DISCUSSION PAPER SERIES

DP15812

Gold and South Africa's Great Depression

Barry Eichengreen

ECONOMIC HISTORY

CEPR

ISSN 0265-8003

Gold and South Africa's Great Depression

Barry Eichengreen

Discussion Paper DP15812
Published 13 February 2021
Submitted 12 February 2021

Centre for Economic Policy Research
33 Great Sutton Street, London EC1V 0DX, UK
Tel: +44 (0)20 7183 8801
www.cepr.org

This Discussion Paper is issued under the auspices of the Centre’s research programmes:

- Economic History

Any opinions expressed here are those of the author(s) and not those of the Centre for Economic Policy Research. Research disseminated by CEPR may include views on policy, but the Centre itself takes no institutional policy positions.

The Centre for Economic Policy Research was established in 1983 as an educational charity, to promote independent analysis and public discussion of open economies and the relations among them. It is pluralist and non-partisan, bringing economic research to bear on the analysis of medium- and long-run policy questions.

These Discussion Papers often represent preliminary or incomplete work, circulated to encourage discussion and comment. Citation and use of such a paper should take account of its provisional character.

Copyright: Barry Eichengreen

Gold and South Africa's Great Depression

Abstract

South Africa was one of the fastest growing economies of the 1930s. This paper seeks to identify the roots of this macroeconomic outperformance and reconcile it with the country's delayed departure from the gold standard, such departure having typically been the event inaugurating recovery from the slump. It emphasizes South Africa's dependence on gold production, which gave the economy an additional boost from currency depreciation, over and above that felt in other countries, when depreciation finally took place. This highlights the paradox of South African policy makers' resistance to currency depreciation, as epitomized by the report of the Select Committee on the Gold Standard in 1932.

JEL Classification: N/A

Keywords: N/A

Barry Eichengreen - eichengr@berkeley.edu
University of California, Berkeley and CEPR

Acknowledgements
Prepared for a special issue of The Economic History of Developing Regions, marking the centennial of the South African Reserve Bank. I think Jonathan Jayes for help with the analysis, Ichiro Sugimoto and Gregg Huff for comments, and Johan Fourie for the commission and help more generally.

Gold and South Africa's Great Depression[1]

Barry Eichengreen

February 2021

According to the modern scholarly consensus about what ended the Great Depression, the critical step was when countries cut their ties to the gold standard.[2] Depreciating their currencies enhanced countries' export competitiveness, thereby allowing external demand to be substituted for the domestic demand that was lost. No longer forced to defend a pegged exchange rate and limited foreign reserves, central banks were able to reduce interest rates. More accommodating monetary conditions stemmed the tide of deflation, which no longer worked to make the burden of debts heavier. The outlook having visibly brightened, consumers started spending again. With producer prices no longer falling relative to costs, firms had an incentive to expand output and employment. Central banks had more scope for intervening as lenders of last resort, which helped to contain the contagious spread of banking panics and failures. Governments had more opportunity to adopt expansionary fiscal policies or at least avoid contractionary ones. Not having to bottle up a fixed lump of demand and spending at home rendered them less inclined to resort to protectionist measures.

A large literature develops these ideas. The debt deflation story is told by Bernanke (1983).[3] The countercyclicality of real wages in the Depression was a central element of Keynes's *General Theory* and was developed further by a large post-World War II literature.[4] The response of consumers and investors to brightening economic prospects is described by Degorce and Monnet (2020) and Temin and Wigmore (1990). The need for a lender of last resort is the focus of Richardson and Troost (2009). The importance of fiscal policy as a signal and an impulse has been argued by Eggertson (2008) and Jacobson, Leeper and Preston (2019). Eichengreen and Irwin (2010) laid out the connection between the absence of reflationary policies and protectionism. The role of currency depreciation in making all this possible is the theme of Eichengreen and Sachs (1985).[5]

---

[1] Prepared for a special issue of *The Economic History of Developing Regions*, marking the centennial of the South African Reserve Bank. I think Jonathan Jayes for help with the analysis, Ichiro Sugimoto and Gregg Huff for comments, and Johan Fourie for the commission and help more generally.

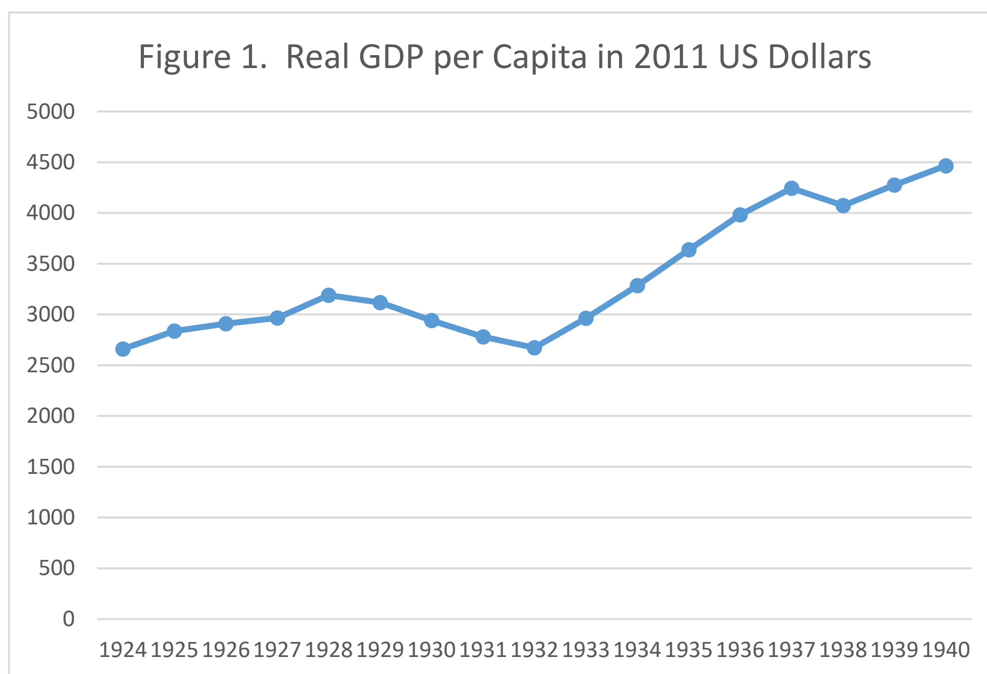
[2] This reference to "modern" scholarly consensus alludes to the fact that earlier scholarship, such as Friedman and Schwartz (1964) and Temin (1976), put relatively little weight on the role of the gold standard in the onset of the Great Depression and the subsequent recovery. This emphasis, or lack thereof, derived from the fact that authors focused on the U.S. case and offered closed-economy perspectives on the period. For Friedman and Schwartz, highlighting the role of the gold standard would have undermined their emphasis on the role of monetary shocks in the onset of the Depression, since under the gold standard such shocks would have been offset by compensatory capital flows (McCloskey and Zecher 1982). Moreover, in Friedman and Schwartz's model, abandoning the gold standard would have mattered only insofar as it immediately affected the money supply. In the modern literature, abandoning the gold standard and depreciating the currency could matter by operating through a variety of additional channels, for example by affecting expectations. References to the modern literature follow in the immediately succeeding paragraph.

[3] Following on Fisher (1933).

[4] A review of the subsequent literature on this topic is Swanson (2006).

[5] The older literature on abandoning the gold standard (viz. Nurkse 1944) emphasizes the export channel, largely to the exclusion of lower interest rates, more accommodating monetary conditions, lending in the last resort, and fiscal space. This is why those earlier contributions dismiss currency devaluation as impotent and worse (since "everyone can't devalue against one another"). The answer to this objection, of course, is that they still can devalue against gold.

South Africa's experience sits uneasily with this conventional wisdom, however. The country was slow to abandon the gold standard. It waited more than a year after September 1931, when the UK had abandoned gold and allowed sterling to depreciate. It waited until nearly three years after Australia, with which it competed in agricultural markets, took its currency off gold and allowed it to depreciate (Minnaar 2011).[6] Instead, South Africa resorted to import duties and export bounties in the manner of other countries that failed to reflate.[7] The *Report* of the Select Committee on the Gold Standard, which appeared in 1932, was indicative of the contemporary mindset; it was dominated by the evidence of witnesses who opposed going off gold. The conclusion of the commissioners themselves was that abandoning the gold standard should be ruled out as "uneconomical and dangerous" (p.xxxix).



Source: Maddison Project.

Yet, despite all this, South Africa was one of the fastest growing economies of the 1930s. In the key period from 1931 (when Britain abandoned the gold standard) to 1937 (when the United States entered a double-dip recession, dragging down growth in other countries with it), South Africa was, in fact, one of the two fastest growing economies in the world.[8] According to

[6] To be sure, most of the Australian pound's depreciation was in late 1930 and early 1931, although it declined already by some 5 per cent in 1929 (Eichengreen 1988).

[7] The largest export bounty was 25 per cent on wool. The balance of the story is well known. The Nationalist Party in power favored remaining on gold. In December 1932 Tielman Roos, a major figure in the National Party serving on the Supreme Court, announced his intention of resigning, returning to politics and forming a coalition party, one of whose immediate aims would be abandoning the gold standard. With the prospective splintering of the Nationalist Party, capital took flight, and the gold standard was abandoned under duress.

[8] The other was Singapore. Singapore in the 1930s was an important entrepot center for tin and rubber (Choi and Sugimoto 2013). When Sugimoto (2011) constructed GDP by weighting consumption, investment, government

the Maddison database (Figure 1), per capita real GDP rose by 60 per cent between 1931 and 1937. South Africa grew faster in the 1930s than in any other decade in the 20th century.

None of the other members of the Sterling Area, which like the UK had more than a year's head start on South Africa, did as well. Australia, said to have stolen a march on South Africa, saw only a 20 per cent increase in real GDP per capita between 1931 and 1937. Japan saw only a 22 per cent increase between 1931 and 1937 despite having aggressively depreciated the yen already in 1931 and adopting Keynesian fiscal policies before Keynes. Germany and a handful of Latin countries (Chile, Venezuela, Guatemala) did better, but even their growth didn't approach that of South Africa.

The remainder of this paper has two goals. First, to identify the roots of this macroeconomic outperformance and see whether it can be reconciled with the so-called modern consensus view of recovery from the Depression. Second, to understand better why, if going off the gold standard was so beneficial, indeed even more beneficial for South Africa than other countries, it was so strongly and resisted.

I am not a specialist on the South African economy. This has the advantage that I bring fresh eyes to the topic. Previous studies focused on the hardships and privations of the Depression (according to Edley 1994, the Depression "scarred the collective consciousness of an entire generation" of South Africans). It is possible with fresh eyes to also see the other side of the coin, namely the economy's remarkably rapid upswing following the trough.

I will argue that, as with many facets of South African history, it comes down to gold. Because the South African economy was so dependent on gold production (according to the Gold Commission, about half of South African GDP in the 1930s derived "directly or indirectly" from the gold mining industry), the country received an additional boost from currency depreciation over and above that felt in other economies.

No single-factor explanation for the onset of and recovery from the Great Depression can provide an entirely satisfactory explanation for what was a complex and multi-faceted event. For example, South Africa experienced a drought in 1932-3 and then a plague of locusts and outbreak of foot-and-mouth disease in 1933-4. Because the drought depressed agricultural yields, production could bounce back vigorously once the weather and precipitation normalized. First worsening and then improving climatological conditions surely played a role in shaping the South African slump, That said, other countries suffered from similar problems (in the U.S. case, for example the Dust Bowl and the boll weevil), but they were not able to match South Africa's

---

spending and net exports, the weight on net exports (including re-exports) was over 400 per cent. Hence a modest recovery of world trade could have an outsized impact on the estimate of GDP. Whether re-exports should be included in such calculations is debatable. Ideally, one would credit Singapore with the value added (only) from handling, financing, processing and shipping to the West rubber and other commodities, but little is known about those margins. Even Singapore's value added from rubber re-exports had little to do with its own economic policies; rather, it reflected the enthusiastic planting decisions of Chinese and Malay smallholders to the high rubber prices of 1925-29 and the seven year lag between planting rubber trees and harvesting latex from them.

recovery simply by bouncing back from exceptionally low levels of agricultural production.[9] This point again to the importance of devaluation as working through the gold mining industry.

These observations only serve to underscore the paradox of South Africa's late departure from the gold standard – that it waited five full quarters after Britain to abandon gold. Raising the domestic-currency price of gold, which is what depreciating the exchange rate entails, was of direct and immediate benefit to the gold mining industry. Witnesses representing the industry appearing before the *Select Committee on the Gold Standard* understood this and made the case for the policy. At the same time, other witnesses focused on the problems of other sectors worried about the destabilizing impact of higher prices of imported inputs and the negative effect on real wages. Those concerned with the banking sector worried about destabilizing balance sheet effects and damage to confidence more generally. They saw South Africa as having a stake in the preservation of the gold standard, given its position as a leading gold producer. Witnesses by and large failed to appreciate the general equilibrium, or macroeconomic benefits of devaluation, which is not entirely surprising, given historical circumstances. I make these points through a close reading of the report of the *Select Committee*, but also using some tools from text analysis, such as sentiment analysis and topic modeling.

The rest of the paper is organized as follows. Section 2 shows how South Africa's experience fits into the modern literature on the macroeconomics of the Great Depression. Section 3 then parses the report of the Select Committee using a combination of traditional and modern tools, after which Section 4 concludes.

* * * * *

Cross-country comparisons suggest that it generally it took at least a year before the full macroeconomic benefits of currency devaluation were felt. Asset prices responded first, of course. Commodity prices – at least some commodity prices – responded next. Investment reacted after that, as firms revised their expectations of future sales and profitability (Temin and Wigmore 1990). By comparison, the price level and output overall responded more slowly, only with a lag.[10] Inflation inertia is a well-known phenomenon. Where macroeconomists tend to write about as the stubborn unwillingness of high inflation to come down (see e.g. Calvo, Celasun and Kumhof 2007), here we simply have the opposite phenomenon: the stubborn unwillingness of low inflation (or deflation) to come up.

This last phenomenon is evident in the interwar experience of South Africa. The exchange rate was devalued, in a matter of weeks, by a healthy 42 per cent against sterling, which would have raised import prices by that amount at a stroke.[11] (And, indeed, the value of imports, excluding re-exports, rose immediately by 18 per cent, reflecting these higher costs.) In contrast, wholesale prices rose from an index number of 951 in October 1932 to just 956 the

[9] This is despite the fact that the Dust Bowl drought is estimated to have been the worst experienced in North America in fully a thousand years (Gray 2014).

[10] Thorp (1992) for example notes the tendency for inflation to lag behind currency depreciation in Latin American countries that devalued in the 1930s. In South Africa there was in addition a complex process of wage setting by Industrial Councils, which could have slowed the adjustment of rates (Lucas 1933).

[11] In early March, it was then pegged to the pound sterling at this new lower level by an act of Parliament.

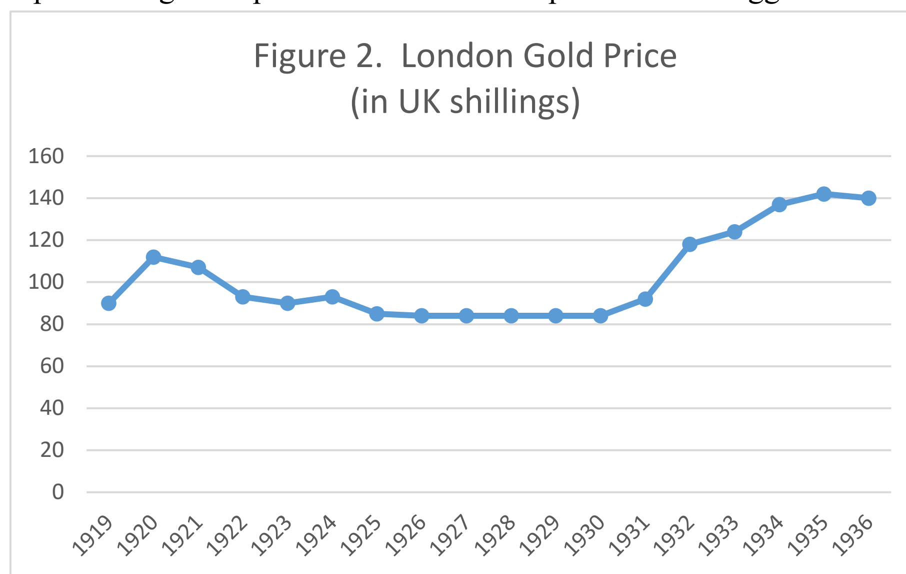
following January (one-half of one per cent) and 985 the following April (a further 3 per cent). Retail prices rose not at all over the same period or, for that matter, for several subsequent years.[12]

In the analytical model laid out in Eichengreen and Sachs (1986), reflationary policies worked partly by pushing up prices relative to wages and other costs (through the operation of Keynes's countercyclical real wages), providing an incentive for producers to move up along their upward-sloping supply curves.[13] Contemporary South Africans understood this: there was considerable discussion in the evidence given the Gold Standard Committee of the need to push down real wages, so as to counteract the effect of the prior fall in prices, if abandoning the gold standard was to be avoided. Frankel (1933) noted how real wages in eight classes of occupations had risen by nearly 10 per cent between 1924 and the end of 1931, and how there was resistance to reducing nominal wages in the mining industry despite the fall in the cost of living. There was also understandable pushback from the representatives of the principal white trade unions, who understood that additional output and employment would come at the expense of the real wages of the already employed.[14] Either way, why the economy's growth should have resumed so dramatically already in 1933 (when GDP per capita rose by 11 per cent) and persisted so strongly thereafter is peculiar, given that the rise in wholesale prices was at best subdued, while the rise in retail prices was nonexistent.

The explanation lies of course in gold prices, whose behavior was unlike that of other prices. The domestic price of gold rose immediately and fully with the exchange rate, which is to say by 42 per cent, since nothing that South Africa did had an impact on the London gold price, at least in the short run.[15] This provided an immediate boost to that half of the economy. The immediacy of the boost was evident in the price of mining company bonds, the index of which rose by 31 per cent between December and January and by another 22 per cent in February.[16] Richards's index of the shares of 31 gold-mining companies more than doubled between December 10, 1932, a couple of weeks prior to abandoning the gold standard, and December 1934.[17] As Richards described already in 1934, "New shafts are being sunk, greater depths worked, plant and equipment improved and extended, previously marginal mines expanded, mines long since closed down reopened, and new areas are being tested and exploited. Johannesburg and the Witwatersrand pulsate with life and activity."[18]

[12] This was not the effect of lower food prices; in fact, food prices were rising fairly steadily reflecting the lingering effects of the drought.
[13] A complication was that some labor costs (fees paid to the Portuguese Government for Angolan labor and the wages of those migrant workers themselves) were effectively indexed (they were paid in gold, as explained by Leslie 1933). To the extent that this arrangement was general and real product wages are fixed, devaluation accomplishes nothing (Sachs 1980). In addition there was a modest increase in costs from the rise in the cost of imported "stores" (inputs). In practice this does not appear to have prevented sharp increases in the profitability of mining and increases in production, as we will see below.
[14] Leslie (1933), p.90.
[15] The same effect would have been felt, with the same negligible consequences for world prices, by South Africa's pastoral and agricultural exports.
[16] Office Permanent de L'institut International de Statistique (1938), p.239.
[17] Richards (1933) provides a fuller description of the index. Eichengreen and Sachs (1985) show that share prices similarly reacted strongly and positively, in real terms, to devaluation in other countries. The difference in South Africa was the speed of the reaction and how it was largely limited to mining stocks.
[18] Richards (1934), p.622.

Gold production rose by 6 per cent in 1933, 8 per cent in 1934, 7 per cent in 1935 and 11 per cent in 1936, as higher prices made it profitable to work lower grade ores (Limebeer 1935). GDP per capita averaged 10 per cent over the same period. This suggests that the spending



Source: Office Permanent (1938).

multiplier associated with additional gold production was approximately 2, in line with other estimates for this period (Almuna et al. 2010).[19] Frankel and Herzfeld (1944, p.113) refer to "the great stimulus which this increase in export activity gave to new capital investment…" Richards describes how "[t]he prosperity of the mining industry is reflected in other lines" and how the same areas that saw increased mining activity also saw a building boom. Foreign capital financed the majority of new investment in gold mining (contemporaries estimated the foreign investment share to be in excess of 60 per cent), freeing up domestic funds for other investment.[20] There was then a significant amount of public investment financed by the "windfall receipts" that the government received as a result of these same higher gold prices (Frankel and Herzfeld 1944). This sounds a lot like the multiplier at work.

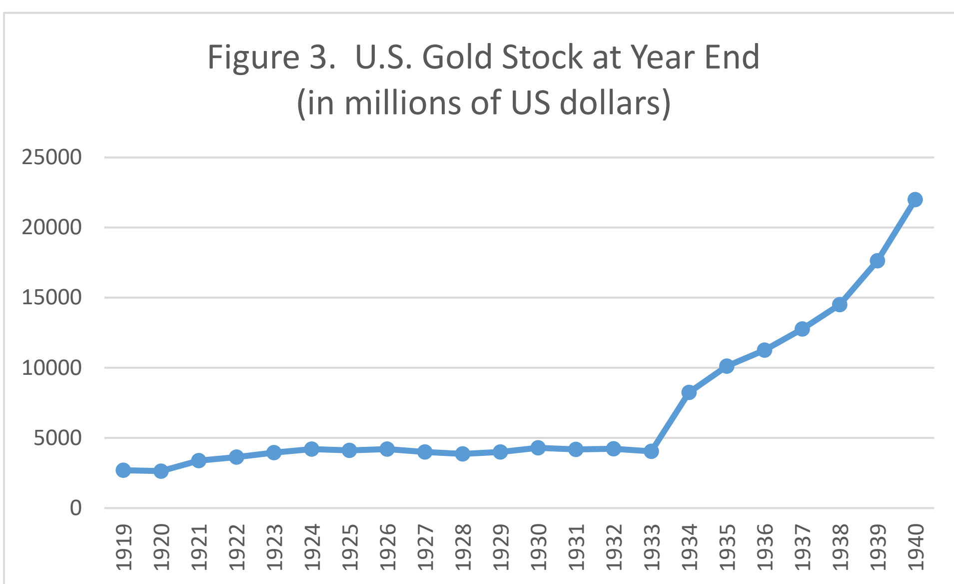
An important question is why South Africa's devaluation and the associated increase in gold production didn't put additional downward pressure on world gold prices (Figure 2) and lead to a deterioration in the country's international terms of trade. Abreu and Bevilaqua (1996) document the general tendency for devaluations to put downward pressure on the international price of commodities when the exporting country has market power globally (these authors have Brazil and coffee in mind), and the idea plays an important role in Kindleberger's (1973) model of the global slump. In fact, South Africa was one of the few commodity exporting countries that saw a marked improvement in its terms of trade in the 1930s, which contributed to the increase in measured real incomes over the period (Frankel and Herzfeld 1944).

---

[19] As in other countries, the central bank, no longer having to defend a pegged exchange rate, was able to cut its discount rate relatively quickly, from nearly 7 to 3 ½ per cent, so there was no monetary offset to the stimulus.
[20] British investment in particular was facilitated, it was said, by the decision to peg to sterling in 1933 (Henshaw 1996).

The answer, in a tautological sense, is that the demand for gold increased even more strongly than the supply. If we take the United States as representative of global conditions, one sees the real price of gold (adjusted for inflation) more than doubling between 1931 and 1934 first due to deflation and then to devaluation of the dollar (reinforced between October 1933 and January 1934 by President Roosevelt's gold buying program).[21] In January 1934 the U.S. then re-pegged the dollar to gold at the new higher price of $35 an ounce (up from $20.67 a year earlier). The real price of gold then came down gradually up to the eve of World War II with reflation but remained more than twice its early-1930s level throughout. In order to maintain the new $35 an ounce price, the Federal Reserve System purchased massive amounts of gold over the balance of the decade (Romer 1992). (See Figure 3.) More generally, with the increased instability of exchange rates, there was a shift by central banks from holding foreign exchange reserves to holding gold (Eichengreen 1990), which supported the price of the latter relative to the prices of other commodities. This tendency was evident already in 1930-1 but grew more pronounced in 1934-5, following devaluation of the dollar.

A separate question is whether this continuing dependence on the production and export of gold was healthy for the long-term development of the economy. The earlier Pact Government, representing English-speaking blue collar workers and poor Afrikaners, evidently had its doubts; it had adopted policies that explicitly harmed the interests of the mining companies, such as the "civilized labor policy," which favored employers using white labor, and the Mines and Works Amendment Act of 1926, which made the employment of inexpensive black labor by the mines still harder.[22]



Source: Federal Reserve System (1943).

[21] Taking the U.S. as an approximation to the world market is not a terrible assumption under the circumstances, given how the country held fully 60 per cent of global gold stocks circa 1938 (where gold is valued in U.S. dollars at the old parity).

[22] On the Pact Government (a coalition of the Nationalist and Labour Parties), see Feinstein (2005), pp.85-89.

Now, as a result of the increase in the price of gold, the share of gold in South African exports rose further, from 50 per cent of the total at the end of the 1920s to fully 70 per cent at the end of the 1930s. The share of manufactures in South African exports, meanwhile, remained minimal, at no more than 2 ½ per cent, with manufacturing production limited to a few urban centers. The result, some analysts complain, was to slow the process of industrialization, entrench the existing labor system with its high levels of inequality, and continue to expose South Africa to volatile world commodity markets.

It is questionable whether the alternative, an active policy of import-substituting industrialization, would have been better. Other countries that pursued this strategy starting in the 1930s made short-term gains, but import substitution did not constitute a sustainable long-term economic development strategy (Fishlow 1972, Thorp 1992). Sustained, successful development required the ability to export the manufactures whose production substituted for imports. And the capacity to compete on global markets as an exporter of manufactures (domestic markets having their limits) required prior investments in infrastructure, public administration and, above all, education, as the experience the Asian economies would subsequently show.

Thus, one may half agree with the conclusion of C.S. Richards of the University of the Witwatersrand in the *Economic Journal* (Richards 1934) that "While currency depreciation to another country might have meant nothing, to South Africa, with its enormous dependence on gold, it has meant everything." But Richards then went on "Only, it must be emphasized, under the peculiar circumstances prevailing in South Africa in 1932 – no general advocacy of depreciation, is of course, intended." Subsequent scholarship suggests that the argument is more general; rather than being peculiar to South Africa, it applies to many countries in the particular circumstances of 1932.

* * * * *

Given the strength of this evidence that an earlier devaluation would have benefited the economy, it is interesting to ask why the Select Committee on the Gold Standard did not reach this conclusion. In all, only five of the nearly three dozen witnesses to the Select Commission – Professor Harold Galbraith (professor of accounting at the University of Cape Town), Samuel Evans (director of Crown Mines), Professor C.S. Richards (professor of commerce at the University of Witwatersrand), Professor Arthur Norval (professor of commerce at the University

of Pretoria) and Harry Judson (Barclays' Bank) favored abandoning the gold standard.[23] It is tempting, if self-serving, to suggest that the academics saw the big picture more clearly.[24]

Some of the arguments made by those who opposed abandoning the gold standard and depreciating the currency were common to gold-standard advocates in other countries. They warned that abandoning the country's tried and true monetary standard would do more to damage stability than restore it. They worried about negative impacts on consumer and investor confidence. Given the depressed state of the global economy and global commodity markets, most did not see that devaluation would help. They saw it as a zero sum game that might redistribute income from workers to employers by reducing real wages but without changing the size of the pie to be shared out.

Finally, they suggested, without fully articulating the case, that South Africa, as a gold producer, had a special interest in the maintenance and preservation of the gold standard, and that by suspending convertibility or raising the domestic price of gold it would be contributing to the system's collapse. They were right, in the sense that convertibility at a fixed domestic price of gold meant that gold prices remained stable in a deflationary environment where all other price were falling, to the benefit of the gold mining industry so important to South Africa. But they were wrong in believing that by depreciating the currency and letting the domestic-currency price of gold to rise, as Great Britain did in September 1931 and South Africa did in December 1932, or by re-pegging the price of gold at a new higher price, as the United States did in January 1934, the demand for gold would be somehow impaired. Central banks still needed foreign exchange reserves. And the less stable were exchange rates, the more attractive were gold reserves relative to foreign exchange reserves. It turned out that there was no shortage of official demand for gold in the 1930s. Far from it.

Most individuals who gave evidence to the Committee were of a decidedly negative outlook. They saw few upsides. They warned of the dire situation facing farmers, workers and traders but offered little in the way of solutions.

We can document this negative outlook by running the evidence of different witnesses through the Bing Sentiment Lexicon (Hu and Liu 2004). Developed as a way of mining on-line customer reviews for positive and negative product opinions, this lexicon can be used to place other opinions in a positive or negative context. The sentiment of most witnesses, so categorized, is overwhelmingly negative, the exceptions are Samuel Evans (Chairman of Crown

[23] Galbraith, in something of an exaggeration, observed that "So far as I am aware I am the only professor, connected with economic and commercial subjects, in the Union who has expressed an opinion in favor of the Union currency being detached from the existing gold basis." By the end of the committee's deliberations, there were three more. Richards had earlier opposed abandoning the gold standard but saw the need to raise domestic prices in response to the slump; he therefore came around to advocating raising the domestic currency price of gold but then re-pegging at this higher price. Similarly, Professor Izak Fourie (Lecturer in Economics at Grey University College – any relation?) and the representatives of Standard Bank, the Federated Chamber of Industries, and the Association of Chambers of Commerce favored keeping the currency "level" with sterling, while the representatives of the Deciduous Fruit Exchange favored a depreciation of the currency but did not feel "competent" to prevail on the technical question of how it should be brought about.

[24] Judson, as a banker rather than an academic, emphasized "the pressure on credit conditions" (Select Committee, p.719) of remaining on the gold standard, describing how capital flight led to a reduction in bank deposits and consequent restriction of bank lending, resulting in the chronically depressed condition of South African industry. He characterized himself as a reluctant advocate of abandoning the gold standard. There were also academics, such as Professor Schumann and Dr. Arndt, whose evidences did not fit so neatly with this perspective.

Mines), John Martin (President of the Transvaal Chamber of Mines), and Karl Gundelfinger (a Durban-based merchant and manufacturer who served on the board of the Reserve Bank), who have at least some positive sentiment in their testimony.

Evans and Martin's positive outlook reflected the fact that they represented the mining industry, the only sector that had prospered in the Depression and that stood to do even better if South Africa devalued. They evinced some sympathy for abandoning the gold standard, while not explicitly stating a position. In addition, these witnesses focused heavily on what we would now refer to as macroeconomic issues, speaking of currencies, the price level, money and taxes.[25] They advanced what would now be regarded as coherent macroeconomic arguments, of the need to offset the weakness of agricultural prices in order to relieve rural distress, about currency depreciation as a way of enhancing export competitiveness, and about the unlikelihood of rapid wage increases, given current conditions.

Gundelfinger's optimism seemed to reflect his belief that the general economic condition of the country was not as negative as many people thought. The Depression and the reverberations of Great Britain going off the gold standard were, in his view, "in the course of passing…We are adjusting ourselves now to the conditions created by Great Britain going off the gold standard."[26] This optimism may explain why he did not see devaluation as imperative. His macroeconomic reasoning was less coherent: he argued that the rise in export (and import) prices pursuant on devaluation would come entirely at the expense of lower real wages (an increased "burden on your wage earner"), with no benefit to the economy overall.[27] This of course neglected how the change in the ratio of export prices to costs affected production and, through that channel, employment and spending. He argued that if several countries devalued simultaneously "you end up exactly where you were."[28] This ignored the ability of simultaneous devaluation to counter debt deflation.

Other more universally negative witnesses discussed the situation of the farmers, wages, workers, wool, fruit, diamonds, and trade-related issues (ships, ports, bunkers). Part A of the appendix summarizes the frequency with which these issues were discussed by each individual witness. We see that quite a number of witnesses referred repeatedly to wages, prices, the exchange rate, sterling, currency and money, as opposed to coal, wool, fruit and other sectoral/microeconomic issues. Still, only a small minority of witnesses were focused on what we now think of as the macroeconomics of the gold standard, and only these individuals had an inkling of how to make things better. Witnesses concerned with the plight of specific sectors did not clearly make the connection with the gold standard, or else saw abandoning the gold standard as creating more problems than it solved.

Alternatively, we can analyze not the frequency with which words and phrases were used by each witness but at how specific different words are to each speaker (the "frequency inverse," which measures the frequency with which words are used by an individual speaker relative to other speakers). The results here are in Part B of the appendix. We see that Evans (Crown

---

[25] Martin, in addition, spoke at length about the condition and prospects of the mines.
[26] Select Committee (1932), p.196.
[27] Gundelfinger's business was mainly domestic, so far as I can tell, although his testimony refers to selling hides in France and Britain, and his obituary in the *South African Journal of Economics* mentions trade (in textiles?) in Eastern and Central Africa as well.
[28] Select Committee (1932), p.134.

Mines) was disproportionately concerned with taxation, Gawith (a merchant and trader) with instability, Laite (Federated Chamber of Industries) with unemployment, Merks (Federation of Trade Unions) about diamonds, Motteno (Co-operative Deciduous Fruit Exchange) about fruit, and van der Horst (a company director with interests in insurance and commodities) about hides. Again, this suggests that the sector-specific focus of many of the speakers is a suggestion of why they didn't perceive more clearly the macroeconomic benefits for the economy as a whole of going off the gold standard.

We can examine this dichotomy more systematically using "topic modeling," a form of unsupervised classification, using machine learning, where the machine looks for repeated word clusters that mirror typical use of natural language.[29] Specifically, we use Latent Dirichlet allocation to identify the mixture of words that is associated with each topic, while also identifying the mixture of topics that characterizes each document.[30]

Applying this method to the Gold Commission Report, we can distinguish two topics, as shown in Figure 4. Topic 1 clearly refers to the cluster of macroeconomic and financial concerns centering on the exchange rate, international economic relations, money, banking and capital flows. Topic 2 is more diffuse: it includes some of the same words and phrases as Topic 1 but also emphasizes sector specific problems such as farming and pastoral activities.

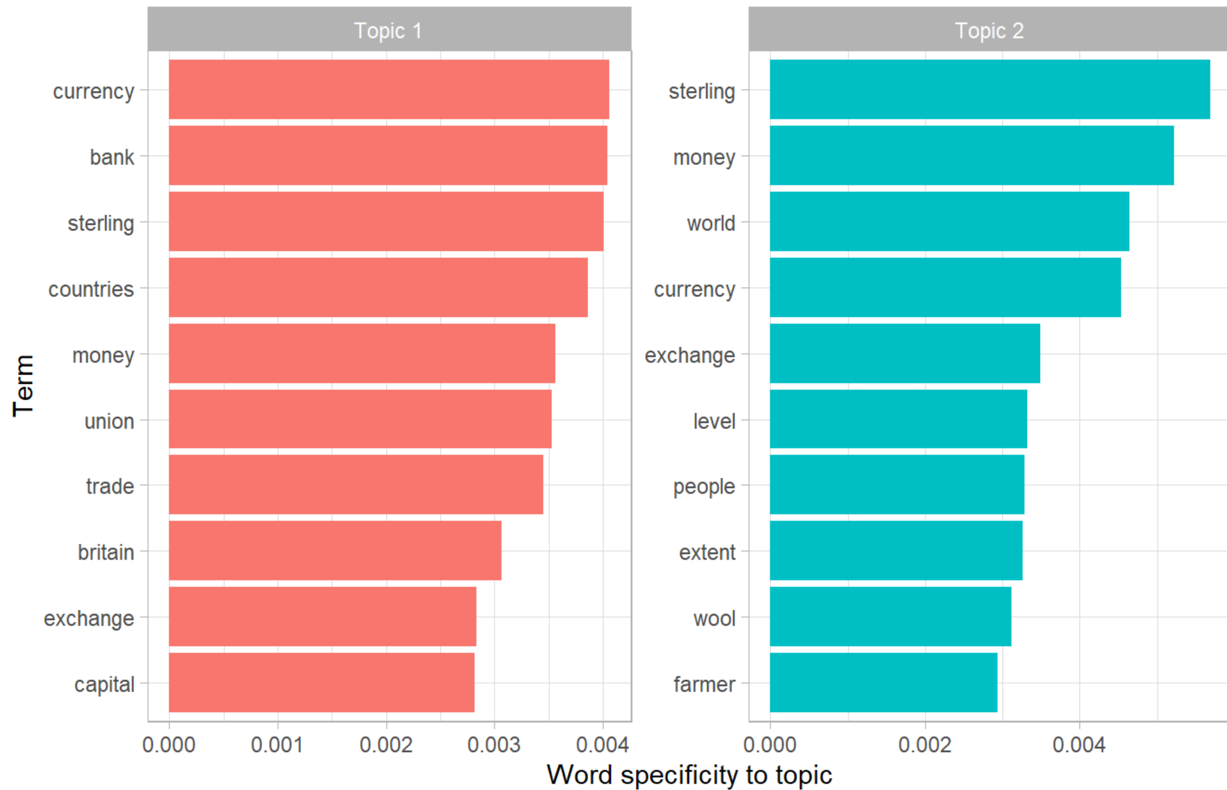
[29] For details see Steyvers and Griffiths (2007).

[30] This approach to identifying topics models them as Dirichlet distributions, meaning continuous multivariabte probability distribution parameterized by a vector of positive yields. For details see Chapter 49 of Koz, Balakrishan and Johnson (2000).

Figure 4

Most common words by topic

Broken into two topics



This technique provides a more systematic way of classifying witnesses according to whether they are mainly concerned with international monetary and financial relations (Topic 1) or domestic considerations, including the sectoral (Topic 2). Figure 5 categorizes witnesses according to whether they are speaking mainly about Topic 1 or Topic 2. Figure 5 suggests a roughly equal number of witnesses focusing on each topic. This could indicate an even split of underlying expert opinion, or that witnesses were preselected so as to present an evenhanded view of both perspectives.

Yet another approach to these questions, which again aggregates across witnesses, is proximity analysis, which considers clusters of words that occur in close proximity to one another. Figure 6 below shows the result of this analysis. It is again evident that words are connected in two clusters, just as topic modeling identifies two topics. Those two clusters, depicted toward the lower left-hand corner of the figures, center on gold and prices. The “price node” of that cluster is connected to terms related to deflation and depreciation. The “gold node,” in contrast, is connected to terms related to mining (toward the bottom and to the left) and to central bank reserves (toward the top and the right).

Figure 5

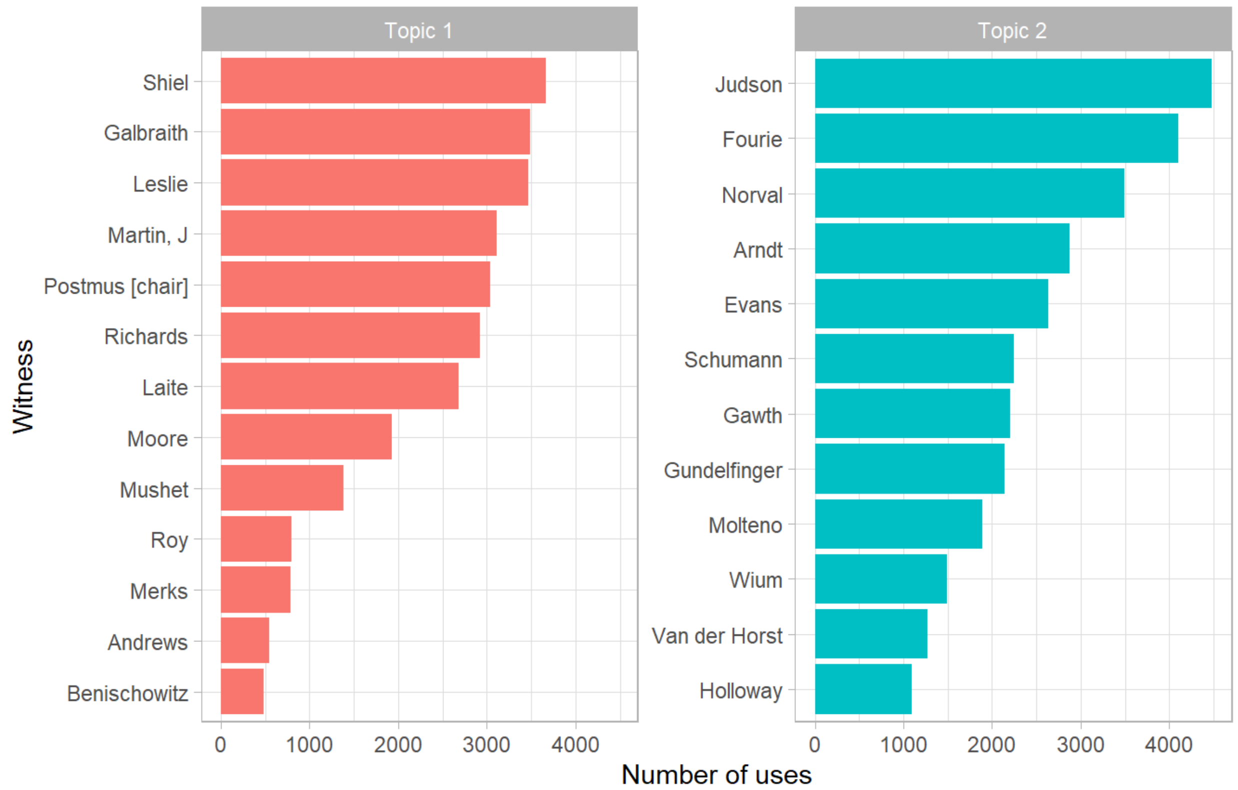


Figure 6. Word Cluster and Proximity Analysis

Beyond this, the other smaller clusters simply show the proximity of words that denote familiar phrases (purchasing and power, commercial and bank, managed and currency).

* * * * *

In this paper I have examined South Africa's departure from the gold standard from several perspectives. A first perspective is provided by the modern literature on the Great Depression. This literature suggests that abandoning the gold standard and depreciating the currency were key to economic recovery. Thus, the fact that South Africa did abandon gold convertibility in December 1932 and depreciate its currency is consistent with the observation that its economy recovered strongly, by contemporary standards, starting in 1933-4.

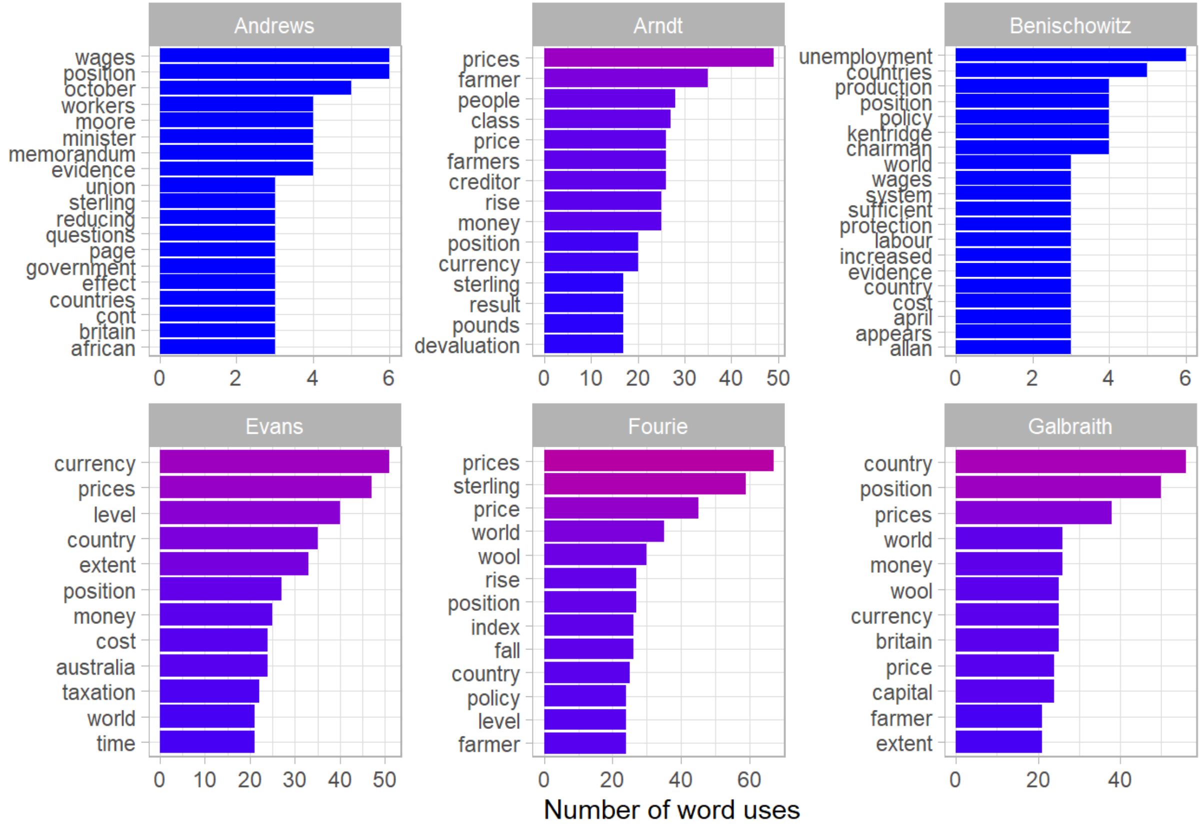
A second perspective is provided by international comparisons, which show South Africa to have been among the best performers in the world, in terms of macroeconomics, in the 1930s. Historical reconstructions of GDP must be taken with a grain of salt, of course, and several grains should be added to this one. Yet the pace of the economy's recovery from the Great Depression is striking however one cuts it. This perspective suggests that South Africa benefited in the short run from its dependence on gold production and exports. Devaluation put immediate upward pressure on gold prices, and the mining industry was able to respond with additional supply. In addition, there appear to have been strong multiplier effects spilling over from gold mining to other sectors, including construction.

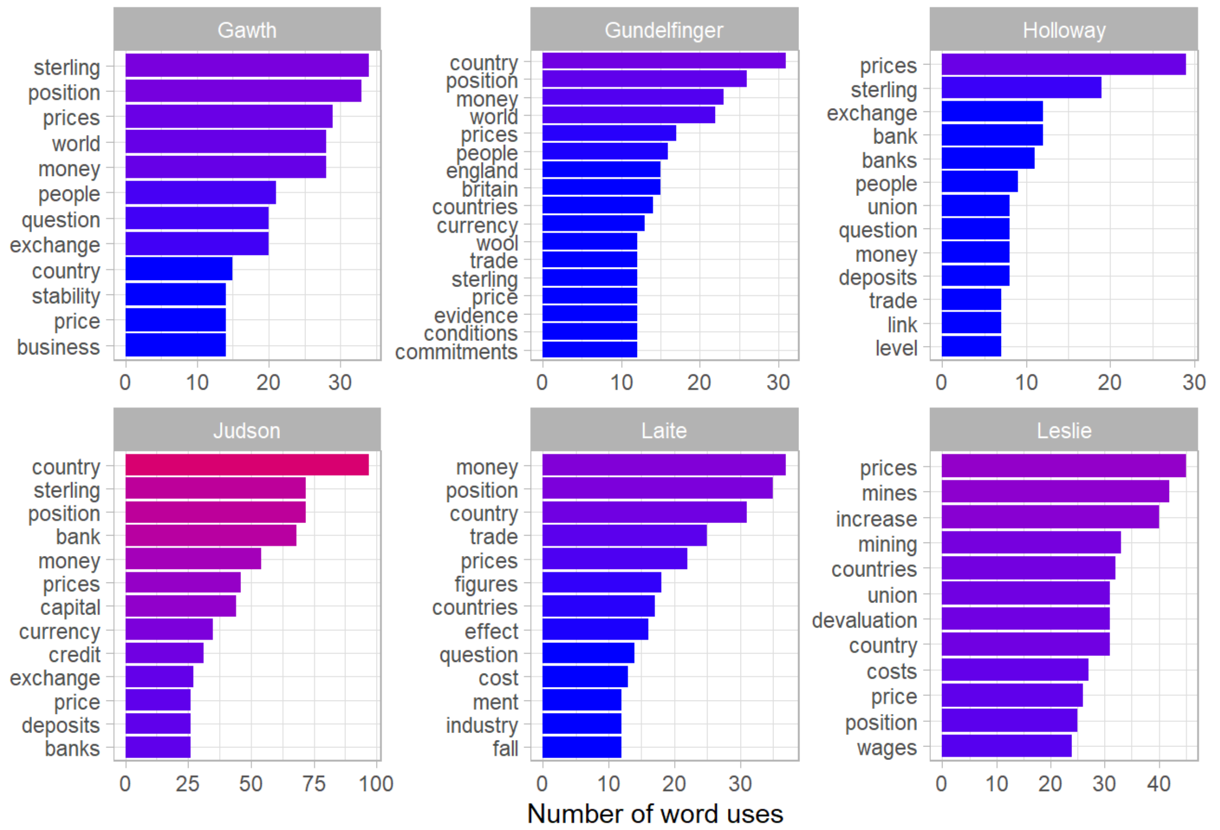
Yet a third perspective is provided by the opinions of witnesses before the Select Committee on the Gold Standard in 1932. The question here is why, if abandoning the gold

standard turned out to be so clearly beneficial, only a small minority of witnesses saw this in advance. It was mainly the academics who made the case for abandoning convertibility and depreciating the currency. It may be that they had read Keynes's *Tract on Monetary Reform*, published in 1923, which emphasized the costs of deflation and the impossibility of targeting internal and external prices simultaneously, or that they were aware of Irving Fisher's work on the compensated dollar. They may have been better attuned than other witnesses to general equilibrium effects. Other witnesses emphasized, in common with gold-standard advocates in other countries, that confidence would be damaged by abandoning the tried and true monetary standard. Some appear to have mistakenly believed that remaining on the gold standard was of special value to South Africa. Some witnesses focused on sector-specific issues and problems, not surprisingly since they had been invited to represent the interests of those sectors. We are reminded – neither for the first nor last times – that when forming a select committee to frame policy options, it matters importantly who is invited to testify before that committee.

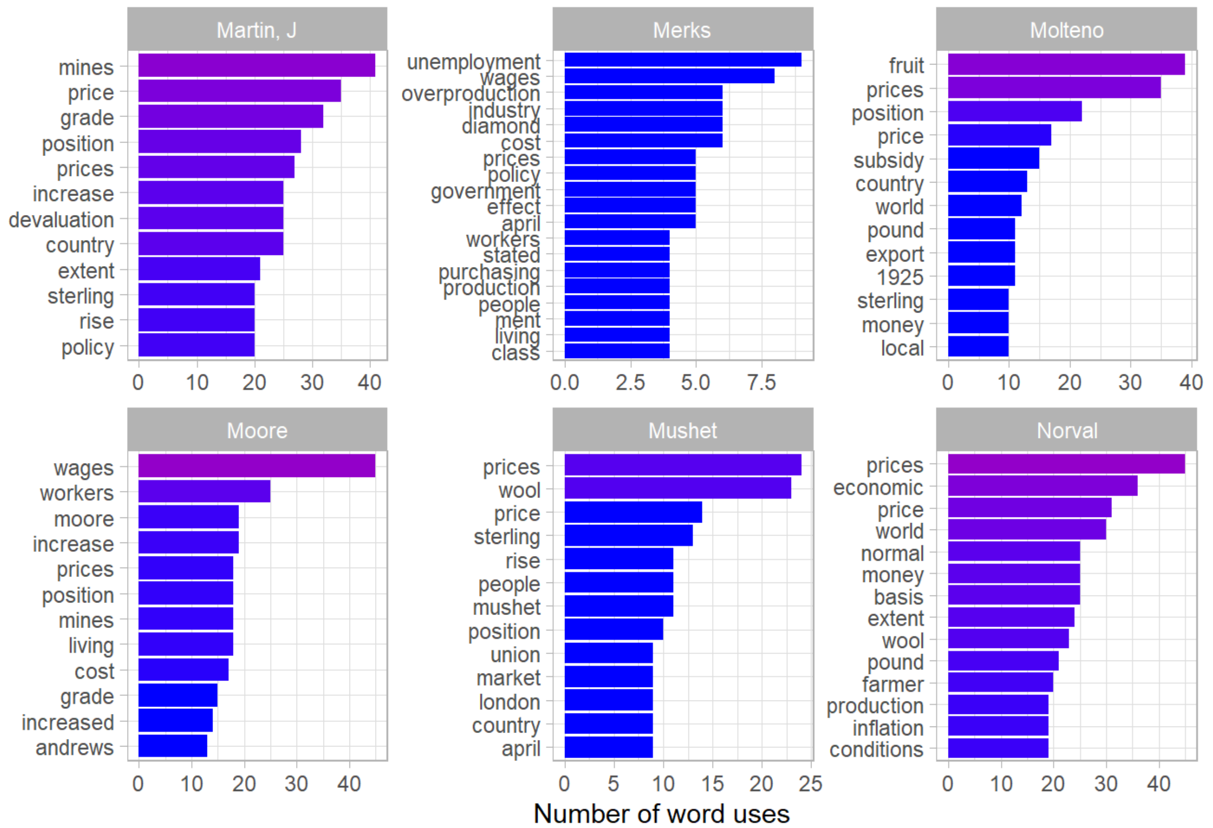
Appendix. Additional Textual Analysis

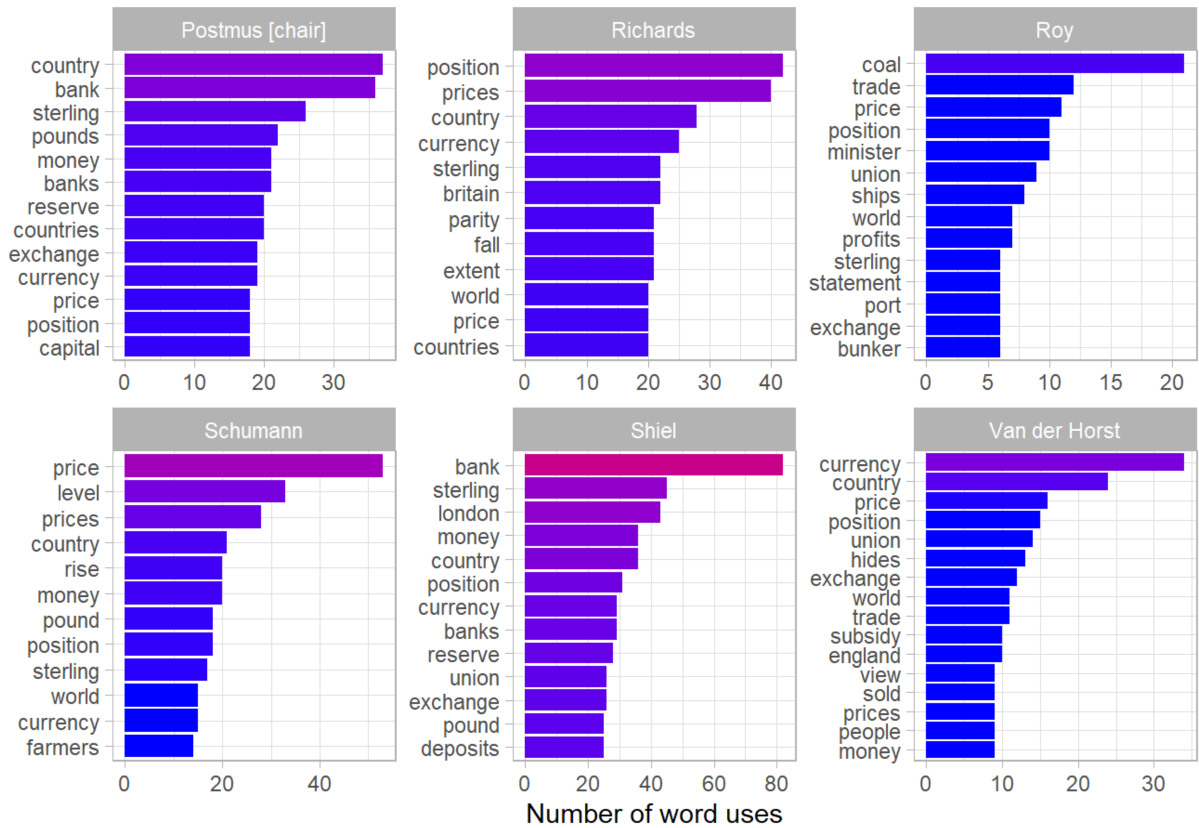
A. Most Frequently Used Words by Witness



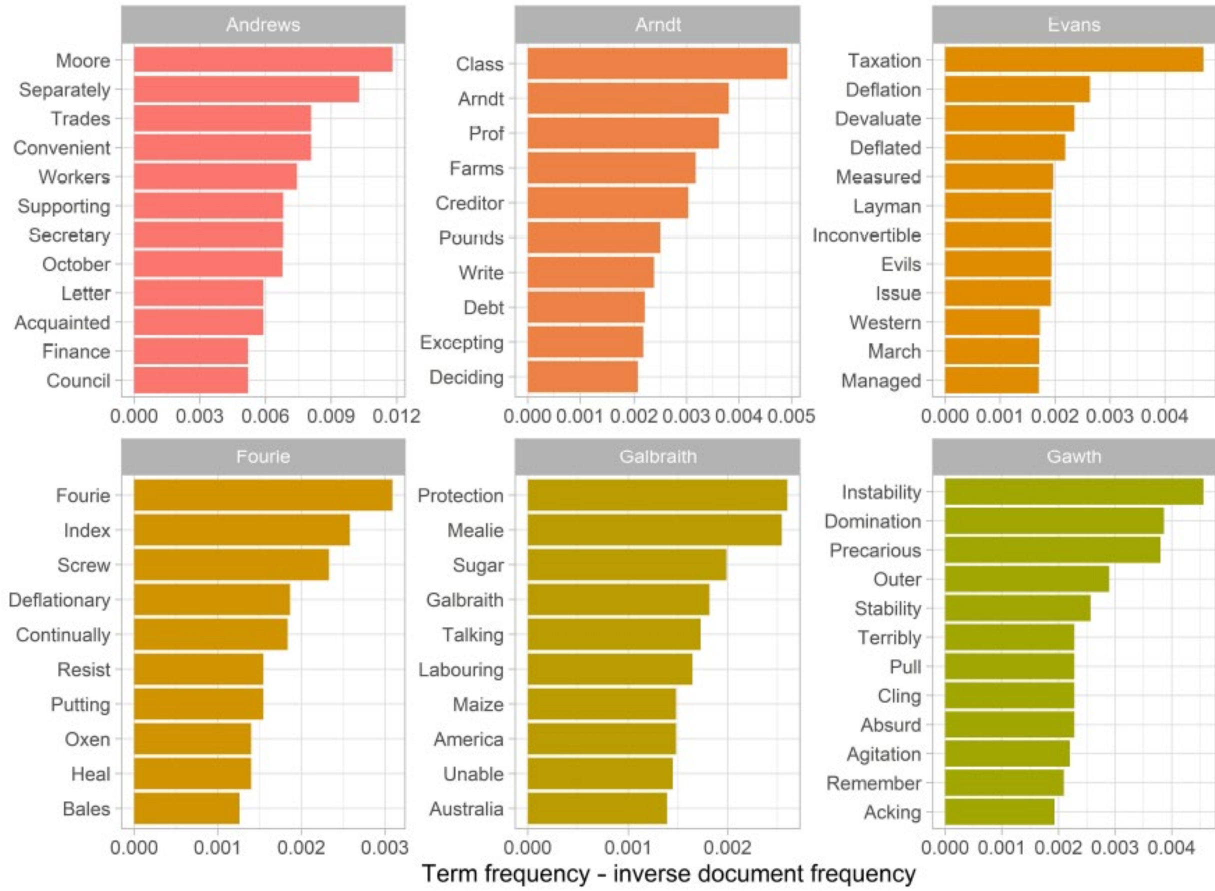

12 most freqently used words by witnesses in giving evidence
Gawth
sterling
position
prices
world
money
people
question
exchange
country
stability
price
business
0
10
20
30
Gundelfinger
country
position
money
world
prices
people
england
britain
countries
currency
wool
trade
sterling
price
evidence
conditions
commitments
0
10
20
30
Holloway
prices
sterling
exchange
bank
banks
people
union
question
money
deposits
trade
link
level
0
10
20
30
Judson
country
sterling
position
bank
money
prices
capital
currency
credit
exchange
price
deposits
banks
0
25
50
75
100
Laite
money
position
country
trade
prices
figures
countries
effect
question
cost
ment
industry
fall
0
10
20
30
Leslie
prices
mines
increase
mining
countries
union
devaluation
country
costs
price
position
wages
0
10
20
30
40
Number of word uses

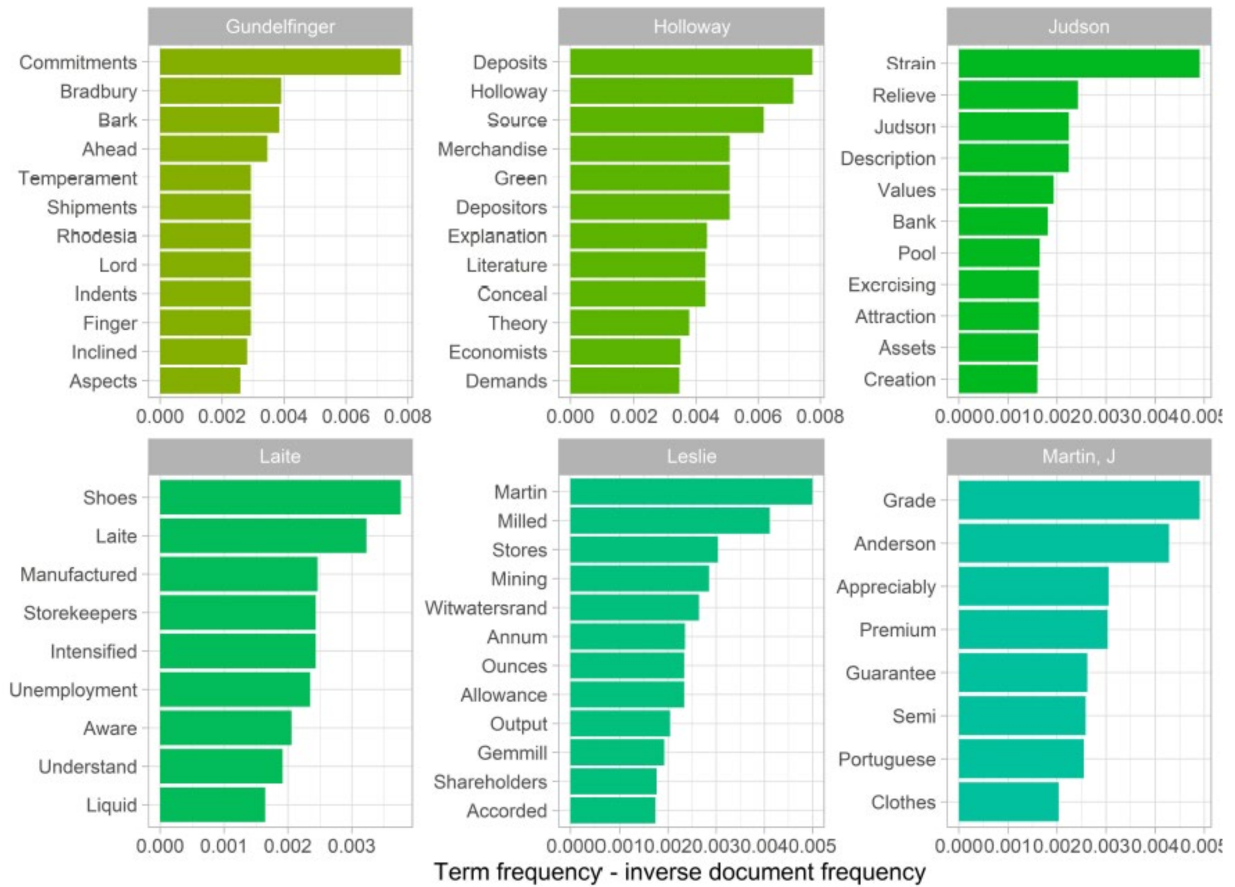
12 most freqently used words by witnesses in giving evidence

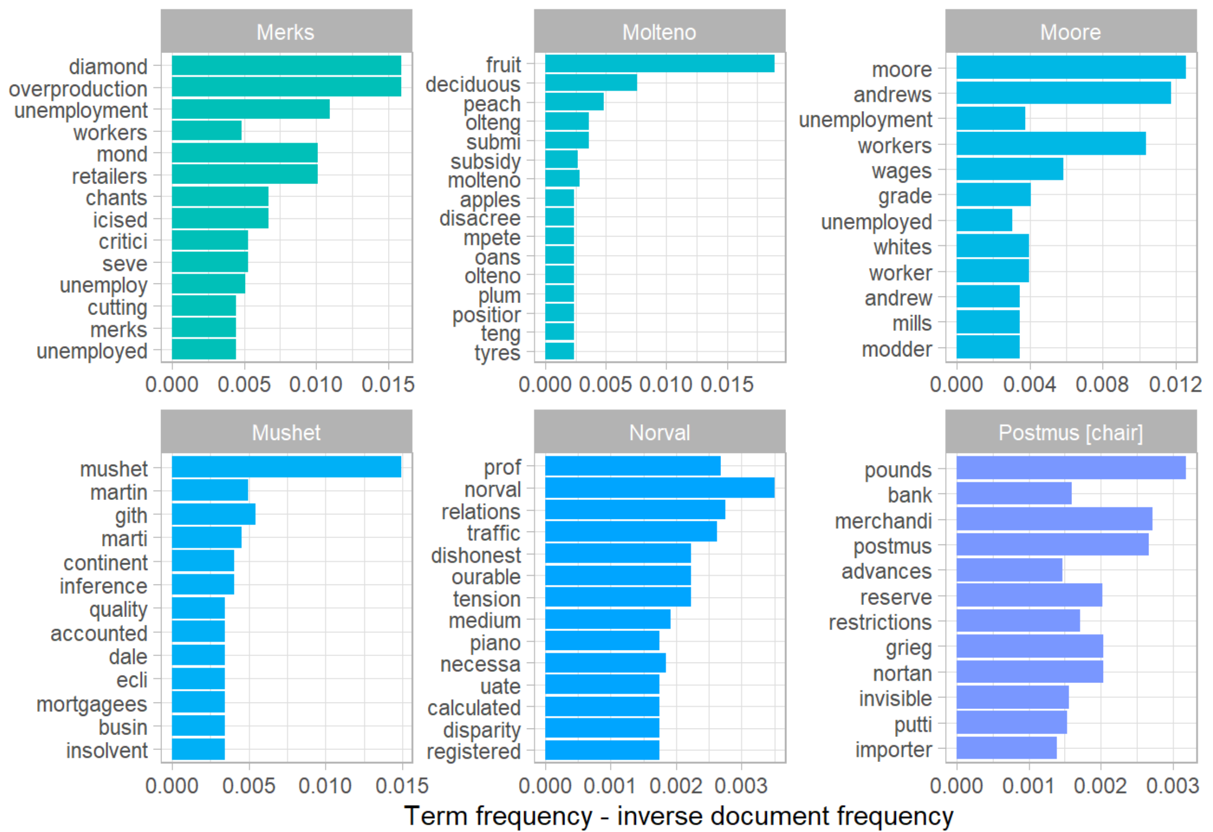


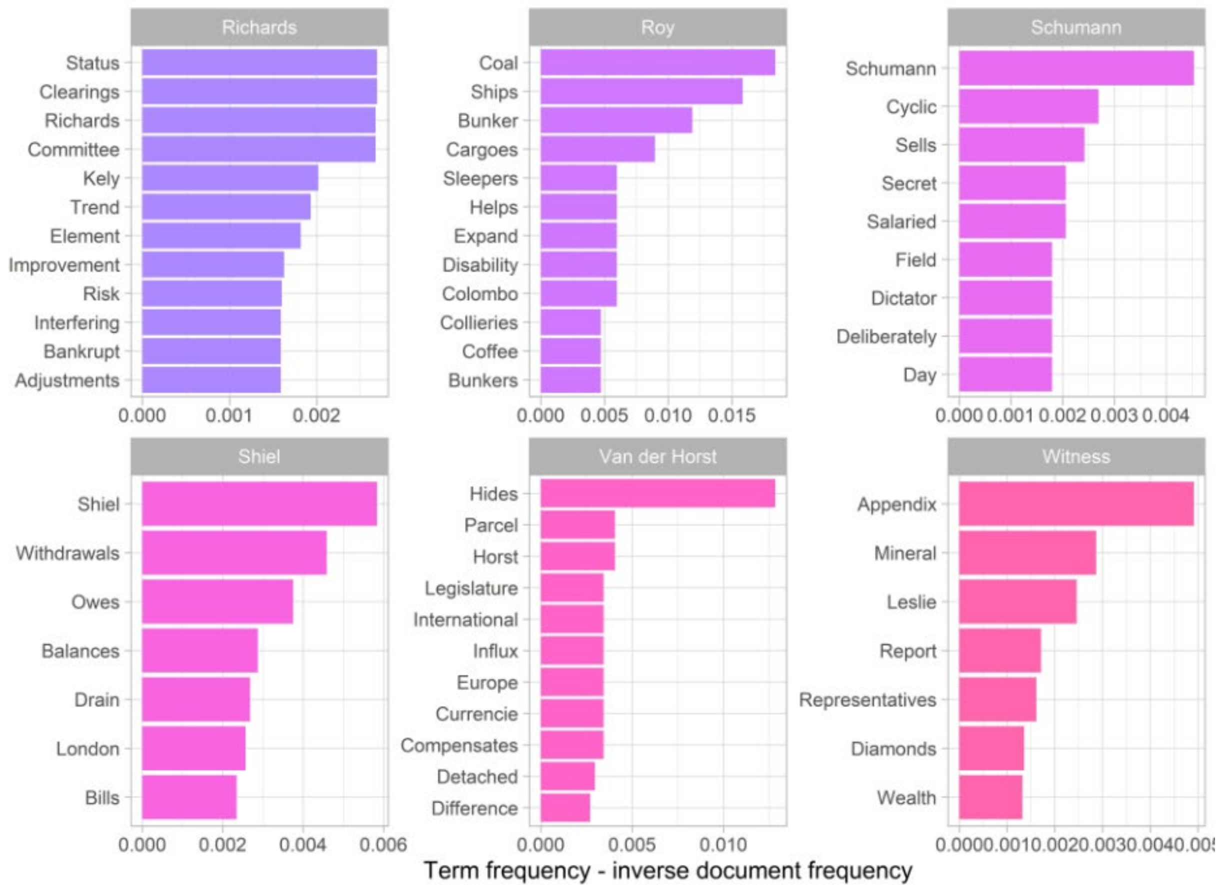

12 most freqently used words by witnesses in giving evidence
Postmus [chair]
country
bank
sterling
pounds
money
banks
reserve
countries
exchange
currency
price
position
capital
0
10
20
30
Richards
position
prices
country
currency
sterling
britain
parity
fall
extent
world
price
countries
0
10
20
30
40
Roy
coal
trade
price
position
minister
union
ships
world
profits
sterling
statement
port
exchange
bunker
0
5
10
15
20
Schumann
price
level
prices
country
rise
money
pound
position
sterling
world
currency
farmers
0
20
40
Shiel
bank
sterling
london
money
country
position
currency
banks
reserve
union
exchange
pound
deposits
0
20
40
60
80
Van der Horst
currency
country
price
position
union
hides
exchange
world
trade
subsidy
england
view
sold
prices
people
money
0
10
20
30
Number of word uses

B. Witness-Specific Word Frequencies




Most witness-specific words used by witnesses in giving evidence
Gundelfinger
Commitments
Bradbury
Bark
Ahead
Temperament
Shipments
Rhodesia
Lord
Indents
Finger
Inclined
Aspects
0.000 0.002 0.004 0.006 0.008
Holloway
Deposits
Holloway
Source
Merchandise
Green
Depositors
Explanation
Literature
Conceal
Theory
Economists
Demands
0.000 0.002 0.004 0.006 0.008
Judson
Strain
Relieve
Judson
Description
Values
Bank
Pool
Exercising
Attraction
Assets
Creation
Laite
Shoes
Laite
Manufactured
Storekeepers
Intensified
Unemployment
Aware
Understand
Liquid
0.000 0.001 0.002 0.003
Leslie
Martin
Milled
Stores
Mining
Witwatersrand
Annum
Ounces
Allowance
Output
Gemmill
Shareholders
Accorded
Martin, J
Grade
Anderson
Appreciably
Premium
Guarantee
Semi
Portuguese
Clothes
Term frequency - inverse document frequency


Most witness-specific words used by witnesses in giving evidence
Merks
diamond
overproduction
unemployment
workers
mond
retailers
chants
icised
critici
seve
unemploy
cutting
merks
unemployed
0.000
0.005
0.010
0.015
Molteno
fruit
deciduous
peach
olteng
submi
subsidy
molteno
apples
disacree
mpete
oans
olteno
plum
positior
teng
tyres
0.000
0.005
0.010
0.015
Moore
moore
andrews
unemployment
workers
wages
grade
unemployed
whites
worker
andrew
mills
modder
0.000
0.004
0.008
0.012
Mushet
mushet
martin
gith
marti
continent
inference
quality
accounted
dale
ecli
mortgagees
busin
insolvent
0.000
0.005
0.010
0.015
Norval
prof
norval
relations
traffic
dishonest
ourable
tension
medium
piano
necessa
uate
calculated
disparity
registered
0.000
0.001
0.002
0.003
Postmus [chair]
pounds
bank
merchandi
postmus
advances
reserve
restrictions
grieg
nortan
invisible
putti
importer
0.000
0.001
0.002
0.003
Term frequency - inverse document frequency


Most witness-specific words used by witnesses in giving evidence
Richards
Status
Clearings
Richards
Committee
Kely
Trend
Element
Improvement
Risk
Interfering
Bankrupt
Adjustments
0.000
0.001
0.002
Roy
Coal
Ships
Bunker
Cargoes
Sleepers
Helps
Expand
Disability
Colombo
Collieries
Coffee
Bunkers
0.000
0.005
0.010
0.015
Schumann
Schumann
Cyclic
Sells
Secret
Salaried
Field
Dictator
Deliberately
Day
0.000 0.001 0.002 0.003 0.004
Shiel
Shiel
Withdrawals
Owes
Balances
Drain
London
Bills
0.000
0.002
0.004
0.006
Van der Horst
Hides
Parcel
Horst
Legislature
International
Influx
Europe
Currencie
Compensates
Detached
Difference
0.000
0.005
0.010
Witness
Appendix
Mineral
Leslie
Report
Representatives
Diamonds
Wealth
Term frequency - inverse document frequency

References

Abreu, Marcelo and Afonso Bevilaqua (2000), "Brazil as an Export Economy 1880-1930," in Ernesto Cardenas, Jose-Antonio Ocampo and Rosemary Thorp eds, *An Economic History of Twentieth Century Latin America*, London: Palgrave, volume 1, pp.32-54.

Almuna, Miguel, Agustin Benetrix, Barry Eichengreen, Kevin O'Rourke and Gisela Rua (2010), "From Great Depression to Great Credit Crisis: Similarities, Differences and Lessons," *Economic Policy* 25, pp.219-265.

Bernanke, Ben (1983), "Nonmonetary Effects of the Financial Crisis in the Propagation of the Great Depression," *American Economic Review* 73, pp.257-276.

Calvo, Guillermo, Oya Celasun and Michael Komhof (2007), "Inflation Inertia and Credible Disinflation – the Open Economy Case," *Journal of International Economics* 73, pp.48-68.

Choi, Keen Meng and Ichiro Sugimoto (2013), "Trade, the Staple Theory of Growth, and Fluctuations in Colonial Singapore, 1900-39," Australian Economic History Review 53, pp.121-145.

Degorce, Victor and Eric Monnet (2020), "The Great Depression as a Saving Glut," CEPR Discussion Paper no.15287 (September).

De Kock, Michiel Hendrik (1954), *Central Banking*, London: Staples Press (third edition).

Edley, David (1994), "The Years of Red Dust: Aspects of the Effects of the Great Depression on Natal, 1929-33," unpublished Ph.D. dissertation, University of Natal.

Edwards, C.S. (1934), "Economic Revival in South Africa," *Economic Journal* 44, pp.616-630

Eggertsson, Gauti (2008), "Great Expectations and the End of the Depression," *American Economic Review* 98, pp.1476-1516.

Eichengreen, Barry (1988), "The Australian Recovery of the 1930s in International Comparative Perspective," in Robert Gregory and Noel Butlin eds, *Recovery from the Depresssion: Australia and the World Economy in the 1930s*, Cambridge and Melbourne: Cambridge University Press, pp.33-60.

Eichengreen, Barry (1990), "The Gold-Exchange Standard and the Great Depression," in *Elusive Stability: Essays in the History of International Finance, 1919-1939,* Cambridge: Cambridge University Press, pp.239-270.

Eichengreen, Barry and Douglas Irwin (2010), "The Slide to Protectionism in the Great Depression: Who Succumbed and Why?" *Journal of Economic History* 70, pp.871-897.

Eichengreen, Barry and Jeffrey Sachs (1985), "Exchange Rates and Economic Recovery in the 1930s," *Journal of Economic History* 49, pp.925-946.

Eichengreen, Barry and Jeffrey Sachs (1986), "Competitive Devaluation and the Great Depression: A Theoretical Reassessment," *Economics Letters* 22, pp.67-71.

Federal Reserve System, Board of Governors (1943), Banking and Monetary Statistics 1914-1941, Washington, D.C.: Board of Governors.

Fisher, Irving (1933), "The Debt Deflation Theory of Great Depressions," *Econometrica* 1, pp.337-357.

Feinstein, Charles (2005), *An Economic History of South Africa: Conquest, Discrimination and Development*, Cambridge: Cambridge University Press.

Fishlow, Albert (1972), "Origins and Consequences of Import Substitution in Brazil," in Luigi Di Marco ed., *International Economics and Development*, New York: Academic Press, pp.311-365.

Frankel, S. Herbert (1933), "The Situation in South Africa 1929-32," *Economic Journal* 43, pp.93-107.

Frankel, S. Herbert and H. Herzfeld (1944), "An Analysis of the Growth of the National Income of the Union in the Period of Prosperity before the War," *South African Journal of Economics* 12, pp.113-138.

Friedman, Milton and Anna Schwartz (1963), *A Monetary History of the United States*, 167-1960, Princeton: Princeton University Press.

Gray, Ellen (2014), "NASA Study finds 1934 had Worst Drought of Last Thousand Years," NASA Earth Science News (15 October), https://climate.nasa.gov/news/2175/nasa-study-finds-1934-had-worst-drought-of-last-thousand-years/.

Henshaw, Peter (1996), "Britain, South Africa and the Sterling Area: Gold Production, Capital Investment and Agricultural Markets, 1931-1961," *Historical Journal* 39, pp.197-223.

Hu, Mingqing and Bing Liu, "Mining and Summerizing Customer Reviews," Proceedings of the ACM SIGGKDD International Conference on Knowledge Discovery and Data Mining," Seattle (22-25 August), https://juliasilge.github.io/tidytext/reference/sentiments.html.

Jacogson, Margaret, Eric Leeper and Bruce Preston, "Recovery of 1933," NBER Working Paper no.25639 (March).

Keynes, John Maynard (1923), *A Tract on Monetary Reform*, London: Macmillan.

Keynes, John Maynard (1936), *The General Theory of Employment, Interest and Money*, London: Macmillan.

Kindleberger, Charles (1973), *The World in Depression, 1929-1939*, Berkeley: University of California Press.

Kotz, Samuel., N. Balakrishan and Norman Johnson (2000), *Continuous Multivariate Distributions, Volume 1: Models and Applications*, New York: Wiley.

Leslie, R. (1933), "South Africa and the Gold Standard," *Economic Journal* 43, pp.88-92.

Limebeer, A.J. (1935), "The Gold Mining Industry and the Gold Standard," *South African Journal of Economics* 3, pp.146-157.

Lucas, F.A.W. (1933), "The Determination of Wages in South Africa," *South African Journal of Economics* 1, pp.50-57.

McCloskey, Donald and Richard Zecher (1982), "How the Gold Standard Worked, 1880-1913," in Michael Bordo and Anna Schwartz eds., *A Retrospective on the Classical Gold Standard, 1821-1931*, Chicago: University of Chicago Press, pp.184-208.

Minnaar, Anthony (2011), "The Effects of the Great Depression (1929-1934) on South African White Agriculture," *South African Journal of Economic History* 5, pp.83-108.

Nurkse, Ragnar (1944), *International Currency Experience*, Geneva: League of Nations.

Office Permanent de L'institut International de Statistique (1938), *Recueil international de Statistiques economiques 1931-1936*, La Haye: Office Permanent de L'institut International de Statistique.

Richards, C.S. (1933), "The Boom in 'Kaffirs' -- An Analysis," *South African Journal of Economics* 1, pp.320--345.

Richards, C.S. (1934), "Economic Revival in South Africa," *Economic Journal* 44, pp.616-630.

Richardson, Gary and William Troost (2009), "Monetary Intervention Mitigated Banking Panics during the Great Depression: Quasi-Experimental Evidence from the Federal Reserve District Border in Mississippi, 1929 to 1933," *Journal of Political Economy* 117, pp.1031-1073.

Romer, Christina (1992), "What Ended the Great Depression?" *Journal of Economic History* 52, pp.757-784.

Sachs, Jeffrey (1980), "Wages, Flexible Exchange Rates, and Macroeconomic Policy," *Quarterly Journal of Economics* 94, pp.731-747.

Steyvers, Mark and Tom Griffiths (2007), "Probabilistic Topic Models," in Thomas Landauer, Danielle McNamara and Simon Dennis (eds), *Handbook of Latent Sematic Analysis*, New York: Routledge.

Sugimoto, Ichiro (2011), *Economic Growth of Singapore in the Twentieth Century: Historical GDP estimates and Empirical Investigations*, Singapore World Scientific.

Swanson, Eric (2004), "Measuring the Cyclicality of Real Wages: How Important is the Firm's Point of View?" *Review of Economics and Statistics* 86, pp.362-377.

Temin, Peter (1976), *Did Monetary Forces Cause the Great Depression?* New York: Norton.

Temin, Peter and Barrie Wigmore (1990), "The End of One Big Deflation," *Explorations in Economic History* 27, pp.483-502.

Thorp, Rosemary (1992), "A Reappraisal of the Origins of Import-Substituting Industrialisation 1930-1950," *Journal of Latin American Studies* 24, pp.181-195.