debt, etc.), so that they might tend to neglect some less visible assets. In the online replication package, we present robustness checks and variant estimates of trade balance and current account series delivering larger 1914 net foreign assets than our benchmark estimates (about 20-30% larger). Our benchmark series are closer to contemporary stock estimates and should be viewed as lower bound estimates.

estimate capital gains and losses as a residual to the foreign wealth accumulation equation.<sup>22</sup> Over the 1914-1970 period, we estimate the evolution of each country's foreign wealth by cumulating nominal current accounts in current USD (equation (4)), in the same way as during the period 1800-1914. We find relatively small gaps for most countries in 1970, which is again reinsuring. Note that nominal GDP growth rates are particularly high over the 1914-1970 period (largely due to high inflation) and this plays an important role in the compression of foreign asset positions (positive or negative) expressed as a proportion of GDP.<sup>23</sup> In effect, we are assuming that all foreign assets and liabilities are nominal assets denominated in USD, which seems to work relatively well as an approximate assumption on average at the world level over this period, but which might not hold for certain countries and periods. In future research, one might think of making explicit assumptions about relative capital gains and losses on foreign wealth for specific countries or periods between 1914 and 1970 (and also between 1800 and 1914). Given the small discrepancies between cumulated flows and estimated stocks in 1914 and 1970, this is unlikely to affect our main results and conclusions, but this could contribute to improve the precision of country series.<sup>24</sup>

### **3. Global Imbalances: Current Account and Foreign Wealth, 1800-2025**

We now present our results on the changing structure of current account surpluses and deficits and foreign wealth over the 1800-2025 period. We start by describing the changing magnitude and composition of global trade flows and other BoP flows over the 1800-2025 period. We then proceed with the patterns of current accounts surpluses and deficits and conclude with foreign wealth.

#### **3.1. The Changing Magnitude and Composition of Global Trade and BoP Flows**

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<sup>22</sup> See also Piketty and Zucman (2014) for an application of this volume-price decomposition method.

<sup>23</sup> See Appendix Table H2a. The average nominal rate of return on foreign assets is usually a little higher than the nominal growth rate of world GDP (current USD) over the 1800-1914 period (3-4% vs 1-2%). It is substantially smaller over the 1914-1980 period, due to high inflation (and high post-war real growth). It is a little smaller over the 1980-2025 period. Generally speaking, the average return to foreign assets is substantially smaller than the domestic rate of return to capital (7-8%), which reflects the fact that foreign assets often serve a role of reserve assets (safe and liquid, but low return on average, except for “excess yield” countries). See Appendix Figure I3d.

<sup>24</sup> For instance, by cumulating nominal US current account surpluses and deficits between 1914 and 1970, we find that the US should have a positive net foreign wealth position equal to +13% of GDP in 1970, as compared to +6% in observed stock series. The gap could be due to the existence of a (small) residual capital loss on foreign assets and liabilities over the 1914-1970 period, and/or to mismeasured transfer outflows during the World War II or postwar period (e.g. in relation to war financing operations or Marshall plan lending program). The fact that we tend to overestimate US foreign assets during the 1950-1970 period might also lead us to underestimate US “excess yield” income over the same period.

The overall level and structure of global trade flows has gone through several major transformations over the 1800-2025 period (see Figure 5). Total world exports (and imports) 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), a very large and sustained increase of manufacturing exports in the 1990s and 2000s (due to China and other emerging countries), and a plateau in total trade flows since the 2008 financial crisis. Primary commodities trade flows were larger or comparable to those observed for manufacturing goods in the 19<sup>th</sup> century and until the 1970s-1980s. They still play a major role today, even though they are now smaller than trade flows in manufacturing goods.

Trade in services has been more limited in magnitude historically (about 2% of world GDP in 1800, 2% in 1914, 3% in 1970), but has grown significantly in recent decades (7% of GDP in 2025). Up until the 1970s, trade in services largely consisted of transport/freight on the one hand and travel/tourism on the other hand.<sup>25</sup> Although it has long been relatively small in magnitude as compared to trade in goods, trade in services has always played a very important role since 1800, due to the very specific patterns of country specialization and the fact that rich countries have generally made large surpluses in services. In particular, Britain largely controlled maritime transportation (and corresponding services like freight insurance and trading services) during the 19<sup>th</sup> century and up until the mid-20<sup>th</sup> century. This came with naval superiority and control of the sea routes, and this also brought large surpluses to the country. Since the 1970s, the rise of trade in services was largely due to other services (insurance, trading, banking, consulting, digital, etc.), which have again played a particularly important role for rich countries, and also in some cases for some less developed countries (like India, a country which now has a large surplus in services, thanks to computing services).<sup>26</sup>

Note that if we were to divide total world exports by total output rather than GDP then the magnitude of world trade would be approximated divided by two (see Figure 6). This follows from the fact that output has always been approximately twice as large as GDP (about half of output is used as intermediate input) and that trade in intermediate inputs has generally been of similar magnitude as trade in final consumption and investment goods. This has no consequence for the present research (where we use

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<sup>25</sup> We follow IMF guidelines and include both passenger and merchandize transport in transport/freight and all other spending made abroad by foreign residents in travel/tourism (either as tourists or in business trips). Based upon IMF series, we provide online homogenous series with detailed decompositions for the 1970-2025 period.

<sup>26</sup> See detailed country series online.

GDP as reference denominator, following standard practice), but we note in passing that using output as denominator arguably provides a more accurate measure of the overall magnitude of trade, especially if we are interested in the fraction of productive inputs (labour and capital) that are used for exports at the world level.<sup>27</sup>

We now compare the changing magnitude of global trade flows with other BoP items (foreign income and foreign transfers). Generally speaking, 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 (see Figure 7). However, in the same way as for trade in services, these income and transfer flows follow very specific patterns of country-level surpluses and deficits, so that they often play a major role in order to reverse or magnify the impact of trade flows. Their overall magnitude has also increased over time. Income flows make about 7% of world GDP in 2025 (vs about 0.1% in 1800, 2% in 1914 and 1% in 1970), reflecting an unprecedented rise in gross foreign assets and liabilities (cross-border ownership), as we shall later see. Transfer flows make about 1.5% of world GDP in 2025, and they correspond mostly to private remittances going from North to South (and to a lesser extent public aid). Over the 1800-1914 period, they made about 0.5-1% of world GDP and were mostly made of public colonial transfers flowing from South to North.

### **3.2. Patterns of Current Account Surpluses and Deficits 1800-2025**

We now turn to the patterns of current accounts surpluses and deficits observed for the various regions and countries of the world over the 1800-2025 period. We start by presenting current accounts expressed as each regional GDP and then proceed with current accounts expressed as a fraction of world GDP.

Given that current accounts can be very bumpy, it can also be useful to begin by looking at decennial averages. The first basic result is that Europe had a permanent current account surplus between 1800 and 1914 (close to 2% of its GDP on average, and rising over time, up to 3-4% on the eve of World War 1), while the rest of the world has a permanent deficit (see Figure 8). Since the 1970s-1980s, the main surpluses come from oil countries (Middle East, Russia) and East Asia (Japan, China).

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<sup>27</sup> Also note that the practice of adding exports and imports and dividing them GDP further contributes to exaggerate the importance of international trade in overall economic activity. We feel that foreign trade and international economic relations are already very important as they are and do not need to be artificially grossed up. One pragmatic reason for using GDP rather than total output as denominator is that we have better historical GDP series than output series in the long-run. Also we do not have systematic historical series in order to decompose trade flows into intermediate vs final expenditure.

At first sight, the magnitude of the surpluses observed in recent decades might appear to be comparable or even larger than the pre-WW1 European surpluses. However, a closer look reveals that this is not the case. First, when we concentrate on the core European powers (Britain, France, Germany, Netherlands), we find that an even larger surplus for pre-1914 Europe: about 4-5% of GDP on average between 1850 and 1914, while all other world regions (including the rest of Europe) have significant current account deficits (see Figure 9).

Next, and most importantly, when we express current accounts as a fraction of world GDP, we find that pre-WW1 European surpluses are significantly larger than all other surpluses over the 1800-2025 period (see Figure 9). Namely, European powers had a current account surplus as large as 1-1.5% of world GDP each year on average over the 1850-1914 period. In contrast, the current account surplus of East Asia over the 1990-2025 period amounts to about 0.5-0.7% of world GDP each year, which is very large in absolute terms, but about twice as small as pre-WW1 Europe's surplus. By comparison, the surpluses of oil countries (either in MENA or Russia/Central Asia) look relatively small, due to their limited share in world GDP.<sup>28</sup> The only world region with a similarly large imbalance is (US-driven) North America/Oceania, with an annual current account deficit close to 1% of world GDP on average over the 1990-2025 period (see Figure 9). The very striking difference is of course that the US has an enormous deficit in recent decades, while pre-WW1 European powers had an enormous surplus. We need an explanation for this striking difference, as well as an analysis of what this implies for the future – an issue on which we will later return.

It is also interesting to look at the same evolution expressed in annual series (see Figure 11). The series look a lot more chaotic than with decennial averages, but it is striking to see that Europe is permanently in surplus every single year between 1800 and 1914, while East Asia is permanently in surplus (and North America/Oceania in permanently in deficit) every single year between 1980 and 2025.

### **3.3. Patterns of Foreign Wealth Accumulation 1800-2025**

We now turn to the patterns of foreign wealth accumulation. By cumulating the large European current account surpluses between 1800 and 1914, we find that Europe owns a rising fraction of the rest of the world over this period (see Figure 1 above). When we restrict to the four core European colonial powers (Britain, France, Germany, Netherlands, which are also the only European countries with positive net foreign

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<sup>28</sup> See Figures 3a-3b above. See also WBOP online database for detailed country series.

wealth in 1914 according to our series),<sup>29</sup> the picture is even more spectacular: the net foreign wealth of core European powers reaches over 130% of their GDP in 1914 (see Figure 12).

When we look at individual country series, we find that Britain's net foreign wealth reaches 180% of its GDP in 1914, followed by France (140%) and Germany (70%) (see Figure 13). The competition between the three leading imperial powers of Europe is a defining feature of the period, and in particular the fact that Germany was lagging behind the two colonial super-powers of the time, in spite of the fact that it had become the leading demographic and manufacturing power of the continent. Note that the war tribute paid by France to Germany in 1871 (about 25-30% of the French and German GDP of the time, which we consider) plays a significant role to accelerate Germany's foreign wealth accumulation – and to slow down French accumulation – but is too small to reverse the trend and the ordering between the two rivals.

When we look at smaller countries, we can find foreign wealth positions expressed as a fraction of country's GDP that are even larger than Britain around 1914: for instance, around 300% for the Netherlands in the late 19<sup>th</sup> century and early 20<sup>th</sup> century or for Norway in the early 21<sup>st</sup> century (see Figure 14). However, these are countries with a relatively small GDP, so that the impact on global wealth patterns is limited.

In the same way as for current account patterns, the most meaningful way to look at foreign wealth series is to express them as a fraction of world GDP (rather than regional GDP or country GDP). When we do this, we find that Europe's pre-WW1 net foreign wealth position is by far the largest in recorded history (see Figure 15). This is even more striking when we focus the four core European powers and put the rest of Europe with other debtor regions (see Figure 16). On the eve of World War 1, the net foreign wealth held by European powers amounts to about 34% of world GDP (including 17% of world GDP for Britain alone, 10% for France, 5% for Germany, and less than 2% for the Netherlands), as compared to 11% of world GDP for East Asia in 2025 and 4% for MENA in 2025. It is also striking to see that European powers held in effect a very balanced portfolio over the rest of world in 1914, with particularly large holdings in South & South-East Asia, North America/Oceania, peripheral Europe, Latin America and East Asia, and to a lesser extent in Russia/Central Asia, Sub-Saharan Africa and Middle East/North Africa (see Figure 17).

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<sup>29</sup> All other European countries and territories which are part of our database (Denmark, Spain, Italy, Norway, Sweden, Other Western Europe, Other Eastern Europe; see Table 1) have significant negative foreign wealth in 1914. It is possible that some countries included in residual regions (e.g. Belgium in Other Western Europe) have a positive position but it cannot be very large.

## **4. Decomposing Current Account and Foreign Wealth Accumulation**

We now turn to the decomposition of current account and foreign wealth accumulation patterns. We start by analyzing the decomposition of current account surpluses and deficits into the various BoP items: trade in goods (with special emphasis on the twin roles of surpluses and deficits in primary commodities and manufacturing goods), trade in services, foreign income and foreign transfers. We then present our decomposition results for the accumulation of foreign wealth.

### **4.1. Decomposing Current Account into Trade, Income and Services**

One of the most striking results of this research is that European powers were able to accumulate very large foreign wealth between 1800 and 1914 – indeed the largest foreign wealth in recorded history so far – without ever running any significant trade surplus. First, if we look at the trade balance in goods, we find that Europe has always been in deficit between 1800 and 1914, and that this deficit rises over time, reaching about 1.5-2% of world GDP each year between 1880 and 1914 (see Figure 18). This is even larger than US trade deficit for goods observed between 1990 and 2025 (about 1% of world GDP each year on average).<sup>30</sup> The key difference is that Europe was able to transform this massive trade deficit for goods into a current account surplus – thanks to invisible BoP items (services, income, transfers) – while the US were not.

The other striking result is that the very large European trade deficit for goods observed between 1800 and 1914 comes from the combination of two opposing forces: an enormous trade deficit for primary commodities (as large as 3.5-4% of world GDP each year between 1860 and 1914) (see Figure 19), and a large but insufficient trade surplus for manufacturing goods (about 2-2.5% of world GDP on average over the same period) (see Figure 20). In other words, Europe is the manufacturing powerhouse of the world in the 19<sup>th</sup> century and early 20<sup>th</sup> century and is making large trade surpluses by exporting its manufacturing products (e.g. British textiles), but these trade surpluses are a lot smaller than the deficits in primary commodities. This illustrates the fact that Europe at the time is importing a lot of primary commodities for its own consumption purposes (e.g. foodstuffs), and that a large part of its manufacturing output (using

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<sup>30</sup> From now on, we concentrate on the results expressed as a fraction of world GDP, which we find easier to interpret and compare over time. If we express the trade deficit for goods for both regions (Europe 1880-1914 and US-led North America/Oceania 1990-2025) as a fraction of regional GDP, then we find that both deficits are very close (about 3-4% of regional GDP). The main difference is that Europe made a somewhat larger fraction of world GDP in 1880-1914 than North America/Oceania in 1990-2025 (see Figure 3a above). See WBOP database for detailed country series.



primary imports from the rest of the world: cotton, wood, minerals, etc.) was devoted to domestic consumption and investment.

We also find this same pattern – large trade surplus in manufacturing goods, large trade deficit in primary commodities – for East Asia over the 1960-2025 period (see Figures 19-20). In effect, the manufacturing surplus of East Asia (first led by Japan between 1960 and 1990 and then by China since 1990-2000) has reached about 2-2.5% of world GDP over the 2000-2025 period, a level comparable to Europe in 1860-1914. The key difference is that East Asia has a lower deficit in primary commodities than Europe did, so that East Asia has in recent decades an overall trade surplus in goods (see Figure 18) and does not need any BoP invisible flow to generate current account surpluses.

The case of (US-led) North America/Oceania represents yet another example of what being an economic superpower can mean in terms of integration to the global trade system. The US – and the North America/Oceania region as a whole – did make significant trade surpluses in manufacturing goods between 1900 and 1960, but it has always been relatively limited in magnitude (less than 0.5% of world GDP) as compared to Europe in the past or East Asia today (see Figure 19). The other important difference is that US-led North America/Oceania has always been a commodity-rich region and never had a large deficit in primary commodities, unlike Europe and East Asia (see Figure 20). In other words, US-led North America/Oceania has never been a manufacturing superpower fed by the primary commodities of the rest of the world: it has been during a significant part of the 20<sup>th</sup> century a moderate manufacturing power fed to a large extent by its own primary commodities.

How did Europe do in order to turn a large and permanent trade deficit in goods over the 1800-1914 period (see Figure 18) into a large and permanent current account surplus over the same period (see Figure 11)? By construction, this was made possible by the invisible flows of the Europe's BoP – trade in services, foreign income and foreign transfers –, which all show a positive European surplus. We start with the services. We indeed observe a large and growing surplus for Europe over the 1800-1914 period, up to 0.5-1% of world GDP in 1880-1914, a level that is significantly larger than the surplus in services observed in 2000-2025 for Europe, North America/Oceania or South & South-East Asia (see Figure 21). Europe's surplus in services over the 1800-1914 period is largely driven by a combination of maritime transportation activities – freight, insurance, trading services, etc. – that was controlled by European countries (especially Britain) at the time. It has been extensively studied by economic

historians (see in particular Imlah (1952, 1958)). However, this surplus does not seem to be large enough to fully compensate for the trade deficit in goods. That is, when we add up the balance for goods and the balance for services, we find that the overall trade balance (goods + services) of Europe was in deficit throughout the 1800-1914 period, except maybe for a few isolated years in the early 19<sup>th</sup> century (see Figure 22).

We finally turn to foreign income and foreign transfers. We observe a very large and rising foreign income inflow going to Europe from the rest of the world over the 1800-1914 period, from very little at the beginning of the 19<sup>th</sup> century up to about 1.5% of world GDP each year on average between 1880 and 1914 (see Figure 23). In effect, the main European powers are receiving during this period enormous flows of dividends, interest, royalties and profits from the rest of the world,<sup>31</sup> and these are the flows which allow them not only to pay for their trade deficits but also to generate large current account surpluses and to keep accumulating foreign wealth in the rest of the world. It should be noted that no country or region in the world has ever received foreign income inflows approaching this magnitude since then: the positive foreign income inflows received by East Asia, Europe and North America/Oceania over the 1990-2025 period are much smaller in size (less than 0.5% of world GDP) (see Figure 23).

By comparison, the net foreign transfers received by Europe over the 1800-1914 period are also a lot smaller than the net foreign income receipts (see Figure 24). Note, however, that the timing is different: the net transfers received by Europe are particularly important during the first half of the 19<sup>th</sup> century (about 0.4-0.5% of world GDP each year), at a time when foreign income inflows were very limited. In effect, foreign transfers play a crucial role in order to start up the process of foreign wealth accumulation. We will later return on this important issue. It is worth noting that the meaning and structure of foreign transfers has changed completely over the past two centuries. During the 1800-1914 period, foreign transfers flow from South and North and mostly consist of colonial transfers toward Europe: one-off tributes (like the debt imposed by France on Haïti in 1825 or by Britain on China in 1842) and most importantly permanent public and private transfers from colonies to metropolis (especially from India to Britain and Indonesia to the Netherlands).<sup>32</sup> In the recent

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<sup>31</sup> On the eve of World War 1, Britain is receiving each year the equivalent of about 10-11% of its GDP in net foreign income, vs 5-6% for France, 3-4% for Germany and 6-7% for the Netherlands. See online database for detailed country-level series.

<sup>32</sup> Public transfers include the transfers of colonial tax revenues into metropolis coffers, e.g. in order to pay for colonial administrators based in the metropolis, or for the armed forces of the metropolis (operating in colonies or elsewhere), or for the general budget of the metropolis, depending on the context. Private transfers include the transfers to the metropolis of a fraction of the wages and incomes earned by colonial administrators or businessmen based in the colonies (and/or when they retire or return to the metropolis). Unfortunately, available sources – in particular the historical BoP series

decades (1970-2025), net foreign transfers flow from North to South, with public aid flows and most importantly private remittances sent to South & South East Asia, Sub-Saharan Africa and Latin America by migrants based in Europe and North America/Oceania (see Figure 24).

## **4.2. Decomposing Foreign Wealth Accumulation**

One way to summarize our findings is to provide some overall decomposition of foreign wealth accumulation patterns in the long-run. We start with the 1800-1914 period (a period characterized by the fact that foreign wealth accumulation by European powers takes place without any trade surplus) and then provide a comparison with the 1970-2025 period (a period when foreign wealth accumulation by East Asian powers derives directly from trade surplus).

### **4.2.1. 1800-1914: Foreign Wealth Accumulation Without Trade Surplus**

We report on Table 2 the results of the decomposition of foreign wealth accumulation by European powers between 1800 and 1914. Consider for instance the case of Britain, which is particularly emblematic. Britain's net foreign assets rose from 3% to 185% of GDP between 1800 and 1914, in spite of the fact its cumulated trade deficit in goods over the 1800-1914 period reached -268% of its 1914 GDP (+385% in manufacturing goods, but -653% in primary commodities).<sup>33</sup> This was made possible by its cumulated trade surplus in services (+118% of its 1914 GDP) and most importantly by enormous cumulated foreign income inflows (+299%). In comparison, the cumulated foreign transfer inflows (+42%) might seem very modest.<sup>34</sup> However the point is that these colonial transfers play a crucial role in the early 19<sup>th</sup> century in order to start up the foreign wealth accumulation process. Over the 1800-1840 subperiod, Britain's cumulated foreign transfer inflows (+58% of 1840 GDP) are larger than cumulated foreign income inflows (+52%) and explain most of the foreign wealth accumulation over this period (see Table 3). We return to this discussion when we present counterfactual simulations in the absence of foreign transfers.

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constructed for Britain, Netherlands and other European countries – do not allow at this stage for a precise decomposition of these different transfers, so we only report total inflows and outflows.

<sup>33</sup> Here we simply cumulate deficits and surpluses in current USD over the entire period and divide them by end-of-period nominal GDP.

<sup>34</sup> For simplicity we omit to report on Table 2 (and subsequent tables) the residual capital gains and losses, which in practice are very small (especially over the 1800-1914 period, when they follow solely from the sterling-dollar exchange rate variations over the 1862-1878 period). See Appendix Table H1b (and subsequent tables) for complete decomposition tables including these residual terms.

More generally, it is striking to see that no European power ever made any significant trade surpluses over the 1800-1914 period. France made a little surplus in goods between 1800 and 1840, and so did France and Germany between 1840 and 1880. But when we consider the 1800-1914 period as a whole all European powers had a large deficit of goods, and their surplus in services was never large enough to compensate for this deficit (see Tables 2-3).

It should also be noted that a large part of Europe's cumulated foreign income inflow over this period corresponds to what we identify as "excess yield" (i.e. due to the differential between their rate of return on gross foreign assets and gross foreign liabilities). Europe's excess yield income over the 1800-1914 period is in many ways comparable to US excess yield income over the 1970-2025 period (see Figure 25). In both cases, the countries which control the dominant currency and the leading financial institutions of the time are able to borrow at lower rates and obtain high returns on their foreign investment and to earn substantial extra income out of this "exorbitant privilege".<sup>35</sup> Regarding the 1800-1914 period, we should stress however that what we identify as "excess yield" might also reflect underestimated foreign transfers.<sup>36</sup>

More generally, we emphasize that it is often difficult to draw the line between the different form of invisible flows (trade in services, foreign income, foreign transfers) benefiting European powers between 1800 and 1914, especially at the beginning of the 19<sup>th</sup> century. For instance, the revenues generated by the British EIC (East India Company) include items which according to modern IMF BoP categories can be classified as trade in services (maritime transportation, trading services, etc.), foreign income (explicit capital income return on specific assets) or foreign transfers (tax revenue paid by Indian taxpayers and contributing to EIC revenues, or later transferred directly to British Crown general budget following the imposition of direct Crown rule after the 1857 revolt). We do our best using existing sources and country studies to estimate the most meaningful decompositions, in line with modern IMF BoP categories, but by construction this is bound to be approximate.

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<sup>35</sup> Being the dominant financial system carries other advantages than excess yields. E.g. via their access to dominant currency British investors and merchants in 19<sup>th</sup> century Latin America (or other regions) can mobilize financial resources to organize new production and trading patterns and take control of a large fraction of trade profits without ever exporting real capital goods to Latin America (or by exporting capital goods of much lower value than their imports in primary commodities).

<sup>36</sup> The frequency and magnitude of unilateral transfers imposed by European powers to other countries were very large over this period, and despite our best efforts it is likely that we missed many of them. Just to take one example, Britain frequently imposed ad hoc debts to India, for instance following the 1857 revolt and also during World War 1 in order to support Britain's military efforts. In case we miss some of these transfers at the time they are imposed but later include the corresponding interest payments in recorded BoP flows, then its effect this will appear as excess yield (i.e. excessively large capital income inflows as compared to estimated foreign assets).

The important point, however, is that this has little impact on our main conclusion regarding this period, namely the fact that European powers accumulated very large foreign assets position between 1800 and 1914 without ever making any substantial trade surplus (even accounting for a very sizable trade surplus in services). If anything, this conclusion would be reinforced if we were to reinterpret some of the measured trade surplus in services as capital income (and the territories controlled by British, Dutch and French colonial companies in India, Indonesia, the West Indies and other parts of the world in the 18<sup>th</sup> century and early 19<sup>th</sup> century as foreign assets).<sup>37</sup> Similarly, this central conclusion is also very likely to be reinforced if we were to start our analysis in 1750 or earlier rather than in 1800. In particular, some of the most profitable territories in the 18<sup>th</sup> century are the French and British slave islands of the Caribbean, which are characterized by particularly high levels of trade surplus and colonial extraction. For instance, existing estimates show that French plantation owners appropriated as much as 70% of the GDP of Saint-Domingue in the 1750-1780 period.<sup>38</sup> If we were to go back to the beginning of European overseas expansion – around 1450-1500 – it is likely that extraction would look even bigger.

#### **4.2.2. 1970-2025: Foreign Wealth Accumulation With Trade Surplus**

We now turn to the 1970-2025 period. Over this period, foreign wealth accumulation looks much closer to what is usually described in economics textbooks: countries which accumulate foreign wealth are those which have persistent trade surpluses. Take the example of East Asia, whose foreign wealth has increased from 5% to 49% of the region's GDP between 1970 to 2025. This corresponds very closely to the size of cumulated trade surpluses over this period (see Table 4). The same applies to Middle East/North Africa. Conversely, US-led North America/Oceania did accumulate a very

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<sup>37</sup> The reason that these territories are generally not treated as foreign assets is the same reason why colonies – i.e. British-controlled India or French-controlled Africa – are not treated as being foreign assets (but rather as generating foreign transfers) in the late 19<sup>th</sup> century and early 20<sup>th</sup> century: territorial control is treated as regalian government control rather than as a foreign asset. The point is that these modern categories (based upon a sharp distinction between public regalian territorial power and private property rights) are blurred in the context of 18<sup>th</sup> century and early 19<sup>th</sup> century colonial companies. The sharp distinction between the public sphere of regalian powers (police, justice, taxation, etc.) and the private sphere of property rights is being redefined at the time, not only in the colonial setting but more generally in the context of the French and US Revolutions and the building of the modern nation-state. See e.g. Blaufarb (2016) and Piketty (2020).

<sup>38</sup> More precisely, the equivalent of about 55% of the GDP of Saint-Domingue was exported (net of imports) to the benefit of plantation owners while 15% was consumed or accumulated locally by the planters. See Henochsberg (2016) and Piketty (2020, p.218-219). Saint-Domingue was the home of the largest slave concentration of the time until the slave revolt of 1791, and later became independent under the name Haiti in 1804, before being imposed a tribute equivalent to 300% of its GDP in 1825 in order to compensate the French slave owners for their loss of property.

large foreign debt – from +1% of GDP in 1970 to -58% in 2025 –, and again this evolution is roughly in line with its cumulated trade deficit over the period. It is also worth noting that Europe has been accumulated positive foreign wealth in recent decades (much less than in the past, but yet significant), in line with the large European trade surpluses made over the 1990-2025 period (especially in Germany, Netherlands, and Nordic Europe).

To summarize, the main characteristic of the 1970-2025 period is that the countries accumulating foreign wealth are those making trade surpluses (and the countries accumulating foreign debt are those making trade deficits), in contrast to what happened during the 1800-1914 period (when Europe accumulated large foreign wealth while making increasingly large trade deficits). It should be noted, however, that trade surpluses and deficits are not the only important forces at play. In particular, without the “excess yield” income earned by US-led North America/Oceania (the equivalent of +29% of 2025 GDP over the 1970-2025 period), the region’s negative wealth position would be half as large. Conversely, the positive position of Middle East/North Africa would be about half as large and that of East Asia almost one third as large without the negative “excess yield” income that they are incurring (to large extent to the benefit of the US). In the case of Subsaharan Africa, the cumulated negative “excess yield” over the 1970-2025 period (-29% of 2025 GDP) exactly offsets the cumulated trade surplus in goods over the same period (+29%) (see Table 4). Note that Europe and not only the US benefited from a significant “excess yield” income over the same period (+18%), in line with the findings by Nievas and Sodano (2024) about the generalization of US exorbitant privileges to all rich countries.

Although these patterns of “excess yield” positive and negative incomes play a very important role, the important point is that they are not large enough to reverse the trade patterns. This is really the key difference between the “Pax Britannica” (or “Pax Europa”) of the 1800-1914 period and the “Pax Americana” of the 1970-2025. During the 1800-1914 period, Britain-led Europe was able to appropriate sufficiently large foreign transfers and income flows from the rest of the world so as to be able to transform large trade deficits into large current account surpluses and accumulate massive foreign wealth. During the 1970-2025 period, the US were able through their financial dominance to appropriate sizable “excess yield” income, but this is simply not sufficient to fully compensate the trade deficit. We believe that this can explain some of the nervousness and aggressivity vis-à-vis the rest of the world observed under the Trump administration in 2025. In effect, Trump seems to believe that the global public good provided by “Pax Americana” should be better rewarded by the rest of world, e.g.

via financial transfers paid by allies in order to compensate for military spending and/or via direct appropriation of mineral resources and other assets in Greenland, Ukraine or elsewhere. The main problem is that the rest of the world does not appear to be ready to enter a new colonial era comparable to that observed under European leadership during the 1800-1914 period.

Another important and related difference between the 1800-1914 period and the 1970-2025 period is that foreign transfers now go from North to South, especially via the flow of private remittances, rather than from South to North (via colonial transfers). For instance, Sub-Saharan Africa received very large cumulated net transfer inflows between 1970 and 2025 (the equivalent of +64% of its 2025 GDP), approximately as much as the cumulated foreign income outflows (-55%) (see Table 4).

Despite all these important differences, our foreign wealth decomposition equation also illustrates one very important similarity, namely the fact that the dominant manufacturing power of the 1800-1914 period (Europe) and of the 1970-2025 period (East Asia) are both characterized by a combination of massive trade surplus in manufacturing goods and massive trade deficit in primary commodities. This is all very intuitive, but the point is that the orders of magnitude are truly enormous. Between 1800 and 1914, European powers have a cumulated trade surplus in manufacturing goods equivalent to +267% of their 1914 GDP and a cumulated trade deficit in primary commodities equivalent to -408% (see Table 2). The equivalent numbers for East Asian countries between 1970 and 2025 are +144% and -92%. They are not as extreme in the second case than in the first case, but they are still very large. This suggests that relatively small changes in terms of trade can matter a lot in the long run, an issue to which we now turn.

## **5. Counterfactual Simulations: Looking for Alternative Development Trajectories**

We now present the results of our counterfactual simulations. Generally speaking, these simulations illustrate the role of power relations and bargaining power in global imbalances: relatively small changes in terms of exchange can make an enormous difference for long run outcomes. We present two types of simulations: financial simulations, whereby all real economic flows – trade, consumption, investment – are left unchanged and we focus on the long-run impact on the net foreign asset position of the various countries and regions; and “economic simulations”, where on the contrary we keep the net foreign asset positions as given and look at the impact of alternative trade and monetary regimes on domestic investment and comparative

development. Economic simulations are in many ways more interesting, but they also require more assumptions. We should stress that all simulations presented here should be viewed as merely illustrative and exploratory.

### **5.1. Financial Simulations: Global South as Owner of Global North**

We start with the following simple financial simulation. We assume that there was no net foreign transfer at all during the 1800-1914 period, and in particular no net transfer flows received by Europe from the rest of the world (war tributes paid by Haïti and China to France and Britain, "Home charges" paid by India and Indonesia to Britain and the Netherlands, etc.), which made by far the biggest part of foreign transfers at the time.<sup>39</sup> We leave all other flows unchanged. In particular, Europe keeps having the same pattern of trade deficits and surpluses as in the observed series (and so do all other countries), so that in effect Europe pays for its trade deficit vis-à-vis Haïti or China or India or Indonesia by accumulating foreign debt rather than via unilateral transfers. We assume that all foreign assets and liabilities accumulate using the same average foreign rate of return as that observed over the period. Under this counterfactual scenario, we find that 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 America, due in particular to large transfer outflows from West Indies in 1800-1850). In effect, without the colonial transfers, and in particular without the colonial transfers of the early 19<sup>th</sup> century, the geography of wealth would be radically different in 1914: South & South-East Asia – and to a lesser extent Latin America – would own large assets in Europe rather than the opposite (see Figure 26). In particular, India and Indonesia would own large parts of Britain and the Netherlands.<sup>40</sup>

Assume now that primary commodity prices would have been 20% higher than what they were between 1800 and 1914. As in the previous simulation, we leave all other flows unchanged and simulate the evolution of foreign asset positions. In particular, we assume that all countries keep the same trade flows in volume, including for primary commodities, which means that primary exporters will get 20% more value for their exports and primary importers (typically European countries) will pay 20% more. Given that total exports of primary commodities represent about 5-6% of world GDP on average over the 1800-1914 period (see Figure 5), so that the corresponding redistribution due to changing terms of trade is of the order of 1% of world GDP. This

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<sup>39</sup> We also computed some alternative estimates excluding non-colonial transfers and our results were unaffected, given the very large share of colonial transfers, especially in the early 19<sup>th</sup> century.

<sup>40</sup> See Online Appendix for detailed country-level simulations.



corresponds to an absolute lower bound estimate of the value of unpaid forced labor in the export production of cotton, sugar, grain, etc.. over this period.<sup>41</sup>

The point, however, is that this is sufficient to induce an enormous shift in the long-run geography of wealth. According to our simulations, Europe would then have had a very large negative wealth position by 1914 (about -60% of world GDP, i.e. about -160% of Europe's GDP, approximately three times as large as in the no-colonial-transfer simulation), to the benefit of all other world regions (including North America/Oceania), and in particular to the benefit of Latin America (see Figure 27).

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 own 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) (see Figure 28). Note that the orders of magnitude are quite large but comparable to recent estimates of post-colonial and post-slavery reparations.<sup>42</sup>

We also run similar counterfactual simulations for the recent period. Assume, for instance, that primary commodity prices would have been 20% higher than what they were between 1970 and 2025, leaving all other flows unchanged. We find that Sub-Saharan Africa would own substantial foreign wealth (+48% of its GDP in 2025, vs

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<sup>41</sup> According to available estimates, forced labour made about 6% of global economic labour hours over the 1800-1860 period, and the corresponding unpaid wages represented around 3-4% of world GDP. See Andreescu et al (2025, Figure 17), Bazelon et al (2023) and Robinson (2023). A very large fraction of these labour hours (between one half and three quarters) were used in the export sector (e.g. cotton, sugar and coffee in US South, Brasil and the West Indies, grain in Russia, etc.).

<sup>42</sup> See in particular Bazelon et al (2023) and Robinson (2023), who estimate a total of about 100% of world GDP for Transatlantic Chattel Slavery reparations (including 600% of GDP for Britain and 300% of GDP for France) in 2020. The fact that the orders of magnitude are comparable to ours is partly a coincidence. On the one hand, we take into account non-slavery-related colonial transfers (like those involving India and Indonesia), while they focus on Transatlantic slavery. On the other hand, they take a much broader perspective on slavery-related reparations: they include total unpaid slave labour (including non-trade related output, e.g. plantation cotton produced and used in the US), and they also include an estimate of various slave mistreatments (which were presumably used to keep discipline and raise productivity, and which they estimate at roughly the same level as total unpaid wages). They transform past amounts into 2020 values using an indexation factor close to GDP nominal growth rates, which is close to what we do (as rates of return to foreign assets are not very different from nominal GDP growth in the long-run). In both cases, the amounts expressed in proportion of today's world GDP would be a lot larger if we were to capitalize past amounts using aggregate macroeconomic rates of return to domestic capital (which are much larger than foreign returns and GDP growth rates in the long-run ; see Bauluz et al 2025). As stressed by Bazelon et al (2023) and Robinson (2023), one should not be surprised to find relatively large amounts for post-slavery reparations (up to several years of GDP for top European powers), as these estimates include cumulated effects over very long period. In the end, they correspond to relatively small fractions of cumulated GDP of Britain or France since 1800.

-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) (see Figure 29).

The main conclusion from our simulations is that relatively small changes in bargaining power and terms of exchange can dramatically change the global structure of foreign wealth. Needless to say, a detailed quantitative analysis of how country-specific terms of exchange might be affected by alternative international institutions (including a global clearing union or a common international currency) and/or by changing bargaining power between countries, regions and geopolitical blocks is well beyond the scope of the present paper. We stress however that a 20% rise in primary commodity prices is relatively small as compared for instance to observed movements in market exchange rates or to the fact the currency of the poorest countries is typically priced two to four times to purchasing power parities.<sup>43</sup> There is also ample evidence that changes in bargaining power – triggered for instance by changes in market structures and/or changes in the post-independence strategies followed by multicountry producers organizations like OPEC – can result into much larger variations in commodity prices, such as the famous four-fold increase in oil prices that was implemented in 1974. We certainly do not claim that the 20% rise in primary commodities that we simulate here correspond to any kind of well-defined “fair trade” optimum or global welfare optimum. At a more modest level, we simply want to illustrate that relatively small changes in terms of trade – as compared both to observed MER-PPP ratios and to observed effects of changing bargaining power on key commodity prices – can have an enormous impact on the structure of foreign wealth.

Note also that changes in commodity prices alone might be insufficient. E.g. without structure changes in the ownership and governance of commodity firms, an increase in commodity prices might be insufficient to benefit Subsaharan Africa and might primarily benefit Western and/or East Asian companies. The interaction between changes in trade and monetary regime and property structures is a key issue for future research in this area.

## **5.2. Economic simulations: North-South Convergence under Fair Trade**

The financial simulations that were presented so far are simple and suggestive but somewhat artificial. In case poor countries had obtained better terms of exchange over the 1800-2025 period (and/or the repeal of colonial transfers), it is unlikely that they would have used the extra resources to accumulate foreign assets. They would

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<sup>43</sup> See Appendix Figures K3a-K3b.

probably have used these resources to invest more in their domestic economy, at least in part. The difficulty is that it is complicated to fully specify all parameters describing the way these extra resources could have been used and all the general equilibrium implications of such counterfactual scenarios for comparative development.

For simplicity, we concentrate here on a very simple set of economic simulations, which are in many ways the complete opposite extreme to the financial simulations that were considered until now. That is, we assume that the patterns of foreign wealth accumulation are left unchanged and that 100% of the extra revenue going to poor countries thanks to better terms of exchange (and/or the repeal of colonial transfers) are invested in the domestic economy so as they raise their future productivity. To fix ideas, we assume that these extra resources are entirely invested in human capital, and we apply relatively standard rates of return to human capital investment (around 10-15% per year).<sup>44</sup> We also assume that the rich countries losing from changing terms of exchange (and/or from the repeal of colonial transfers) do not reduce their aggregate investment flows and therefore their productivity trajectory: the losses are entirely absorbed by consumption cuts.<sup>45</sup>

Before we present our simulation results, it is useful to have in mind the observed trajectory of per capita GDP across the world over the 1800-2025 period. 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 Sub-Saharan Africa, vs 40 000-50 000€ in Europe and North America/Oceania (see Figure 30). In effect, 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.

Consider now an alternative development trajectory whereby the colonial transfers which occurred over the 1800-1914 period are cancelled and primary commodity prices are raised by 20% throughout the 1800-2025 period. Assuming that the corresponding gains are invested in domestic human capital in the benefiting countries and that the corresponding losses are absorbed by consumption cuts in other

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<sup>44</sup> That is, we assume that a rise of educational expenditure equivalent to 1% of GDP will raise annual GDP growth rates by 0.1-0.15%. In line with existing evidence, we assume that returns decline with income, from about 20% for the poorest countries to 5-10% or less for the richest countries. See Bharti et al (2025). All details about these simulations are available in the online replication package.

<sup>45</sup> For instance, consumption cuts could be concentrated among the top income households who were the main gainers from colonial transfers and trade. To a large extent, this corresponds to what happened in Europe during the 20th century: holders of foreign assets were wiped out, inequality compression was drastic, but aggregate investment in physical capital and human capital increased to unprecedented levels (thanks in particular to public investment), and so did productivity growth.

countries, we find that average per capita GDP at the world level would be substantially larger in 2025 and that inequality between world regions would be a lot smaller. In particular, Latin America follows the same economic trajectory as Europe and North America/Oceania, Russia/Central Asia and Middle East/Africa are not too far behind, and South and South East-Asia is close to East Asia (see Figure 31). Sub-Saharan Africa ends up in a much better situation in 2025 than what is today (with per capita GDP close to 8 000€ instead of 3 000€), but still quite far from the world frontier.

In order to obtain quasi-complete convergence of per capita GDP across world regions, one needs to make further assumptions. For instance, we consider an alternative development trajectory involving throughout the 1800-2025 period a 30% increase in the terms of exchange benefiting the poorest countries (with per capita GDP lower than 70% of world average), e.g. via a Global Clearing Union or a Common International Currency.<sup>46</sup> Under the same assumptions as before, we find that all world regions – including Sub-Saharan Africa – would be on their way to converge by 2025 to approximately the same level of per capita GDP as the richest world regions, i.e. Europe and North America/Oceania (see Figure 32).

We certainly do not claim that such an improvement if the terms of exchange for poor countries is the only possible alternative development trajectory that should be considered or that this is the most desirable one. Nor do we claim that it would have been easy to obtain it in the past (or that it would be easy to obtain it in the future). Such a change in terms of exchange requires major institutional changes in the international trade and monetary system and could not have taken place (and could not take place in the future) without first-order transformations in power relations between countries and regions. At a more modest level, our results illustrate that different power relations, institutions and trade rules can have a major impact on comparative development. We also stress that all alternative development trajectories considered here involve relatively moderate changes to global flows (as compared to observed trajectory).<sup>47</sup>

## **6. Concluding Comments and Research Perspectives**

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<sup>46</sup>Unlike the 20% increase in primary commodity prices, this 30% increase in terms of exchange is meant to improve the terms of exchange for all trade transactions involving the target countries, namely exports and imports of all goods and services. See Online Appendix Figures for all details about these simulations.

<sup>47</sup> Annual transfers between world regions never exceed 1-2% of world GDP.

In this paper we have constructed a new database on global trade flows and the world balance of payments (including goods, services, income and transfers) covering 57 core territories (48 main countries + 9 residual regions) over the 1800-2025 period. This has allowed us to analyze patterns of global imbalances, current account surplus/deficit and net foreign wealth accumulation over more than two centuries. We have quantified the role of colonial transfers and low commodity prices (due to forced labor and other factors) in the build-up of Europe's foreign wealth during the 1800-1914 period. We compared this experience to the global imbalances which developed during the 1970-2025 period. We have repeatedly emphasized the persistent role of unequal bargaining power and terms of exchange and the need for collective rules. We have also provided counterfactual simulations on foreign wealth accumulation under alternative trade & monetary regimes.

We stress again that this paper has many limitations which should be addressed in future research. In particular, the series provided in our World Historical Balance of Payments Database (WBOP) are not supposed to be frozen in stone. They represent in our view the most plausible reconciliation between all pieces of evidence available so far in international transactions over the 1800-2025, and the main conclusions that we derive from this database appear to be very robust to alternative assumptions. However, these series could still be improved and will be updated and revised in the future as new country studies on historical BoP become available. Another important improvement would be to extend our work further back in time and to cover part or all of the first three centuries of European oversea expansion (1500-1800). We have conjectured that this would reinforce our main point (i.e. European foreign wealth accumulation without trade surplus), but it would be very interesting to quantify this more precisely, to the extent that available data sources make this possible.

Next, and maybe most importantly, more research is needed in order to provide a satisfactory analysis of counterfactual development trajectory. For instance, we have presented a relatively simple counterfactual trajectory – based on the repeal of colonial transfers, a 20% rise on primary commodity prices and a 30% increase in terms of exchange for poor countries – leading to quasi-complete economic convergence between world regions by 2025. However, there are many pieces missing in this simulation – particularly regarding the planetary habitability dimension. In case all world regions had been consuming the same per capita quantity of fossils and other resources as Europe and North America/Oceania over the 1800-2025 period (and particularly over the “Great Acceleration” post-1950 period), then this would certainly have raised a number of difficulties, both in terms of resource availability and implied

carbon emissions and global warming. In order to address these issues, one would need to explicitly model multi-sector development trajectories and to include multiple resource-use scenarios in the study of counterfactual development trajectories under alternative trade and monetary regime.<sup>48</sup>

Finally, special attention should be given in future research to the political economy of alternative trade and monetary regimes. It is interesting to look at the socioeconomic impact of repealing colonial transfers over the 1800-1914 period and/or raising commodity prices over the 1800-2025, but it would be equally interesting to study the political conditions under which such alternative trajectories would have taken place.<sup>49</sup> It would also be very interesting to analyze the conditions under which alternative trade and monetary regimes could develop in the future. In principle, one could imagine gradualist scenarios where a Global Clearing Union and/or a Common International Currency develop in a process of step-by-step transformations starting from current international institutions (e.g. with gradual changes in the IMF structure of voting rights and a large rise of SDRs over a few decades, so that SDRs would gradually acquire the status of an international reference currency). One can also imagine scenarios with more abrupt changes, including a possible attempt from BRICS countries to build a completely alternative set of trade and monetary institutions.<sup>50</sup> We hope that the research presented in this paper will help framing some of these important discussions for the future.

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<sup>48</sup> In the simulations presented above, we simply assumed that the gains from better terms of exchange can mechanically translate into higher domestic investment and productivity growth, assuming a standard one-dimensional growth model with no material resource constraint of any kind.

<sup>49</sup> In particular the end of slavery and colonialism could have happened earlier than it did and more generally could have followed different historical paths, depending on the evolution of imperial rivalry between European powers, the rise of alternative egalitarian-democratic ideologies within the West, and of course the emergence of new state powers and ideologies outside the West. All three factors played a major role in the fall of the European order over the 1914-1945 period and could have happened differently than they did. See e.g. Piketty (2020).

<sup>50</sup> See Nieves and Sodano (2024) and Morgan and Patomaki (2025) for more detailed discussions of such scenarios of transformation.

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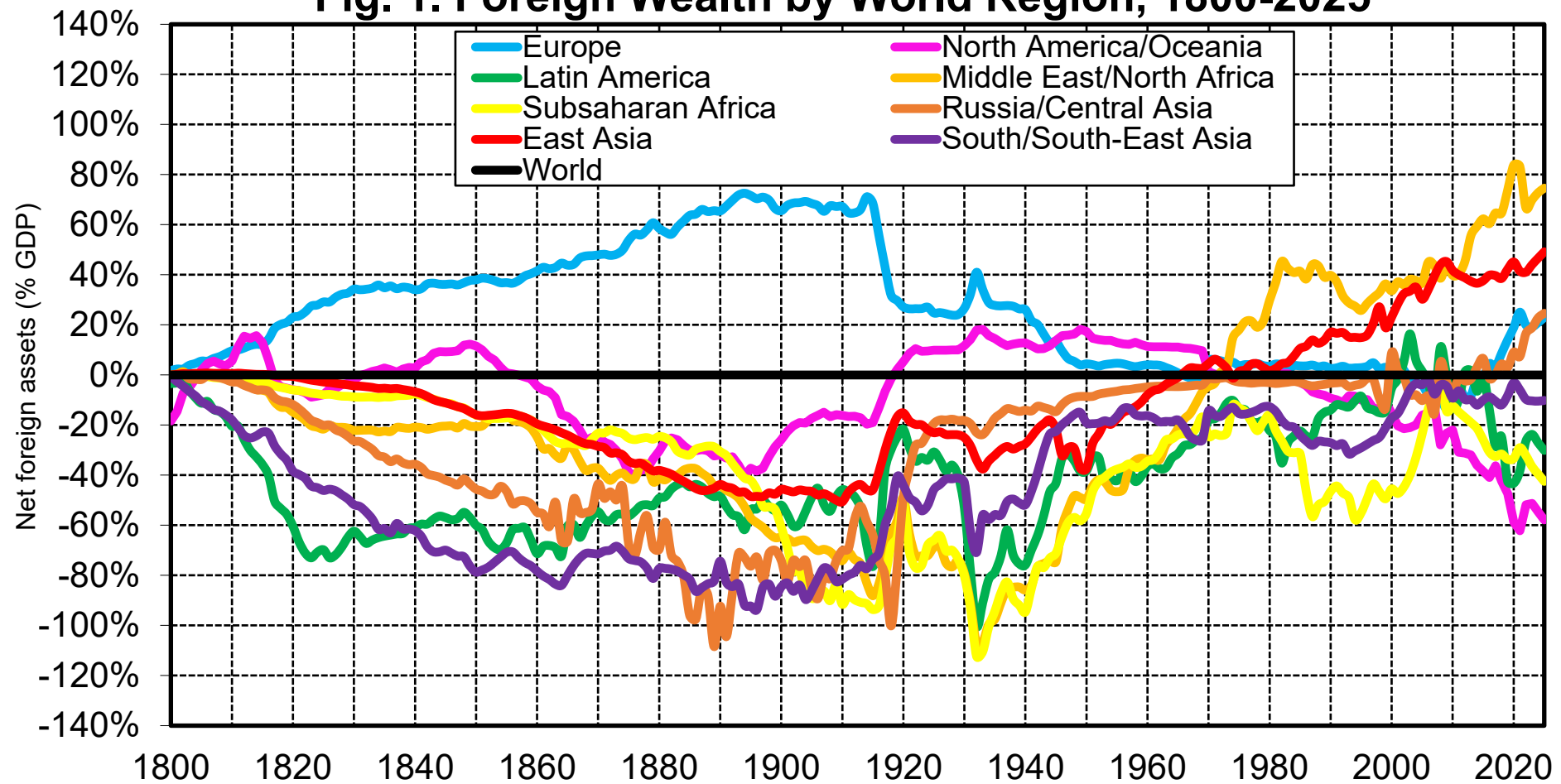
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**Fig. 1. Foreign Wealth by World Region, 1800-2025**



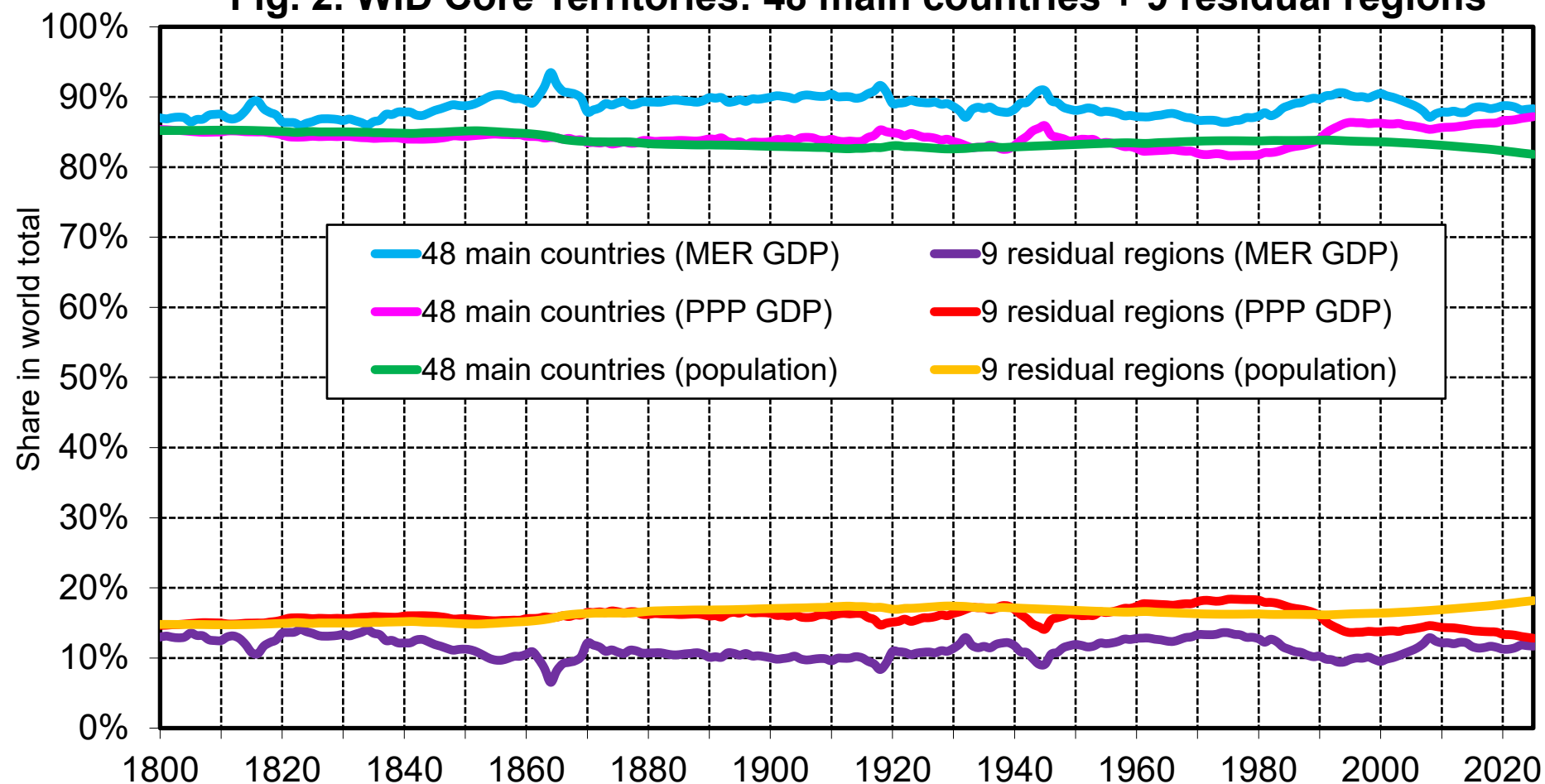
**Interpretation.** Between 1800 & 1914, Europe owns a rising fraction of the rest of the world. In 1914, Europe's foreign wealth (i.e. net foreign assets held by European residents in the rest of the world) reach about 70% of Europe's GDP. These foreign assets vanish between 1914 and 1950. They are 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

**Table 1. The World Historical Balance of Payment Database (WBOP): Geographical Coverage**  
(57 core territories = 48 main countries + 9 residual regions)

<b>East Asia (5)</b>	China, Japan, South Korea, Taiwan Other EASA
<b>Europe (11)</b>	Britain, Denmark, France, Germany, Italy, Netherlands, Norway, Spain, Sweden, Other W.EUR, Other E.EUR
<b>Latin America (6)</b>	Argentina, Brasil, Chile, Colombia Mexico, Other LATAM
<b>Middle East/ North Africa (8)</b>	Algeria, Egypt, Iran, Morocco, Saudi Arabia, Turkey, UAE, Other MENA
<b>North America/ Oceania (5)</b>	USA, Canana, Australia, New Zealand Other NAOC
<b>Russia/ Central Asia (2)</b>	Russia Other RUCA
<b>South/South-East Asia (9)</b>	Bengladesh, India, Indonesia, Myanmar, Pakistan, Philipinnes, Thailand, Vietnam, Other SSEA
<b>Sub-Saharan Africa (11)</b>	DR Congo, Ethiopa, Kenya, Ivory Coast, Mali, Niger, Nigeria, Rwanda, Sudan, South Africa, Other SSAF

The World Historical Balance of Payment Database (WBOP, [wbop.world](http://wbop.world)) provides data series for 57 core territories (48 main countries + 9 residual regions, which we define using fixed 2025 borders) covering the entire world. It includes for all 57 core territories annual series covering the entire 1800-2025 period nominal GDP, trade balance for goods (exports and imports broken down for primary commodities vs manufactured goods), trade balance for services (exports and imports), foreign income (inflows and outflows), foreign transfers (inflows and outflows), current account (sum of net trade balance and net foreign income and transfer) and foreign wealth (gross assets and liabilities). All series are expressed in current MER USD. We also provide series on price indexes, market exchange rates and real exchange rates so that all series can be converted in constant monetary units (MER or PPP). Over the 1970-2025 period we provide similar series covering 216 countries/jurisdictions (168 of which define the 9 residual regions), again with fixed 2025 borders, and with additional breakdown for services (transportation, travel/tourism, other services), income (capital income, labour income, taxes) and transfers (private remittances, public transfers, other transfers) and for assets and liabilities (equity, debt, direct investment).

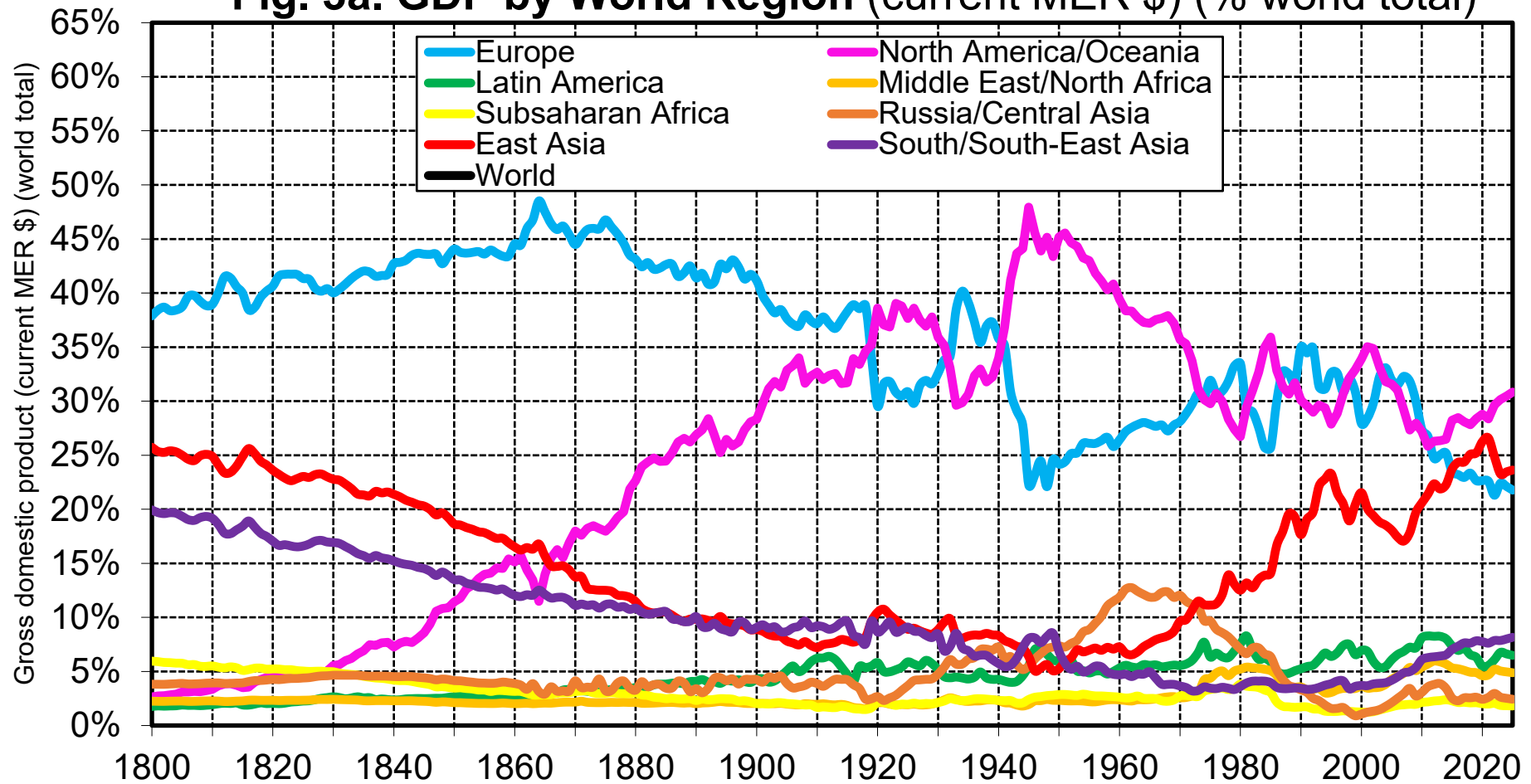
**Fig. 2. WID Core Territories: 48 main countries + 9 residual regions**



**Interpretation.** Historical WID national accounts include annual 1800-2025 series for 57 core territories (48 main countries + 9 residual regions, which we define using fixed 2025 borders). The 48 main countries make about 85-90% of the world GDP (both in market exchange rate and purchasing power parity) and population throughout the 1800-2025 period. For recent decades (1970-2025), WID national accounts series cover 216 countries/jurisdictions (168 of which form the 9 residual regions), again with fixed 2025 borders. **Sources and series:** see wid.world

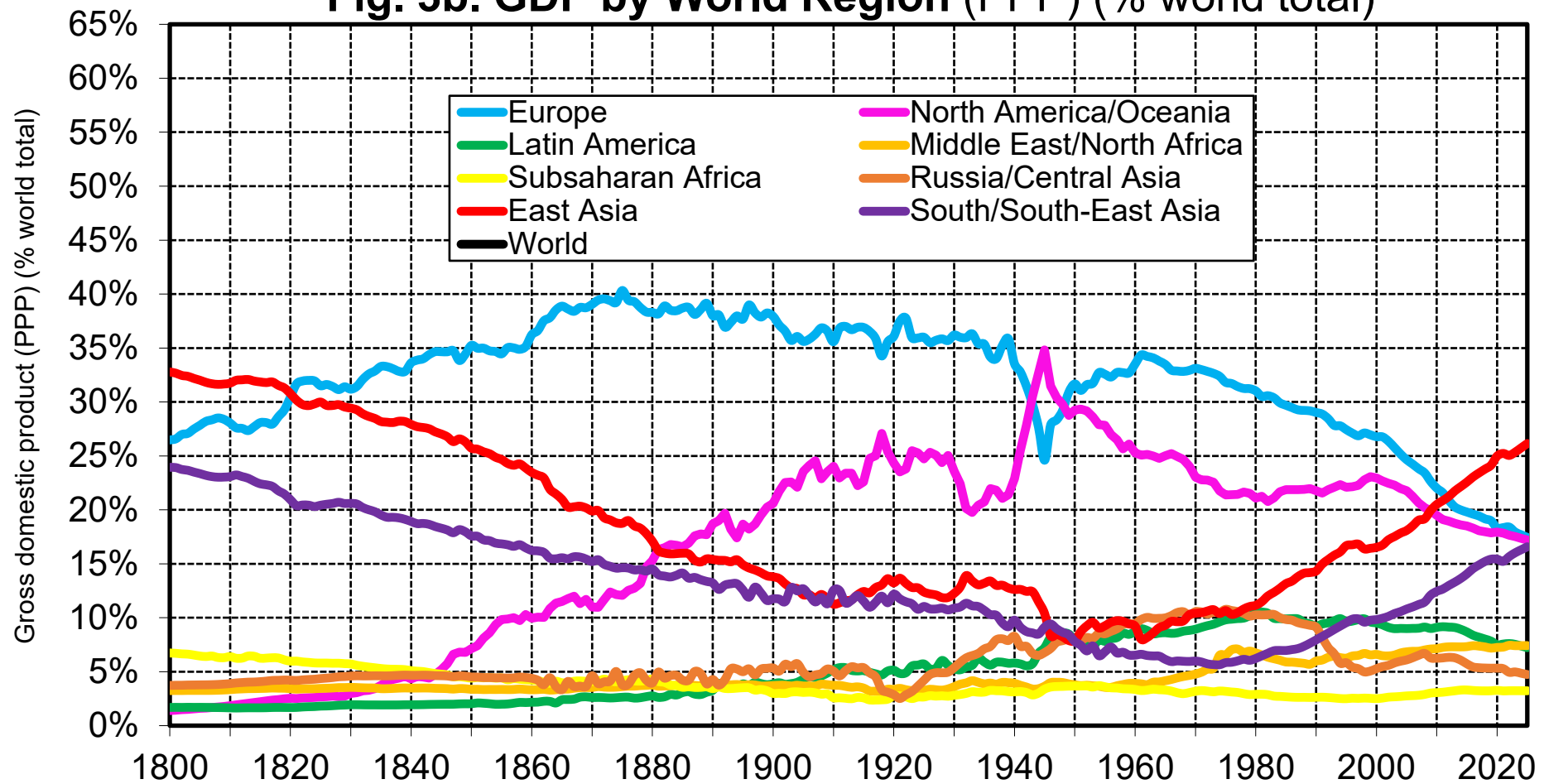


**Fig. 3a. GDP by World Region (current MER \$) (% world total)**



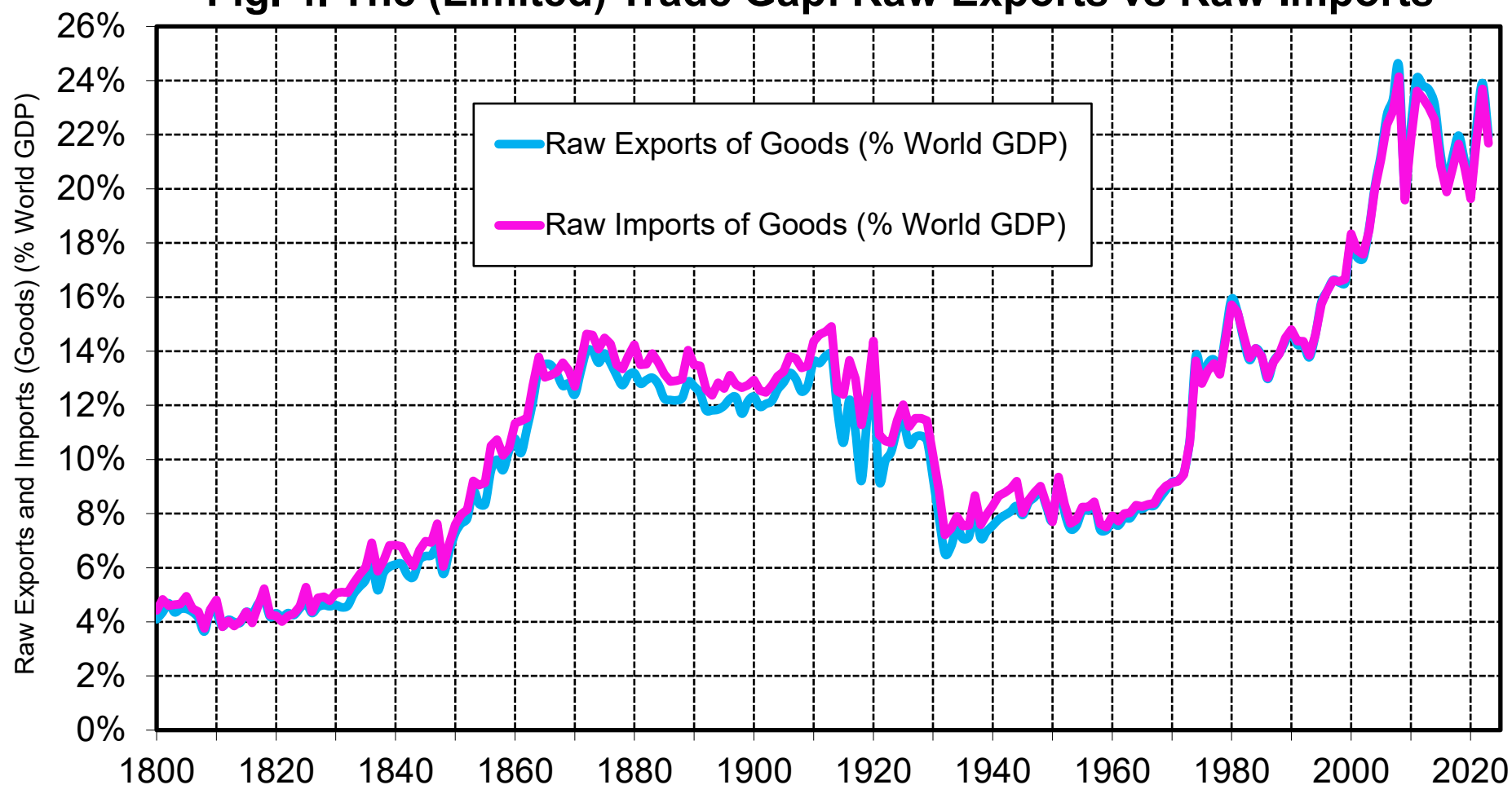
**Interpretation.** Using current MER \$ (market exchange rates), North America/Oceania represents about 30% of world GDP in 2025 (about the same level as in 1900), vs 23% for Europe (41% in 1900) and 24% in East Asia (8% in 1900). **Sources and series:** see wid.world

**Fig. 3b. GDP by World Region (PPP) (% world total)**



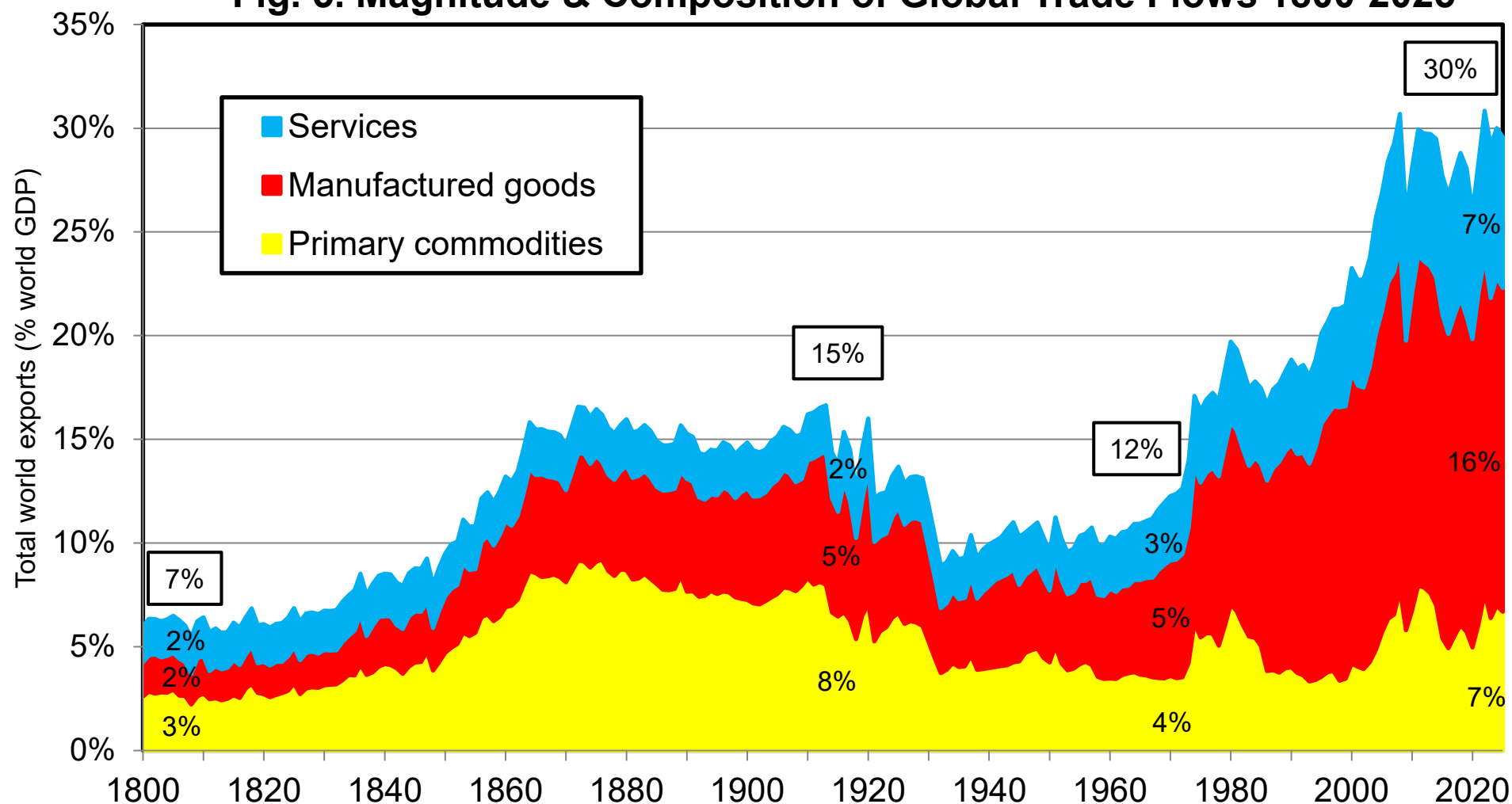
**Interpretation.** Using PPP values (purchasing power parity), North America/Oceania represents about 17% of world GDP in 2025 (25% in 1900), vs 17% for Europe (37% in 1900) and 26% in East Asia (14% in 1900). Generally speaking, the share of NAOC and Europe in world GDP has always been substantially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

**Fig. 4. The (Limited) Trade Gap: Raw Exports vs Raw Imports**



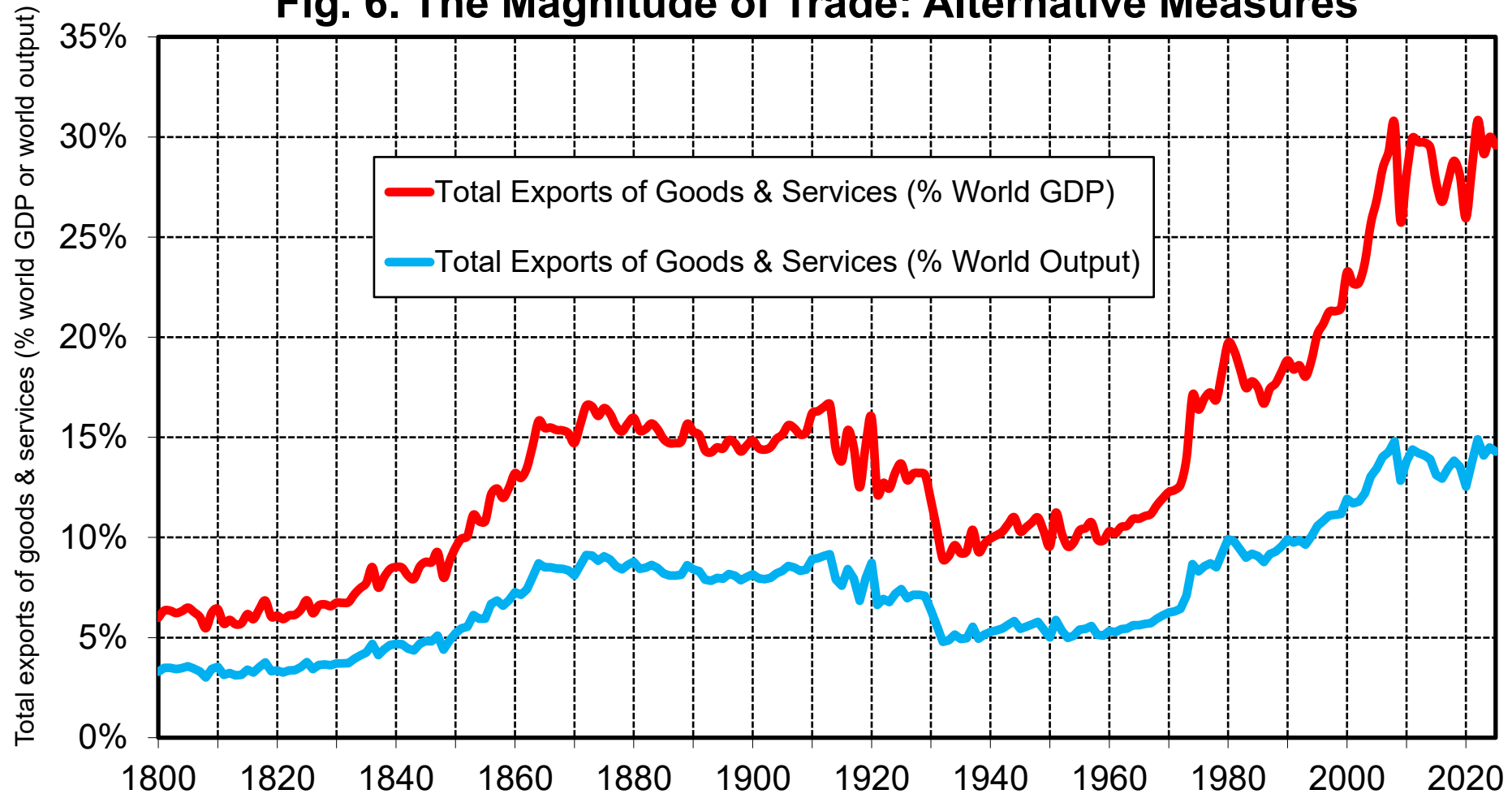
**Interpretation.** Total world exports and imports of goods are never exactly equal in raw trade data, but the gap is usually relatively small (generally less than 0.5% of world GDP in 1800-1950 & less than 0.2% in 1950-2023). In this research, we apply a proportional adjustment factor to all country exports and imports so that by construction world exports and imports are always exactly equal to each other (= average of raw world exports and imports). We also try other adjustment methods and check that our results are unaffected. **Sources and series:** see wid.world

**Fig. 5. Magnitude & Composition of Global Trade Flows 1800-2025**



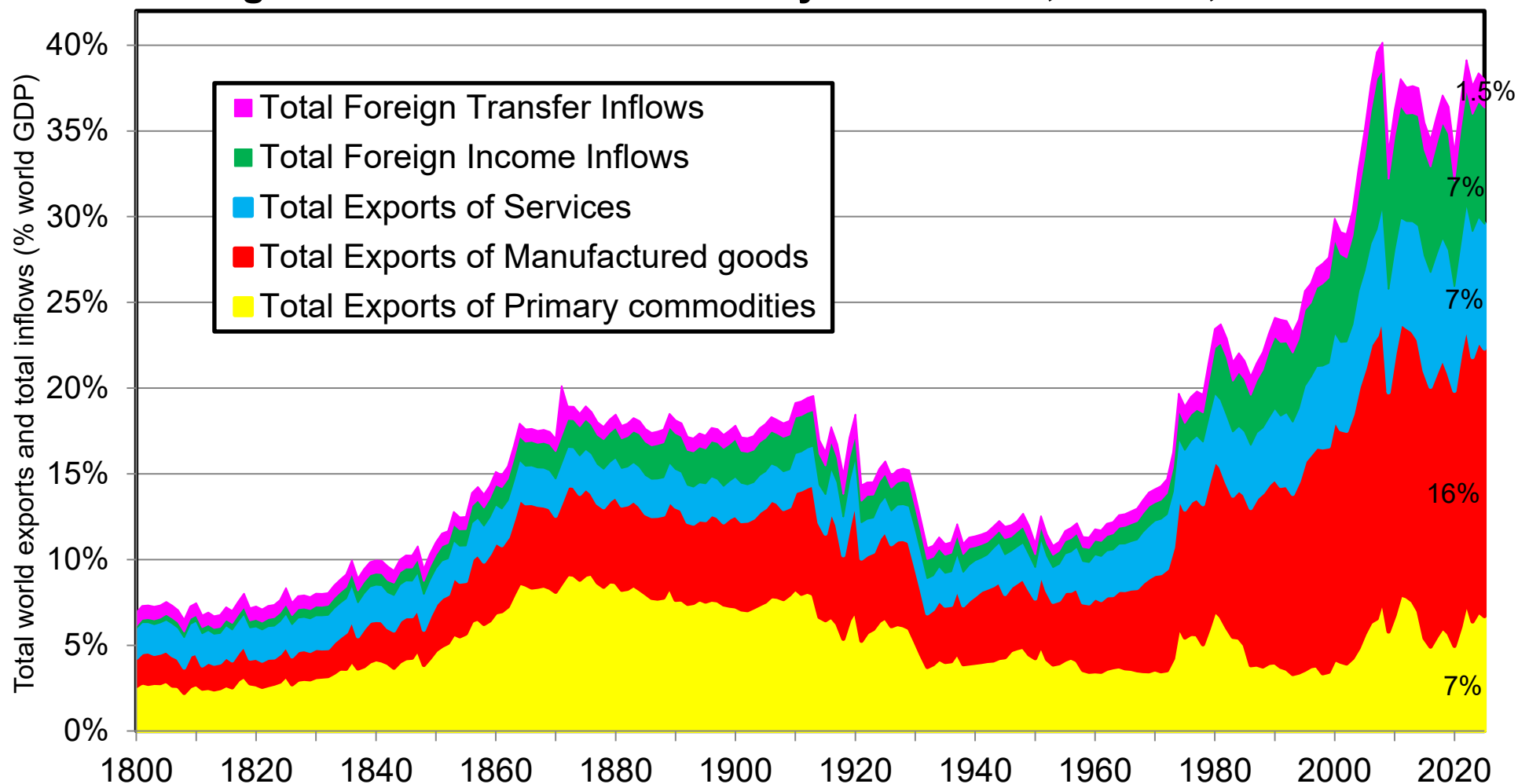
**Interpretation.** Total world exports have risen from about 7% of world GDP in 1800 to about 15% in 1914, 12% in 1970 and 30% in 2025, with a collapse in the 1930s, a steep rise in the 1970s (oil price shock) and a plateau since the 2008 financial crisis. Primary commodities include agricultural products, 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

**Fig. 6. The Magnitude of Trade: Alternative Measures**



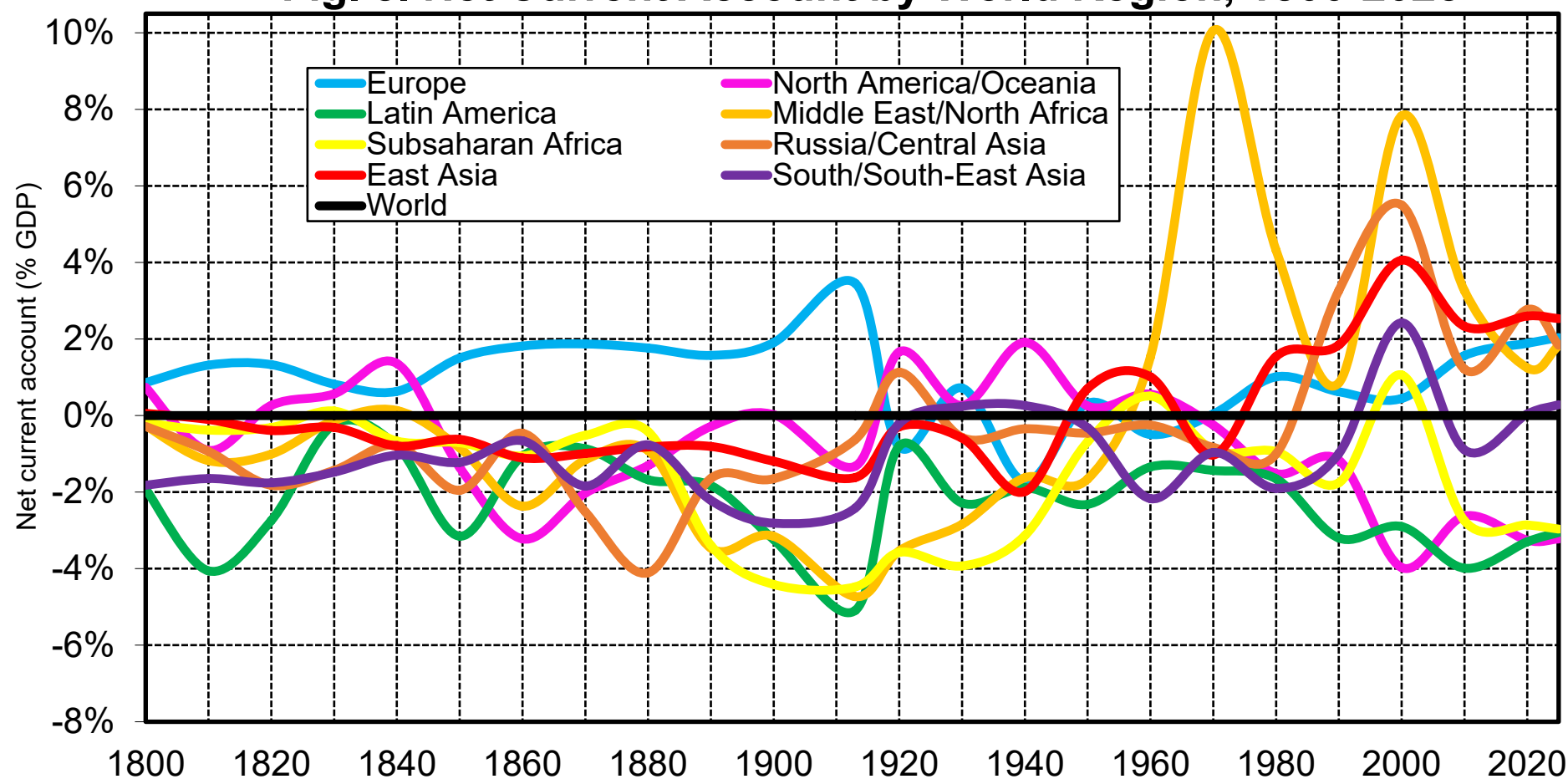
**Interpretation.** If we divide total exports by world output rather than by world GDP, then the magnitude of trade is approximately divided by two. This comes from the fact that world output is about twice as large as world GDP (i.e. about 50% of total output is used as intermediate input to produce other goods and services, with relatively little change over time). If we are interested in the fraction of productive inputs (labour and capital) that is used for exports, then it is arguably more justified to use total output as denominator. **Sources and series:** see wid.world

**Fig. 7. The World Balance of Payment: Trade, Income, Transfers**



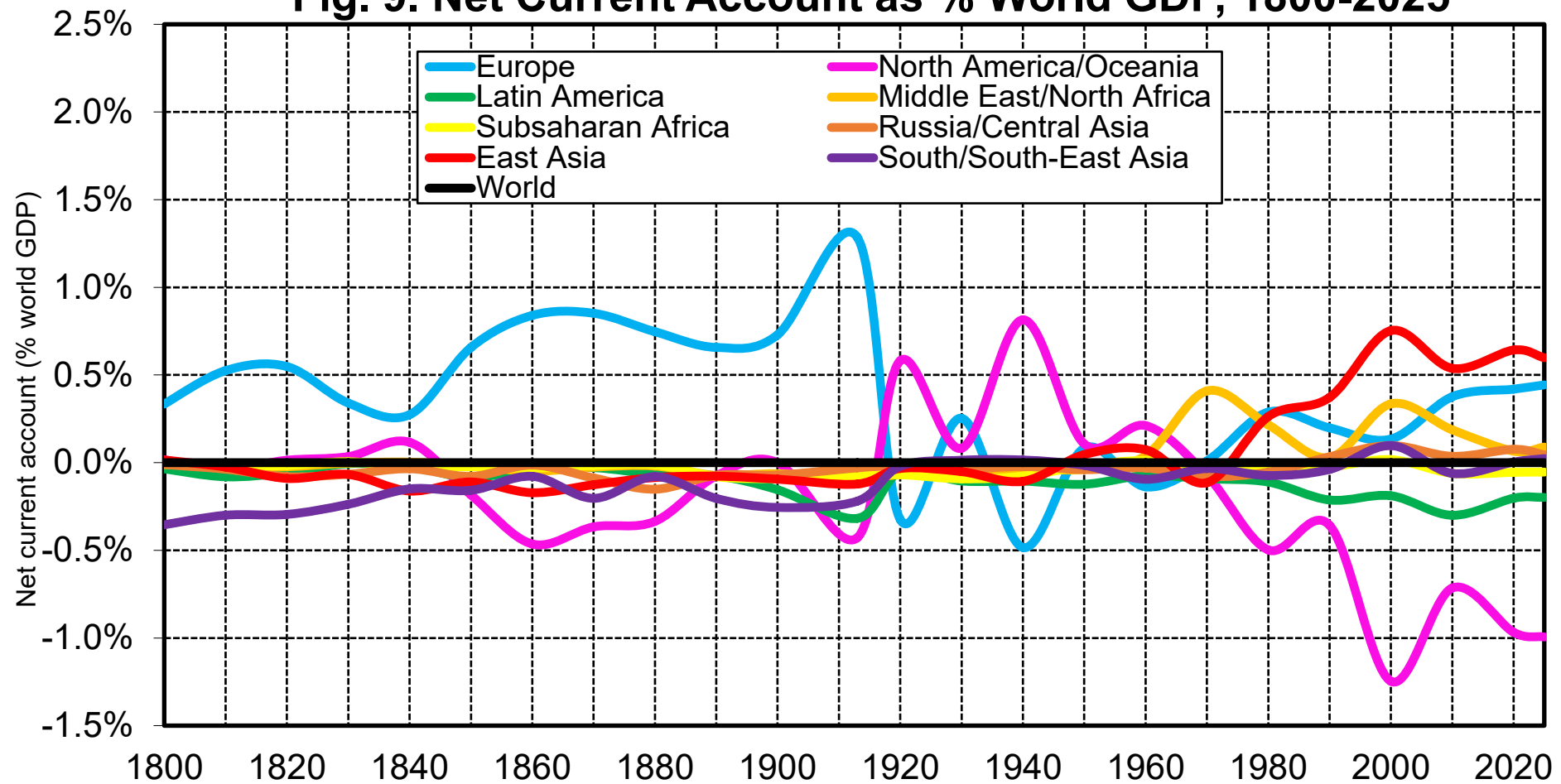
**Interpretation.** Gross flows of foreign income (in practice mostly capital income) and foreign transfers (private and public) have always been smaller in magnitude than gross trade flows, but they have increased over time. Income flows now make about 7% of world GDP (vs 0.1% in 1800, 2% in 1914 & 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

**Fig. 8. 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](#)

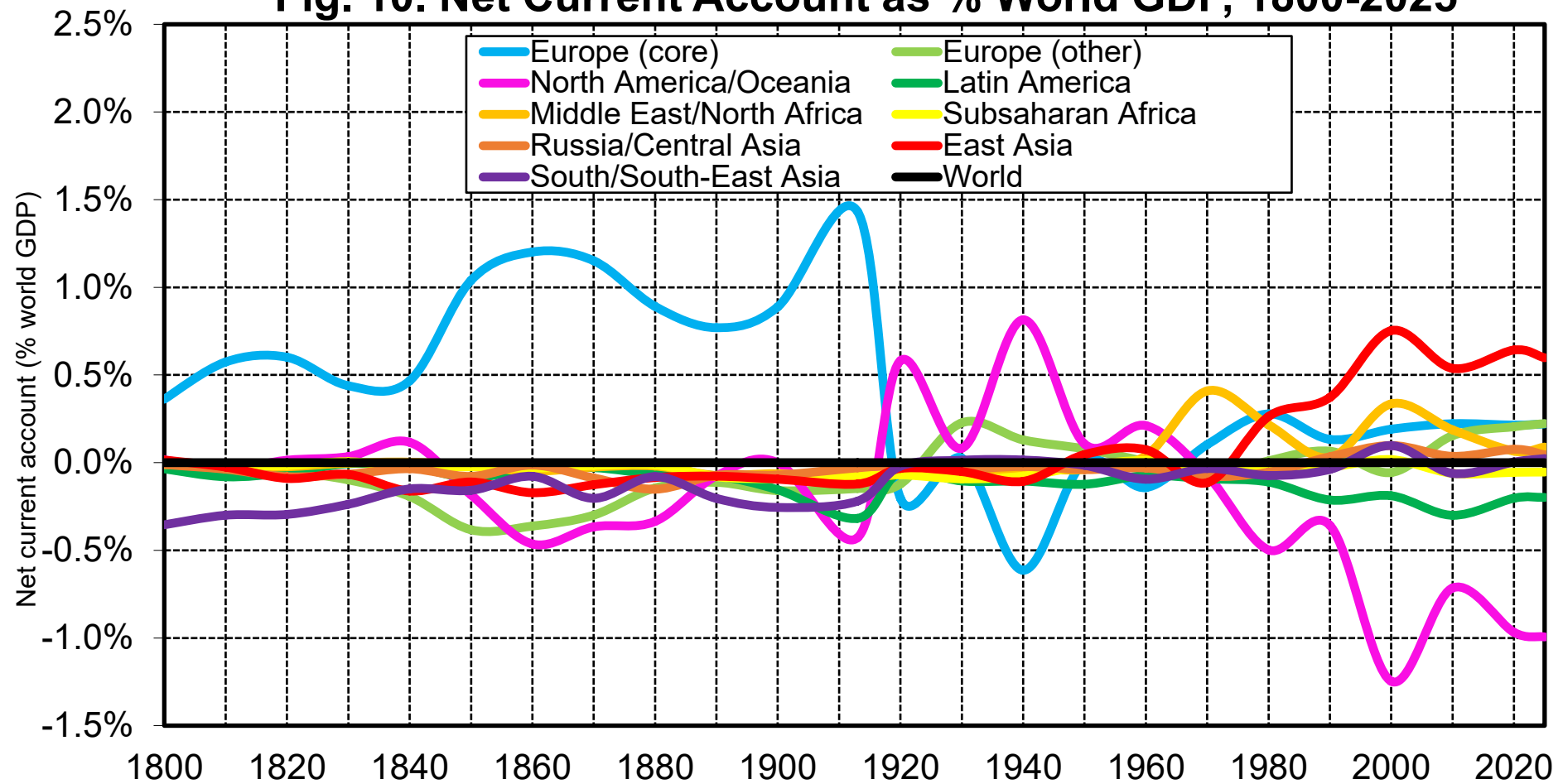
**Fig. 9. Net Current Account as % World GDP, 1800-2025**



**Interpretation.** If we express current account as a fraction of world GDP (rather than as a fraction of the GDP of each country or region), we find that Europe's current account surplus between 1800 and 1914 was substantially larger than the surpluses of Middle East or East Asia 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

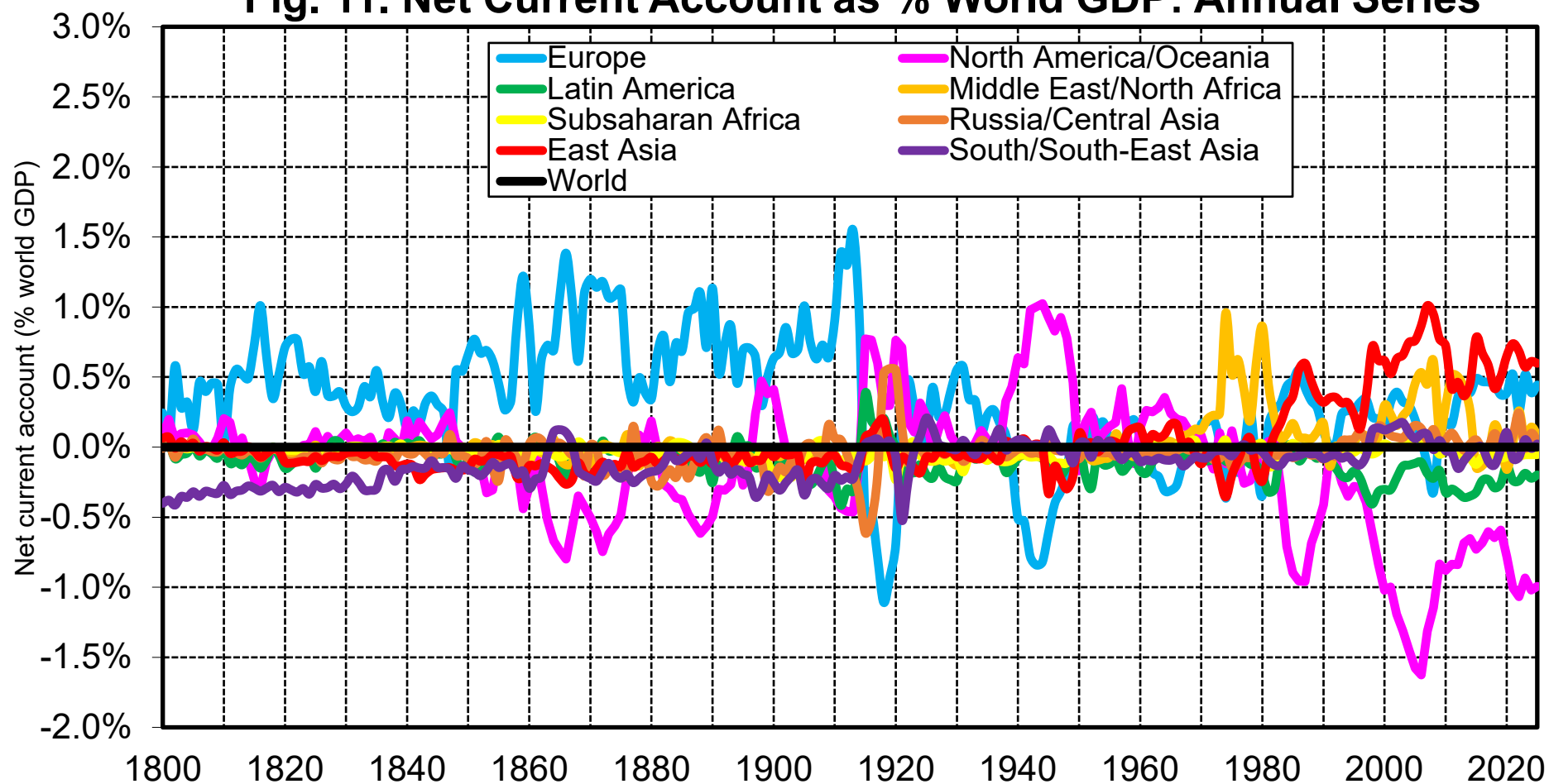


**Fig. 10. Net Current Account as % World GDP, 1800-2025**



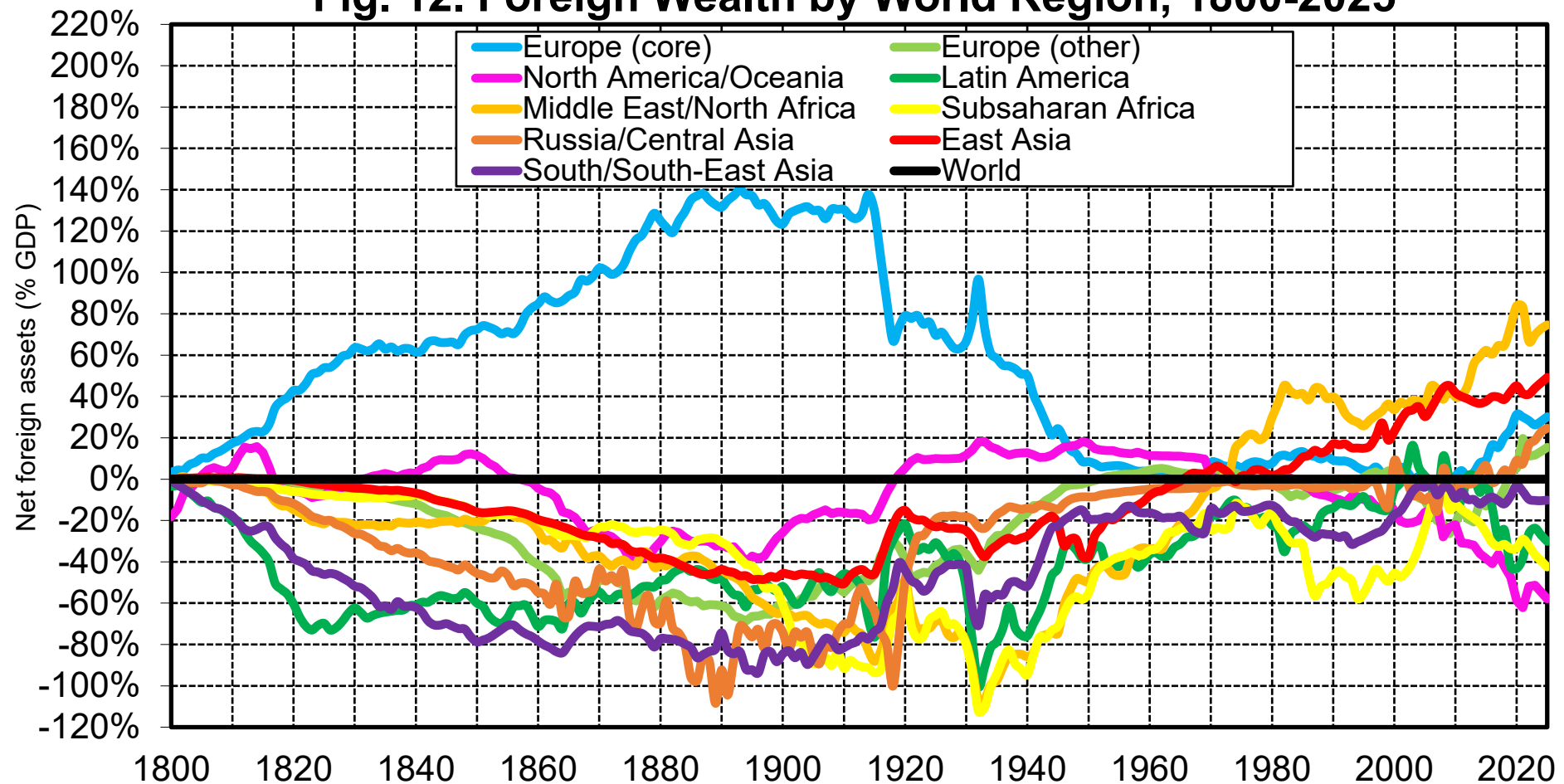
**Interpretation.** If we concentrate on core European colonial powers (Britain, France, Germany, Netherlands), we find that Europe's current account surplus between 1800 and 1914 looks even larger as compared to the surplus of East Asia and Middle East since the 1970s-1980s.  
**Note.** The values reported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

**Fig. 11. Net Current Account as % World GDP: Annual Series**



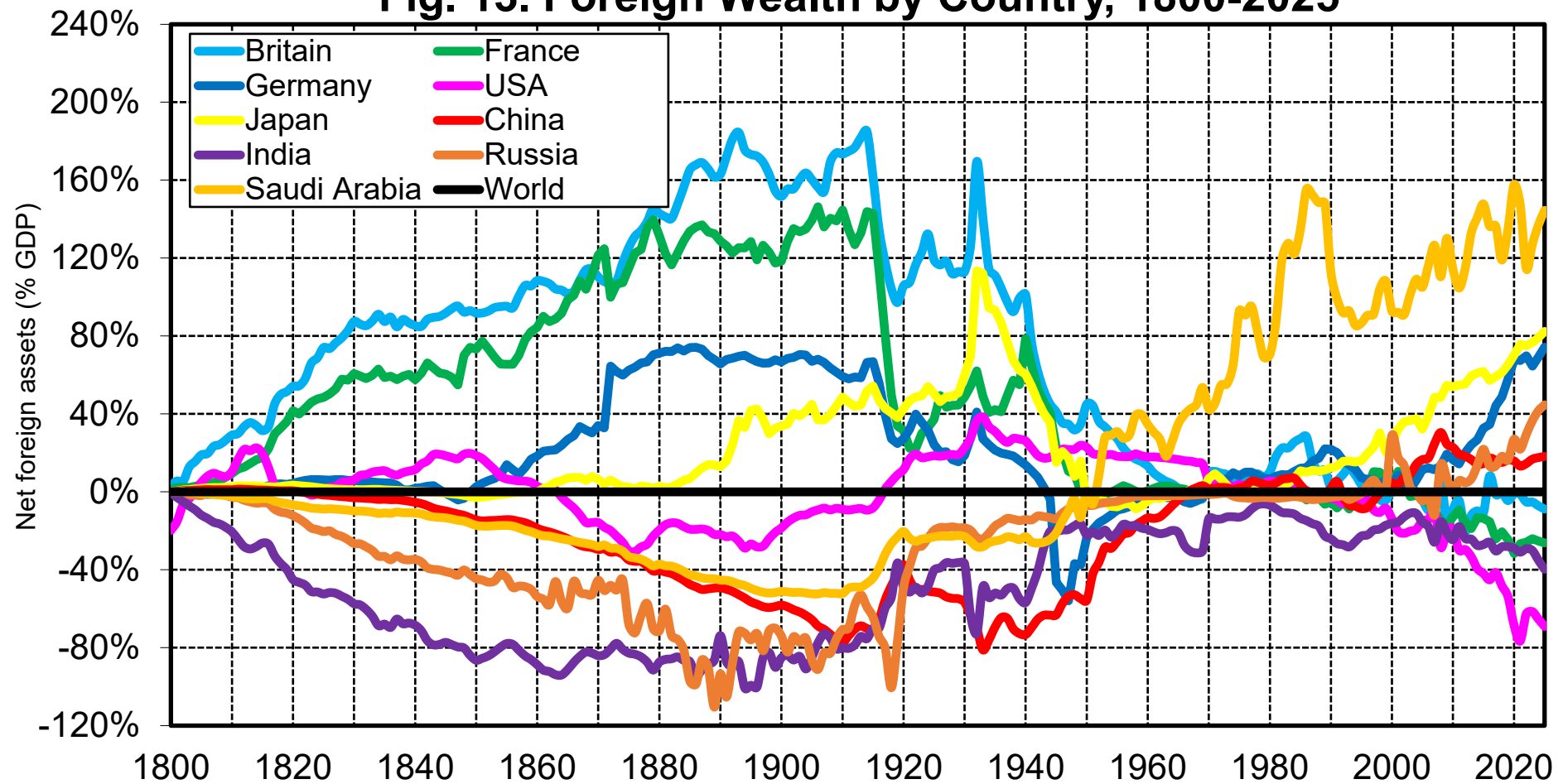
**Interpretation.** Annual series on current account surpluses and deficits are very bumpy, due to a large numbers of shocks (world wars, oil shocks, etc.), but they also show clear patterns: permanent European surplus between 1800 & 1914, large European deficits during wars (and US surpluses), large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

**Fig. 12. Foreign Wealth by World Region, 1800-2025**



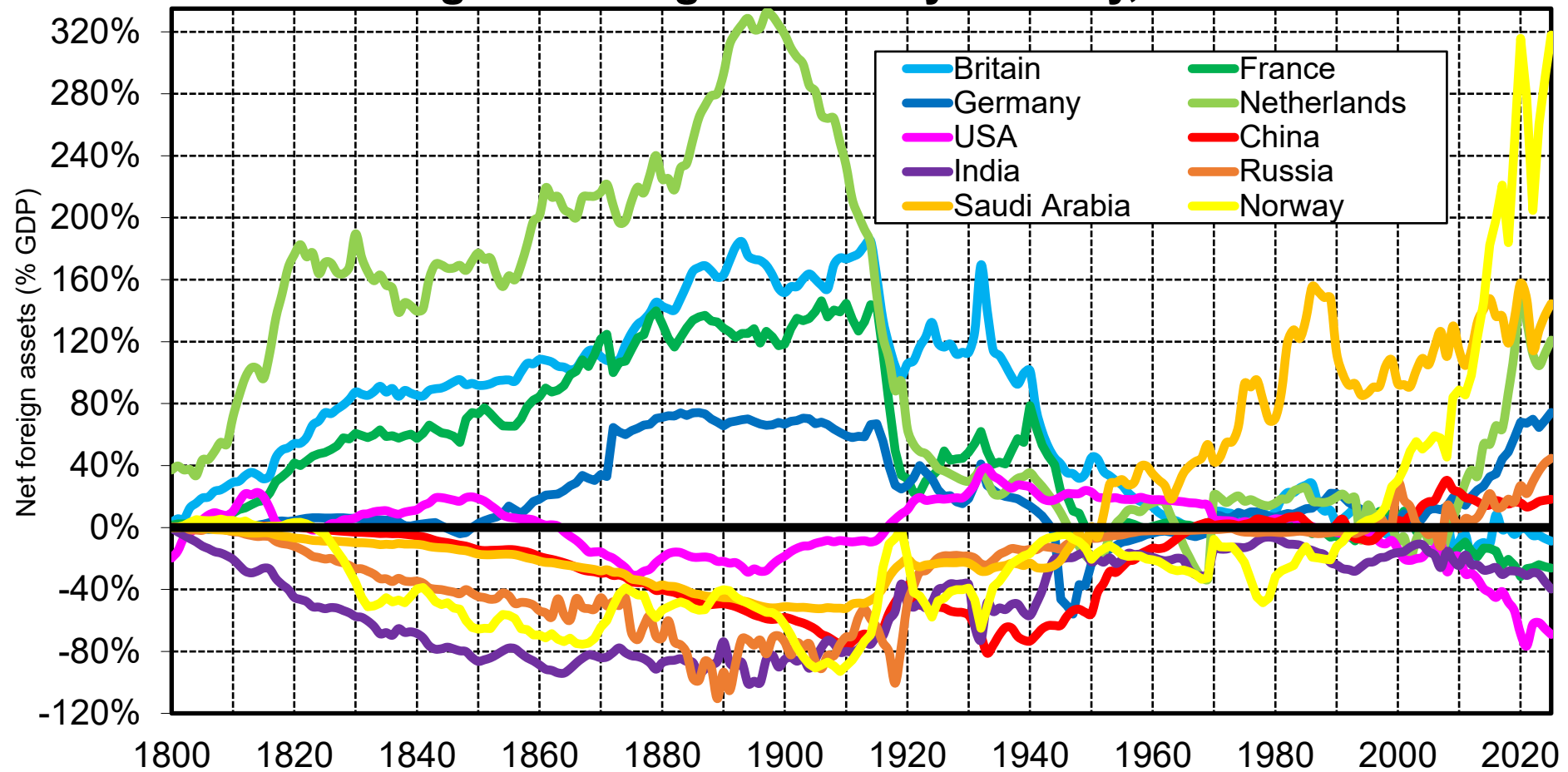
**Interpretation.** If we look at core European colonial powers (Britain, France, Germany, Netherlands, making 68% of Europe's GDP in 1914), we find that their net foreign assets reach almost 140% of their GDP in 1914. In contrast other European countries have large negative foreign wealth (approximately 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

**Fig. 13. 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%). Since the 1970s-1980s, oil countries like Saudi Arabia have also accumulated very large foreign assets relative to their GDP (130% in 2025), but with a much smaller GDP relative to world GDP. **Sources and series:** wid.world

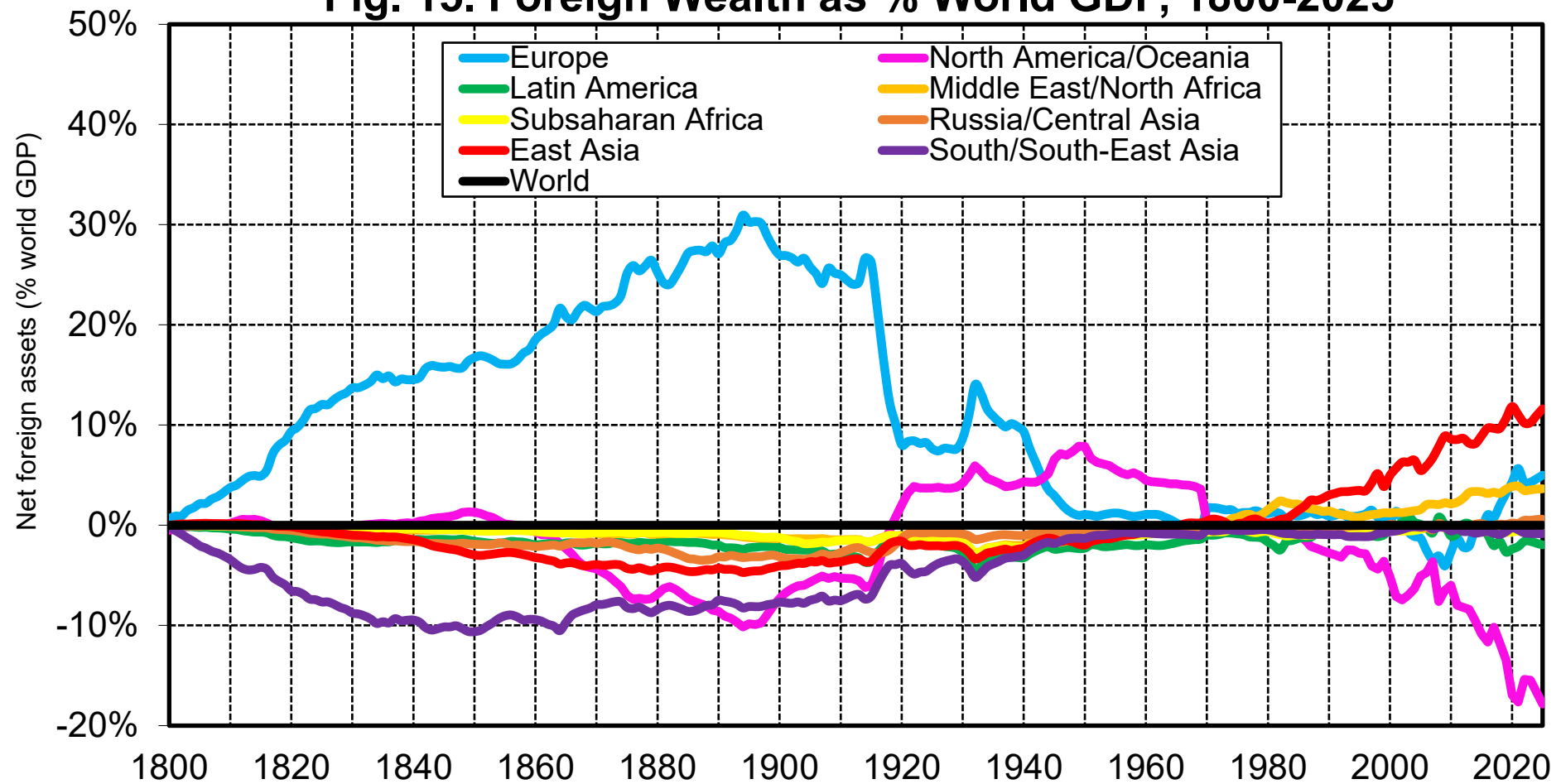
**Fig. 14. Foreign Wealth by Country, 1800-2025**



**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).

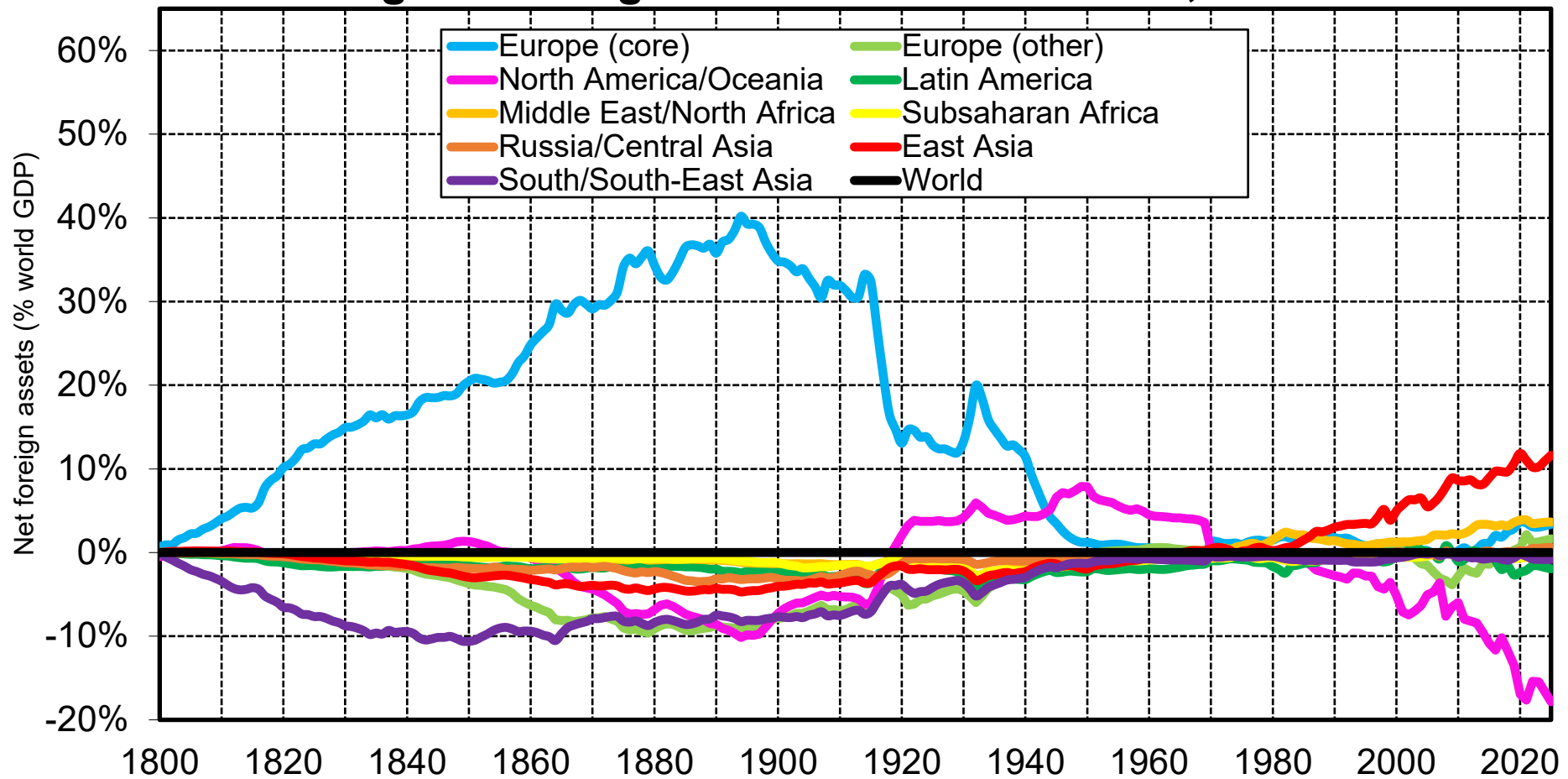
**Sources and series:** wid.world

**Fig. 15. Foreign Wealth as % World GDP, 1800-2025**



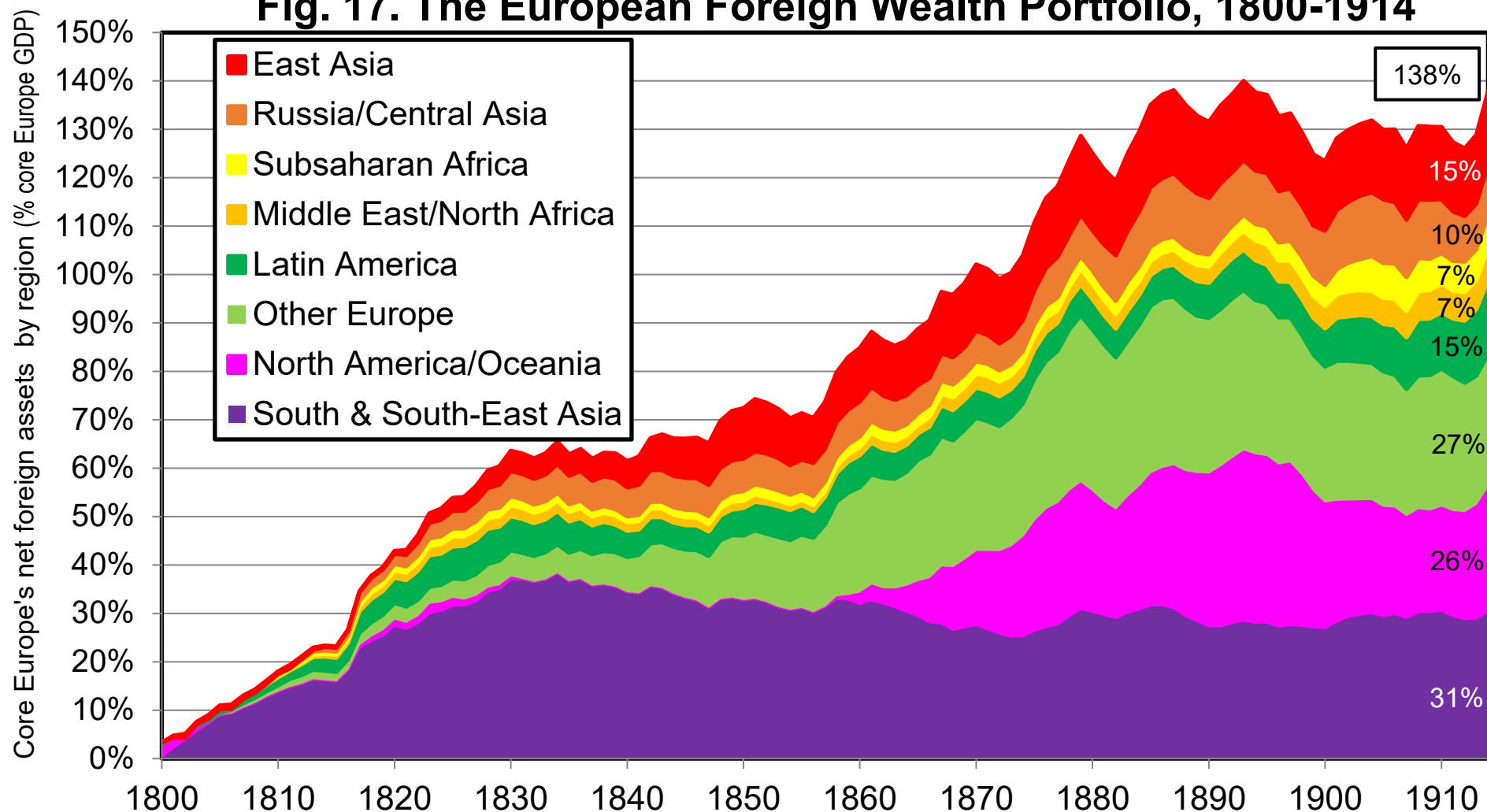
**Interpretation.** If we express net foreign assets as a fraction of world GDP (rather than as a fraction of the GDP of each country or region), then we find that Europe's pre-WW1 foreign wealth is about 2.5-3 times larger than East Asia's foreign wealth today (and 5-6 times larger than Middle East's foreign wealth today). **Sources and series:** wid.world

**Fig. 16. 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 held 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 portfolio across all other world regions. **Sources and series:** wid.world

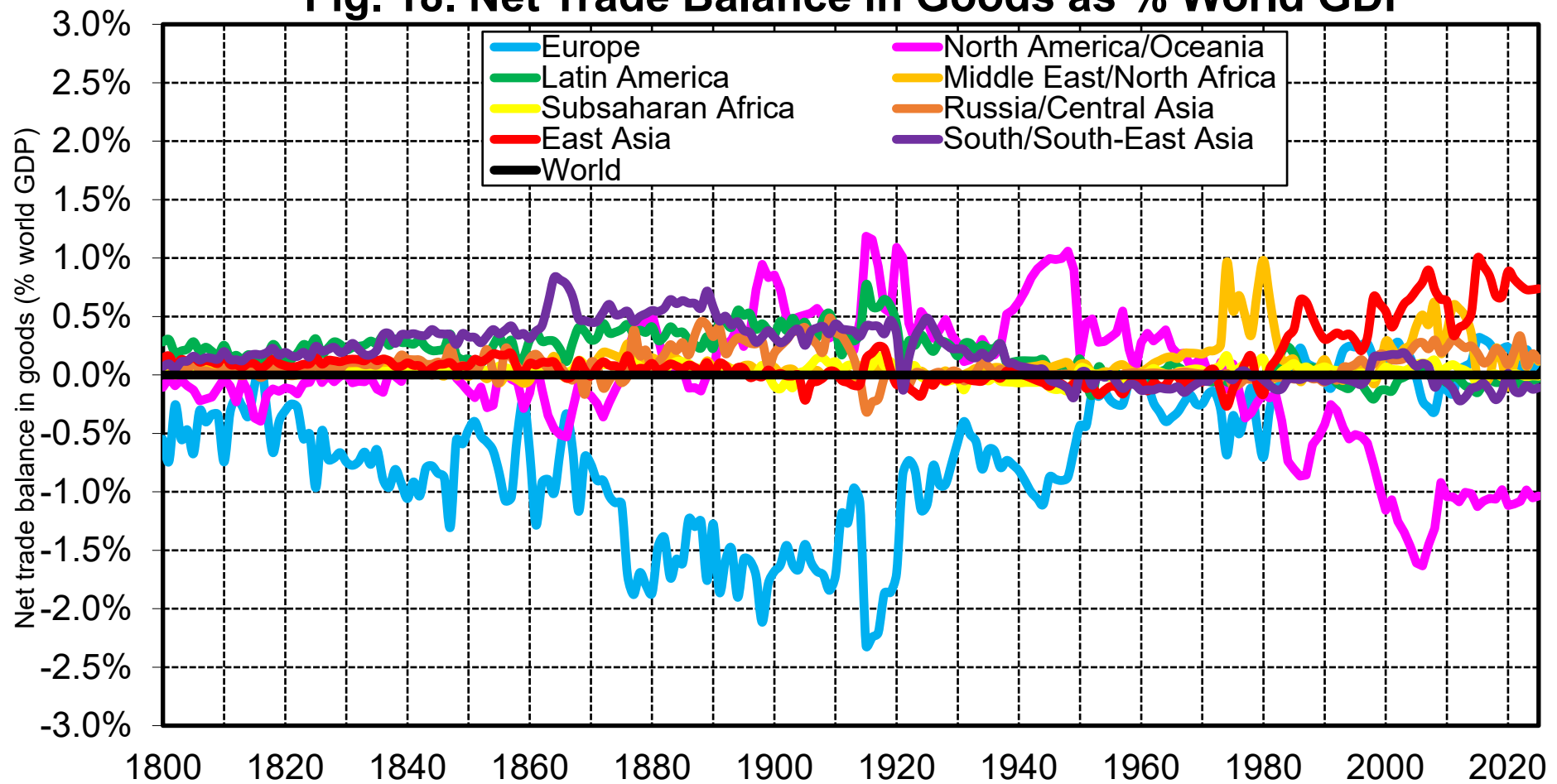
**Fig. 17. The European Foreign Wealth Portfolio, 1800-1914**



**Interpretation.** Between 1800 & 1914, core European colonial powers (Britain, France, Germany, Netherlands) accumulate a very large and diversified foreign wealth portfolio in the rest of the world. By 1914, they own the equivalent of 138% 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

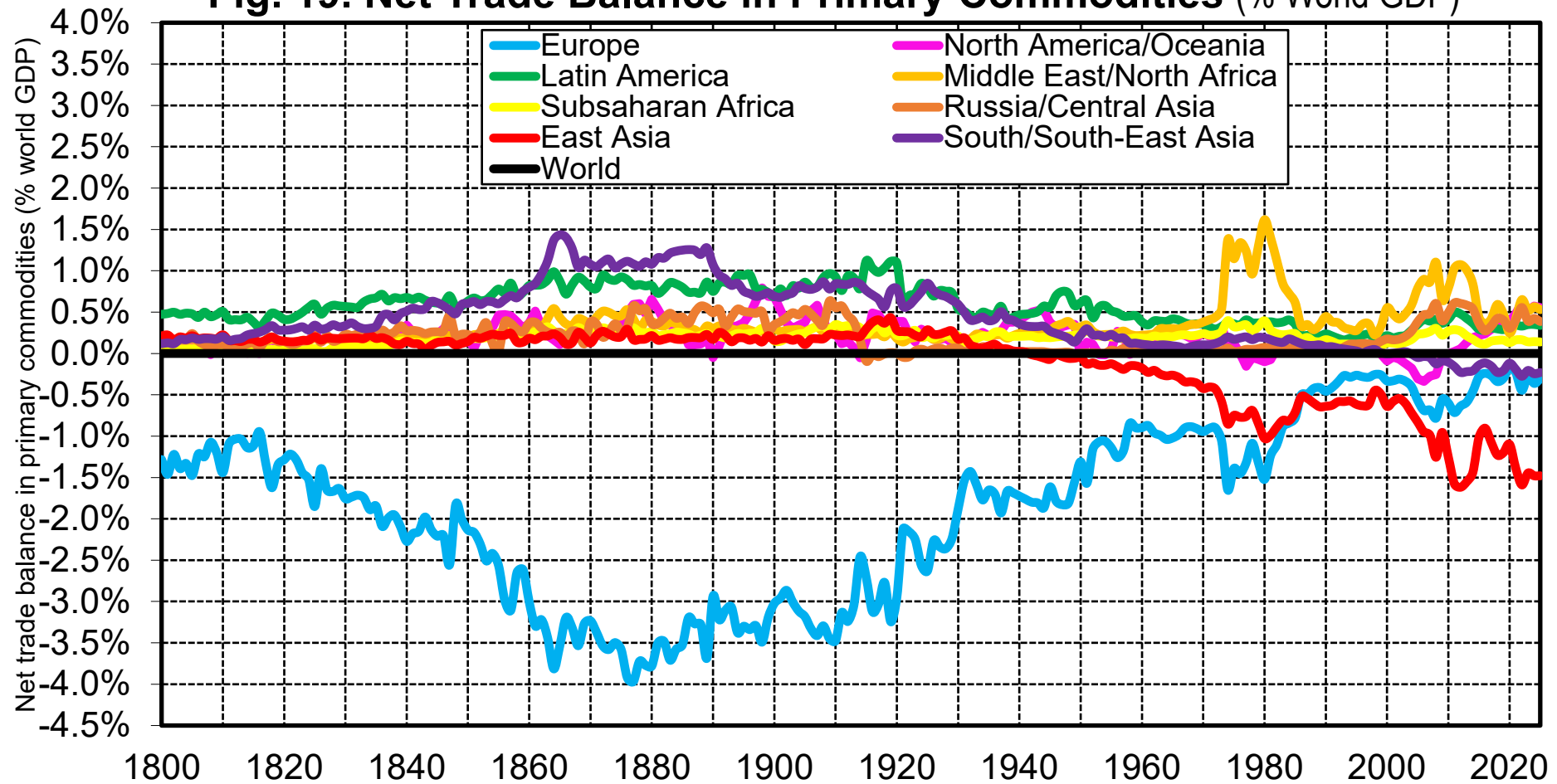


**Fig. 18. Net Trade Balance in Goods as % World GDP**



**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

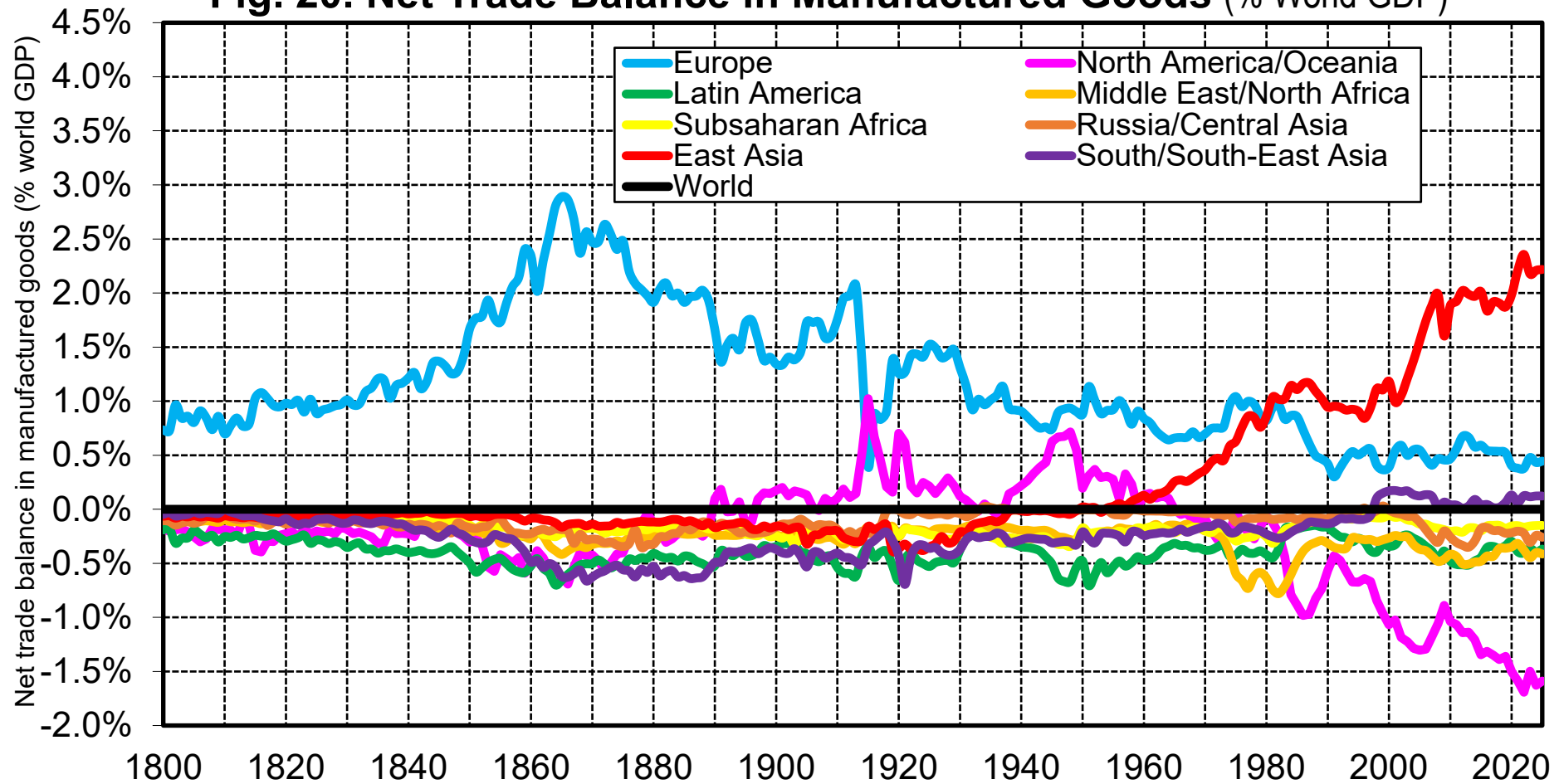
**Fig. 19. Net Trade Balance in Primary Commodities (% World GDP)**



**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 commodities 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.

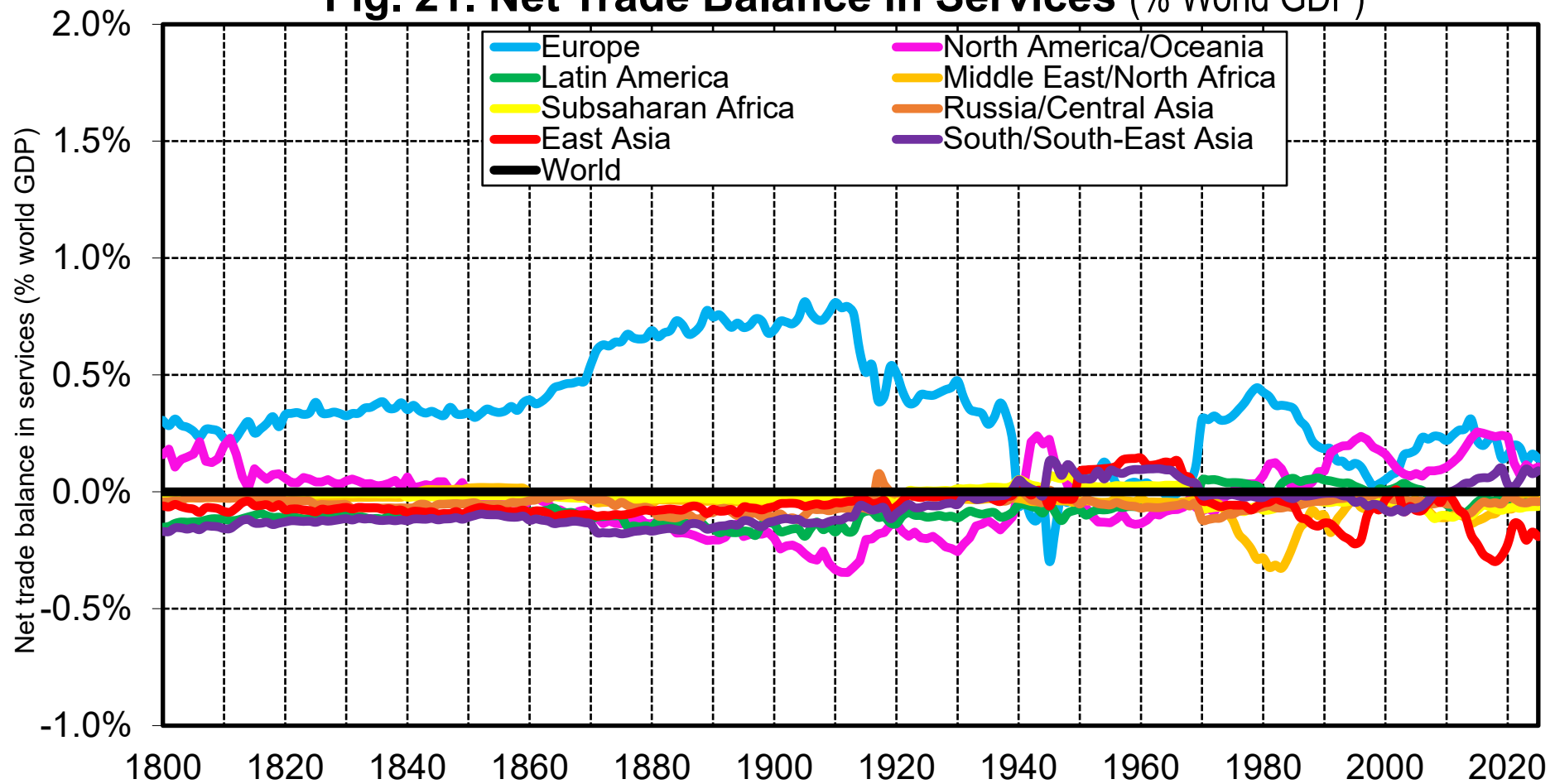
**Sources and series:** see wid.world

**Fig. 20. Net Trade Balance in Manufactured Goods (% World GDP)**



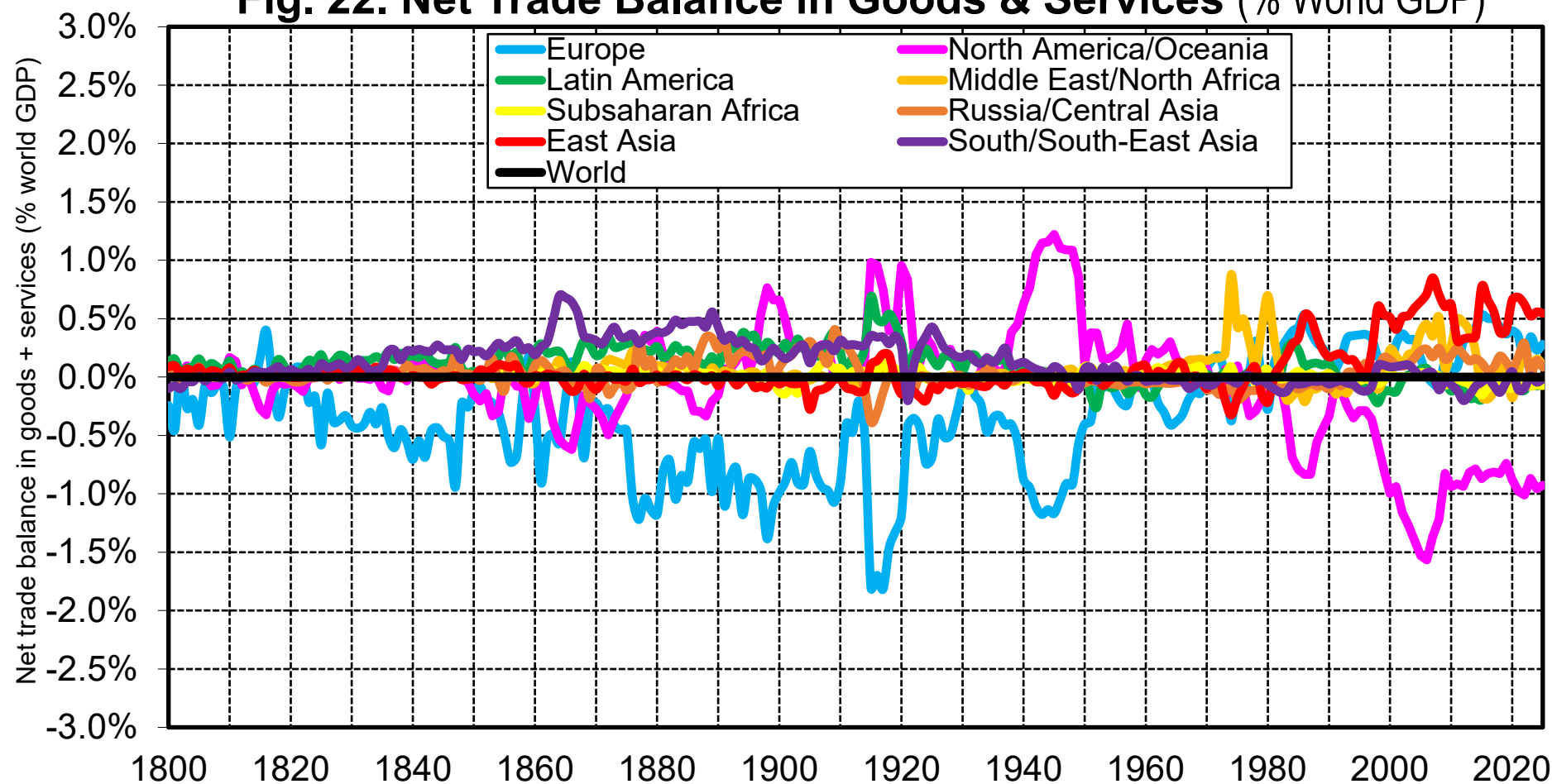
**Interpretation.** Between 1800 & 1914, Europe is making a large trade surplus in manufactured goods (especially Britain), but it is insufficient to compensate for the huge deficit in primary commodities. In contrast, the trade surplus in manufactured goods of East Asia in recent decades has been of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

**Fig. 21. Net Trade Balance in Services (% World GDP)**



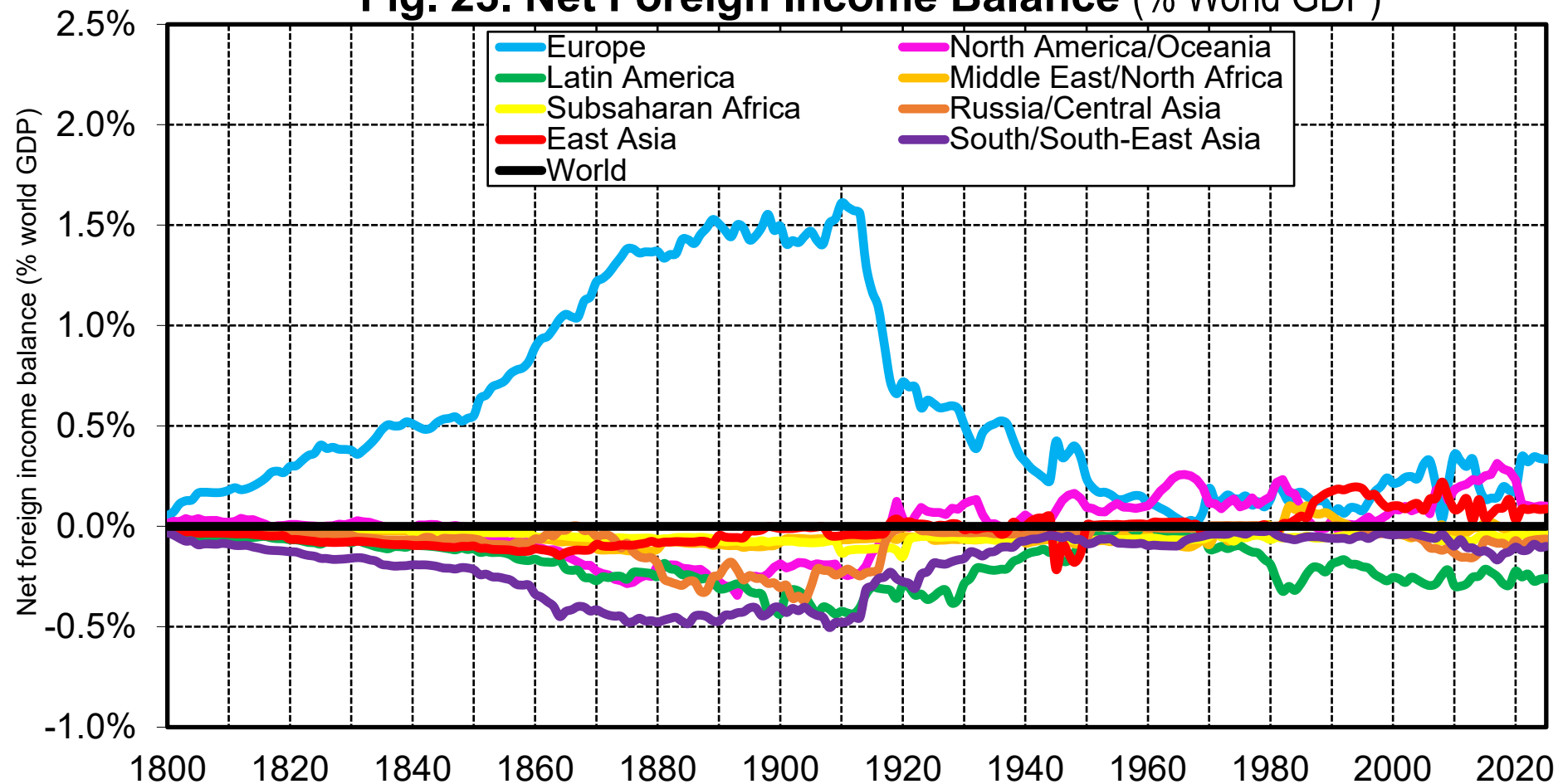
**Interpretation.** Between 1800 and 1914, Europe is making a permanent surplus in trade for services, particularly Britain in maritime transport, trading services, insurance, etc. (except during Napoleonic wars when US fleet gets a bigger share of freight). However this surplus alone is insufficient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

**Fig. 22. Net Trade Balance in Goods & Services (% World GDP)**



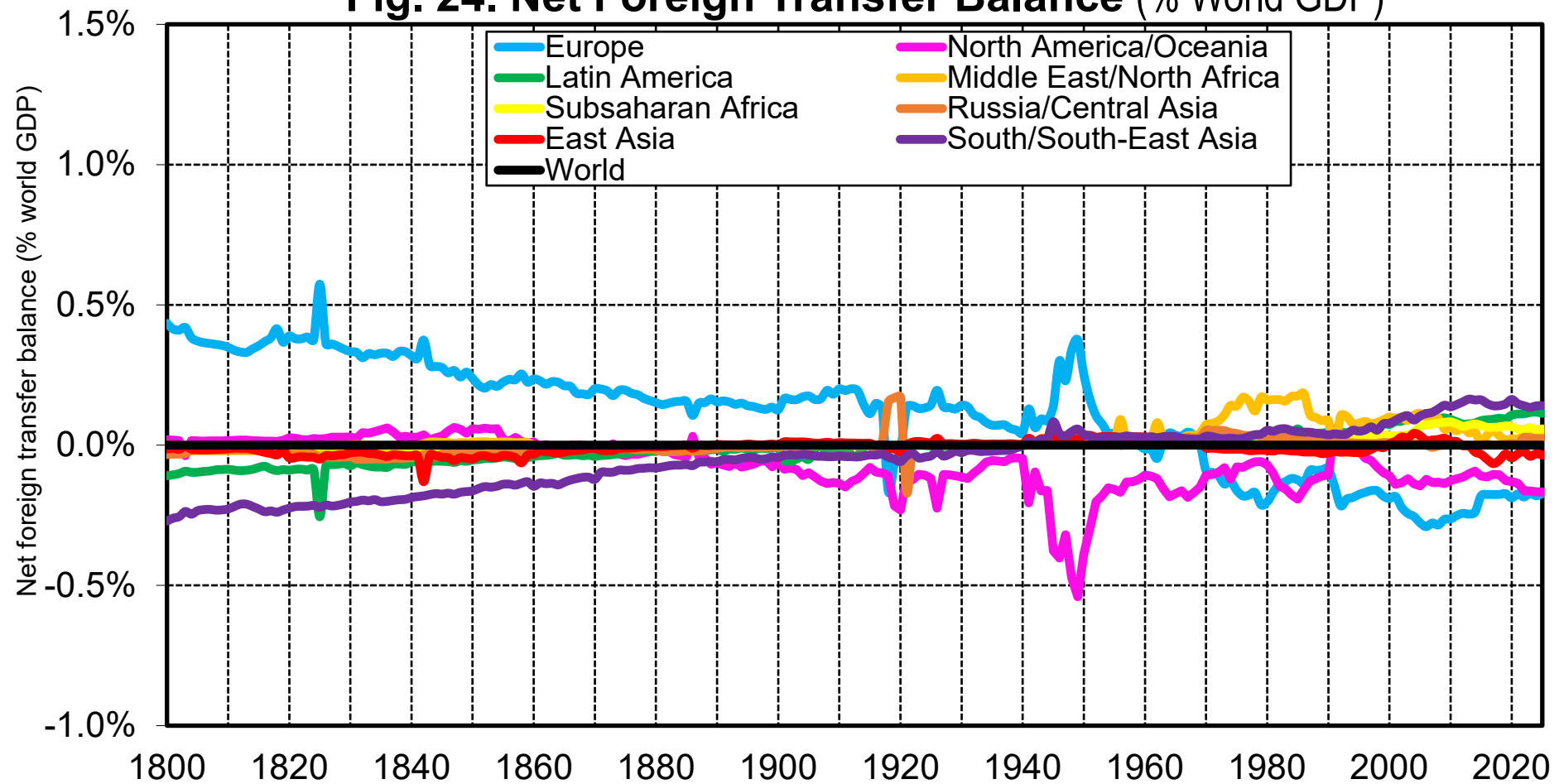
**Interpretation.** Between 1800 and 1914, Europe has a large permanent deficit in trade for goods, which is only partially compensated by the trade surplus in trade for services (in particular freight/insurance & trading services). I.e. Europe's large current account surplus over this period comes entirely 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

**Fig. 23. 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 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](http://wid.world)

**Fig. 24. 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

**Table 2. 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	including cumulated excess yield	Cumulated foreign transfer inflow or outflow
	$\beta_t$	$\beta_{t+n}$		Total	Primary commodities	Manufactured goods				
Europe (GB-FR-DE-NL)	3%	138%	0%	-141%	-408%	267%	62%	201%	59%	22%
Great Britain	3%	185%	0%	-268%	-653%	385%	118%	299%	118%	42%
France	1%	144%	0%	-44%	-269%	225%	13%	191%	27%	-6%
Germany	0%	66%	0%	-66%	-241%	175%	42%	78%	22%	17%
Netherlands	37%	183%	5%	-136%	-191%	55%	-15%	263%	-21%	77%

**Interpretation.** The net foreign wealth of European powers (GB-FR-DE-NL) rose from 3% to 138% of GDP between 1800 and 1914. Their cumulated trade deficit for goods was equal to -141% but it was more compensated by invisible BoP items (trade in services, foreign income and foreign transfers). **Sources & series:** see wid.world.



**Table 3. 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	including cumulated excess yield	Cumulated foreign transfer inflow or outflow
	$\beta_t$	$\beta_{t+n}$		Total	Primary commodities	Manufactured goods				
Europe (GB-FR-DE-NL)	3%	138%	0%	-141%	-408%	267%	62%	201%	59%	22%
1800-1840	3%	61%	2%	-44%	-163%	119%	32%	39%	10%	33%
Great Britain	3%	85%	1%	-77%	-285%	208%	49%	54%	15%	58%
Netherlands	37%	140%	24%	-158%	-151%	-7%	-8%	198%	103%	85%
1840-1880	61%	125%	27%	-67%	-300%	233%	40%	120%	37%	19%
1880-1914	125%	138%	56%	-103%	-241%	138%	38%	139%	41%	7%

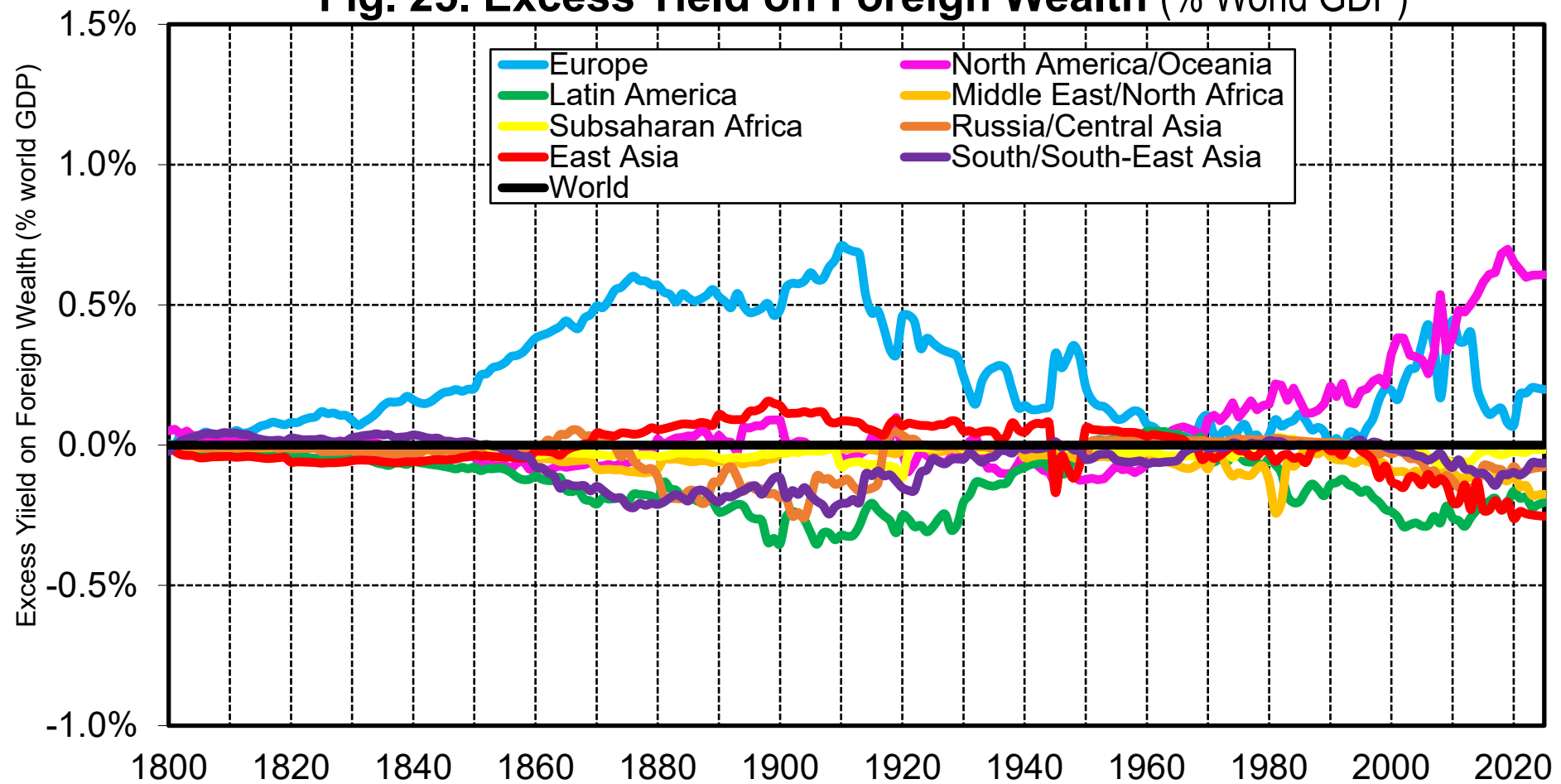
**Interpretation.** The net foreign wealth of European powers (GB-FR-DE-NL) rose from 3% to 138% of GDP between 1800 and 1914. Their cumulated trade deficit for goods was equal to -141% but it was more compensated by invisible BoP items (trade in services, foreign income and foreign transfers). **Sources & series:** see wid.world.

**Table 4. 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
	$\beta_t$	$\beta_{t+n}$		Total	Primary commodities	Manufactured goods				
Europe	6%	23%	0%	6%	-42%	48%	18%	21%	18%	-19%
North America/Oceania	1%	-58%	0%	-64%	11%	-75%	10%	10%	29%	-8%
Middle East/North Africa	-5%	75%	0%	90%	255%	-165%	-35%	-6%	-43%	26%
Subsaharan Africa	-24%	-42%	-1%	29%	198%	-169%	-77%	-55%	-29%	64%
East Asia	5%	49%	0%	52%	-92%	144%	-12%	9%	-14%	-1%

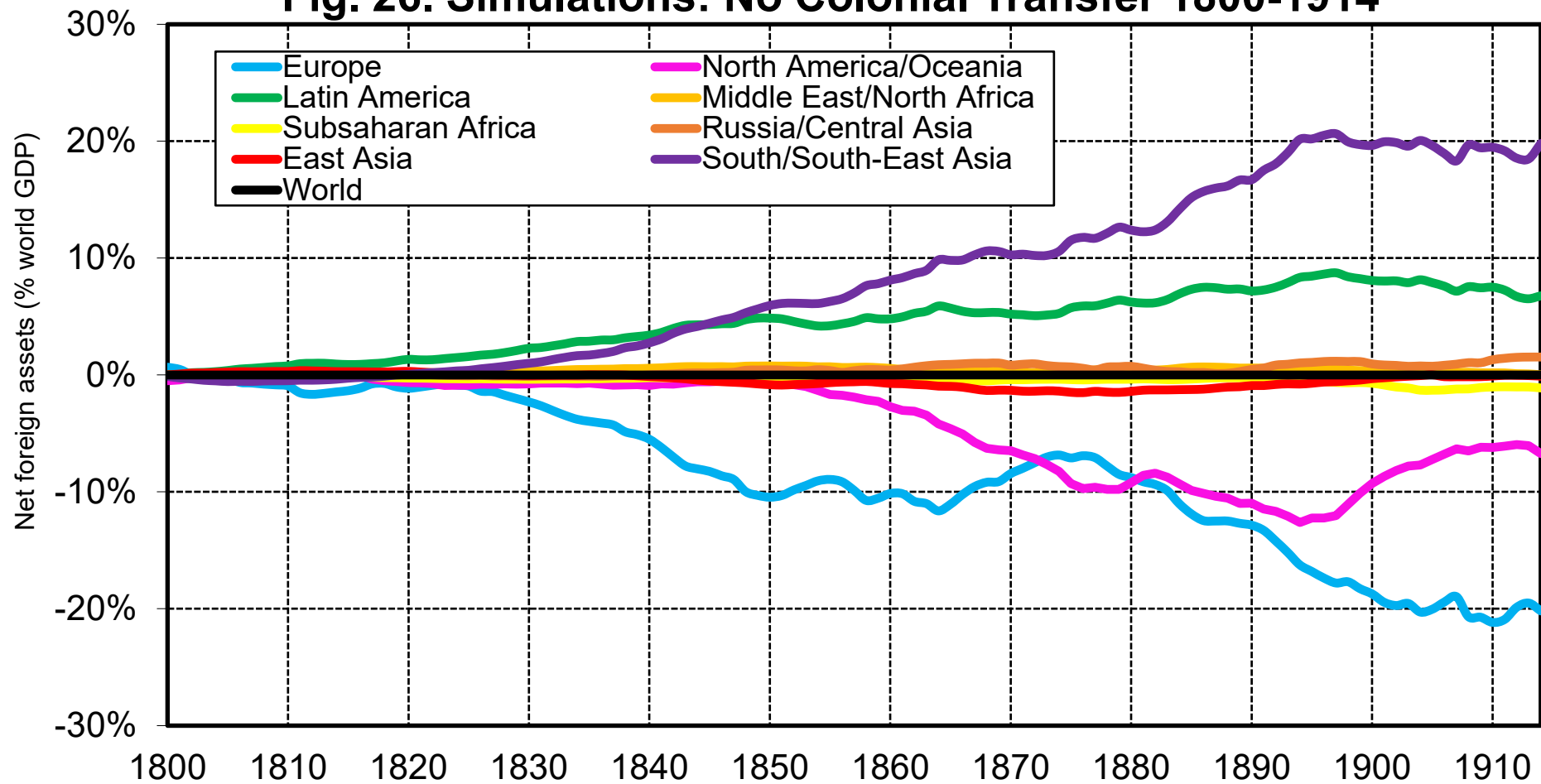
**Interpretation.** The net foreign wealth of East Asia rose from 5% to 49% of GDP between 1970 and 2025, largely due to its cumulated trade surplus. The net foreign wealth of North America/Oceania dropped from 1% to -58%, largely due to its cumulated trade deficit, and would have dropped even further without the positive foreign income coming from excess yield (differential between rates of return on foreign assets and liabilities). **Sources & series:** see wid.world.

**Fig. 25. Excess Yield on Foreign Wealth (% World GDP)**



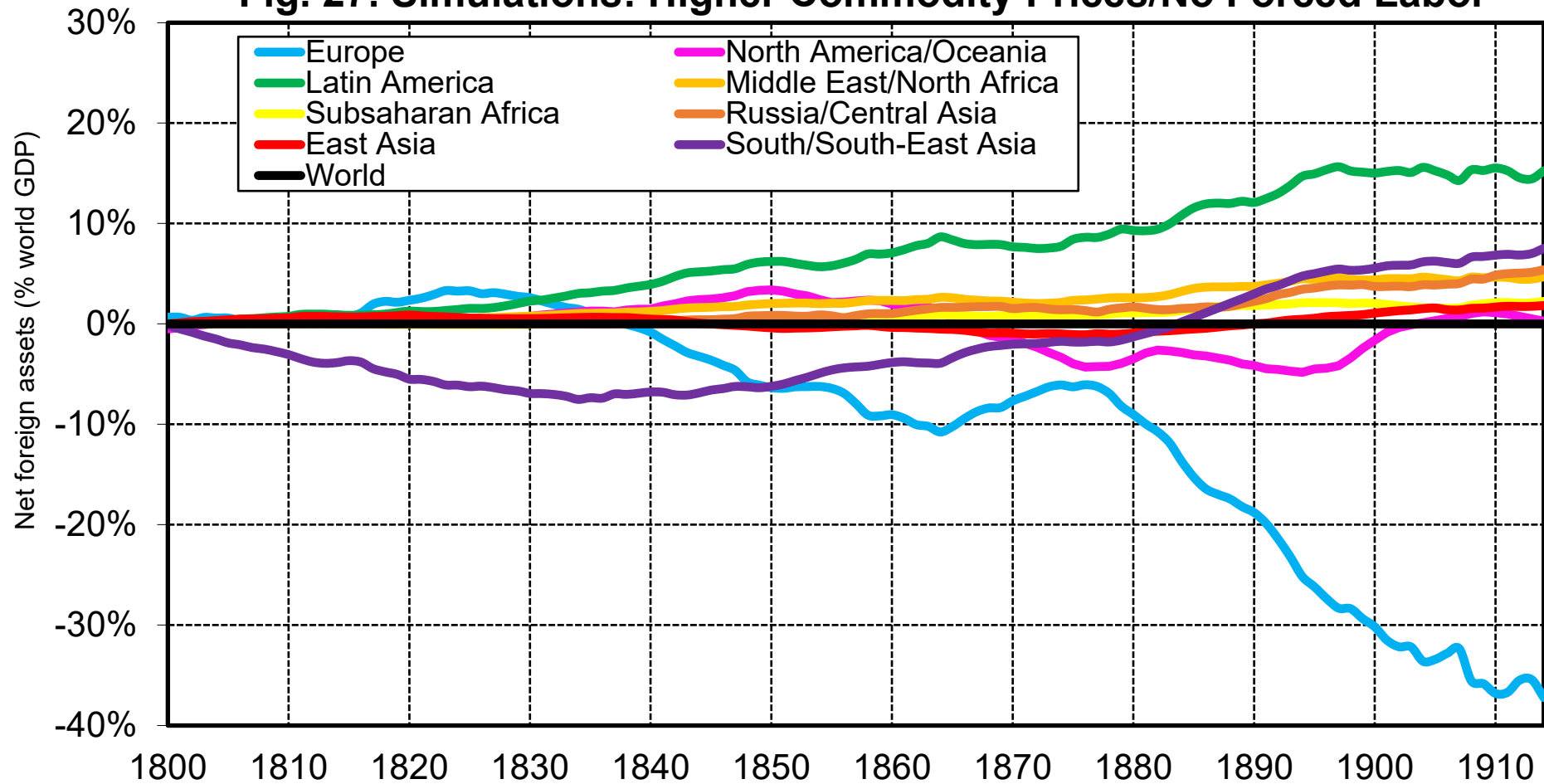
**Interpretation.** In 2000-2025, USA and Europe are obtaining together about 0.5-1% of world GDP each year from the rest of world in excess yield on foreign wealth (i.e. due to the differential between their rate of return on gross foreign assets and gross foreign liabilities). We observe a similar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

**Fig. 26. Simulations: No Colonial Transfer 1800-1914**



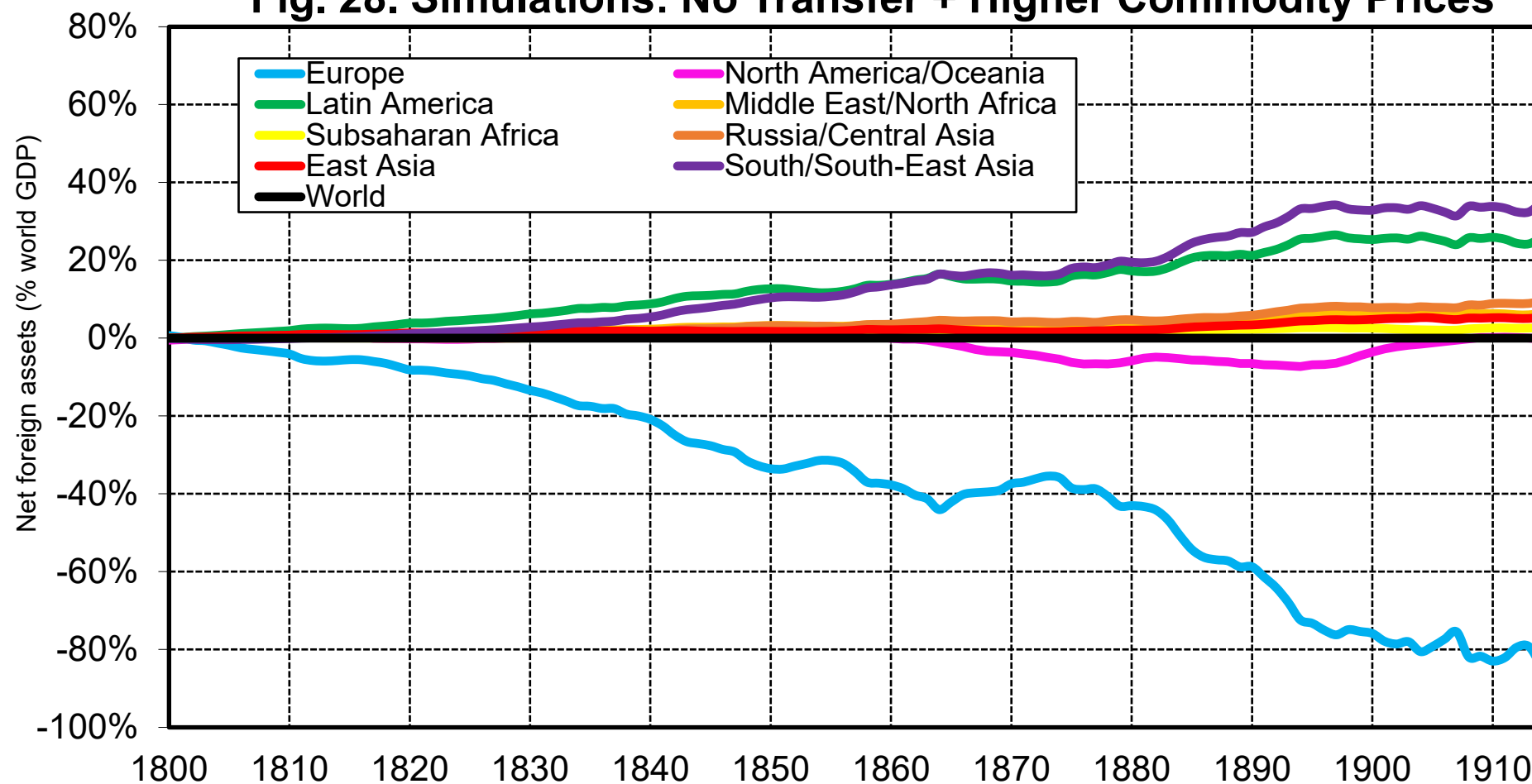
**Interpretation.** In the absence of the net transfer flows received by Europe in 1800-1914 (war tributes paid by Haïti and China to France and Britain, "Home charges" paid by India and Indonesia to Britain and the Netherlands, etc.), and leaving all other flows unchanged, Europe would have had a very 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 in particular to large transfer outflows from West Indies in 1800-1850). **Sources and series:** wid.world

**Fig. 27. Simulations: Higher Commodity Prices/No Forced Labor**



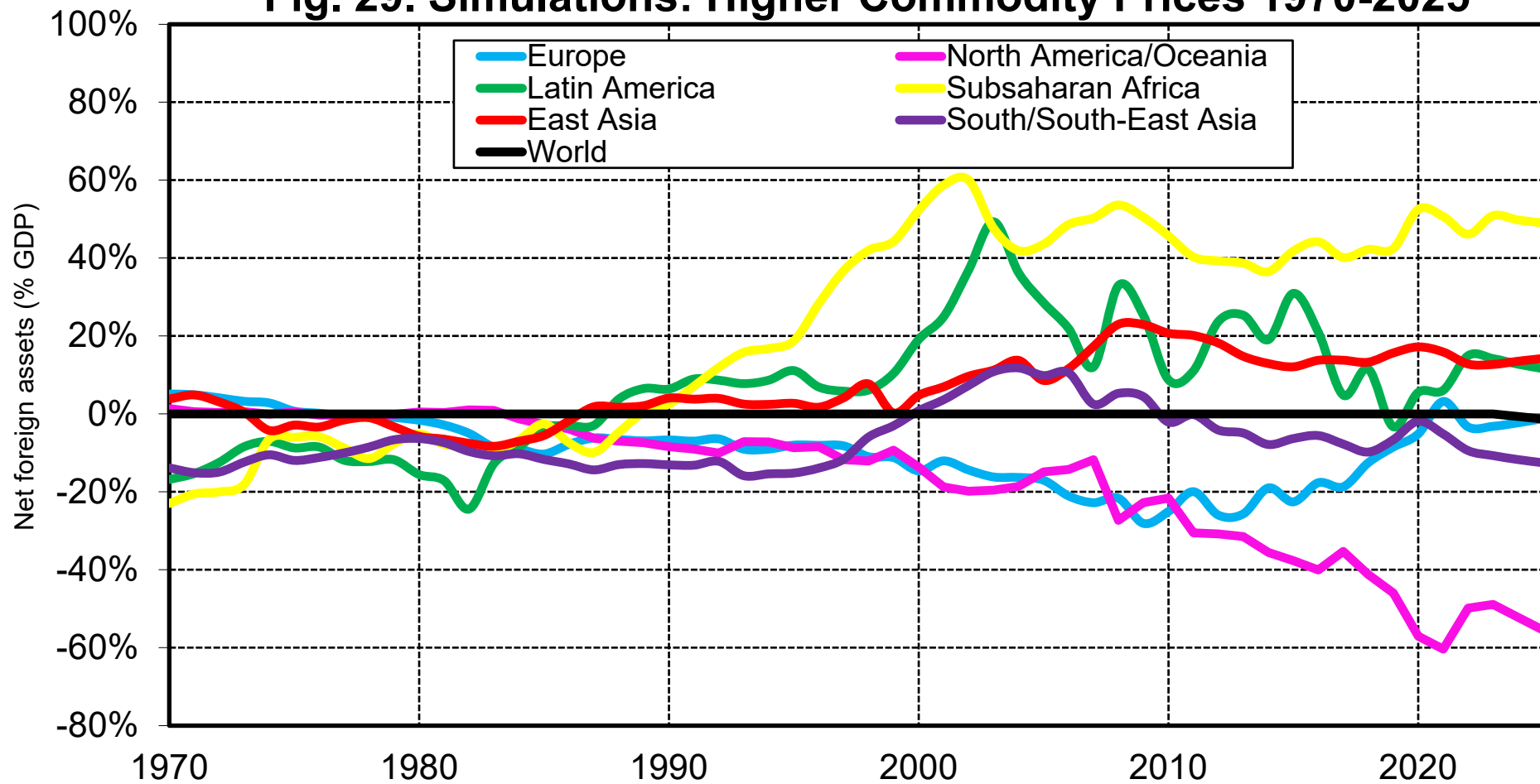
**Interpretation.** Assuming that primary commodity prices would have been 20% higher than what they were between 1800 and 1914 (which corresponds to a lower bound estimate of the value of unpaid forced labor in the export production of cotton, sugar, grain, etc.. over this period), and leaving all other 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

**Fig. 28. 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 own 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

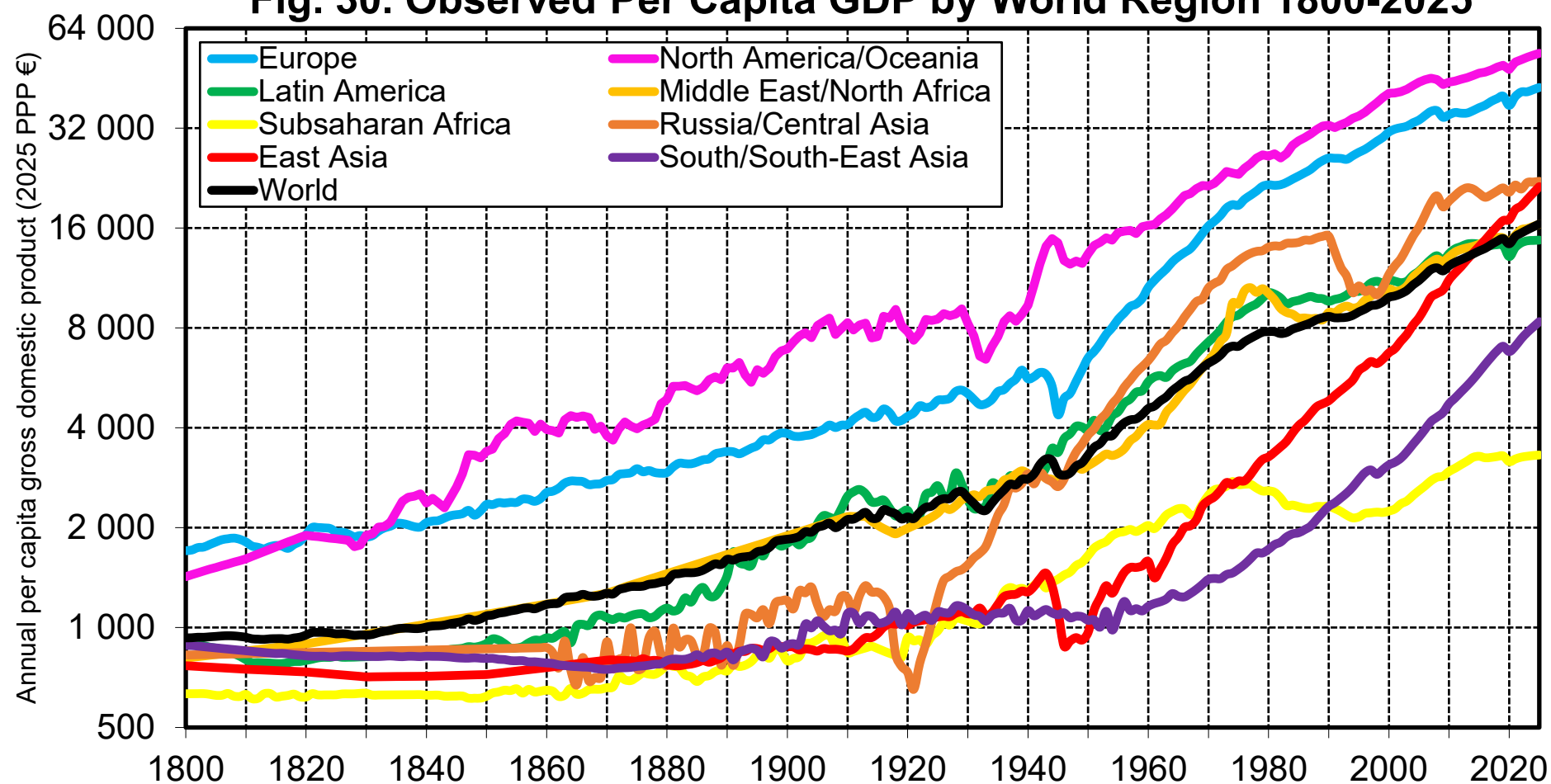
**Fig. 29. Simulations: Higher Commodity Prices 1970-2025**



**Interpretation.** Assuming that primary commodity prices would have been 20% higher than what they were between 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

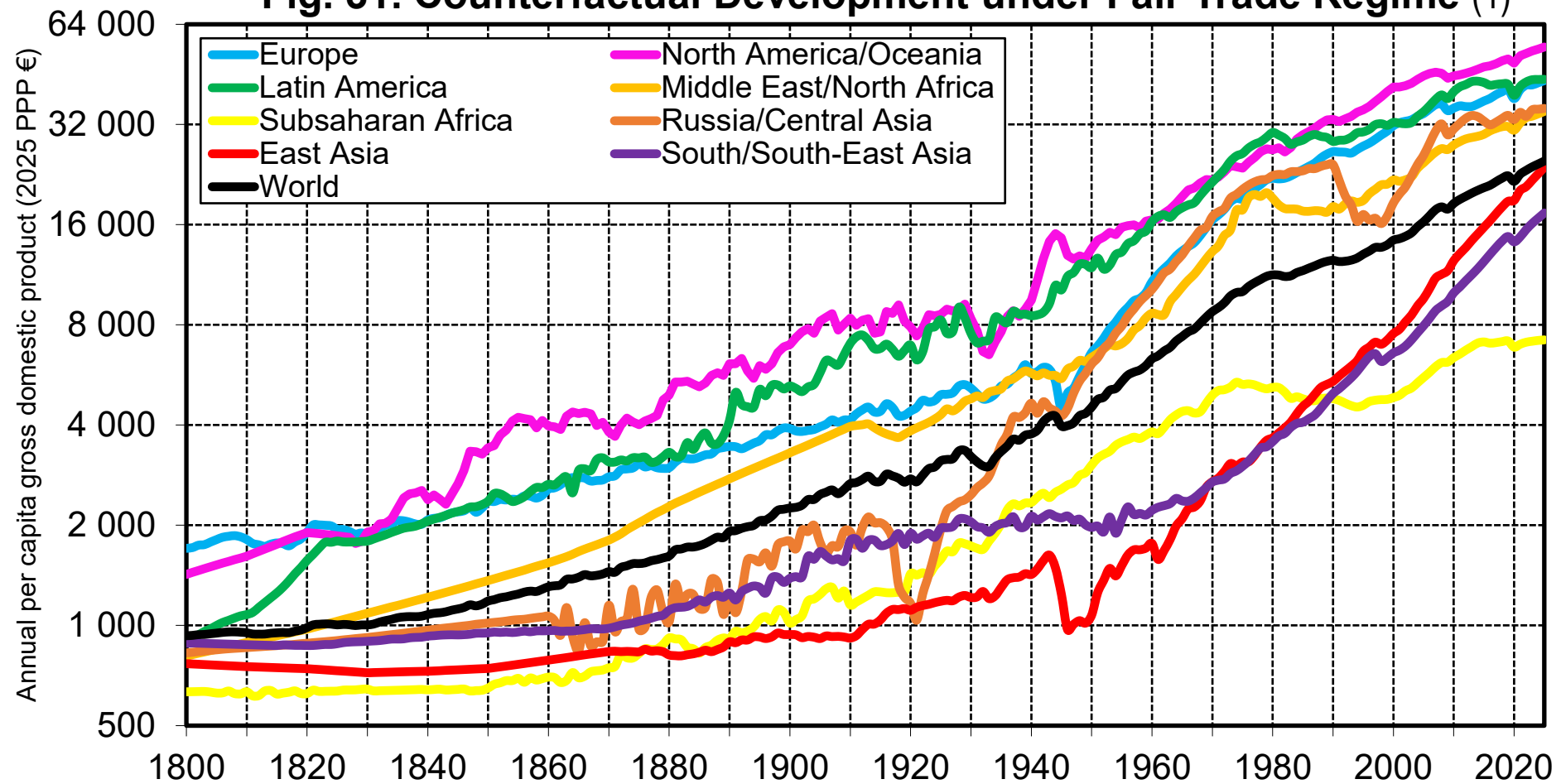
**Fig. 30. Observed Per Capita GDP by World Region 1800-2025**



**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

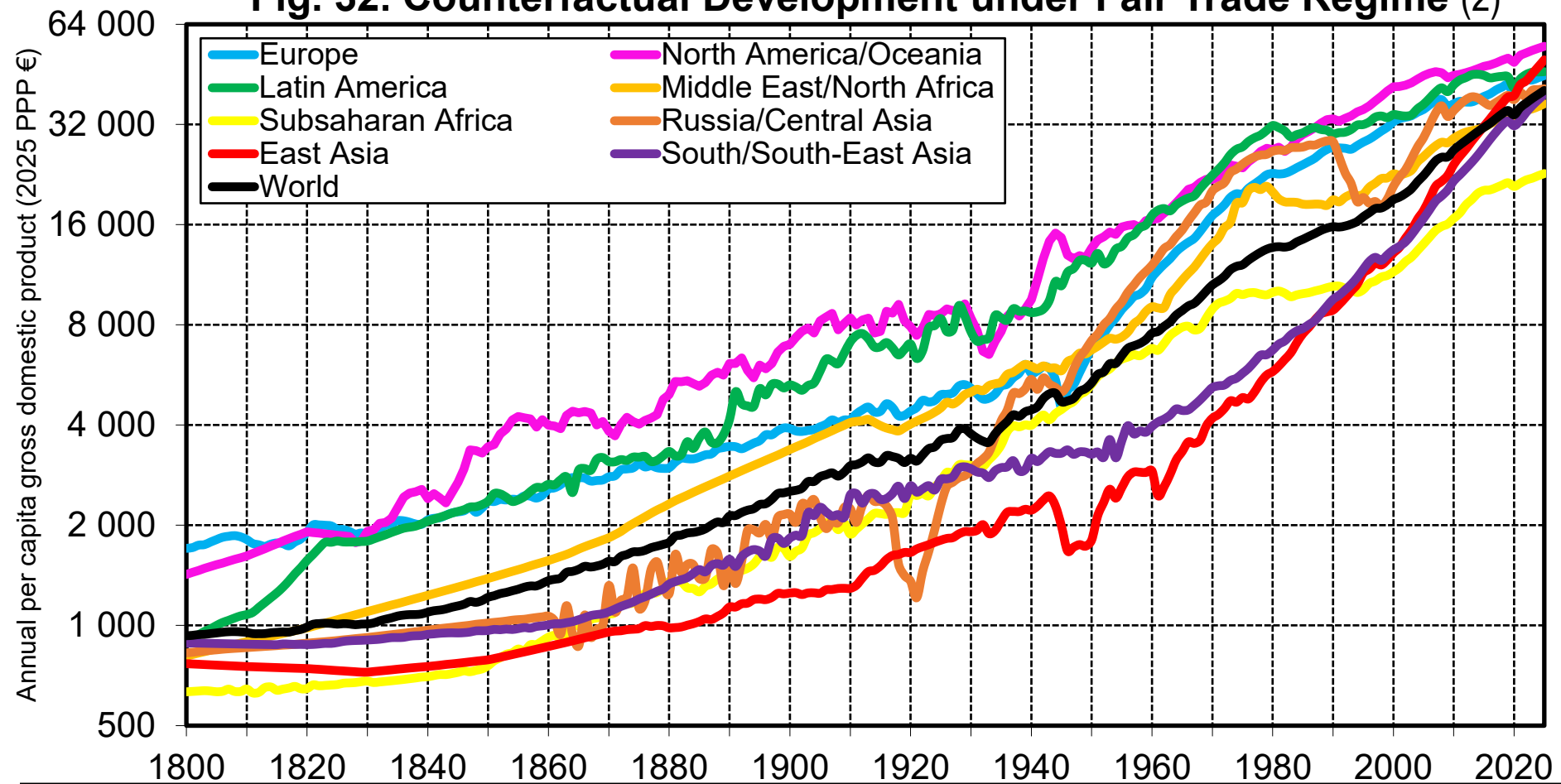


**Fig. 31. Counterfactual Development under Fair Trade Regime (1)**



**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