Silver Risk, Silver Exports, and Sovereign Debt in the Nineteenth Century: A Brief Reappraisal

1. Introduction

Arguably the most daunting problem for late nineteenth century financiers, investors and economic observers was the chronic fall of silver after the 1870s and its erratic volatility after 1886, but especially in the 1890s (see Fig. 1).

Figure 1. The silver price of gold, January 1845-December 1895. Source: Laughlin, J. Laurence. 1896. *The History of Bimetallism in the United States*. 3d ed. New York: D. Appleton and company.

For obvious reasons, the 'silver question' has also been picked up in economic historical literature. Traditionally, it has been discussed as a natural outcome of the flaws of bimetallism.[1] In this view, bimetallism had to give as soon as its limitations were tested. This happened first, the argument goes, as soon as the 1860s, when the world's silver supply drastically expanded following the discovery of Nevada's Comstock Lode.[2] Roughly a decade later, when Germany decided to demonetize silver, bimetallist dreams were shattered for good. With bimetallist fallacies exposed, countries would massively choose to part with silver: it translated into the 'emergence' of the gold standard, not as a concerted international reform effort, but as the spontaneous systemic birth spurred by endogeneity (the fact that, once a critical mass of countries had shifted to one standard, it made sense to do so as well).[3]

This traditional view has recently been strongly challenged by a revisionist reading of events. Friedman,[4] Oppers,[5] but especially Flandreau,[6] argue that bimetallism was, if anything, largely *credible* to contemporaries, a conclusion they reach on, among

---

[1] Kindleberger, Charles Poor. 1984. *A Financial History of Western Europe*. London ; Boston: Allen & Unwin; Redish, Angela. 1995. "The Persistence of Bimetallism in Nineteenth-Century France." *The Economic History Review* 48 (4): 717–36. doi:10.1111/j.1468-0289.1995.tb01441.x. A very recent work on the 'inevitable' demise of bimetallism is: Meissner, C. M. (2013, February). The limits of bimetallism. Cleveland Federal Reserve bank Conference Paper. Late nineteenth century arguments discussing the (dis)advantages of bimetallism are too numerous to include.

[2] Smith, Grant H. 1998. *The History Of The Comstock Lode*. 1ST edition. Reno: University of Nevada Press.

[3] Gallarotti, Giulio M. 1995. *The Anatomy of an International Monetary Regime: The Classical Gold Standard, 1880-1914*. New York: Oxford University Press; Giulio M. Gallarotti. "The Rise of the Classical Gold Standard: The Role of Focal Points and Synergistic Effects in Spontaneous Order" *Humane Studies Review* 13.1 (2001): 1-23.

[4] Friedman, Milton. 1990. "Bimetallism Revisited." *The Journal of Economic Perspectives* 4 (4): 85–104. http://www.jstor.org/stable/1942723; Friedman, Milton. 1990. "The Crime of 1873." *Journal of Political Economy* 98 (6): 1159–94. http://www.jstor.org/stable/2937754.

[5] Oppers, Stefan Erik. 1996. "Was the Worldwide Shift to Gold Inevitable? An Analysis of the End of Bimetallism."*Journal of Monetary Economics* 37 (1): 143–62. doi:10.1016/0304-3932(95)01238-9.

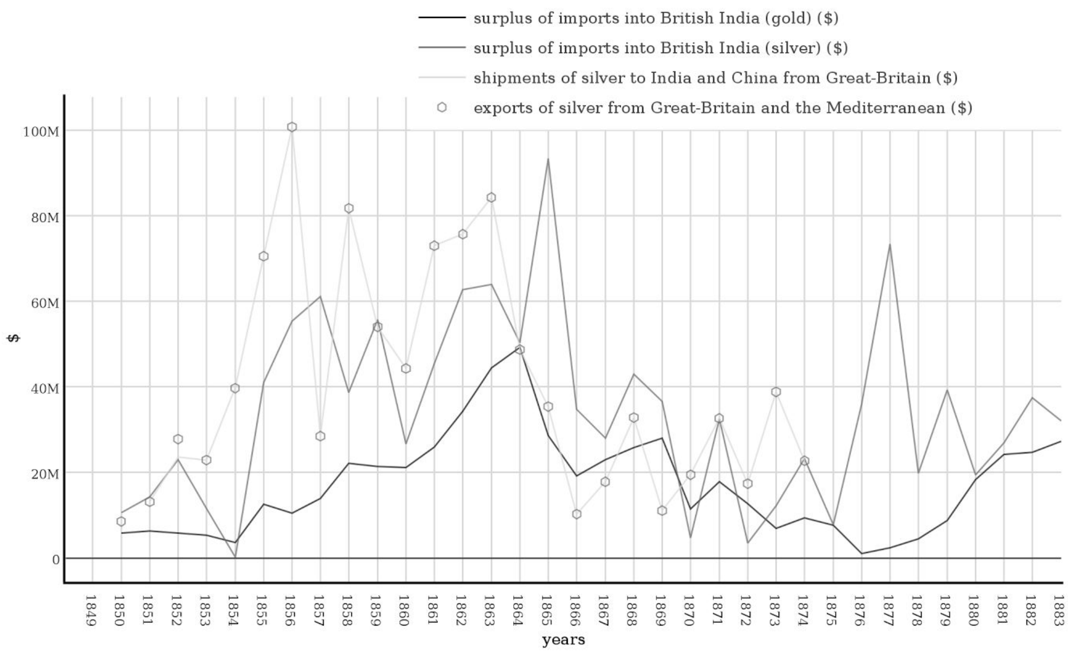
[6] Flandreau, Marc. 1996. "The French Crime of 1873: An Essay on the Emergence of the International Gold Standard, 1870–1880." *The Journal of Economic History* 56 (04): 862–97. doi:10.1017/S0022050700017502.; Flandreau, Marc. 2000. *L'or du monde : La France et la stabilité du système monétaire international, 1848-1873*. Paris: Editions L'Harmattan; Flandreau, Marc. 2004. *The Glitter of Gold: France, Bimetallism, and the Emergence of the International Gold Standard, 1848-1873*. Oxford ; New York: Oxford University Press.

others, the basis of the remarkable resilience and stability of the gold-silver exchange rates before the 1870s. This revisionist strand therefore stresses the role of an inherent mechanism of arbitrage, which was recognized by contemporaries and had the effect to dampen exchange rate variability in a multipolar monetary world.[7] Put in the most simple terms, it was a textbook version of Gresham's Law. Concretely, a simple comparison of the market price of gold and silver with their legal ratio incentivized especially France to counteract volatility, because it could freely choose to import the cheaper metal: it thus stabilized the latter's price, while releasing stocks of the relatively more expensive one. In the 1860s, it was this mechanism that enabled France to absorb cheaper gold and release large quantities of silver, that were then exported to what observers at the time referred to as 'the East'.[8]

Fig. 2: Flows of silver to the East. source: Laughlin, J. Laurence. 1896. *The History of Bimetallism in the United States*. 3d ed. New York: D. Appleton and company. Pp. 252-253.

[7] "[Before 1873], a very great part of the world adhered to the bimetallic system, which made both gold and silver legal tenders, and which established a fixed relationship between them. In consequence, whenever the value of the two metals altered, these countries acted as equalising machines. They took the metal which fell; they sold the metal which rose; and thus the relative value of the two was kept at its old point." The American Commission On The Currency. *The Economist* (London, England), Saturday, September 2, 1876; pg. 1025; Issue 1723.

[8] For an early appreciation of this arbitrage mechanism and the consequent flows of silver from Europe to Asia, see: Laughlin, J. Laurence. 1896. *The History of Bimetallism in the United States*. 3d ed. New York: D. Appleton and company. Esp. pp. 118ff. For evidence in the financial press at the time: 'The Double Standard Of Value In France, And Its Effect Upon The Drain Of Bullion'. *The Economist* (London, England), Saturday, November 10, 1855; pg. 1229; Issue 637.



Assuming that bimetallism was credible rather than incredible to contemporaries has an important implication for events after 1870. Again in contrast to the traditional view, the demise of bimetallism cannot have been a sudden event: its credibility would, for obvious reasons, have incentivized several people at to take long positions on silver at different points of time (later we will see that it indeed did). Flandreau and Oosterlinck therefore forcefully stress that its process was gradual and protracted,[9] an interpretation that will be demonstrated to carry important relevance for the following discussion.

From the very outset, this book aligns closely with the aforementioned revisionist view, in particular where it concerns the expectation dimension. We will seek to relate historical events taking place in East-Asia after the 1870s in a meaningful way, and show that these corroborate the notion that bimetallism remained credible until roughly 1890. In its most basic form, I feel one may summarize the problem as a decennia-long exercise in cost-benefit analysis, as said after three quarters of a century of conspicuous

[9] Flandreau, Marc, and Kim Oosterlinck. 2012. “Was the Emergence of the International Gold Standard Expected? Evidence from Indian Government Securities.” *Journal of Monetary Economics* 59 (7): 649–69. doi:10.1016/j.jmoneco.2012.09.001.

exchange rate stability. Admittedly, volatility had always been the name of the financial game, but in the late nineteenth century, its stakes were invariably higher. We will show that contemporaries were aware of this, and acted accordingly. The questions they faced and the choices they made were far from trivial. Given long-term uncertainty about the gold value of the white metal, what were the risks and opportunities of holding assets and/or liabilities in one metal rather than the other? What was the appropriate ratio of diversification between silver and gold assets and liabilities? How could the risks inherent in a certain portfolio choice be hedged? And so on.

In the following paragraphs, we review the experience of both core countries and peripheral countries with the fall of the silver price. Core countries, we find, felt incentivized to organize exports of silver to the East, with differing records of success. For peripheral countries, the problem was more complicated, because of their financial dependence on the gold countries in the world's center. Mostly on silver and mostly not in the capability of swiftly effectuating an orderly monetary reform, they had to weigh the benefits and costs of floating their debt in silver rather than gold, by monitoring how contemporaries viewed the future ratio of both metals.

2. The long bimetallist swan song: an East-West connect

Germany was arguably the first country to grapple with the aforementioned questions. When, in the aftermath of the Franco-Prussian war of 1870-71, it decided to use the French indemnity to go onto the gold standard, it had unwillingly set into motion a series of events that actually created the 'silver problem'. As it experienced soon enough, the decision to move on the gold standard did not only entail a financial problem (accumulate sufficient gold resources before the reform). There also was a considerable, if not enormous, liquidation problem: where did German Thalers, its silver reserves have to go? A major reform effort increased the aggregate demand for gold at the expense of the aggregate demand for silver. In other words, the very decision to demonetize silver would feed back onto the silver price, making it more costly to exchange silver (Thalers) for gold on the world markets, and possibly difficult to implement the reform effort in the first place.

Soon, Germany's decision —or, more accurately, the French choice to suspend silver coinage—[10] would reverberate throughout the whole world, as a wave that grew stronger as it moved from the (Western) core to the world periphery. Realizing the potentially nefarious effects of silver depreciation on the balance of trade between gold and silver standard countries (the latter mostly belonging to the world's periphery),[11] policy makers first tried to reverse the tide, and, realizing that bimetallism had quite well served exchange rate stability in earlier decades, attempted to buffer it.

From its very outset, this took the form of finding new outlets for freshly released silver stocks. Adolf Soetbeers' proposal to create a German trade dollar for use in the Orient was explicitly aimed at creating 'a means of facilitating the disposal of its surplus silver',[12] [13]or, in other words, at gaining a certain degree of control over the silver price.

---

[10] Flandreau, Marc. 1996. "The French Crime of 1873: An Essay on the Emergence of the International Gold Standard, 1870–1880." *The Journal of Economic History* 56 (04): 862–97. doi:10.1017/S0022050700017502.

[11] For an example hereof as early as 1876, see Robert Chapman, then financial secretary to the Government of India:

> "India owes, and has to pay, in London, in gold, yearly, the sum of 15 millions sterling. Most of this great yearly charge is permanently fixed. The interest on the sterling debt and on the capital of the Guaranteed Railway and Irrigation Companies (together about 7 million sterling), the pensions and annuities to our officers and their families; as much of the military expenditure as consists of pay and allowances; the pay of the Home establishments; and a large number of other payments, are fixed and cannot be reduced."

Cited in: Bagchi, Amiya Kumar. 1997. "Contested Hegemonies and Laissez Faire: Controversies over the Monetary Standard in India at the High Noon of the British Empire." *Review (Fernand Braudel Center)* 20 (1): 19–76. doi:http://www.jstor.org/stable/40241389. P. 26

[12] *Bulletin de statistique et de législation comparée*, April, 1877, pp. 235-238; see as well: Andrew, 'The End of the Mexican Dollar', p. 329, fn. 1. A thorough discussion of attempts to dethrone the Mexican dollar is: 小野一一郎. 2001. 近代日本幣制と東アジア銀貨圏–円とメキシコドル. ミネルヴァ書; 小野一一郎. 1963. 「東亜におけるメキシコドル終焉の論理」. 経済論叢 90 (3): 167-184 http://ci.nii.ac.jp/naid/120002690951; 小野一一郎. 1962. 「東亜におけるメキシコドル終焉の過程」. 経済論叢 89 (4): 347-367 http://ci.nii.ac.jp/naid/12000; 小野一一郎.

Although Soetbeers' plan was never realized, it is clear that contemporaries were aware of its potential. The creations (and, typically, abortions) of the British Hongkong dollar (1866-68), the French *piastre de commerce* (1885-95), the Japanese *bōeki gin* (1873-1878) and American trade dollar (1873-85)[14] and so on all echo the German plan.[15] Although these moves were uncoordinated and certainly inspired by self-interest, they nevertheless convey an understanding that a global gold standard was not only undesirable, but also factually unfeasible.[16]

1959. 「東亜におけるメキシコドルをめぐる角逐とその本質」. 経済論叢 83 (1): 18–44. http://ci.nii.ac.jp/naid/120002690744.

For a discussion of the contours of the German debate, and steps taken towards its implementation, see; Akagawa Motoaki 赤川元章. 2006. 「19世紀末のドイツ銀行業と東アジア.」 三田商学研究 49 (5): 51–65. http://ci.nii.ac.jp/naid/120000800404.

[13] "German Silver And The Eastern Absorption." *Economist* [London, England] 2 Dec. 1876: 1399. Leavens estimates the total sale of demonetized silver by Germany amounted to 114.2 ounces between 1873 and 1879; the sale of 91.7 ounces hereof, or approximately 80%, was realized in the three year time window 1876-1879. Afterwards, silver sales petered out and remaining silver was mostly reserved for minting subsidiary coins. Leavens, Dickson Hammond. 1939. *Silver Money*. Cowles Commission for Research in Economics. Monograph, no. 4. Bloomington, Ind: Principia Press, inc. Appendix 1, table B. P. 354.

[14] "It was not intended to issue a silver dollar which should circulate in the United States, but merely to lend the authority of the Government stamp to silver bullion in order to aid in finding a market for silver in the East, and at the same time to relieve merchants from paying the high premium exacted for the Mexican dollars, sometimes amounting to from 11 to 22 per cent." Laughlin, J. Laurence. 1896. *The History of Bimetallism in the United States*. 3d ed. New York: D. Appleton and company, p. 103.

[15] A Piatt Andrew, 'The End of the Mexican Dollar', *The Quarterly Journal of Economics* 18:3 (1904), pp. 321-356. Interestingly, the idea of Eastern absorption of surplus silver would continue to draw commentary in the international press: "German Silver And The Eastern Absorption." *Economist*, December 2, 1876, p. 1399. Later observers kept on stressing the importance of Indian silver demand for upholding the price of the metal: "The Coinage Of Silver In India." *Economist*, 28 May 1881, p. 662; "The Statistical Position Of Silver." *Economist* 14 Aug. 1886, 1016; A. Sauerbeck. "Dr Soetbeer's Memorandum and the Silver Question." *Economist* 20 Aug. 1892, pp. 1072-1073.

[16] In a similar vein should one see debates about the implementation of fiduciary reserves for national gold currencies around the 1890s. See, for instance, the following appraisal of the Goschen plan: "Mr. Goschen's main purpose is connected not so much with currency as with banking. He starts from the position, practically conceded to him by all his critics, that our metallic banking reserve is inadequate. Admitting, and indeed insisting, that much may be done by the bankers themselves to remedy this weakness, Mr. Goschen proposes that the State should make a contribution towards the desired end by the formation of a second or relief reserve, to be accessible, under special conditions, in times of special strain." Foxwell, H. S. 1892. "Mr.

A political cartoon published in the April 25, 1874 issue of *Harper's Weekly* (p.353). Entitled "Rags for Our Working Men—Specie for the Foreigners", the caption for this cartoon reads as follows:

> Columbia: “Dear me, I do think it very wrong that the good nice trade dollar (worth 100 cents) should be sent out of the country for the benefit of the 'heathen Chinee,' for if these gentlemen are permitted to have their own way, it will take a basket full of greenbacks to buy dinner for my children.”

As is clear from the above cartoon, not all American commoners were convinced that finding an outlet for silver in the East, but remaining on an inconvertible paper currency for the U.S. proper was a good idea.

Goschen’s Currency Proposals.” *The Economic Journal* 2 (5): 139–56. doi:10.2307/2955956. P139. The article explicitly relates Goshen’s proposals to the tenets of bimetallism.

Trade dollars in East Asia, 1865-1890

Img 1.: the British Trade dollar. Weight: 416. Fineness: 900. Pure silver: $347\frac{2}{5}$ 	Img 2: the Japanese *bōeki gin*. Weight: 420. Fineness: 900. Pure silver: 378 
Img. 3: the American trade dollar: Weight: 420. Fineness: 900. Pure silver: 378. 	Img 4: the French *piastre de commerce*. Weight: 420. Fineness: 900. Pure silver: 378. 
Img 5: the original Mexican dollar. Weight: $417_{15/17}$. Fineness: $902_{7/9}$. Pure silver: 377 ¼. This specimen has so-called chopmarks or *gokuin* 極印, basically certificates added by Chinese merchants or money-changers testifying the coin's purity. 	Img. 6: the Chinese Dragon dollar 

Aggressive European currency tactics in East-Asia were echoed on the more gentrified diplomatic battlefield. One is surprised by the long series of monetary conferences (international action, in the parlance of the day),[17] convened to tackle the 'monetary question'. A first conference, convened in 1867, ironically at the behest of gold appreciation (cf. supra), had recommended gold becoming the world's monetary standard. This was in effect a straightforward course of events: with gold pouring all over the world, it made sense to vote the 25 franc gold coin as a global standard. Yet when silver started its decline around 1873, the position of their participants became much more variegated, and more difficult to interpret.[18] Indeed, their stances sometimes appear incoherent over time, which in itself is best taken as symptomatic for the actual absence of willingness to cooperate, a danger of which Samuel Montagu, a champion of bimetallist ideas, was acutely aware.[19]

Although a thorough discussion of all viewpoints fall outside the scope of this book, it is nevertheless important to note that none of the financial elite expressed itself in favor of silver's demonetization. Indeed, French authorities in the 1870s typically only rationed silver coinage, thereby signalling that bimetallism was not doomed.[20] Large

---

[17] Willis, Henry Parker. 1968 [1901]. *A History of the Latin Monetary Union; a Study of International Monetary Action*. New York: Greenwood Press.

[18] For first- and second-hand accounts of some of these conferences, see: Coste, Adolphe. 1889. "The International Monetary Congress of 1889."*Journal of the Royal Statistical Society* 52 (4): 577–95.http://www.jstor.org/stable/2979103; Andrews, E. Benj. 1893. "The Monetary Conference of 1892." *Political Science Quarterly* 8 (2): 197–219. doi:10.2307/2139642; Reti, Steven. 1998. *Silver and Gold: The Political Economy of International Monetary Conferences, 1867-1892*. Westport, Conn: Praeger.

[19] A very good appraisal of the historical importance of these conferences in Japanese can be found in: 熊谷次郎. 1992. "19世紀末国際通貨会議と複本位制論 : ルイス・マレットの議論を中心として." 桃山学院大学経済経営論集 34 (2): 61–90. http://ci.nii.ac.jp/naid/110006965493; 野口建彦. 2005. "19世紀の国際通貨会議の歴史的意義 (現代経済のダイナミズムと諸問題)." 経科研レポ-ト, no. 29 (November): 37–43. http://ci.nii.ac.jp/naid/40007297235; 野口建彦. 2006. "19世紀国際通貨会議の歴史的意義 (総合研究 現代経済のダイナミズムと諸問題)." 日本大学経済学部経済科学研究所紀要, no. 36 (March): 59–111. http://ci.nii.ac.jp/naid/40015150738.

[20] See, in this respect, the scathing criticism of Andrew directed at Willis' aforementioned interpretation: Andrew, A. Piatt. 1901. "Review of A History of the Latin Monetary Union. by Henry Parker Willis." *Political Science Quarterly* 16 (3): 530–34. doi:10.2307/2140273. For a

market participants, closely monitoring developments with respect to Latin Monetary Union members imposing quota on the acceptance of foreign silver coin, found it more difficult to hedge their bets. Both in tune with their business interests (for example as arbitrageurs of the international monetary order) and/or as a matter of practical concern, everybody preferred the status quo. While rejecting bimetallism as an international orthodoxy, they recommended that bimetal countries remained bimetal.[21] Put yet differently, they supported the continuous monetization of silver if it was based upon the unilateral action of certain governments, but rejected the stabilization of the silver prize through multilateral agreement.[22]

compelling story in Japanese, see: 齋藤利三郎. 1940. 國際貨幣制度の研究 ・ラテン貨幣同盟を中心として. [Tokyo: Nihon Hyōronsha.]

[21] For a discussion of the Rothschilds' position in particular, see: Gutwein, Daniel. 1992. *The Divided Elite: Economics, Politics, and Anglo-Jewry, 1882-1917*. BRILL.

[22] For a discussion of the implications of this liberalist mindset, see: Bagchi, Amiya Kumar. 1997. "Contested Hegemonies and Laissez Faire: Controversies over the Monetary Standard in India at the High Noon of the British Empire." *Review (Fernand Braudel Center)* 20 (1): 19–76. http://www.jstor.org/stable/40241389.

HOW THEY EXPECT TO GET ON A SOUND FOOTING

Cartoon by Thomas Nast, 'International Monetary Conference in Paris - Silver Currency an Unsound Footing', *Harper's Weekly* (1881?). Courtesy of cartoonstock.com.

As we now know, and as is clearly hinted to in the above political cartoon, 'international action' was eventually to no avail: 'uncharacteristic'[23] moves by several countries, such as the U.S. decision to resume convertibility on a gold basis (1873) piled up and cemented each other,[24] thus becoming permanent measures. Yet, whereas the

[23] Flandreau, Marc, and Kim Oosterlinck. 2012. "Was the Emergence of the International Gold Standard Expected? Evidence from Indian Government Securities." *Journal of Monetary Economics* 59 (7): 649–69. doi:10.1016/j.jmoneco.2012.09.001. P. 653.
[24] The attentive reader will note that a lot of the discussion employs the terminology of criminal law. In this particular case, Friedman refers to the American decision as the 'crime of 1873'.

chances for resuscitating silver monetization grew dimmer as consecutive conferences failed, there was at the same time no understanding that gold monometallism was the right thing all the way. As one finds in Reti's diplomatic history, the growth towards gold was a haphazard and cumulative process resulting out of the mercurial nature of a coordination game situation.[25] Importantly for our discussion, both monetary experiment and political tactics did not cause bimetallism to go with a bang. In the following paragraphs we therefore discuss the bimetallist slow-motion breakdown in a region where silver had been the medium of exchange for centuries: East-Asia.

3. Gold, silver and the periphery

Far away from the opportunities of investors and financiers in the world's financial centers, policy makers in the periphery found themselves in a possibly more precarious position. Given their dependency on capital flows from the center, choosing the unit of

---

Friedman, Milton. 1990. "The Crime of 1873." *Journal of Political Economy* 98 (6): 1159–94. http://www.jstor.org/stable/2937754.

[25] Reti, Steven. 1998. *Silver and Gold: The Political Economy of International Monetary Conferences, 1867-1892*. Westport, Conn: Praeger; Thiemeyer, Guido. 2007. *Internationalismus und Diplomatie: Währungspolitische Kooperation im europäischen Staatensystem 1865-1900*. München: Oldenbourg Wissenschaftsverlag. An often forgotten factor, including in Reti's study, is the role of the badmouthing of silver, which certainly played a role in the conference's outcomes. Compare, for an early appraisal of the latter:

> "Mais on ne peut pas en dire autant de bien des discussions qui se sont engagées dernièrement dans une partie de la presse anglaise qui ne veut pas admettre la raison d'être du métal blanc en général et de son rôle important dans nos systèmes monétaires. [...] En ce qui concerne les valeurs libellées en argent, leur politique est toute tracée. Ils négligent dans leurs Bulletins de Bourse les mouvements en avant et appuient sur les réactions qui se produisent de temps en temps."

Haupt, Ottomar. 1890. "La Hausse de L'argent et L'emprunt Indien 4 1/2 % En Roupies (Rupee-Paper)." http://www.jstor.org/stable/60221845. P. 23.

Economic historical research on the economics of defamation is, unfortunately, scarce. For a hint in the context of pre-1914 France, see: Bignon, Vincent, and Marc Flandreau. 2011. "The Economics of Badmouthing: Libel Law and the Underworld of the Financial Press in France Before World War I." *The Journal of Economic History* 71 (03): 616–53. doi:10.1017/S0022050711001860.

account for their exports (on the asset side) and their long-term obligations vis-à-vis international creditors (on the liabilities side) was no trifle matter. Having the hindsight of the 'scramble for gold' after 1890,[26] a great deal of historians have taken the shift towards gold as a natural, obvious matter of course, the reasons of which they feel to be imperfections inherent to bimetallism. Yet, this hindsight was crucially lacking to the nineteenth century observer. As a matter of fact, the very lack of it, and the deeply-rooted uncertainty regarding future monetary regimes fed back, not only on the convoluted decision-making of that observer's circumscribed present, but also on movements in exchange rates.

Scholarly discussions of late nineteenth century perspectives on the assessment of the silver risk, both in the short and long term, are conspicuously scarce. Irving Fisher may in effect be credited with discovering the potential of the 'asset-pricing approach', interestingly in the context of nineteenth century gold and silver denominated government securities, but he did not expand his theory in an exploration of the credibility of bimetallism.[27] Calomiris was the first to present a survey of the effect of silver risk in the resumption of convertibility of the U.S. dollar.[28] Oppers and Flandreau have studied the relation between exchange risk and silver (and bimetallic) currencies' short-term interest rates.[29] Garber's comparative work on the value of bimetallic versus monometallic (gold) contracts is the first to highlight the long-term aspect, but by comparing contracts from very different issuing entities, it is forced to conflate silver risk with other risk measures (namely default risk and liquidity risk). As far as I am

[26] Note that we, in contrast to Gallarotti's original use of the term, pin 1890 and not 1870 as the date after which a scramble occurs. Gallarotti, Giulio M. 1995. *The Anatomy of an International Monetary Regime: The Classical Gold Standard, 1880-1914*. New York: Oxford University Press.
[27] Fisher, Irving. 1907. *The Rate of Interest: Its Nature, Determination and Relation to Economic Phenomena*. New York: The Macmillan company.
[28] Calomiris, Charles W. 1993. "Greenback Resumption and Silver Risk: The Economics and Politics of Monetary Regime Change in the United States, 1862?1900." In *Monetary Regimes in Transition*. Studies in Macroeconomic History. Cambridge University Press. http://dx.doi.org/10.1017/CBO9780511664564.004.
[29] Oppers, Stefan Erik. 2000. "A Model of the Bimetallic System." *Journal of Monetary Economics* 46 (2): 517–33. doi:10.1016/S0304-3932(00)00032-5.

aware, Flandreau/Oosterlinck is the only paper to use the asset-pricing approach for understanding movements in exchange rates and price levels of *securities that, apart from the silver (exchange rate) risk, are otherwise perfect substitutes*.[30] In this case, nineteenth rupee- and sterling denominated Indian government securities are the testing ground, for their obvious potential regarding comparative analysis.

As repeatedly hinted to above, contemporaries' expectations with respect to long-term currency shifts are the crux of the analysis. Flandreau/Oosterlinck present a very thorough analysis of the effect of such expectations on exchange rates can reasonably be measured, without conflating it with other measures of risk; this does not need any repetition here. Nor is this book concerned with judging whether nineteenth century observers made the 'right' portfolio choices.[31] As our approach is arguably ethno-historiographical, we are interested in whether we can find further descriptive evidence of contemporaries' understanding with respect to future exchange rates at the time. Put in the discourse of economics, was there something as an *ex ante* market-based measure of appreciation/depreciation (after the century-old discovery of the 'uncovered interest parity')[32] with the silver price of gold as a 'coordinating price', a 'pure' measure? Concretely, did market participants monitor the gold-silver interest rate differential when forming expectations of future exchange rates, and did they price assets accordingly? Did, for instance, policy makers assess silver risk when determining the denomination of loans to be issued?

[30] Some may object here that Indian securities were also plagued by liquidity risk, but Flandreau/Oosterlinck object: "Rupee bonds were issued in India and thus came from a market whose depth was arguably less than that prevailing at the financial center of the universe (London). However, cross-listing of rupee securities in London and active purchases there and finally substantial holding and trading in Britain must have relieved much of the possible illiquidity." (p. 655)

[31] For an example of such counterfactual approach in the context of Austria in the classical gold standard period, see: Burdekin, Richard C.k., Kris James Mitchener, and Marc D. Weidenmier. 2012. "Irving Fisher and Price-Level Targeting in Austria: Was Silver the Answer?" *Journal of Money, Credit and Banking* 44 (4): 733–50. doi:10.1111/j.1538-4616.2012.00508.x.

[32] I thank Marc Flandreau and Kim Oosterlinck for drawing my attention to this awareness in the writings of Irving Fischer.

4. 'Where Ought India to Borrow?'[33]

It turned out that they did. Factually, this is not a surprise. Countries from the periphery and semi-periphery had grown accustomed to a premium being added to their debt-issues, and this because of liquidity problems of their currencies. Their experience with this 'original sin' had also taught them that there were possibilities of working around this. Even if a country's domestic market was squeezed, it sufficed to add exchange clauses to the contracts, and in other words float loans on the vast London capital market with a fixed rate to, typically, the pound sterling.[34] Countries with sufficiently mature or sophisticated domestic markets could opt to raise their funding partially domestically and circulate chunks of it in secondary markets (again with an exchange clause, in order to enable the cashing of coupons at low cost in these markets). Importantly, and because of the remarkable stability of the gold-silver ratio until the early 1870s, the yield differentials that resulted from both procedures turned out to be determined irrespective of the metal underlying the currency in which loans had been denominated —what mattered was liquidity, no more, no less.[35]

In the 1870s, however, things became more complicated. Especially after 1876, the year in which France ruled out silver coinage, silver-using peripheral countries became aware that the aforementioned liquidity premium on their bonds was now also compounded by an exchange premium ('silver risk').[36] Its implications appeared

[33] After the title of an Op-ed in *The Economist* at the time. See: 'Where Ought India To Borrow?'. *The Economist* (London, England), Saturday, March 1, 1884; pg. 260; Issue 2114.
[34] For such revisionist but highly relevant reading of conventional definitions of 'original sin', see; Flandreau, Marc, and Nathan Sussman. 2004. "Old Sins: Exchange Rate Clauses and European Foreign Lending in the 19th Century", March. http://papers.ssrn.com/abstract=511303.
[35] Flandreau/Sussman is very clear in this respect. Flandreau, Marc, and Nathan Sussman. 2004. "Old Sins: Exchange Rate Clauses and European Foreign Lending in the 19th Century", March. http://papers.ssrn.com/abstract=511303. Pp. 28ff.
[36] Flandreau, Marc, and Kim Oosterlinck. 2012. "Was the Emergence of the International Gold Standard Expected? Evidence from Indian Government Securities." *Journal of Monetary Economics* 59 (7): 649–69. doi:10.1016/j.jmoneco.2012.09.001. Pp. 662ff.

immediately on the radar of authorities over the world. They were certainly behind the establishment of the infamous 'American Commission on the Currency'.[37] In India, the discussion centered on the possibility of emulating the French example. In 1876, it was proposed to suspend silver coinage in India altogether, with the aim of maintaining the value of the rupee by limiting its numbers in circulation, arguably also with problems related to debt servicing in mind.[38]

What makes the Indian case particularly relevant, however, is that silver coinage was never suspended or even rationed; Indian maintained the free coinage of silver and the silver-convertibility of rupees until 1894.[39] The aforementioned 1876 proposal, emanating from the Bengal Chamber of Commerce, was never effectuated, among others because of the criticism it drew in the financial press. *The Economist* in particular was categorical in its rejection. In its view, a "rupee 'limited' -that is to say, a rupee of which the numbers could not by law be augmented- would do in India what the greenback has done in America. It would be an appreciated artificial currency, instead of a depreciated artificial one."[40]

Although rationing silver coinage may nowadays seem plausible from a monetarist perspective, the historical contingent context gives *The Economist* the benefit of the doubt. Against the background of the great Indian famine (1876-78), a 'debauchery of the currency', as Keynes once put it, might have easily led to another popular uprising against British rule, especially because an appreciated rupee would be detrimental to the Indian export business. It is in this context as well that one must discuss British unwillingness to establish a gold standard in the colony. Silver was too

---

[37] *The Economist* noted the relationship between American borrowing and the choice of metal for its currency from the very beginning: "to a great borrowing nation like America, it would always be an objection that she would pay in the worse coin of payment, whatever it might be [...] she would possibly have to borrow on terms somewhat less good. 'The American Commission On The Currency'. *The Economist* (London, England), Saturday, September 2, 1876; pg. 1026.

[38] 'The Proposal Of The Bengal Chamber Of Commerce To Suspend The Coinage Of Silver In India'. *The Economist* (London, England), Saturday, August 5, 1876; pg. 909-910; Issue 1719.

[39] Keynes, John Maynard. 1913. *Indian Currency and Finance*. London: Macmillan and Co.

[40] 'The Proposal Of The Bengal Chamber Of Commerce To Suspend The Coinage Of Silver In India'. *The Economist* (London, England), Saturday, August 5, 1876; pg. 909; Issue 1719.

much part of the fabric of Indian society. Multiple sources point out that hoarding was widespread; the colonial authorities, continually reminded of the 1857 Sepoy mutiny, were wise not to meddle in currency affairs.[41] As a natural consequence, the persistent depreciation of the rupee together with silver was observed but not addressed for almost three decades.

This had its clear implications for considerations of India's finances. Not in the least, the added silver risk eroded the conventional wisdom that the government of India should always turn to London for its loans. At the time of a highly stable gold-silver rate, this had been

> "the most natural and easy course, because the English money market was the cheapest and most abundant [...] But in the summer of [1876] there was an understanding that this should be done no longer. The fall in the price of silver and rate of exchange had become so serious that the policy of borrowing in London loans with gold interest seemed very dubious so long as the Indian revenue was received in silver [...] it was understood that what loans the Indian Government should require should for the present be raised in India only."[42]

At the time of writing however, the 1876 silver panic fall had temporarily been reversed. And although *The Economist* was in principal sympathetic to raising loans within India proper, it found it wise to adopt a cautious stand for the time being:

> "In the new state of affairs we believe that the Indian Government should abstain from any irrevocable decision [...] it might issue in London Indian Exchequer bills, or bonds at short dates, which in the present state of Lombard Street could be easily floated on good

---

[41] For a strikingly different view: Mitchener, Kris James, and Hans-Joachim Voth. 2011. "Trading Silver for Gold: Nineteenth-Century Asian Exports and the Political Economy of Currency Unions." In *Costs and Benefits of Economic Integration in Asia*, edited by Robert J. Barro and Jong-Wha Lee, 126–56. Oxford University Press. http://www.oxfordscholarship.com/view/10.1093/acprof:oso/9780199753987.001.0001/acprof-9780199753987-chapter-005.

[42] 'The Mode In Which The Expected Indian Loan Should Be Raised.' *The Economist* (London, England), Saturday, January 20, 1877; pg. 57; Issue 1743.

terms. *If the rate of exchange should keep at its present rate these might [...] be funded hereafter; or if that rate should fall again [...] a loan could be raised in India, and these bills or bonds paid off with the proceeds*".[43]

As we know now, the silver price turned out to be continuously depressed over the following decade. As a consequence, the debate over Indian finance was revisited more than once.[44] Strategies for overcoming the debt repayment mismatch increasingly took into account the desirability for India to borrow domestically, if not for political reasons,[45] then certainly for financial ones. Fair enough, *The Economist* admitted, domestic borrowing often squeezed the domestic credit market, and had the detrimental effect of driving up interest rates in a country that was traditionally plagued by liquidity problems. Yet the Indian government's apparent concern with the limited size of the domestic investor base and, I suspect, a corollary preoccupation with rollover risk related to domestic debt issuing resulted in a case of 'domestic original sin'.[46] Technically speaking, the Indian government could have opted to issue debt domestically with shorter maturities, as issuing short-term debt is typically less expensive than issuing long-term debt. However, refinancing is higher for short-term debt and frequent refinancing implies a larger risk of financing with higher interest

---

[43] 'The Mode In Which The Expected Indian Loan Should Be Raised.' *The Economist* (London, England), Saturday, January 20, 1877; pg. 58; Issue 1743 (italics mine).

[44] 'Indian Finance'. Edward Langley. *The Economist* (London, England), Saturday, July 24, 1880; pg. 858; Issue 1926; 'The Silver Question'. Edward Langley. *The Economist* (London, England), Saturday, August 28, 1880; pg. 1004; Issue 1931; 'The Silver Question'. Edward Langley. *The Economist* (London, England), Saturday, April 16, 1881; pg. 479; Issue 1964.

[45] Borrowing domestically would boost India's fiscal self-sufficiency, according to an old adagio of British policy versus the colonies. Compare, for instance: "The calculation of the Indian Government is, that it is cheaper to raise here a sterling loan at 3½ per cent than to pay 4 per cent for a silver loan in India. But there must necessarily be a good deal of speculation in all calculations of this kind; and there are considerations -such, for instance, as the great desirability of inducing the natives of India to acquire a direct pecuniary interest in the railways, and to become themselves the holders of Government stock- which cannot be resolved into a mere arithmetical problem." 'Indian Railways'. *The Economist* (London, England), Saturday, August 2, 1884; p. 932; Issue 2136.

[46] Mehl, Arnaud, and Julien P. M. Reynaud. 2005. "The Determinants of 'Domestic' Original Sin in Emerging Market Economies." SSRN Scholarly Paper ID 863946. Rochester, NY: Social Science Research Network.http://papers.ssrn.com/abstract=863946.

rates. The government thus faced a classic dilemma: on the one hand, there existed an inclination towards cheaper funding costs, which tilted the duration towards short-term maturities yet also induced refinancing risk, which itself tilted the duration towards (safer, but more expensive) longer-term maturities.[47]

In other words, avoiding the domestic debt dilemma (around 1884, the Indian government's long-term policy was to borrow in London) implied the adoption of a policy that was suboptimal at best. Borrowing in pound sterling was a bet, "speculation by the Indian Government upon the future price of silver", and this because of the allocation of the risk. In the case of sterling borrowing, the Indian office throws "on the Government, that is, on the people of India, the risk of loss through a fall in exchange. By borrowing in rupees they have, it is true, to pay for a higher rate, *but the risk of further loss falls on the holder of the loan*."[48] This mismatch problem and other matters, mostly related to the terms on which the Indian Government had raised the 1885 3% loan, led *The Economist* to question the former's farsightedness, and criticize the effort as 'wasteful borrowing'.[49] Taken on the whole, it argued, borrowing in India at a premium might have been a more prudent decision.[50]

---

[47] For a very good exploration of this dilemma, see: Broner, Fernando A., Guido Lorenzoni, and Sergio L. Schmukler. 2013. "Why Do Emerging Economies Borrow Short Term?" *Journal of the European Economic Association* 11 (January): 67–100. doi:10.1111/j.1542-4774.2012.01094.x.
[48] 'Where Should India Borrow?'. *The Economist* (London, England), Saturday, December 13, 1884; pg. 1508; Issue 2155. (italics by M. Schiltz).
[49] 'Wasteful Indian Borrowing'. *The Economist* (London, England), Saturday, June 26, 1886; pg. 796; Issue 2235.
[50] One may want to add here that It is important to be aware of the fact that related debates continued well into the 1890s. As this is the time around which one finds growing evidence of upcoming Indian currency reform, the theoretical debate on the merits of borrowing in silver gradually receded. Bimetallists then took on the outstanding silver rupee loan issues, and argued that, in view of U.S. legislation (the Sherman silver purchase act), their associated 'silver risk' price was greatly inflated. If anything, their plans came a day late and a dollar short: the predicted 'negative yield' for silver did never realize, a clear indication that the tide had definitively turned against the white metal. Haupt, Ottomar. 1890. "La Hausse de L'argent et L'emprunt Indien 4 1/2 % En Roupies (Rupee-Paper)." http://www.jstor.org/stable/60221845. For an exploration of this argument, see: Flandreau, Marc, and Kim Oosterlinck. 2012. "Was the Emergence of the International Gold Standard Expected? Evidence from Indian Government Securities." *Journal of Monetary Economics* 59 (7): 649–69. doi:10.1016/j.jmoneco.2012.09.001. Pp.656-657.

Chinese borrowing in the 1890s

Whatever may have been the wiser course of action, silver seemed radically on the out in the 1890s. Or did it not? Although India slowly drifted away from the silver standard, China's defeat in the Sino-Japanese War of 1894-95 appeared to provide yet another opportunity for a silver bet. As a matter of fact, the cost of the war and the enormity of the indemnity (200,000,000 taels, or a whopping £32,000,000) made the simultaneous raising of a gold and silver loan seem a necessity. Market conditions, in the meanwhile, were favorable. First of all, China could secure the loans upon the revenue of the Imperial Maritime Customs. It had done so on a regular basis since the late 1870s, and foreign investors had become used to see it as "as a good security",[51] not in the least because the Maritime Customs were firmly in foreigners' hands (for several decades they were headed by an Englishman, Inspector General Sir Robert Hart).[52] China had moreover a record for sound debt servicing; *The Economist* in particular was keen to point out at several times that "the instalments and interest on [former Chinese] loans have always been duly met,"[53] and that, for that reason, China "could have millions of fresh money for the asking."[54]

Ironically, geopolitical realities were also to the advantage of the Chinese. Knowing that the mythical China market proved tempting for the great powers of the time, China's leadership did what it had done and would do for a long time. It cleverly

---

[51] 'Chinese Bonds'. *The Economist* (London, England), Saturday, April 27, 1895; pg. 544; Issue 2696.

[52] For a digest of the history of this institution, see: Brunero, Donna. 2006. *Britain's Imperial Cornerstone in China: The Chinese Maritime Customs Service, 1854-1949*. 1 edition. Routledge; Chang, Chihyun. 2012. *Government, Imperialism and Nationalism in China: The Maritime Customs Service and Its Chinese Staff*. London ; New York: Routledge.

[53] 'Chinese Loans'. *The Economist* (London, England), Saturday, February 28, 1885; pg. 251; Issue 2166.

[54] 'Some Business Aspects Of The Corean Conflict'. *The Economist* (London, England), Saturday, July 28, 1894; pg. 917; Issue 2657.

attempted to play Russia, France, Germany and Great-Britain against each other.[55] To a certain degree, these tactics were successful. When on June 7 1895, Great-Britain's Foreign Office learnt of a Chinese Russian agreement for the floating of a £16,000,000 loan at 4% interest --earlier, much smaller loans had been issued at 6%--, it had difficulty hiding its anger. The country's financial press openly rebuked the Chinese choice of creditor.

It is however much more difficult to judge Chinese successfulness with respect to an earlier silver loan of £1,635,000, raised in November 1894. This issue,[56] underwritten by HSBC, commanded 7% interest, yet had been negotiated at a time when China's fiscal house was in better order: "When the silver loan [...] was issued [...] last year, it was stated in the prospectus that the only charge then existing was for the interest and redemption of outstanding loans, amounting to £1,000,000. When, however, in the following February application was made for a new gold loan, it was announced that the amount of the loans then secured upon the Customs [...], was less than £4,000,000, of which, however, about £700,000 would be repaid before June 1st."[57]

More importantly, and telling about the international outlook of silver, foreign go-betweens with the Chinese governments were, after this December 1894 issue, not willing anymore to raise loans on a silver basis, presumably because it was difficult to find investors interested in having exposure to the silver risk embodied in those securities. The Chinese, on the other hand, complained about the mismatch problem they would face if borrowing on a gold basis. In a telling quote from the North China Herald: "They dread loss on the repayment on a gold basis, having once already been

---

[55] 'Chinese Borrowing'. *The Economist* (London, England), Saturday, July 13, 1895; pg. 907; Issue 2707. For a commentary on British diplomatic behaviour in the negotiations, see: McLean, D. 1973. "The Foreign Office and the First Chinese Indemnity Loan, 1895." *The Historical Journal* 16 (2): 303–21. http://www.jstor.org/stable/2638314.

[56] This issue was redeemable in 10 equal annual drawings, beginning in 1904.

[57] 'Chinese Borrowing'. *The Economist* (London, England), Saturday, July 13, 1895; pg. 907; Issue 2707

bitten and they presume foreigners have the power to raise the value just before their payments fall due."[58]

The silver risk premium, developed out of recurrent political frustration with international coordination and badmouthing by the 'hard money' proponents in the world center had thus risen to a new level. By the late 1890s, it was high enough for silver denominated debts to be considered as pure speculation on an all too volatile price (and indeed, as can be concluded from Fig. 1 in this chapter, gyrations of the silver price were spectacular around 1895). In effect, this resulted in a new ideological wave in favor of monetary reform, if needed under the cloak of 'foreign assistance'. Japan's Matsukata realized this at an early stage, and saved Japan's honor by using the Chinese indemnity to move Japan onto gold, even though that involved a costly trade-off between long-term access to foreign credit and short- to mid-term financial instability.[59]

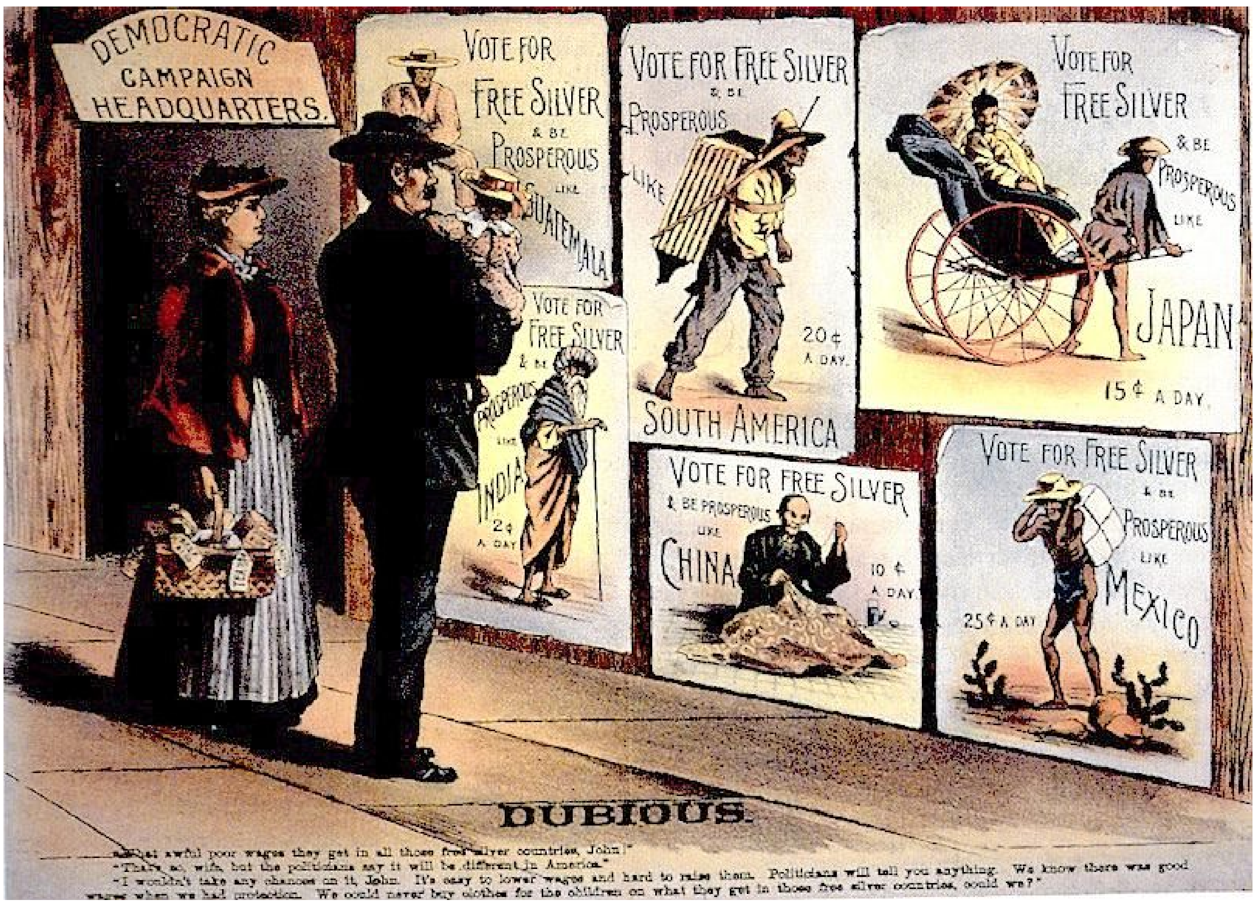
But it was the establishment of a currency board for British India knocked the bottom out of a monetary option that had, only a few decades earlier, been perfectly legitimate. In the United States, arguments against the deflationary tendencies of the late nineteenth century gold standard fell on deaf ears. Its adoption of gold monometallism at once laid the foundations of the dollar's rise to the world currency par excellence. As if it had decided to invert Bryan's famous cross of gold speech, the country embarked on a currency crusade in which gold was to play a key role.[60]

---

[58] *The North China Herald*, June 14, 1895, volume *71*, issue *1454*, p.915. Compare furthermore: *The North China Herald*, November 02, 1894, volume *70*, issue *1422*; and November 09, 1894, volume 70, issue *1423*.
[59] Schiltz, Michael. 2012. "Money on the Road to Empire: Japan's Adoption of Gold Monometallism, 1873–971." *The Economic History Review* 65 (3): 1147–68. doi:10.1111/j.1468-0289.2011.00619.x.
[60] Conant, Charles A. 1903. "Putting China on the Gold Standard." *The North American Review* 177 (564): 691–704.http://www.jstor.org/stable/25119477; Conant, Charles A. 1909. "The Gold Exchange Standard in the Light of Experience." *The Economic Journal* 19 (74): 190–200. doi:10.2307/2221426; Kemmerer, E. W. 1905. "The Establishment of the Gold Exchange Standard in the Philippines." *The Quarterly Journal of Economics* 19 (4): 585–609. doi:10.2307/1885290; United States. 1904. *Gold Standard in International Trade. Report on the Introduction of the Gold-Exchange Standard into China, the Philippine Islands, Panama, and Other Silver-Using Countries, and on the Stability of Exchange*. Washington: Govt. Print. Off.

Although dollar diplomacy was not always successful, notably in China, it cemented the interests and political sway of the 'hard money' proponents. That silver did see a sharp appreciation in its value between 1897 and 1905 (partly because of booming demand for Chinese industrialization)[61] did not matter anymore. The 'inflationary white metal' was, from then on, subject to prohibitively high premia.

Fig ??: Republican campaign poster from 1896 attacking free silver.



[61] Kemmerer, E. W. 1912. "The Recent Rise in the Price of Silver and Some of Its Monetary Consequences." *The Quarterly Journal of Economics* 26 (2): 215–74. doi:10.2307/1884764; compare, in the context of Chinese modernization and industrialization: 'Silver and Railway Progress in China'. Orient. *The Economist* (London, England), Saturday, August 21, 1897; pg. 1211; Issue 2817.