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Abstract

We present a new global index indicating how fixed the world's exchange rates are. Our index measures the probability of two units of GDP, randomly selected anywhere in the world, of being involved in a fixed exchange rate arrangement. This approach is invariant to alternative classifications of the Eurozone and is able to account for both direct and indirect exchange rate linkages between countries. In contrast to the 'New Consensus' view, which posits a continuity in exchange rate arrangements from the Bretton Woods era to the present, our index restores the conventional account of international monetary history over the last 70 years. Our findings indicate that global exchange rate regimes are currently nearly three times as flexible as they were prior to the 1971 Nixon shock. Furthermore, our measure partially puts into perspective the view that dollar dominance is now stronger than ever: we find that global anchoring to the US dollar was significantly more prevalent during Bretton Woods, particularly when accounting for indirect links.

Key words: Fixed exchange rate regimes, Bretton Woods, Nixon Shock, anchor currencies, US dollar dominance.

JEL classification: E5, F3, F4, N2.

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1 Introduction

How fixed or floating are the world's exchange rates, taken as a whole? According to the standard account, often framed in terms of the international macroeconomic trilemma, the world moved decisively towards a system of floating exchange rates after 1973. Such a regime was more compatible with open international capital markets than the earlier Bretton Woods regime had been (see for example Obstfeld, 1995, or the IMF's *Annual Report on Exchange Arrangements and Exchange Restrictions*). More recently, however, Reinhart and Rogoff (2004) have produced classifications of exchange rate regimes that are based on actual exchange rate behaviour. Once the focus shifts from *de jure* to *de facto* exchange rate arrangements, they argue, post-1973 exchange rates seem a lot more fixed than had been previously thought.

This conclusion has recently been reinforced by Ilzetzki et al. (2019) (IRR), which extends the earlier Reinhart and Rogoff classification forward. They argue that *"the often cited post-Bretton Woods transition from fixed to flexible arrangements is overstated"*, concluding that the dominant role of the US dollar as a monetary anchor is *"by some metrics, far wider today than 70 years ago"*. These findings underpin a "New Consensus" view of long-run trends in the international monetary system described in Ilzetzki et al. (2022). One of the reasons why IRR find a much higher share of countries - both raw, and weighted by GDP - with fixed exchange rate arrangements of one sort or another is that they classify the members of the Eurozone as having fixed exchange rates. This is in contrast to the IMF, which classifies them as floaters.

It is certainly hard to argue that countries like Ireland or Portugal have floating currencies. Nonetheless, there is something a little unsatisfactory about indices of world exchange rate fixity which rely on such judgement calls. If the 20 countries of the Eurozone were to pass some (possibly arbitrary) threshold in terms of political integration, so that they were now considered to be one big floating country, rather than 20 small and medium-sized fixers, the IRR measure of the global prevalence of fixed exchange rate regimes would shift discontinuously downwards. From the perspective of global anchor currencies, the share of countries anchoring to the euro would also decline. This would make sense in terms of the

trilemma, which is how IRR frame their paper: the Eurozone would now be a state free to adopt its own monetary policies as it saw fit, which is their main interest. But from another perspective, nothing would have changed. Spain and Germany would still be fixing their exchange rates against each other, while both would still be floating against the rest of the world. It would be nice to have an index of world exchange rate fixity that reflected those two facts, and that would be invariant to the classification of Eurozone member states or similar cases.

This paper provides such an index: the probability that two randomly drawn units of GDP, say two "international" dollars of GDP drawn from anywhere in the world, will come from countries whose currencies are pegged against each other. Constructing this index requires reliable information on the degree of flexibility of exchange rate regimes and, when applicable, the anchor currency they are managed against. Fortunately, IRR provide a detailed and carefully constructed account of both dimensions of exchange rate regimes for a large sample of countries. The index could be constructed taking only direct pegs into account,[1] but in the base case we will construct it taking indirect pegs into account as well. This turns out to be an important distinction. The index is decomposable in a natural manner, and can be used to show, for example, the startlingly different histories of rich and poor countries. Finally, it can be used to analyze the relative importance of different currencies in driving global exchange rate fixity, as well as to provide a relative measure of the prevalence of anchoring to a certain currency at the global level.

The paper is not only related to IRR, but to other papers classifying exchange rate regimes. IRR classify individual countries in terms of the *de facto* flexibility of their exchange rates, and based on this provide summary statistics indicating the share of countries, either unweighted, or weighted by GDP, that are pegging. Rather than providing country-level data, Harms and Knaze (2021a) provide an index of *bilateral* exchange rate regimes, since they are interested in the impact of these regimes on bilateral FDI flows. Furthermore, they base this on the IMF's *de jure* classifications, although they consider *de facto* exchange rate behaviour as a robustness check.[2] We provide neither bilateral nor country-level indices, but

[1] And as will be seen it is informative to do so.

[2] In a follow-up paper (Harms and Knaze, 2021b), Harms and Knaze provide country-level indices of effective exchange rate flexibility, which are trade-weighted averages of their bilateral indices (both *de facto*

a global index. Unlike Harms and Knaze, we base it on the IRR *de facto* classifications, but like them we consider not only direct but indirect pegs.

Insofar as our index can be tweaked to measure the global prevalence of anchoring to a currency, regardless of the fixity of the exchange rate regime, our work also relates, in line with Ilzetzki et al. (2019), to a literature concerned with measuring the relative dominance of global currencies (Boz et al., 2022; Eichengreen et al., 2018; Vicquéry, 2022).

2 The Index

What is the probability that two units of GDP, drawn at random from the GDP of the world as a whole, share a common currency or are generated in countries whose currencies are pegged to each other? Let there be m countries in the world, indexed by i, each with GDP q_i (measured in international dollars), and let world GDP be denoted by $q_{World} = \sum_i q_i$. Then our index of global exchange rate fixity, I_{GDP}, can be defined as

$$I_{GDP} = \frac{\sum_i q_i(q_i - 1)/2 + \sum_{i<j} q_i q_j P_{ij}}{q_{World}(q_{World} - 1)/2} \tag{1}$$

where P_{ij} is a dummy variable equal to one if countries i and j share the same currency, or have currencies which are pegged to each other, and zero otherwise.

In words, the total number of fixed exchange rate matches is equal to the sum of possible matches within countries (since units of GDP generated in the same country share the same currency), plus the sum of possible matches between countries whose currencies are pegged to each other.[3] This total number of fixed exchange rate matches has to be compared with the total number of possible matches worldwide.[4]

I_{GDP} varies between 0 (a situation in which each unit of GDP has its own currency, all of which float against each other) and 1 (in which case there is a single world currency, or a fixed

and *de jure*).

[3]Theoretically, the index in Equation 1 is not invariant to the choice of unit. However, since we measure GDP in international dollars (as opposed to, say, billions of dollars) this will not matter in practice

[4]The index bears an obvious family resemblance to indices of ethnic fractionalization made popular by Easterly and Levine (1997).

exchange rate system encompassing all currencies). The index is invariant to reclassifying the Eurozone from being a collection of 20 separate countries all pegged *vis à vis* each other to being one big country: all that would happen is that the intra-Eurozone matches would shift from the second expression in the numerator of (1) to the first. It is important to note that even if all countries' currencies floated against each other, I_{GDP} would not be zero, since there would still be intra-country matches (which is the feature that makes the index invariant to the political unification of the Eurozone and similar occurrences).

A useful feature of these indices is that they are naturally decomposable: the denominators are the total numbers of possible matches worldwide, while we can split up the numerators (the fixed exchange rate matches) in whatever way we like. For example, we could decompose the numerators into possible matches within rich countries, somehow defined; possible matches within poor countries; and possible matches between rich and poor.

Similarly, by varying the matrix P_{ij}, we can consider both direct and indirect exchange rate pegs. To make the discussion concrete, consider a hypothetical world in which there are just five countries: France, the UK, the US, Mali, and Ireland. They are all classified as having fixed-exchange rate regimes. Assume that France and Britain are both anchored to the dollar, Mali is anchored to the French franc, and Ireland is anchored to the British pound. One approach would be to code P_{ij} as one only when i and j are directly pegged to each other. In that case, we would code the Franco-American, Anglo-American, Franco-Malian, and Anglo-Irish elements of the matrix as one, and code all other off-diagonal elements as zero. A second approach would be to consider direct pegs, and indirect pegs allowing for one degree of separation: if i and j are both directly pegged to k, then i and j are considered to be pegged to each other. In this case France and the UK would be considered to be pegged to each other (both are pegged to the US), as would Ireland and the US (both pegged to the UK) and Mali and the US (both pegged to France). A third approach would allow for two degrees of separation, in which case Ireland and Mali would be considered pegged to each other; and so on. In the baseline indices presented below we allow for all possible degrees of separation (in practice once you get to three degrees all possibilities are exhausted), but it is informative to see how the indices change allowing for different types of links.

Finally, the index can be rewritten to quantify the global role of anchor currencies, focusing on whether two units of GDP are anchored to the same currency abstracting from exchange rate regime classifications. Indeed, IRR's dataset provides for each country both an exchange rate regime classification and an anchor currency classification: the latter is the reference currency the authorities target as part of their management of the exchange rate regime. A country can be classified as not having a peg but still being anchored to a global currency, for example in the context of a managed float.[5] This implies that two units of GDP could be anchored to the same currency while not being in a peg relationship. For the purposes of our relationship-based index, we consider a different dummy variable A^z_{ij}, which is equal to one if countries i and j are both anchored to the same anchor currency z. A^z_{ij} can differ from its peg counterpart P_{ij}: while pegging relationships are symmetric, anchoring relationships might not be. Let's assume that both the US and the UK are classified as adopting a fixed exchange rate regime and that the UK is anchored to the US dollar. While P_{US-UK} and A^{USD}_{US-UK} would both be equal to one, as the UK and the US are pegged to one another and sterling is anchored to the US dollar,[6] A^{GBP}_{US-UK} would be equal to zero, as the US dollar is not anchored to the British pound.[7]

The GDP index of global US dollar anchoring then reads

$$I^{USD}_{GDP} = \frac{\sum_i q_i(q_i - 1)/2 + \sum_{i<j} q_i q_j A^{USD}_{ij}}{q_{World}(q_{World} - 1)/2} \tag{2}$$

Similarly to the baseline index, the matrix A^z_{ij} can be computed to consider both direct and indirect common anchors. Let's consider again a hypothetical world in which there are just the same five countries as above, France, the UK, the US, Mali and Ireland. All countries in our example are directly or indirectly pegged to one another, and a global index I_{GDP} considering indirect links would therefore be equal to 1. All the potential pairs we consider are also directly or indirectly anchored to the US dollar, meaning that a version of

[5] This means that, typically, there are more countries anchored to the US dollar than there are countries pegged to the US dollar.

[6] The US dollar is classified by IRR as adopting a peg and being anchored to itself until July 1971.

[7] Similarly, P_{UK-UK} would be equal to one, as we consider that every country is by definition pegged to itself. The same is not necessarily true when thinking about anchoring: A^{GBP}_{UK-UK} would be equal to zero as the British pound is anchored to the US dollar in the above example.

I_{GDP}^{USD} including indirect links would also be equal to 1.[8] However, this would not be the case for an index considering global anchoring to the French franc - I_{GDP}^{FRF} - as only one pair of countries in our example - France and Mali - would have A_{ij}^{FRF} equal to 1. The variant of the index in Equation 2 is therefore better equipped to capture the hierarchy among anchor currencies, particularly in periods, such as during Bretton Woods, when all anchor currencies are pegged to one another.

3 Data

In order to construct the indices, we rely on the latest update of IRR's dataset (Ilzetzki et al., 2022) to determine the degree of flexibility of each country's exchange rate regime and the currency it is anchored to. We consider countries to be pegged to one another if they are directly or indirectly part of a currency union, currency board, a hard peg, or a crawling peg or band narrower or equal to +/-2%. We therefore consider as pegs regimes classified as either "1" or "2" in the "coarse" classification of Ilzetzki et al. (2019).[9] Data on both anchors and exchange rate regime classifications for up to 194 countries are available at monthly frequency between 1944 and 2019.

We follow Ilzetzki et al. (2019) in weighting the index using GDP data provided by the Conference Board's *Total Economy Database*, measured in international dollars derived from PPPs based on the World Bank international comparison project (ICP)[10]. We are therefore able to construct the index considering up to 130 countries between 1950 and 2019. In line with Ilzetzki et al. (2019), we exclude from the index the Soviet Union, most of its Warsaw Pact allies, and Yugoslavia, as IRR consider them as not being *"part of the international monetary system"* during the Cold War, with the USSR exchange rate regime being classified as a "dual market in which parallel market data is missing".[11] Soviet-bloc countries, or their

[8] This would remain true if, for example, the UK adopted a managed floating arrangement rather than a peg, while still anchoring to the US dollar. On the other hand, the index would decrease if the UK started to anchor to the German mark, and the latter was not itself pegged to the US dollar, whether under a peg or a managed float.

[9] We reclassify basket anchors as being anchored to the main anchor only, which is provided by IRR in their detailed country chronology.

[10] Using 2017 as the benchmark year.

[11] Given that most Soviet countries are anchored to the ruble, this classification would imply that the ruble

successor states, enter the indices as soon as they anchor to a currency with a non-missing classification or start to float, typically around the end of the cold war.

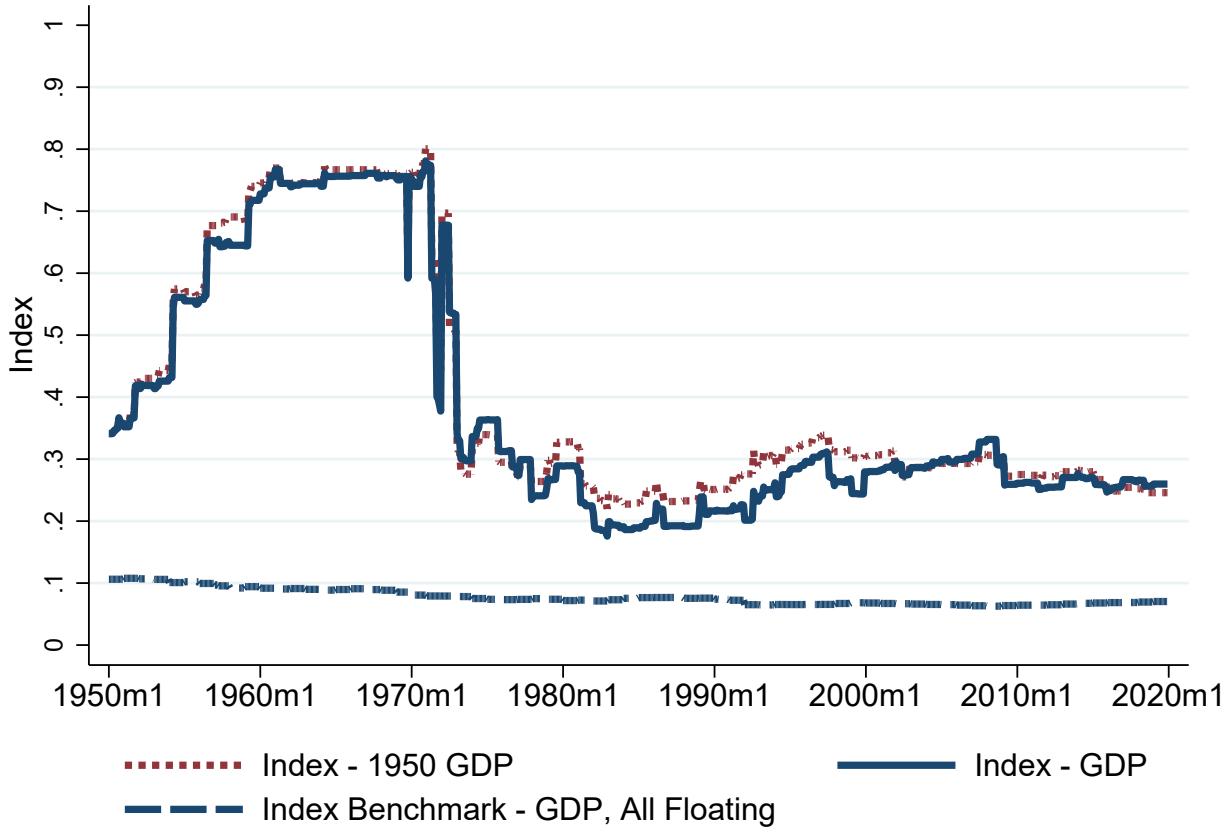
4 Results

Figure 1 shows the evolution of I_{GDP} between 1950 and 2019, computed with current GDP and considering all possible degrees of pegs. The same Figure 1 also shows the component of I_{GDP} due solely to within-country matches (i.e. every country is pegged to itself), which can be thought of as the benchmark index that would apply if all countries' currencies were floating. This "benchmark" index is small, declining from about 0.1 to 0.07 over the course of the period, owing to an increase in the number of countries and a higher dispersion of global GDP. I_{GDP} is overwhelmingly determined by changing exchange rate arrangements over time, rather than by changes in GDP (see below) or political borders.

Let us consider the movements of I_{GDP} over the sample. The index was low in 1950, at around 0.35: in other words, only slightly more than one third of all potential GDP unit matches in the world economy were involved in a peg to each other. It then increased steadily over the course of the 1950s, and stood at around 0.75 during the 1960s. It reached a peak of 0.78 in December 1970, and then collapsed, reaching just 0.29 by the summer of 1973. It continued to decline over the course of the subsequent decade, reaching a nadir of 0.17 in December 1982. The index remained close to 0.2 throughout the 1980s. An upward cycle started in August 1992, when the index rose to 0.31 in June 1997. The period since then has seen a series of fluctuations, with the index on occasion falling back to 0.24 in February 1999, rising again to a new post-1973 high of 0.33 (January to August 2008), falling again between September 2008 and March 2009, and stabilising at around 0.25 since. We therefore measure the current level of fixity of global exchange rate arrangements as being significantly lower than in the aftermath of World War 2, and only a third of the level experienced during the Bretton Woods period, when three quarters of all potential GDP unit matches were involved in a direct or indirect peg arrangement.

bloc would be considered as "floating" against the rest of the world if included in our index, which would be inconsistent with the historical reality of the Soviet bloc.

Figure 1: How Fixed are Global exchange rate Regimes?



Note: The figure depicts our baseline version of I_{GDP}, computed using current GDP. It also shows a version of I_{GDP} where GDP is held constant at its 1950 level, as well as the component of baseline I_{GDP} related to within-country matches, i.e. a "benchmark" of what I_{GDP} would be if all currencies in the world were floating.

Readers may be wondering whether movements in I_{GDP} are being driven at least in part by global dynamics of income convergence and divergence. Figure 1 therefore also plots a version of I_{GDP} that assumes that GDP in all countries was fixed at its 1950 levels. As can be seen, the constant and current-GDP versions of I_{GDP} are almost identical, implying that movements in our series are being driven by changes in exchange rate arrangements rather than changing GDP.

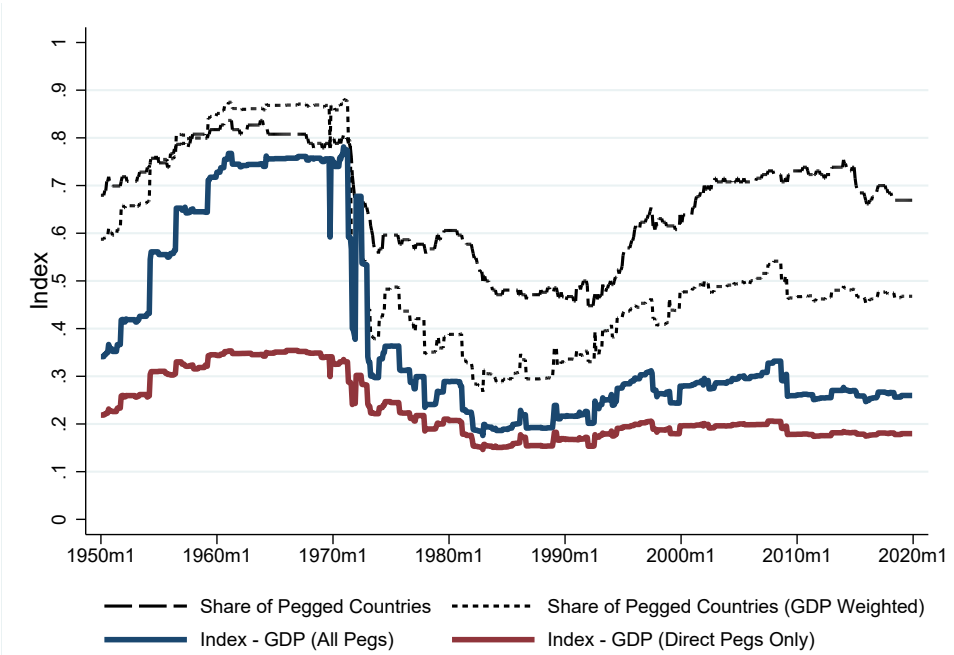
4.1 Comparing Indices : Global Exchange Rate Fixity and Anchor Currencies Since the End of Bretton Woods

Ilzetzki et al. (2022) describe a *"new consensus"* on the history of the international monetary system in the last 70 years, namely that the *"post–Bretton Woods transition from fixed to flexible arrangements is overstated"* and that *"regimes with limited flexibility remain in the majority"*. IRR reach this conclusion by computing the share of pegged countries over their sample, with or without weighting by GDP. Figure 2a compares, for an overlapping sample of countries, such indices of global exchange rate fixity with our baseline GDP index. In order to gain some insight into what is driving our results, we also plot a version of our index taking only direct pegs into account.

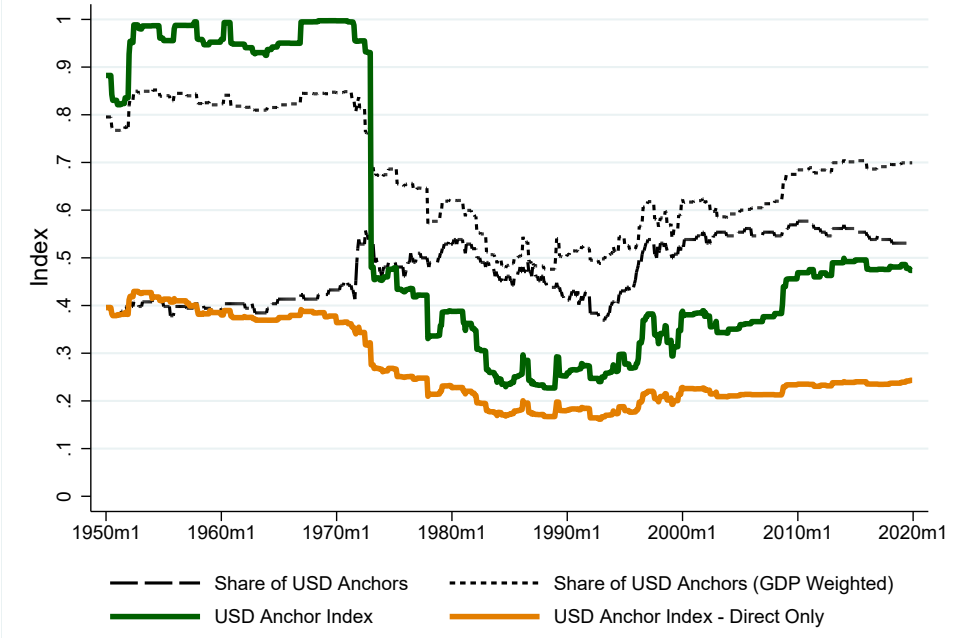
Looking at the early period, our baseline index finds a much larger shift from floating to fixing in the 1950s than do IRR-style indices. This is driven by indirect pegs, as anchor currencies progressively become pegged to one another. Indirect pegs are also crucial in explaining the very high level of fixity we find during the core Bretton Woods period. Although both types of indices in Figure 2a capture a remarkable decline in global exchange rate fixity in the aftermath of the Nixon Shock, and a "fear of floating" increase in fixity starting in the 1990s, our index is very much consistent with the more "conventional" view that flexible exchange rate regimes have become more prevalent after 1971. As only 25% of GDP matches are currently pegged according to our index, global exchange rate fixity is now only one third of what it was during the heights of Bretton Woods. This contrasts with IRR-style indices, according to which, since the 2000s, 70% of global exchange rate regimes have been consistently fixed (50% once countries are weighted by GDP), a level relatively

Figure 2: Comparing the Index to IRR-Style Global Aggregations

(a) Are exchange rate Regimes as Fixed now than during Bretton Woods?



(b) Dollar Anchoring Now and Then



Note: Panel (a) compares our baseline Index I_{GDP}, with or without considering indirect peg relationships, to the share of countries classified as being pegged, with or without GDP weighting. Panel (b) compares our global USD anchoring Index I^{USD}_{GDP}, with or without considering indirect anchoring relationships, to the share of countries anchoring to the USD, with or without GDP weighting.

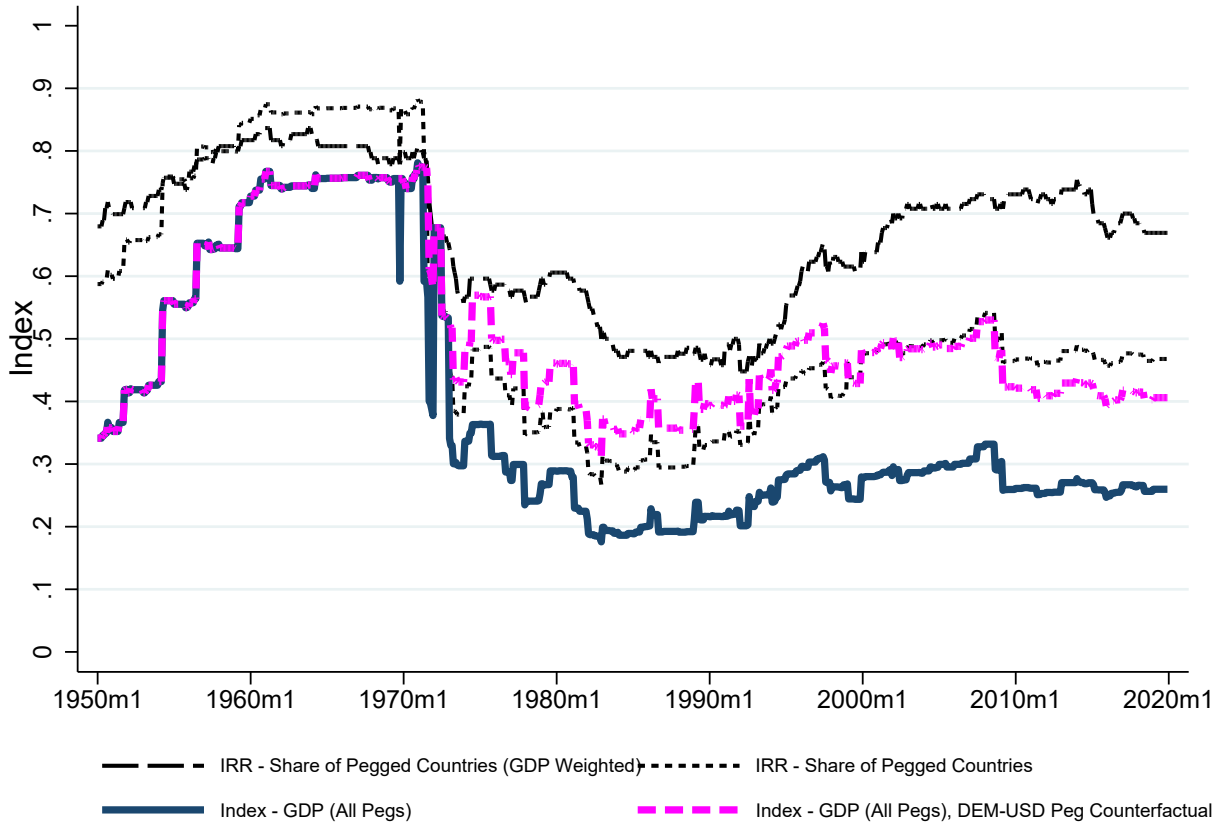
close to the 80-90% of the Bretton Woods era.

Why is there such a difference between our index and IRR-style indices? Indirect pegs are clearly an important part of the story, as the direct-pegs-only index in Figure 2a suggests – it fluctuates a lot less than our baseline index incorporating both direct and indirect pegs. More fundamentally, IRR classify each exchange rate as being either fixed or floating, which makes sense if one is interested in countries' policy choices in the context of the trilemma. We are interested in the exchange rate relationships that apply between each country's currency and all others: the currency may be fixed with respect to some, but floating with respect to others, and our index takes account of both types of relationship. For example, the Eurozone currencies are fixed with respect to each other, but the euro, and all currencies pegging to it, floats with respect to the US dollar. Similarly, the Hong Kong dollar is pegged to the US dollar, and therefore indirectly to all other dollar anchoring pegs, but floats against the euro. IRR classify both the Eurozone and Hong Kong as fixed (and allocate their GDP accordingly when producing GDP-weighted indices); we allocate both Eurozone and Hong Kong's GDP to both pegged and non-pegged relationships. In this light, what made the Bretton Woods period special was that the major currencies were pegged to the US dollar, implying that all of the currencies pegged to them were also in pegged relationships vis à vis each other.

Figure 3 makes the point another way: it produces a version of our index, incorporating indirect pegs, but assuming counterfactually that the German currency remained pegged to the dollar after the breakup of Bretton Woods (all other exchange rate relationships remaining as they actually were). As can be seen, this produces an index much more consistent with IRR, in that not only Germany, but all those countries pegging to it, would under this scenario have still have been pegged to the dollar.

Another key fact highlighted by Ilzetzki et al. (2019) is how the use of the US dollar as an anchor currency is *"far wider today than 70 years ago"* under the Bretton Woods period. Similarly to the above, this claim is backed by computing the share of countries anchored to the US dollar. Figure 2b compares such aggregations of the anchoring data by Ilzetzki et al. (2022) to our index of global dollar anchoring, I^{USD}_{GDP}, considering direct anchoring only as well as both direct and indirect anchoring relationships. The unweighted

Figure 3: Counterfactual Index: the Deutsche Mark Remains Pegged to the US dollar in the Post-Bretton Woods Era



Note: The figure depicts our baseline Index I_{GDP} as well as a counterfactual baseline Index where the DEM-USD peg relationship is held constant in the post-Bretton Woods period and compares them to IRR-style global aggregations of pegged exchange rate regimes, with or without GDP weighting.

IRR-style aggregation shows dollar anchoring *increasing* in the aftermath of the Nixon Shock, fluctuating from around 40% of countries being anchored to the dollar during Bretton Woods to above 50% in 1980. It then reverts back to 40% in the 1990s before rising again to the current levels of around 55%. The same measure weighted by GDP shows current levels of dollar dominance being only slightly lower (70%) than during the Bretton Woods peaks of 80%. On the other hand, our index tells a different story, in which the role of the dollar as a global anchor is significantly lower now than during the Bretton Woods period. Considering only direct anchoring, we see dollar anchoring declining from a peak of 40% of GDP-unit matches to a stable level fluctuating between 20 and 25% from the Nixon Shock to today. Including indirect anchoring relationships in the index shows a halving of global US dollar anchoring since the end of Bretton Woods - from close to 100% of GDP-unit matches to around 50% today. However, it also exhibits a marked increase in dollar anchoring since the 1990s, consistent with "fear of floating" emerging markets anchoring to the dollar and thereby establishing indirect anchoring matches to one another.

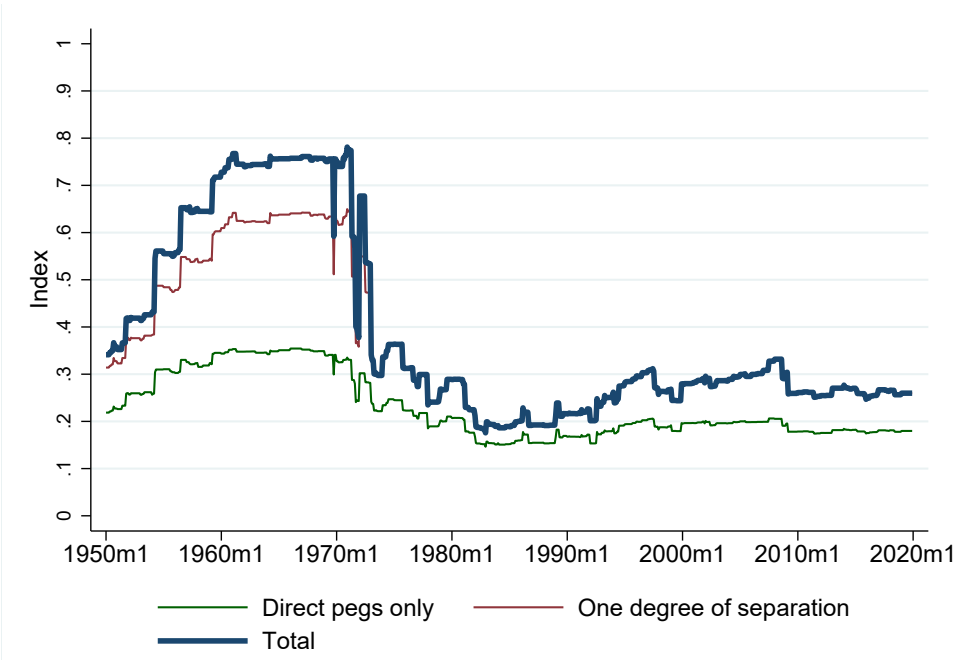
What drives the difference with IRR-style aggregations of anchoring to the US dollar? The intuition is of course analogous to the above discussion focusing on our baseline index. First of all, we account for indirect anchoring links, which were pervasive during the Bretton Woods period and largely broke down in its aftermath. Additionally, some of the GDP matches of a country anchored to the US dollar will be, particularly after 1971, with countries that are floating or anchored to other currencies. This means that only a portion of that country's GDP would be assigned to the dollar anchoring index.

4.2 Index Decomposition

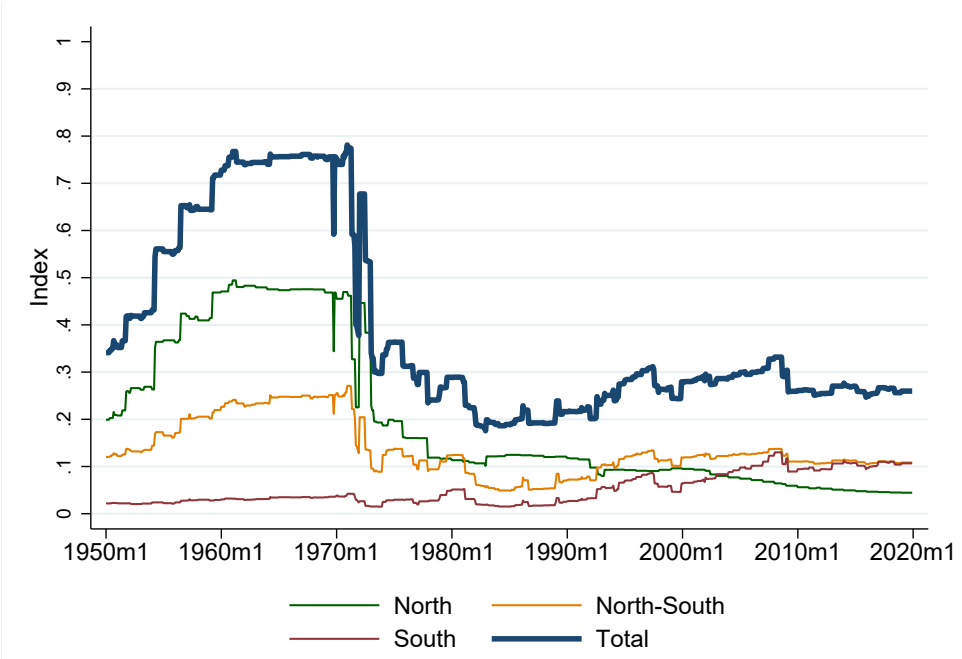
Our index is easily decomposable in a natural manner. We already highlighted the key role of indirect relationships in capturing several facets of global exchange rate fixity. Figure 4a provides some more detail, by showing the role of direct and indirect relationships, in the latter case distinguishing between those involving one degree of separation and those more indirect still. While the overall role of indirect pegs is significantly lower than in the past, indirect matches beyond the first degree of separation have practically disappeared since the

Figure 4: I_{GDP} Decomposition

(a) Indirect Pegs Degrees of Separation



(b) Country Groups



Note: Panel (a) decomposes our baseline Index I_{GDP}, considering all possible degrees of indirect pegs, into the components of the index driven by direct pegs and one degree of separation indirect pegs, as well as direct pegs only. Panel (b) decomposes the same baseline Index into the components of the index driven by whether bilateral relationships are part of the same country group. "North" is defined as the OECD founding members.

Nixon Shock. Before then, all major anchor currencies were pegged to one another during the Bretton Woods period.

We can also decompose I_{GDP} by country groups: as an example, Figure 4b provides a decomposition into within-rich-country, within-poor-country, and between-rich-and-poor components. We arbitrarily define the rich "North" as the earliest OECD members, up to and including the accession of New Zealand in 1973. As can be seen, within the rich countries exchange rate fixity is now at historically low levels: it never recovered significantly from the post-Bretton Woods collapse, and fell further during the 2000s. Within poor countries, by contrast, exchange rate fixity was 5 times as high in 2019 as it was during Bretton Woods. Interestingly, most of this increase in fixity occurred during the "fear of floating" period in the 1990s. Finally, exchange rate fixity between rich and poor tracks the main trends in the total index well, with a stark reduction in fixity post-1971 only marginally reversed in the 1990s.

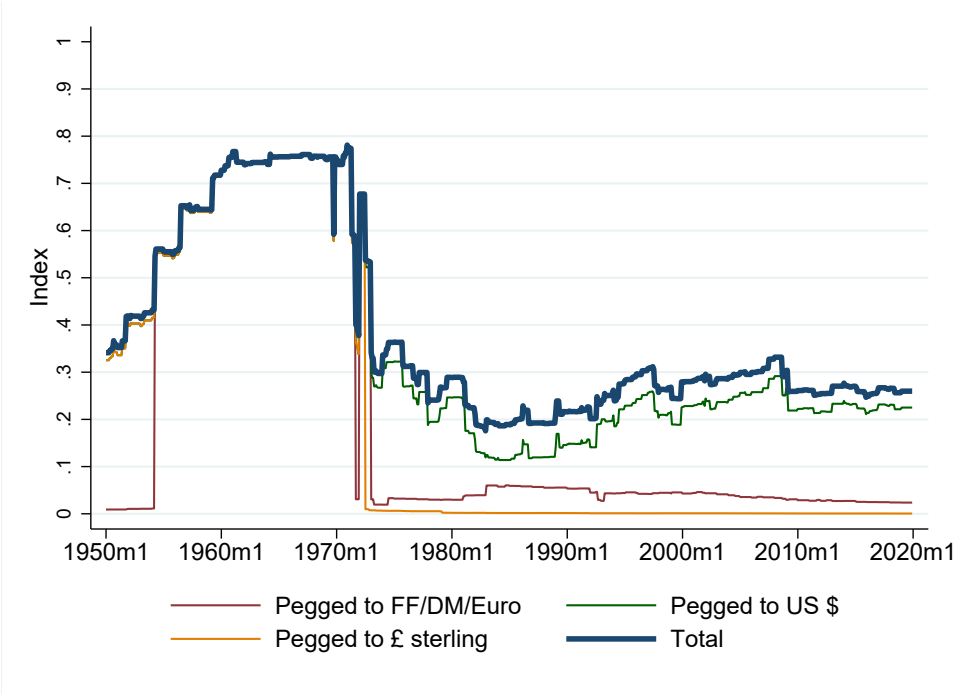
Figure 5a highlights the shares of potential GDP matches worldwide which involved currencies pegged, directly or indirectly, to either the US dollar, the euro (the French franc and the German mark before 1999), and the pound sterling, respectively. As highlighted in Section 2, our baseline index does not consider anchor currencies "hierarchically": assuming that the British pound is pegged to the US dollar, any matches of global GDP units in the sample that are pegged to the US dollar are also considered to be pegged to the pound. It follows that during the Bretton Woods period the three currency-specific baseline indices shown in Figure 5a were indistinguishable from one other, as all the main anchor currencies were pegged to one another. In more recent times, however, global exchange rate fixity clearly reflects, to an overwhelming extent, countries pegging to the dollar. As shown in Figure 5a, 90% of pegged GDP-unit matches today involve countries directly or indirectly pegging to the US dollar.[12]

Figure 5b provides a different perspective on the relative influence of global currencies through the lens of our anchoring indices I^z_{GDP}. It shows the share of GDP-unit matches anchored to the US dollar - allowing for indirect links or only considering direct ones -

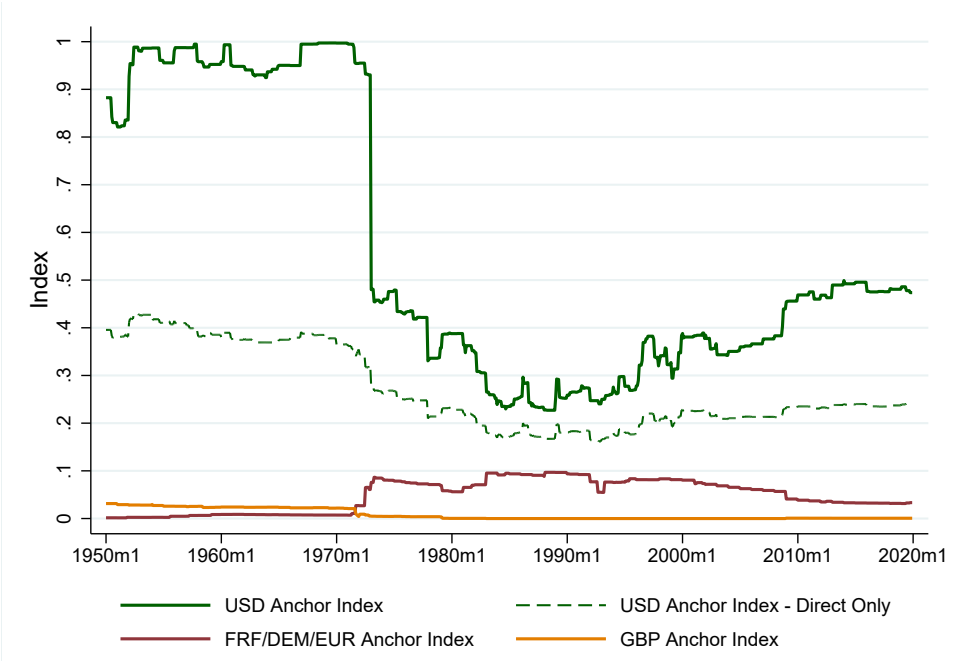
[12]This is consistent with the finding of Ilzetzki et al. (2019) that *"the U.S. dollar scores as the world's dominant anchor currency by a very large margin"*

Figure 5: Global Pegging and Anchoring by Currency

(a) Global Exchange Rate Regime Fixity by Currency



(b) Global Anchoring by Currency



Note: Panel (a) decomposes our baseline Index I_{GDP}, considering all possible degrees of indirect pegs, into the components of the index driven by each main global anchor currency. Panel (b) depicts our USD anchoring Index I_{GDP}^{USD}, including a version of it considering only direct anchoring, as well as analogous anchoring Indices for the GBP and the EUR (considering both German mark and French franc anchoring before 1999).

as well as the euro (the French franc and the German mark before 1999) and the British pound. Consistent with the discussion in Section 4.1 looking at global levels of US anchoring over time, the figure shows that the role of the US dollar as an anchor currency declined significantly after the end of the Bretton Woods period, including in relative terms vs. other anchor currencies. This sharp drop in dollar anchoring is mostly related to the fact that, as part of the Bretton Woods system, all key currencies were anchored to the US dollar, resulting in indirect anchoring links spanning almost 100% of the relationships in our sample.

Conversely, the combined share of GDP-unit matches anchored to the French franc and the German mark increased significantly after 1971, reaching its peak in the 1980s, at around 10% of global GDP unit matches, vs. 25% for the US dollar. Since the 1990s, however, the French Franc/German mark/Euro anchor index has trended downward to less than 5% of global GDP matches, while anchoring to the US dollar increased again to around 50%, driven by indirect matches. Owing to the larger weight of GDP matches among indirect US dollar anchoring countries, largely between developing economies, the lead of the US dollar over the euro has therefore significantly widened in the last 25 years. The US dollar anchoring share of GDP-unit matches was around three times the euro share in the early 2000s, but is now more than ten times larger. Even so, it is still only half of what it was during the Bretton Woods period.

5 Conclusion

This paper has introduced a new measure of the extent to which exchange rates were fixed in the world as a whole. It confirms the increasing tendency since the 1990s for developing and emerging economies to adopt fixed exchange rate systems, and to peg to the dollar. However, in contrast to the "New Consensus" view, which is based on binary classifications of all currencies as being either floating or fixed, it also finds that global exchange fixity is now only about a third of what it was at the height of the Bretton Woods system. It also suggests that global exchange rate fixity largely depends on indirect pegs, though the importance (and degree of indirectness) of these has varied over time. Similarly, while global exchange rate fixity today overwhelmingly reflects pegging to the US dollar, there has been

a sharp decline since the early 1970s in the extent to which currencies have been anchored, directly or indirectly, to the American currency.

The new measurements we present potentially shed a new light on some key secular patterns in the post-Bretton-Woods international monetary system, including the Dominant Currency Paradigm (Gopinath et al., 2020) and debates on the dilemma vs. trilemma of international finance (Rey, 2015). In particular, given the rise in floating exchange rate regime relationships we document, both the long-standing decline in key currencies FX volatility highlighted by Ilzetzki et al. (2019) and the prevalence, over the last few decades, of dominant currency pricing in international trade documented by Boz et al. (2022), appear as a partial substitute for declining global exchange rate regime fixity and dollar anchoring after 1971.

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