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The Effects Of The 1925 Portuguese Bank Note Crisis

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‘The country is sick.’

General Oscar Carmona, 1925.¹

1. Introduction

On 5 December 1925, the ‘Portuguese Bank Note Bubble’ burst. The Lisbon daily newspaper, *O Século* (The Century), revealed the swindle in the headline ‘*O País em Crise*’ (The Country in Crisis). The article describes how twenty-eight year old white-collar worker, Artur Virgílio Alves Reis, had deceived civil servants both abroad and in Portugal, convinced the English security printing company Waterlow and Sons that he was a representative of the Bank of Portugal, and created his own bank through which he concealed over £3m in counterfeit money.² Artur Reis was so successful in eluding the authorities that he came very close to buying the Bank of Portugal. A little over six months later, on 28 May 1926, President Bernardino Machado’s democratic government was removed in a *golpe* (military take over, sometimes referred to as the overthrow of the Republic, sometimes as its collapse or fall, and still other times as its dissolution), which ushered out the democratic *Primeira República* (First Republic) and ushered in an Authoritarian regime.³ The First Portuguese Republic did not, as its supporters had hoped it would, result in the dawn of a better age for Portugal; rather it perpetuated the political instability and general

¹ Cited in F.C. Egerton (1943), *Salazar, Rebuilder of Portugal*. London: Hodder and Stoughton, p99.

² Article cited in Murray Teigh Bloom (1966), *The Man Who Stole Portugal*. London: Secker & Warburg, p23.

³ The period 1910-1926 is referred to as the *Primeira República*. The period 1926 to 1932 is referred to as the *República Autoritária* (Authoritarian Republic).

corruption that had brought down the monarchy on 5 October 1910.⁴ Between 1910 and 1926 there were 9 presidents, 45 ministries, 25 uprisings and 3 short-lived dictatorships. In the period 1920-1925 alone there were 325 bomb incidents.⁵ Coup supporters celebrated, unaware that the action which had extinguished one tyranny would shortly give rise to a far more ruthless and lasting one. The new Authoritarian government, headed by J.M. Cabeçadas's Democratic Party, in 1927 selected António de Oliveira Salazar, the lawyer-economist from Coimbra University, as Finance Minister.⁶ On 5 July 1932 Salazar merged the post of Minister of Finance with that of Prime Minister and became virtual dictator of the *Estado Novo* (New State) until his permanent incapacity in 1968 and his death shortly thereafter.⁷

The Portuguese Bank Note Crisis, as it came to be known, was the worst case of counterfeiting witnessed by any national government to date. In the Bank Note Case trial of 1932, Mr Justice Wright referred to the elaborate fraud as 'unparalleled in the history of commercial

⁴ Portugal became the third European republic after France and Switzerland. Dom Manuel II's fall was not accompanied by any significant change in policy. Political power passed without bloodshed into hands of intellectuals and the professional classes.

⁵ Schwartzman, Kathleen C. (1989), *The Social Origins of Democratic Collapse: The First Portuguese Republic in the Global Economy*, Kansas: University Press of Kansas, p37. See Appendix B for tables on cabinet and ministerial changes, strikes and parliamentary closures.

⁶ Salazar was first appointed Minister of Finance in June 1926, resigning 5 days later, after his conservative plans were rejected. See Appendix A showing chronology of economic and political events.

⁷ The *Estado Novo* was a dictatorship with some fascist traces. It was the name by which the Authoritarian political system was known between 1930 and 1969. Salazar was paralysed after his deck chair collapsed. The *Estado Novo* was succeeded by the *Estado Social* ('Social State') - this was the name by which the Caetano regime was sometimes known between 1969 and 1974. The *Estado Social* was removed on 25 April 1974 in a socialist military-led revolution. J.C. Neves (1994), *The Portuguese economy: a picture in figures, XIX and XX centuries*. Lisbon: Universidade Católica, p220.

swindles.’⁸ A Law Lord referred to ‘the dramatic circumstances of a crime for which in the ingenuity and audacity of its conception and execution it would be difficult to find a parallel.’⁹ Typical of most events during the Portuguese interwar period, the Portuguese Bank Note Case has been subject to little analysis. Authors have described the event in isolation, but have made little attempt to assess the ostensible economic and political ramifications directly attributable to the Scandal, the most dramatic of which is the rise of Salazar implicit in the demise of Machado’s democratic presidency. Of the scant comment that authors make on the Case’s effects, there is no consensus concerning its precise ramifications. Teigh Bloom argues that ‘the profound impact of his [referring to Reis] success gave Portugal its worst shock since the great earthquake of 1755, brought on the most enduring dictatorship of our time, wracked the Lord Mayor of London, almost ruined one the world’s great printing firms, and culminated in one of the longest and costliest cases in British legal history.’¹⁰ Wheeler, on the other hand, expresses considerably more doubt in noting that ‘the Bank Note Case rocked but did not topple the Silva government [referring to Prime minister António Maria da Silva], which had entered government soon after the exposé

⁸ John Tillotson (1992), ‘The Portuguese Bank Note Case,’ *Manchester Faculty of Law, Working Paper* No.13, Nov, p1.

⁹ *Ibid*, citing Lord Macmillan, 1932. According to Teigh Bloom, ‘in his conception immediately precedes execution...Endowed with a highly fertile imagination and mental activity that’s astounding and almost feverish...he never wondered if a notion that crossed his mind would be feasible or not...Everything that he imagines appears possible and even easy for him.’ Reis’s audacity is better appreciated through an examination of the means by which he was admitted to Angola’s civil service in 1916. Reis used a certificate from the ‘Polytechnic School of Engineering’ of Oxford University, an institution that had never existed. Reis’s grade of Bachelor was awarded for his application in the disciplines: Engineering Science, Geology, Geometry, Physics, Metallurgy, Pure Mathematics, Mathematics, Palaeography, Electrical Engineering, Mechanical Engineering, Applied Mathematics, Chemistry, Experimental Physics, Applied Mechanics, Applied Physics, General Civil Engineering, Civil and Mechanical Engineering, General Engineering, Mechanical and Civil Design. In short, he studied everything and could do anything. *Op. Cit*, Teigh Bloom, pp17-19.

began [17 December 1925]. Nor did the repercussions result in a major financial downturn for the First Republic.’¹¹ Teigh and Wheeler make no attempt quantitatively to substantiate their assertions.

Furthermore, nothing is made of the fact that the Crisis might constitute an integral part of a greater historiographical debate. That is, recently, growing disagreement has emerged concerning the timing of Portugal’s post-war economic stabilisation.¹² Though not faced with a total breakdown of the monetary system and hyperinflation following World War I, as was the case amongst many of Portugal’s European counterparts, Portugal faced a large inflationary process accompanied by sharp exchange rate depreciation.¹³ Eichengreen’s comment concerning sources of instability in France - ‘as long as an agreement remained elusive, inflation and currency depreciation persisted’ - is particularly pertinent to the Portuguese post-war republican socio-economic record.¹⁴

The inflationary process was caused predominantly by the Bank of Portugal’s willingness to oblige the deficit financing needs of its largest stockholder, the Portuguese government.¹⁵ Since 1887 the Bank had had

¹⁰ Ibid, p16.

¹¹ Op. Cit, Wheeler, p230.

¹² See amongst others Medeiros (1978); Valério (1985), (1987); Nunes, Mata and Valério (1989); Santos (1996); Batista *et al*, (1997); and Carvalho (2001).

¹³ Portugal had experienced relative nominal stability prior to World War I. Note that in spite of being the first country to adhere to the pre World War I gold standard of 1854, Portugal abandoned convertibility in May 1891 when faced with a sharp decline in emigrant remittances from Brazil and pressure from Barings for the Portuguese government to liquidate the floating component of its external debt. External shocks triggered the 1891 crisis - however, between 1854 and 1891, Portugal had consistently run budget and balance of trade deficits. When the two adjustment mechanisms - emigrant remittances and foreign debt - were blocked, structural imbalances were exposed. Vasco Marques Carvalho (2001), ‘Monetary Regimes and Macroeconomic Performance: The Portuguese Economy (1910-1940),’ *ISEG Económicas, Seminário de Departamento*, No.2/2001, p8.

¹⁴ Ibid, citing Eichengreen, p4.

¹⁵ The Bank of Portugal was private. Portugal’s grave economic condition was largely brought about by the Portuguese Expeditionary Force expense of £28m. Portugal entered World War I in 1916, prior to which Portugal had maintained a neutral position despite German attacks in Africa. Borrowing was primarily to defend Angola and

exclusive right to issue notes to the amount of twice its paid up capital. Monetisation of debt was made possible by institutional change in April 1918 in the form of a charter, which relaxed earlier metal-backing constraints, thereby granting the Bank a *carte blanche* to finance government expenditures.¹⁶ According to Carvalho, monetisation caused inflation to advance dramatically at an average annual rate of 48.4% over the period 1919-1924. Over the same period the nominal exchange rate depreciated at an average annual rate of 82.7% against sterling.¹⁷ There is evidence to suggest that nominal stabilisation began in 1924. It is however difficult to reconcile the collapse of Machado's presidency in May 1926, which is typically perceived as the product of an inherently unstable economic and political system, with 1924 stabilisation. After all, it was only on 1 July 1931 that Portugal returned to the gold standard at approximately 4% of its pre-war value.¹⁸ Only then were limits on monetisation of public deficits and total note issue by the Bank of Portugal imposed. The ostensible incongruence between the onset of stability and the 1926 revolution poses a number of questions. First, did stabilisation in fact begin in 1924 and if so, to what extent was it being felt by 1926?

Mozambique. Nuno Valério (1994), *Estatísticas Históricas Portuguesas*, Vol.2. Lisbon: Edições Cosmos, p184.

¹⁶ This effectively revoked the 1906 imposition of the Bank of Portugal ceiling on paper money issuance and any obligations to back issues with metallic reserves (the 1906 charter required that 20% of notes be backed by gold and 100% of notes be backed by silver). Andrew Bull (1997), 'Alves Reis and the Portuguese Bank Note Scandal of 1925,' *The British Historical Society*, No. 24: 22-57, p24.

¹⁷ This happened in spite of renewed efforts by Portuguese authorities to control depreciation by imposing exchange controls and creating a Control Council in September 1919. As in war times, these efforts were unsuccessful. Op. Cit, Carvalho, p10. See chronology of economic and political events in Appendix A for a broader perspective of Portugal's monetary record in the period 1854-1932.

¹⁸ Portugal abandoned the gold standard three months later in September 1931. Britain's suspension of convertibility in September 1931 put tremendous pressure on Portugal's current account. Given that most of Portugal's foreign assets were denominated in sterling, the Portuguese authorities opted to join the Sterling Area. Ibid, Carvalho, p14.

And second, if stabilisation had in fact begun, surely it is something of a non-sequitur to attribute instability as a prime source of collapse.

Gallagher argues that the Crisis was ‘another nail in the coffin of the floundering parliamentary republic.’¹⁹ In his article it is argued that stabilisation had in fact begun by 1924. Mata and Valério make a similar distinction between the pre-1924 period and the period thereafter.²⁰ From 1924 Portugal experienced annual growth of approximately 2%. In this light it is conceivable that there was no direct link between the state of economy and the fall of the First Republic. However, it is also conceivable that grievances had gained sufficient momentum for individuals to ignore the marginal improvements resulting from stabilisation. This process was then compounded by the Bank Note Crisis, which in effect precipitated the demise of Machado.

It is difficult to evaluate the impact of the Crisis, because there is no existing counterfactual model showing what would have happened in Portugal had the Crisis not occurred. But it is at least possible to provide a better account of events than that provided to date and to identify the processes directly and indirectly initiated by the Crisis. By doing this, it is made evident that the predominant effect of the Crisis was political. The Scandal induced a permanent loss of confidence in the First Republican regime. Less significant in explaining the mechanics by which the Crisis resulted in the 28 May *golpe* were the Crisis’s economic ramifications. It is in the area of examining the Crisis’s economic effects that this project arguably makes its greatest (albeit meagre) contribution to the interpretation of Portugal’s economic history. The Crisis provided added impetus to Salazar’s rise by worsening the nation’s economic woes

¹⁹ Tom Gallagher (1983), *Portugal, A Twentieth Century Interpretation*. Manchester: Manchester University Press, p138.

²⁰ Mata & Valério (1996), cited in Op. Cit, Carvalho, p4.

through added inflationary pressures and the effective closure of Portugal's access to international capital markets.

The role of the Bank Note Crisis in the collapse of Machado's presidency deserves investigation, because Machado's demise triggered a series of events culminating in the creation of the *Estado Novo* in 1932 and the end of democratic government until a military coup in 1974. Furthermore, the relative importance attached to the Crisis in causing the collapse adds light to the stabilisation debate and Portugal's all too often overlooked economic history during the inter-war period.

After eliciting in greater detail the events that culminated in the Bank Note Scandal, this essay proceeds to an analysis of the Scandal's economic and political effects. This is followed by a discussion on Portuguese economic stability following World War I and its role in determining the importance of the Crisis in the First Republic's collapse.

2 The 1925 Portuguese Bank Note Crisis

The most comprehensive accounts of the Portuguese Bank Note Scandal to date are: Alves Reis's own version of events in his 1927 '*O Dossier Secreto*' ('The Secret Dossier') - a self-congratulatory account of events providing important insight into the plan's conception;²¹ Teigh Bloom's 1966 '*The Man Who Stole Portugal*'²² and more recently; Bull's 1997 article '*Alves Reis and the Portuguese Bank Note Scandal*'.²³ Bloom and Bull both provide good documentation of the events prior to Reis's capture. However, all three of these accounts provide insufficient

²¹ Written by Reis whilst in prison awaiting trial. Artur Virgilio Alves Reis (1927), *O Angola e Metropole – 'Dossier Secreto.'* Lisbon: Artur Reis.

²² Murray Teigh Bloom (1966), *The Man Who Stole Portugal.* London: Secker & Warburg.

²³ Andrew Bull (1997), '*Alves Reis and the Portuguese Bank Note Scandal of 1925,*' *The British Historical Society*, No. 24: 22-57.

quantitative information, concerning the precise timing and magnitude of the illicit monetary injections, needed for the purpose of this essay. The latter part of this section attempts to remedy this insufficiency. We begin with an overview of the events that culminated in Reis's capture, which provides important context material and highlights the audacity of Reis's plan.

Reis's self-confessed account of events in '*O Dossier Secreto*' makes very clear that the scam was first conceived in 1924, whilst he was serving a jail sentence in Oporto for illicit arms dealing and embezzlement both during and following World War I.²⁴ The 1923 German mark inflation and the deluge of government authorised notes led Reis to examine the workings of Portugal's note issuing institution, the Bank of Portugal. Portugal had been off the gold standard since 1891. Under the law of 1887, the Bank of Portugal retained exclusive licence from the government to issue bank notes up to twice its share capital. To accommodate its most influential stock-holder, the government issued notes up to 1924 in excess of 100 times its share capital. Reis was made critically aware of this after reading a speech in Congress by former Prime-Minister Francisco Cunha Leal (16 December 1921 – 6 February 1922), who revealed that there was a 'fifth', irregular, method of issuing national currency notes, whereby the Bank of Portugal secretly had notes printed, and neither recorded such transactions in the books, nor did it inform the government of the increase in the number of circulating notes.²⁵ Since the bank notes were not convertible to gold or silver after 1891, the only expense involved was the cost of printing. Furthermore, Reis noted that the Bank had no department specifically charged with preventing the duplication of bank note numbers.²⁶ Reis estimated that a

²⁴ Op. Cit, Reis, p32.

²⁵ Ibid, p37.

²⁶ Op. Cit, Bull, p27.

personal issue of 300 million escudos (the equivalent to £3,023,889 at the 1925 rate of exchange) would neither alert suspicion nor disrupt the central banking mechanism of the state.²⁷

Artur Reis's plan rested on the ploy of assumed agency. After leaving prison on 27 August 1924, Reis presented himself as the authorised agent of the Bank of Portugal with a mandate to negotiate a massive financing operation in the economically ailing Portuguese African colony Angola. He approached the Portuguese minister to the Netherlands, José António Bandeira, who then introduced Reis to Dutchman, Karel Marang, and the German spy, Adolf Hennies.²⁸ Reis and his self-accredited agency consortium, acting on behalf of the Bank, requested the Chairman and Managing Director of the London security printing firm Waterlow and Sons, Sir William Waterlow, to honour an existing bank note contract.

Reis referred to the project as an official, but highly secret, Bank of Portugal effort to provide a loan of £1.3m to Angola, at a 2% commission if arranged to the Bank's satisfaction. Alves Reis persuaded both the printers and his collaborators that, since the Bank of Portugal directors were bitterly divided over the whole deal, it had to be done with the utmost secrecy and that he was to be the sole intermediary between the printers and the Bank. On 4 December 1924, Marang first arrived at Waterlows. Marang and Bandeira negotiated the transaction with an impressive array of contracts and authorisations forged by Reis. It was clearly of the essence that Waterlows made no contact with the Bank other than through Marang and Bandeira. Following a request by Waterlows for official authorisation from the Bank of Portugal for the

²⁷ Op. Cit, Reis, p32.

²⁸ At no stage were his co-conspirators aware of the full extent of his plan. In his prison journal, Reis refers to Bandeira as 'a blind collaborator to my plan, a mere instrument for the attainment of my goal.' Cited in Op. Cit, Teigh Bloom, pp24-25.

operation, Marang handed to Sir William an agreement typed on '*papel selado*' (the government stamped paper upon which all official business was transacted), containing the following text:

'...the First Contracting Party (referring to the Bank of Portugal) authorises the Second Contracting Party (the Government of Angola) to cause to be manufactured up to two hundred thousand Bank Notes of five hundred Escudos and one hundred thousand of one thousand Escudos of the issue of the First Contracting Party...The Second Contracting Party will endorse Artur Virgilio Reis, Engineer, a married man, all the powers granted by this contract in the part relating to the manufacture of Notes, which powers and conditions are in their entirety in the Contract to be drawn up between the Second Contracting Party and the said Artur Virgilio Reis.'²⁹

By way of precaution, Waterlows was further advised to obtain specific authorisation from Camacho Rodrigues, the Bank's Governor. This request was made to Marang and passed onto Reis. Reis's reply (supposedly on the Governor's behalf) impressed upon Sir William that:

'...I cannot but thank your Firm for your attention and special care in consulting me before employing the Plates of the Bank which are in your hands and have great pleasure in informing you that you may accept the order from Mr Marang...'³⁰

The notes were printed using Bank of Portugal plates for the Vasco de Gama 500 escudo notes and, using the diplomatic privileges of a

²⁹ Reproduced by Ibid, p55.

³⁰ Ibid, p83.

consul of Liberia and *laissez-passer* from António Bandeira, Marang delivered the Waterlow notes to Reis.³¹

In order to assess the inflationary effect of Reis's illicit injection of money into the Portuguese money supply, it is necessary to establish with some degree of accuracy when and how money was spent. The 1932 Portuguese Bank Note Case, which was primarily concerned with ascertaining the culpability of Waterlow and the Bank of Portugal in allowing Reis's scam to evolve, found that Reis succeeded in spending 200,000 500 escudo notes worth £1,007,963 (the equivalent to 0.88% of Portugal's nominal GDP) calculated at the 1925 escudo/sterling exchange rate of 99.210 escudos.³² In Oporto Reis hired 'zangões' (drones), freelance currency dealers, who used the notes to buy hard currency on the black market. He then instructed his henchmen to open bank deposits in suburban branches with the Vasco de Gama notes, and subsequently made withdrawals in genuine notes from the head offices of these banks. It looked for a moment that he might be in danger when a suspicious bank manager sent one of the notes to the Bank of Portugal, but the latter was reassured when the Bank replied that the note was perfectly good. Between February and March 1925, the equivalent of £800,000 was brought to Portugal. According to Reis, these funds were primarily used to pay off personal debts and re-establish himself in social and business circles.³³ On 29 April 1925 Reis announced his desire to

³¹ Ironically, in March 1925, whilst delivering a consignment of 30,000 notes, Marang was also representing the Dutch Red Cross at an International Congress and received the decoration of 'Ordem de Cristo' ('Order of Christ') from the Portuguese Government (!). Op. Cit, Bull, p31.

³² Amount spent cited in Op. Cit, Tillotson, p33. GDP nominal data taken from Dina Batista, Carlos Martins, Maximiano Pinheiro & Jaime Reis (1997), 'New Estimates for Portugal's GDP 1910-1958,' *Banco de Portugal*, October, table B, p256.

³³ Reis was at this stage seriously rich. He bought the Palácio de Menino de Ouro, formerly the home of the deceased millionaire Luis Fernandes (now the home of the British Council in Lisbon). He bought three quintas from impoverished aristocrats and invested in a fleet of taxis. He gave his wife £10,000 worth of jewellery and clothing.

establish his own bank, an instrument by which he could dispose of his illicit currency. Chicanery of the highest order led to the June 1925 creation of this new bank, named the Bank of Angola and Metropole, in which Reis was the controlling stockholder. He then sought to take control of the Bank of Portugal, the sole institution capable of initiating proceedings against counterfeiters of its bank notes. Throughout the summer of 1925, Reis bought Bank of Portugal shares on the Lisbon stock exchange. In early June the bribed Venezuelan Minister to Portugal, D. Simon Plancez-Suarez, brought an additional 150,000 notes to Portugal in order to facilitate the acquisition of the Bank. This additional shipment of money suggests that Reis spent his February-March consignments by the summer of 1925. Reis required 45,000 voting shares in order to gain control of the Bank and by mid-September he possessed over 7,000. At the end of September he had 9,000, and in early November Reis controlled 10,000 voting shares.³⁴ Of course it could not last.

On 5 Dec 1925 the Lisbon newspaper *O Século* revealed the swindle.³⁵ Starting on 23 November 1925, a series of articles was published questioning the sources of funding of Reis's new bank. The newspaper raised questions concerning how the new bank seemingly thrived by making enormous loans without requiring deposits. It also raised the spectre that Germany, through the agency of Adolf Hennies, was angling for colonial expansion at the expense of Portuguese colonial possessions. On 25 November, *O Século* depicted an international plot centred on the 'notorious Bank of Angola and Metropole...Where does it

Later, in order to impress one of his mistresses, Dutch actress Fie Carelsen whom he had invited to Lisbon, he loaned money for the refurbishment of the Ginásio Theatre and made an attempt to buy the Lisbon daily newspaper, the *Diário de Notícias*. *Op. Cit*, Bull, p35.

³⁴ T. Kisch (1932), *The Portuguese Bank Note Case*. London: Macmillan, pp187-88.

³⁵ Cited in *Op. Cit.* Teigh Bloom, p101.

get its money from?...From Holland, say some...From German banks assure yet others.'³⁶ The following day the newspaper reported that '...Germany will be entering the League of Nations soon. It will certainly want colonies...International public opinion is being prepared so that Germany may be quieted down...at the expense of Portuguese colonial dominion.'³⁷ The media hype that ensued prompted counterfeiting expert, Luís Alberto Campos e Sa to investigate the activities of The Bank of Angola and Metropole. Despite appearing absolutely genuine, he discovered that the bank notes contained duplicate numbering.

On 6 December 1925, the Bank of Portugal Governor, Comacho Rodrigues, called a meeting of the Board. They found that it was almost impossible to distinguish between good and bad notes. The Board decided to withdraw all 500 escudo notes and exchange them for 1,000 escudo notes. In matters of this kind, secrecy is impossible; rumours flew through the country and the police in the larger cities had to deal with rioting near major banks.³⁸ Most important to the assessment made by this essay is that no effort was made to correct for Reis's distortionary effect on the money supply. Exchanges were permitted until 26 December, at which date 115,000 notes were withdrawn, a number significantly inferior to that ordered from the printers in 1923-24. We can therefore conclude with a fair degree of certainty that Reis illicitly injected into the Portuguese money supply an amount equivalent to £1,007,963 (the amount cited in the London 1932 Bank Note Case) between February and December 1925.

Alves Reis was tried in May 1930 and sentenced to 20 years imprisonment, in spite of affirmations that his motivation lay in acquiring sufficient capital to help build up for Portugal 'a great and prosperous

³⁶ Ibid, p102.

³⁷ Ibid, p102.

³⁸ Op. Cit, Bull, p37.

Angola.³⁹ José Bandeira was given the same sentence. Hennies disappeared and emerged later in Germany under his original name Döring. Marang was tried in Holland and in late 1926 was sentenced to eleven months imprisonment. He died a naturalised, wealthy and respected Frenchman in Cannes in 1960. Hennies and Bandeira died penniless in 1957 and 1961 respectively. Reis was released from prison in Lisbon in May 1945 and died bankrupt in July 1955. The Bank of Portugal took the case to the House of Lords and, in April 1932, was awarded £610,392. In July 1927 Sir William Waterlow was removed as chairman of the company and in November 1928 he resigned. A year later he was made Lord Mayor of London. Sir William never learned of the decision of the House of Lords and died of peritonitis in 1931.⁴⁰

3 Measuring inflation attributable to the Crisis

Referring to Portugal's inflationary record following the Portuguese Bank Note Crisis, Kay claims that the 'general trend to galloping inflation was growing even more acute than usual.'⁴¹ However, he provides no quantitative evidence to substantiate his claim. Tillotson, on other hand, notes how 'the Bank [of Portugal] averted a general loss of confidence in the currency.'⁴² He argues that subsequent inflation was due to a deliberate expansion of the money supply by the Bank.⁴³ However, like Kay, Tillotson fails to provide any empirical evidence. The following

³⁹ Op. Cit, Reis, p64. Alves Reis was converted while in prison to the Evangelical Protestant Faith and, after his release, wrote tracts and articles and spoke on behalf of his new religion to which his wife and three sons were also converted. Op. Cit, Bull, p38.

⁴⁰ Ibid, p40.

⁴¹ Hugh Kay (1970), *Salazar & Modern Portugal*. London: Eyre & Spottiswoode, p30.

⁴² John Tillotson (1992). 'The Portuguese Bank Note Case,' *Manchester Faculty of Law, Working Paper* No.13, Nov, p7.

⁴³ Ibid, p26.

section attempts to measure the Bank Note Crisis's precise effect on the Portuguese money supply and inflation. The assessment of the Bank Note Crisis's economic effects relies critically on the available macroeconomic data and its respective validity.

There are a number of caveats that must be cited concerning the data before we assess test results. Portuguese data for periods prior to the 1930s is poor. The data construction efforts of Nunes *et al*,⁴⁴ and more recent research, have shed some light on the interwar period.⁴⁵ Prior to the efforts of Nunes, Mata and Valério, historical statistics for the first half of the twentieth century in Portugal were literally non-existent. The interwar era in particular, fertile in terms of its macroeconomic history, is still essentially unexplored. Mata and Valério construct GDP estimates using regression techniques, assuming a stable link between the economy's macro-performance and a series of proxies, for which more reliable data was available. For the period 1947-1985, nominal GDP was regressed on a weighted average of proxy variables (nominal exports, fiscal receipts and public expenditure) and the resulting estimates were then used to construct nominal GDP for the period 1833-1946. GDP at current prices is then deflated using values of real GDP based at 1914 prices.

Both the method and the interpretation of these estimates have been the subject of considerable debate. Esteves notes the inconsistency of the GDP deflator estimates yielding a long run elasticity

⁴⁴ Anabela Nunes, Eugenia Mata & Nuno Valério (1989), 'Portuguese Economic Growth, 1883-1985,' *Journal of European Economic History*, vol. 18, no.2: 291-333.

⁴⁵ J.C. Neves (1994), *The Portuguese economy: a picture in figures, XIX and XX centuries*. Lisbon: Universidade Católica. Eugenia Mata & Nuno Valério (1996), 'Monetary stability, fiscal discipline and economic performance. The experience of Portugal since 1854,' In Jorge Braga de Macedo, Barry Eichengreen and Jaime Reis (eds) *Currency convertibility: The Gold standard and Beyond*. London: Routledge.

to the cost of living that is smaller than unity (0.816).⁴⁶ This implies that the relative price, the GDP price deflator, is always increasing, so that the two series diverge in the long run, and consequently the GDP price deflator estimates presented in Nunes, Mata and Valério are seriously overestimated. Lains and Reis present more fundamental doubts when they question the economic reasoning underlying the assumption of structural stability of the relation linking GDP and the chosen proxies.⁴⁷ Applying the same method for other European countries they find that the indirect estimates are of poor quality. To take the export performance of the seven countries studied by Paul Bairoch during the second half of the 19th century as an example, in several of them the share of exports in GDP varied as much as 100% during this period, which defeats any notion of a constant income elasticity for this variable.⁴⁸ More problematic to the purpose of this essay, they note that as the time span of analysis is shortened the results are increasingly unreliable, due to very large discrepancies between estimates and direct measures and violent year-to-year fluctuations of the former. The recent release of new (unofficial) direct, production-based estimates by researchers at the Bank of Portugal build on from aggregation at an industry level of the available information on basic output indices.⁴⁹ Then, by attributing weights to each of these volume indices by industry, Batista *et al* construct real GDP estimates at 1958 constant prices. Unlike the estimates produced by Nunes *et al*, the GDP deflator index implicit in the estimates of Batista *et al* does not deviate significantly from the cost of living index.

⁴⁶ P. Esteves (1993), 'Portuguese prices before 1947: inconsistency between the observed cost of living index and the GDP price estimation of Nunes, Mata, Valério, 1989,' *Bank of Portugal Working Paper*, 19/93, p34.

⁴⁷ Pedro Lains & Jaime Reis (1991), 'Portuguese Economic Growth, 1883-1985: Some Doubts,' *Journal of European Economic History*, vol. 18, no.2: 441-453, p445.

⁴⁸ Paul Bairoch (1976), cited in Op. Cit, Lains & Reis, p448.

⁴⁹ Dina Batista, Carlos Martins, Maximiano Pinheiro & Jaime Reis (1997), 'New Estimates for Portugal's GDP 1910-1958,' *Banco de Portugal*, October.

Paying careful attention to data caveats, the first and most logical step is to assess how an illicit increase in the money supply might affect inflation, if at all. The causal relationship between money supply and inflation is confirmed by Granger Causality tests. The Granger Causality concept stresses the role of temporal precedence as a criterion to ascertain whether one variable causes another. In this case, the question investigated is whether scalar m (high-powered money) can help forecast another scalar g (the GDP price deflator). More formally, m fails to Granger-cause g if for all $s > 0$ (s denotes periods ahead of time period t) the mean squared error (MSE) of a forecast g_{t+s} based on (g_t, g_{t-1}, \dots) is the same as the MSE of a forecast of g_{t+s} that uses both (g_t, g_{t-1}, \dots) and (m_t, m_{t-1}, \dots) .⁵⁰ In this case, log values are used and an autoregressive lag equal to three has been assumed for each variable in the regression, on the basis that price and money supply data for no more than the previous three years should play a significant role in determining the price deflator.⁵¹ We estimate

$$\log g_t = \log c_1 + \alpha_1 \log g_{t-1} + \alpha_2 \log g_{t-2} + \alpha_3 \log g_{t-3} + \beta_1 \log m_{t-1} + \beta_2 \log m_{t-2} + \beta_3 \log m_{t-3} + \log u_t \quad (1)$$

by OLS. An F-test is then conducted using the null hypothesis

$$H_0 : \beta_1 = \beta_2 = \beta_3 = 0 \quad (2)$$

⁵⁰ A variety of other Granger-Causality tests have been proposed; see Pierce and Haugh (1977) and Geweke, Meese and Dent (1983) cited in James D. Hamilton (1994), *Time Series Analysis*. Princeton: Princeton University Press, p305. Geweke, Meese and Dent suggest that the simplest and most straightforward method - that based on (6) may well be the best.

⁵¹ This assumption is fairly arbitrary. Note that the results of any empirical test for Granger Causality can be surprisingly sensitive to the choice of lag. Similar results are however obtained when autoregressive lags of one through to four are used.

The test is then implemented by calculating the sum of squared residuals from (1),

$$RSS_1 = \sum_{t=1}^T \hat{u}_t^2, \quad (\text{where } T \text{ is the total number of observations}) \quad (3)$$

and comparing this with the sum of squared residuals of a univariate autoregression of g_t ,

$$RSS_0 = \sum_{t=1}^T \hat{e}_t^2, \quad (4)$$

where

$$\log g_t = \log c_0 + \gamma_1 \log g_{t-1} + \gamma_2 \log g_{t-2} + \gamma_3 \log g_{t-3} + \log e_t \quad (5)$$

is also estimated by OLS. If

$$S_1 \equiv \frac{(RSS_0 - RSS_1) / 3}{RSS_1 / (T - 7)} \quad (6)$$

is greater than the 5% critical value for an $F(3, T-7)$ distribution, then we reject the null hypothesis that m does not Granger-cause g ; that is, if S_1 is sufficiently large, we conclude that m does Granger cause g ; that is to say that high-powered money does Granger-cause price inflation.

The project uses log values of the GDP deflator data of Batista *et al* for lack of discernibly better alternatives. Data for high-powered money (denoted as $M0$, comprising currency in circulation together with cash reserves that banks keep at the Central Bank) are considerably less contentious, given that the Bank of Portugal kept good records throughout

its existence. Log values of money supply are calculated from data presented in Batista *et al.*

Producing both the bivariate and univariate regressions outlined in (1) and (5) respectively, we find the following:

$$\log g_t = 0.060 + 1.270g_{t-1} + 0.038g_{t-2} - 0.348g_{t-3} + 0.123m_{t-1} - 0.106m_{t-2} + 0.013m_{t-3} + r_i \quad (\text{where } r_i \text{ is the residual}) \quad (7)$$

Table 3.1

Bivariate regression output for null hypothesis 'M0 does not cause changes in the GDP Deflator'

<i>Variable</i>	<i>Co-efficient</i>	<i>Standard Error</i>	<i>t-stat</i>	<i>p-value</i>
C ₁	0.060	0.039	1.531	0.128
g _{t-1}	1.270	0.090	14.139	0.000
g _{t-2}	0.038	0.145	0.262	0.794
g _{t-3}	-0.348	0.087	-4.022	0.000
m _{t-1}	0.123	0.049	2.492	0.014
m _{t-2}	-0.106	0.068	-1.551	0.123
m _{t-3}	0.013	0.050	0.262	0.794

$$\log g_t = -0.011 + 1.385g_{t-1} - 0.058g_{t-2} - 0.323g_{t-3} + r_i \quad (8)$$

Table 3.2

Univariate regression output for null hypothesis 'M0 does not cause changes in the GDP Deflator'

<i>Variable</i>	<i>Co-efficient</i>	<i>Standard Error</i>	<i>t-stat</i>	<i>p-value</i>
C ₀	-0.011	0.023	-0.457	0.648
g _{t-1}	1.385	0.081	17.065	0.000
g _{t-2}	-0.058	0.143	-0.405	0.686
g _{t-3}	-0.323	0.083	-3.906	0.000

Calculating the F-statistic: $S_1 \equiv \frac{(RSS_0 - RSS_1)/3}{RSS_1/(T - 7)} = \frac{(0.713 - 0.660)/3}{0.660/130} = 3.465$
 (9)⁵²

The reverse of the process above was applied in order to test the null hypothesis ‘the GDP deflator does not cause M0’.

A summary of the two Granger Causality tests is outlined below:

Table 3.3
 M0 and the GDP deflator - Granger Causality test results

<i>Null Hypothesis (H₀)</i>	<i>Computed F-Statistic using (6)</i>	<i>Significance</i>	<i>Conclusion</i>
M0 does not cause the GDP Deflator	3.465	0.018	<i>H₀</i> is rejected at the 2.5% level. ^α
The GDP Deflator does not cause M0	2.892	0.038	<i>H₀</i> is not rejected at the 2.5% level.

^α The 2.5% critical value for an F(3,130) distribution is 3.218.

The tests use three degrees of freedom for the numerator and 130 for the denominator. The results suggest unidirectional Granger causality between high-powered money and the price level. Further, it is shown that the GDP deflator is critically dependent on the previous year’s money supply. This is indicated by the high significance of the coefficient of the money supply lagged by one year in the bivariate regression in table 3.1. This suggests that high-powered money issue by the Bank of Portugal results in subsequent changes in the price level in the following year.

⁵² T=137.

In the previous section, it was established that Reis successfully injected the equivalent of 100 million escudos (£1,007,963) into the Portuguese money supply. This sum results in a corrected M0 value for 1925 of 1,801m escudos, comprising a 5.9% increase in high-powered money (see revised 1925 M0 value in table 3.4 on the following page). Money supply (denoted as M1, comprising M0 plus bank deposits of public) is some multiple (the money multiplier) of the stock of high-powered money.⁵³ The money multiplier depends on two variables: the currency deposit ratio and; the reserve deposit ratio. Data for neither of these variables are readily available. Inferring the 1925 money multiplier from values of M0 and M1 shown in table 3.4, we find a value of 1.433. There is no evidence to suggest that either determinant of money multiplier changed significantly over the course of 1925-1926; the money multiplier is relatively stable over this period ranging between 1.422 and 1.433. It is therefore possible to assume a corrected 1925 M1 value of approximately 2,581m escudos, translating to an equivalent 5.9% increase when compared with the uncorrected value of 2,438m escudos.

Assuming that the sum accounted for by the Bank Note Case cited in Tillotson is correct and that the money multiplier is unaffected by revised estimates, M0 and M1 values must therefore be revised upwards by 5.9% when compared with the data presented in Batista *et al.* This is substantial. In 1925 GDP at current market prices was 11,368m escudos. As a percentage of GDP, the counterfeit money was 0.88%.

⁵³ J. Sachs, & F. Larrain (1993), *Macroeconomics in the Global Economy*. New York: Harvester, p267.

Table 3.4
M0 and M1 values 1920-1928

	Values expressed to nearest million escudos		
	1 M0	2 M1	3 Multiplier
1920	539	840	1.555
1921	648	1,083	1.671
1922	957	1,555	1.625
1923	1,292	1,986	1.537
1924	1,586	2,483	1.566
1925	1,701	2,438	1.433
Revised 1925 values (values accounting for 100m escudo injection)	1,801 (5.9%) ^β	2,581 ^α (5.9%) ^β	1.433 -
1926	1,757	2,499	1.422
1927	1,772	2,565	1.448
1928	1,885	2,808	1.490

Sources and Methods:

- 1-2 Dina Batista, Carlos Martins, Maximiano Pinheiro & Jaime Reis (1997), 'New Estimates for Portugal's GDP 1910-1958,' *Banco de Portugal*, October, tables E.1.2-3, pp277-279. M0 is high-powered money - sum of currency in circulation and bank reserves. M1 is M0 plus bank deposits of public.
- 3 M1/M0.
- ^α Calculated using multiplier implicit in 1925 M0 and M1 values presented in Batista *et al.*
- ^β Percentage difference between adjusted M0 and M1 values and those presented in Batista *et al.*

It is difficult to check the accuracy of the revised M0 and M1 values. Changes in the monetary base are the product of changes in government debt held by the central bank, changes in the stock of international reserves and changes in the amount of net credit granted to commercial banks through the discount window.⁵⁴ Data for net credit granted to commercial banks through the discount window are not readily available,

and the creation of such data is far beyond the auspices of this essay. In summary, finding the relative importance of the determinants of the monetary base through regression analysis would result in a model too weak to make even vague quantitative conclusions. It can therefore only be hoped that the assumptions upon which money values have been revised are not too far removed from the truth.

Assessing the effects of the revised M0 value on Portugal's inflationary path, we begin with a reminder that the significance of the M0 value co-efficient lagged one year in the Granger causality test strongly suggests that the inflationary effect of M0 is lagged by one year. Given that the inflationary effect would therefore be visible only in 1926, and that the revolution occurred on 26 May of that year, it is important to consider the possibility of *ex-post* reasoning when arguing that inflation induced by the Bank Note Crisis played a role in the collapse of the First Republic, particularly when the data are recorded according to the calendar year, as opposed to the fiscal year, which for the period concerned ended on 30 June.⁵⁵ Given that data are only available on an annual basis, we are in no position to do anything other than bear this caveat in mind.

It is also essential to note that the upward revision of M0 values does not imply that inflation values should now be higher. The GDP deflator is calculated by taking the ratio of GDP at current prices to GDP at 1914 prices. The deflator must therefore account for the additional inflation resulting from the endeavours of Alves Reis (assuming that the additional money was spent in equivalent proportions to the weighted values used to calculate GDP). We can however say that in the absence of the Crisis, recorded inflation would have been lower. Were we to assume a constant velocity of money and full employment, inflation would

⁵⁴ Ibid, p275.

⁵⁵ Op. Cit, Nunes *et al*, p330.

have been lower by an amount equivalent to the percentage differential in M1 (which according to our assessment of the money multiplier is equivalent to that in M0). The GDP deflator index value for 1926 is 1,250. A 5.9% downward revision results in a deflator index value of 1,176. With regard to assumptions concerning the velocity of money and employment, this project is once again rendered hostage to statistical uncertainty. Employment statistics are not available for this period and no attempt has been made to calculate Portugal's full employment rate. However, the number of strikes recorded in 1925 and 1926 were ten and seven, respectively, the lowest levels recorded in the First Republic's short and turbulent history (see Appendix A, table A.4), suggesting that employment was perhaps closer to its natural rate than it had been in previous years. This analysis is of course crude to say the least. Greater nominal stability in 1925 and 1926, evidenced in the 3.2% and 3.5% decline in the GDP deflator index shown in table 3.5, almost certainly played a role in reducing labour discontent by eliminating inflation-induced real wage erosion of previous years. Data on money velocity are equally absent. Table 3.5 does however show that interest rates did not change in 1925 and only fell in the latter part of 1926, suggesting that an assumption of constant money velocity is not strictly implausible.

Table 3.5

Indicators that the Bank of Portugal failed to influence the money supply

	1	2	3	4	5
	<i>Nominal % change in consolidated internal debt</i>	<i>Inflation implicit in GDP Deflator Index (%)</i>	<i>Real % change in consolidat ed internal debt</i>	<i>Bank of Portugal Discount Rate (%)</i>	<i>Nominal Escudo- Sterling Exchange Rate</i>
1920	-0.3	56.7	-57.0	7 (09/03) ^α	18.329
1921	0.0	44.3	-44.3	7	39.384
1922	0.0	16.7	-16.7	7	65.084
1923	-0.3	44.6	-44.9	8 (05/01) ^α	109.714
1924	110.8	30.9	79.9	9 (09/12/1923) ^α	133.950
1925	3.2	-3.2	6.4	9	99.210
1926	4.2	-3.5	7.7	8 (07/27) ^α	94.770
1927	-4.2	6.0	-10.2	8	108.360
1928	0.6	-3.6	4.1	8	108.250

Sources and Methods:

1-5 Percentages calculated from data presented in Dina Batista, Carlos Martins, Maximiano Pinheiro & Jaime Reis (1997), 'New Estimates for Portugal's GDP 1910-1958,' *Banco de Portugal*, October, tables B, C.1.3, D.4 and E.3, pp252-280.

^α Precise date of change in Bank of Portugal discount rate.

The Bank of Portugal was the *de facto* central bank and worked closely with the government to execute the latter's monetary policy.⁵⁶ The Republic had recourse to a variety of policy instruments. The principle measures used to affect the money supply and bank credit were variations in the official discount rate, and open market and foreign exchange operations. In spite of the availability of these measures, the

⁵⁶ The terms monetary policy, fiscal policy, and debt management policy are used as shorthand devices to describe policies which deal respectively with interest rates and the money supply, taxes and government expenditure, and maturity and distribution of the government's debt. In this section, the argument is developed in terms of hypothetical alternatives open to the Republic. It does not anachronistically assume that the Republic was aware of these alternatives, merely that it had the instruments to pursue them.

central bank made no attempt to reverse nominal instability induced by Reis's illicit printing endeavours. The Banking Crisis's role in the collapse of the First Republic was implicitly accepted through the bank's failure to influence the money supply. The bank had reasonably effective control over the stock of high-powered money through open market operations. Table 3.5 shows how real consolidated internal debt increased 79.9%, 6.4% and 7.7% in the years 1924, 1925 and 1926, respectively. Increasing debt values suggest that despite political and economic instability, the Portuguese public remained willing to take up government securities. However, in 1927, immediately following the Crisis, consolidated internal debt fell 10.2%, perhaps reflecting the public's failing confidence in the prevailing government and the government's consequent inability to reduce the money stock, in spite of deflation in 1926 and moderate inflation of 6.0% in 1927. Furthermore, between December 1923 and July 1926 the Bank's discount rate remained constant at 9%, further illustrating the government's negligence concerning the inflationary impact of the Crisis. That is, no constraints on the discount window were imposed (the reduction in lending induced by an increase in the discount rate results in an equivalent reduction in high-powered money). However, 9% was an historic high, and was having a significant effect on the far more pervasive inflation that already existed in the absence of the Crisis.

There is little evidence to suggest that foreign exchange operations were used at any stage as a means to reduce the nation's burgeoning money supply. It might be argued that Portugal's floating exchange rate precluded the use of exchange operations as a policy tool. This, however, neglects the fact that Portugal's float was not entirely clean. Between 1914 and 1922 the Portuguese government intervened on numerous occasions to bolster the depreciating escudo. The

appreciation of the escudo between late 1925 and late 1926 from 133.950 to 94.770 to the pound sterling is to some extent a reflection of the monetary authority's selling of foreign exchange.⁵⁷

In summary, Granger causality tests suggest that changes in the money supply affect the following year's prices. Assuming constancy of money velocity and full employment, the adjusted 1925 5.9% increase in the money supply is reflected in 1926 price inflation. It is important to note that readily available data precludes any precise determination of when the additional 5.9% increase in inflation will have manifested itself during 1926. Noting that assumptions concerning timing, employment and money velocity are tenuous, this essay now considers how inflation created by the Bank Note Crisis factored into the collapse of the First Republic.

4 The effects of inflation

In order to understand the processes by which inflation could result in the collapse of the Republic, it is necessary to appreciate the nature of Portuguese society during this period. In Portugal there was not a single social class that was sufficiently homogeneous, and knew with some degree of clarity what its needs were and how they could be fulfilled. According to Wheeler, 'the Portugal Republicans inherited from the monarchy was a country with different groups and classes that held divergent conceptions of what a 'Republic' would be...the contrast between the raw, barefooted peasants armed with pitchforks and the formally dressed middle class riflemen was startling and almost comical.'⁵⁸ There was no large-scale industry and, in consequence,

⁵⁷ Op. Cit, Batista *et al*, table C.1.1, p257.

⁵⁸ Douglas Wheeler (1978), *Republican Portugal, A Political History 1910-1926*. Wisconsin: University of Wisconsin Press, p63.

neither a strong and stable bourgeoisie of significant size nor a mature working class. The two social forces which might have propounded their own specific solutions were undeveloped. They lacked the cohesion and leadership necessary for the elaboration of political programmes and strategies. McGowan and Pinheiro note that 'despite frequent strikes, a labour movement was far from ready to lead Portugal along a socialist road out of the Crisis.'⁵⁹

The collapse of President Bernardino Machado's Republic was engendered by the actions of senior Portuguese army officers sponsored by the Church.⁶⁰ On 26 May 1926 Captain José Mendes Cabeçadas, General Manuel de Oliveira Gomes da Costa and General António Óscar de Fragoso Carmona forced the resignation of the President. The army was primed into action by events both in Portugal and abroad. Arguably the most important influence in priming the army's actions was the effect of inflation on army personnel wages, compounded by the Bank Note Crisis. On 5 December 1925 the Scandal was revealed, and in January 1926 the ultimately successful conspiracy was hatched to overthrow the parliamentary republic. The Bank Note Crisis preceded the conspiracy and, for this reason, is a candidate as a causal factor. Let us now assess the precise mechanics of this ostensibly causal relationship.

If we assume that inflation induced by the Bank Note Crisis had an upward effect on the price of products bought by members of the military proportional to its effect on general prices, the reduction in the purchasing power of members of the military would be equivalent to the general rise in prices precipitated by Crisis - that is, they were approximately 5.9% worse off. The purchasing power index calculated by Oliveira Marques

⁵⁹ Peter Fryer & Patricia McGowan Pinheiro (1961), *Oldest Ally - A Portrait of Salazar's Portugal*. London: Dennis Dobson, p114.

shows that the purchasing power of higher ranking officers in fact improved over the period 1924-1926. The GDP deflator calculated by Batista *et al* fell by 6.68% in the years 1925 and 1926, a rate of 3.34% per annum. The purchasing power increase induced by the inflationary improvement was clearly insufficient to offset military discontent. In the absence of the Bank Note Crisis, it is conceivable that the GDP deflator index would have registered approximately 9% deflation for 1926. In Portugal's 1926 low inflation context, it is conceivable that the 5.9% improvement rendered by the absence of the Bank Note Scandal might have diluted the conviction with which senior ranking officers supported regime change. This is not to say that officers associated the Scandal with a decline in their purchasing power, but that officers were aware of how advancing inflation eroded their pay packets and that, without the inflationary effect of the Crisis, they would have been marginally (and perhaps critically) less concerned by inflation. This does, however, fail to account for the fact that officers had sustained years of downgrades in their purchasing power and that therefore a marginal improvement in the country's inflationary record might not have been enough to deviate plans that had evolved from years of discontent.

The military, as opposed to any other social group, led the coup, and for this to have been the case, there must have existed factors that accentuated their grievances with the current regime relative to any other group. On this basis, it is possible to discount the importance of inflation caused by the Crisis in instigating revolution by arguing that the price rise induced was a general price rise, rather than one that affected military staff in particular. There are other, more plausible explanations for the military's greater relative propensity to revolt.

⁶⁰ For a good synopsis of the processes involved in the collapse of the First Republic see Tom Gallagher (1983), *Portugal, A Twentieth Century Interpretation*. Manchester: Manchester University Press.

One such explanation originates in the Republic's reduction in expenditures on the military relative to other sectors of government employment. In 1924 Cunha Leal stated that 'the state of neglect, misery and degradation to which the public force has arrived, would by itself justify a thousand revolutions.'⁶¹ He argued that army pay was low during the pre-1925 period of runaway inflation, in comparison with the salaries of the *Guarda Nacional da República* (National Republican Guard), the police, and the navy. Table 4.1 indicates the decline in expenditures on the military relative to government administration, the nation's second largest source of expenditures. The adverse effect on military personnel earnings was compounded by the fact that the size of the Portuguese regular army increased following the First World War.⁶²

Table 4.1

Government expenditures on the military and civil bureaucracy expressed as a percentage of total government expenditure

	<i>Military expenditure (%)</i>	<i>Civil bureaucracy expenditure (%)</i>
1919	53.5	11.3
1920	47.6	18.5
1921	25.7	20.8
1922	22.5	20.7
1923	15.4	15.2
1924	24.6	21.9
1925	25.6	27.6
1926	25.4	23.1

Source: Expenditure totals taken from Dina Batista, Carlos Martins, Maximiano Pinheiro & Jaime Reis (1997), 'New Estimates for Portugal's GDP 1910-1958,' *Banco de Portugal*, October, table D, pp269-270.

⁶¹ Citing Cunha Leal, Op. Cit, Wheeler, p186.

⁶² Ibid, p180.

Military discontent was made more acute by the Republic's policy of arranging pay increases that discriminated against senior officers. The government attempted to equalise pay scales and reduce the inequalities which had been characteristic of the monarchic system. Also, Portuguese Republican Party (PRP) led governments made a policy of favouring lower ranks with pay rises, because lower ranks comprised a greater proportion of the electorate and were thereby instrumental to success at elections.⁶³ The generals' purchasing power index in 1926 was only 45.9% of what it had been in 1914. The purchasing power of the pay of first-lieutenants and second-lieutenants, groups that were most active in military insurrections, was 74% and 77.2% respectively of that of 1914.⁶⁴ Significant to the argument concerning reductions in expenditures on the military relative to other sectors of government employment as a source of military discontent, the purchasing power of the two lowest ranking groups of civil servants was 89.5% and 109.5% of what it had been in 1914, considerably higher than that of their military counterparts.⁶⁵ It may be argued that recognition of pay divergence is only afforded by the vantage point of mathematical hindsight. This however is not the case. The unfavourable effect of inflation on high ranking officers was commented upon by the increasingly reactionary Lisbon press.⁶⁶ Marques notes how upper and middle ranking officers constituted part of a distressed group of 'new poor' who resented the relative wealth of the 'new rich' of Lisbon.⁶⁷

⁶³ Ibid, p162.

⁶⁴ Op. Cit, Gallagher, p33. In stark contrast, by 1926 the purchasing power of military top salaries was reduced to half what it had been in 1910. António H. de Oliveira Marques (1972), *History of Portugal*. Lisbon: Ricardo Tavares, p174.

⁶⁵ António H. de Oliveira Marques (1974), *A História da Primeira República Portuguesa: As Estruturas De Base*. Lisbon: Ricardo Tavares, pp401-406.

⁶⁶ Citing A *Época* (The Season), Op. Cit, Gallagher, p38.

⁶⁷ Op. Cit, Oliveira Marques (1974), pp402-406.

There were additional motivating factors other than pay for military discontent. First, the concept of liberal democracy had been assailed in the press, and while favourable coverage was given to Authoritarian governments newly installed in Italy (1922), Spain (1923) and Greece (1925), calls for a military dictatorship were emanating from the right and other points along the political spectrum. And second, the experiences of the officer corps during World War I in Africa and Europe (the two theatres where Portugal had fought on the Allied side) had sown the seeds for discontent amongst upper echelons of the army. Gallagher makes reference to the way in which 'many officers came to believe that the conduct of politicians had made them unfit to remain in charge of the nation and that only the army could save Portugal from impending national disaster.'⁶⁸ Military alienation was illustrated in two abortive coups on 18 April and 19 July 1925, well before the Scandal was revealed. It is also important to note that economic factors could not be sufficient causes for revolution. The years 1919 and 1920 were perhaps the most catastrophic in the Republic's short history and there was no military coup.

This however does not completely discredit the Bank Note Case as a driving force in precipitating a successful military led coup. Prior to May 1926, no coup had been led by such senior army officers. Sure, precedents created by previous coup attempts granted greater courage of conviction to those involved in the May 1926 coup. However, in the context of a stabilising macroeconomic environment, it is unlikely that the coup would have occurred in the absence of the Crisis. The coup was the product of a growing sense of alienation; it was granted moral certainty by the ostensible incompetence of the current regime, highlighted so dramatically by the Bank Note Crisis. In this context, we

⁶⁸ Op. Cit, Gallagher, p33.

need to look in more detail at the Crisis's effects on the regime's credibility.

5 The effects of the Crisis on confidence

According to Wheeler, the Crisis 'struck the Silva government with a bombshell of embarrassment.'⁶⁹ This statement is indicative of an additional channel through which the Bank Note Crisis precipitated collapse. That is, the Crisis had severe political, and I would argue, even moral, implications which impacted the regime irrespective of the economic ramifications. Even if high officials in the Bank of Portugal, the diplomatic corps and several ministries were not implicated in the swindle,⁷⁰ it was enough for the Right to convince readers of conservative, pro-Fascist press, that not only was the PRP thoroughly compromised and corrupted, but also that Portugal's still undeveloped colonial empire in Africa would soon be lost to foreign powers owing to the disorder allowed by the Silva regime. The smell of corruption, whatever the real evidence, discouraged even the moderate, liberal Lisbon press.⁷¹

It is possible to use macroeconomic indicators to assess the loss of the regime's credibility induced by the Crisis. Dramatic movements in the exchange rate following the Crisis might be perceived as an indication of the regime's waning credibility. It is interesting to note that the escudo-

⁶⁹ Douglas Wheeler (1978), *Republican Portugal, A Political History 1910-1926*. Wisconsin: University of Wisconsin Press, p229.

⁷⁰ One of Alves Reis's purposes in publishing his long, rambling account of the case in 'O Dossier Secreto' was to exonerate all others of any blame for the swindle; a major purpose of the Military Dictatorship in allowing the publication of the Alves Reis tract, which was sprinkled with Protestant, evangelical doctrine, was to discredit further the First Republic's politicians.

⁷¹ Citing the *Diário de Lisboa*, 2 Jan 1926, lead editorial on the crisis of confidence in Op. Cit, Ibid, p230.

sterling exchange rate appreciated by 4.48% from 99.210 to 94.770 between 1925 and 1926 (see table 3.5). Any loss of credibility arising from the Crisis is clearly not reflected in the exchange rate. It is however necessary to consider two factors which arguably clouded the negative effect on the exchange rate caused by the loss of credibility.

First, there was a distinct stabilisation of prices over the period concerned. Further Granger causality testing presented in appendices E.2-E.4 suggests, with a high degree of significance, that prices caused subsequent year changes in the exchange rate. If it is assumed that demand and supply elasticities were normal, then a price fall would create an excess demand for escudos on foreign exchange markets and put upward pressure on the escudo's exchange rate. Increases in the money supply caused by the Bank Note Crisis will therefore have conceivably attenuated the escudo's appreciation over the period 1925-1926. It is of course important to bear in mind that Granger causality testing is not proof of a causal relationship. Granger tests instead make clear that the dependent variable - in this case the exchange rate - can be caused by a driver variable - prices. From the Granger test we can conclude that, in the absence of the inflation induced by the Bank Note Crisis, there might have been greater appreciation in the value of the escudo, which may have eased discontent, in particular amongst groups with a high marginal propensity to import.

The second factor that might dilute the effect of credibility loss on exchange rate value was already pervasive capital flight prior to 1925. According to Martin-Aceña, between 1920 and 1924, budgetary difficulties and political instability (according to Martin-Aceña the latter caused the former) resulted in capital flight amongst risk-averse

investors.⁷² It is likely that investors with any degree of risk sensitivity and capital mobility moved their capital abroad well before Reis's capture.⁷³ Given the number of aborted *pronciamentos* (broad-based military insurrections), it is not surprising that the country was perceived as unattractive to foreign and domestic investors alike. Between 1920 and 1924 the escudo devalued from 18.329 to 133.950, a fall of 630.81%. It is however difficult to ascertain the importance of capital flight given the absence of capital account data in Portugal until 1939.⁷⁴ From an exchange rate perspective, the Bank of Portugal did nothing to avert the Crisis (as was the case with inflation). The exchange rate maintained value after 1924 because there was simply little more readily mobile risk-averse capital to leave the country, and to a larger degree, prices had begun to stabilise.

The 10.2% real fall in consolidated internal debt in 1927 might be perceived as an alternative reflection of credibility decline arising from the Bank Note Crisis (see table 3.5). The Bank of Portugal effectively found itself less able to engage in open market operations as a result of its loss of credibility. This argument is given further weight when we consider that the fall in internal debt in 1927 comprised the largest fall in internal debt in the Republic's history. However, it is difficult to differentiate between the effects of the Bank Note Crisis and the May revolution itself on the public's confidence in the Republic's governance.

⁷² Currency convertibility Martin-Aceña cited in Eugenia Mata & Nuno Valério (1996), 'Monetary stability, fiscal discipline and economic performance. The experience of Portugal since 1854,' In Jorge Braga de Macedo, Barry Eichengreen and Jaime Reis (eds) *Currency convertibility: The Gold standard and Beyond*. London: Routledge, p231.

⁷³ Note also that emigrant remittances waned following World War I. Nuno Valério (1994), *Estatísticas Históricas Portuguesas*, Vol.2. Lisbon: Edições Cosmos. p185.

⁷⁴ The National Institute of Statistics was only created in 1932 with the advent of the *Estado Novo*.

It is interesting to note that credibility loss caused by Reis's scheme indirectly facilitated Salazar's accession to power not only through the *golpe* of 1926 (assuming that there is validity in arguments concerning the Crisis's effects on the Republic's already diminished credibility), but also through an assumed need to restore Portugal's international reputation by members of the post-revolution administration. In January 1927 Portugal failed to acquire a critical £12m loan from Baring Brothers, because the conditions imposed were so severe that Portugal was forced to abandon her request. In late 1927 the government requested a loan under the auspices of the League of Nations. The control clauses demanded were again deemed unacceptable. Portugal's failure to acquire critical external financing was an indication of her loss of credibility on international capital markets. Salazar's antediluvian economic philosophy, described by Gallagher as 'a fanatical orthodoxy',⁷⁵ is identified as stemming from the need to improve Portugal's credibility as a borrower, which had been significantly tainted by the Bank Note Crisis.⁷⁶ Certainly, as in the case of other European governments, orthodoxy was predominantly the product of the need to re-establish foreign credit market favour in the aftermath of post-war nominal and political instability. However, in the case of Portugal, the Crisis played a role in diminishing credibility, and hence in enhancing the fervour with which Salazar pursued orthodoxy, especially given that it had involved Waterlow and Sons and was given significant coverage in London daily newspapers.

Salazar's drive towards stability is evidenced in the policies he pursued following his appointment in April 1928 as Minister of Finance. He announced his intention to return to gold standard convertibility, which

⁷⁵ Tom Gallagher (1983), *Portugal, A Twentieth Century Interpretation*. Manchester: Manchester University Press, p55.

would occur at the prevalent exchange rate as soon as the budget was balanced and the floating debt reduced. Salazar introduced the principle of the balanced ordinary budget and strengthened the supervisory role of the Ministry of Finance (in order to discipline budgetary practices of other ministries). Both these measures conferred credibility to the government's commitments.⁷⁷ Monetary stabilisation resulted from the termination of government borrowing from the Bank of Portugal. Public accounts began to show surpluses, putting an end to monetary problems arising from public account deficits. The inflow of international funds resulted in surplus on the Balance of Payments. The subsequent increase in money supply did not result in an increase in prices, because of economic growth and the reduction in the velocity of circulation (a concurrent consequence of the end of inflation).

However, the importance of the Bank Note Crisis in diminishing Portugal's creditworthiness on international capital markets must not be exaggerated. Portugal's difficulty in acquiring external financing was severely restricted by the high levels of public deficits and political instability prevalent prior to Reis's printing scam. Furthermore, Portugal's war debt repayment record had proved a source of concern. According to the Treaty of Versailles, Portugal was to receive £49.5m war indemnity from Germany. The Portuguese government erroneously linked payment of war debt to receipt of war indemnity. Portugal therefore paid a paltry £947,714 up until 1921 when Germany suspended payment of war indemnities, leading to the registration of over £5m of interest by Britain.⁷⁸

⁷⁶ We need also to consider his small farming background, where frugality, thrift and strict management were necessary habits for small-scale farming in impoverished rural areas.

⁷⁷ Santos (1996) cited in Vasco Marques Carvalho (2001) 'Monetary Regimes and Macroeconomic Performance: The Portuguese Economy (1910-1940), ' *ISEG Económicas, Seminário de Departamento* No.2/2001, p12.

⁷⁸ In 1926 an agreement between Portugal and Britain was established in which Portugal would pay a total of £23,925,000 until 1988. The 1931 Hoover moratorium

6 Implications for the restoration of post-war economic stability

Finally, of crucial importance to the validity of the Bank Note Crisis's role in regime collapse is an assessment of Portugal's stability. A stable economic and political environment would preclude insurrection. Revolution in a stable context would suggest that some event *extraordinaire* played a pivotal role. There is considerable debate concerning the timing of Portugal's stabilisation.

In the years immediately following World War I Portugal had a record of high budget deficits, strong depreciation of its exchange rate, and high inflation (see tables 3.5 and 6.1). Seignorage resulted in a high inflationary tax on the private sector.⁷⁹ Nuno and Valério note how the 'country lived for a while on the verge of hyperinflation.'⁸⁰ The 1918 parliamentary charter, releasing the Bank of Portugal from having to back note issue with a metallic reserve expanded opportunity for deficit monetisation under Sidónio Pais's presidency, in which restrictive fiscal policy was unpopular and politically costly. The continued monetisation of public debt is evidenced in table 6.1, which illustrates how public debt at the Bank of Portugal was only reduced from 14.1% to 11.0% between 1919 and 1926. Furthermore, disruptions in supply conditions reflecting social agitation, and consequent shortages, significantly contributed to push prices upwards. Monetisation sent the escudo into free fall. The nation experienced both nominal and real rate depreciation (nominal depreciation more than offset the inflation differential).⁸¹

and the 1932 Lausanne Conference permanently suspended payments when Portugal had paid only £1.1m.⁷⁸

⁷⁹ Douglas Wheeler (1978), *Republican Portugal, A Political History 1910-1926*. Wisconsin: University of Wisconsin Press, p133.

⁸⁰ Eugenia Mata & Nuno Valério (1996), 'Monetary stability, fiscal discipline and economic performance. The experience of Portugal since 1854,' In Jorge Braga de Macedo, Barry Eichengreen and Jaime Reis (eds) *Currency convertibility: The Gold standard and Beyond*. London: Routledge, p211.

⁸¹ Escudo depreciation was partially aggravated by the termination of financial support from the UK. Financing was required to send Portuguese troops to Flanders – the

Table 6.1
Government debt

	1	2	3	4
	<i>Percentage change in nominal escudo-sterling exchange rate (%)</i>	<i>Floating Debt as a percentage of Total Debt (%)</i>	<i>Public debt at the Bank of Portugal as a percentage of GDP (%)</i>	<i>Budget deficit as a percentage of GDP (%)</i>
1919	3.7	20.1	14.1	-9.2
1920	123.6	23.7	13.7	-7.2
1921	114.9	29.2	17.5	-5.9
1922	65.3	32.9	13.2	-4.3
1923	68.6	35.4	12.8	-8.1
1924	22.1	32.7	12.9	-3.9
1925	-25.9	36.0	11.7	-2.3
1926	-4.5	40.1	11.0	-3.4
1927	14.3	19.8	11.4	-5.0
1928	-0.1	20.9	9.8	-1.0
1929	0.0	19.1	8.7	1.7
1930	0.0	12.8	9.4	0.5

Sources and Methods:

- 1-2 Raw data taken from Dina Batista, Carlos Martins, Maximiano Pinheiro & Jaime Reis (1997), 'New Estimates for Portugal's GDP 1910-1958,' *Banco de Portugal*, October, tables: B, p253; C.2, p261; and D.4, p271.
- 3-4 Public debt at the Bank of Portugal and budget deficit data taken from Eugenia Mata & Nuno Valério (1996), 'Monetary stability, fiscal discipline and economic performance. The experience of Portugal since 1854,' In

Bank of England granted £19m thereby diluting balance of payments difficulties.
Eugenia Mata & Nuno Valério (1991), 'Foreign Public debt and economic growth in Portugal 1830-1985,' *Estudos de Economia*, Vol. 11, No.4, p424.

Jorge Braga de Macedo, Barry Eichengreen and Jaime Reis (eds) *Currency convertibility: The Gold standard and Beyond*. London: Routledge, table 8.2, p220.

In spite of the heterogeneous political setting, there is however significant evidence to suggest growing stability as early as 1922. Carvalho provides one of the most convincing accounts of stability.⁸² He notes how stability was encouraged by the imposition of budgetary discipline in 1924 by Portugal's Prime Minister, Álvaro de Castro, and the then Minister of Finance, Daniel Rodrigues.⁸³ Table 6.1 shows how the budget deficit as a percentage of GDP decreased from 8.1% in 1923 to 3.4% in 1926. In 1922 there was a modernisation of the existing tax code. The tax base was broadened, new taxes were created, and existing ones increased, illustrating a willingness to conduct contractionary policies. In 1923 trade tariff reform generated additional revenues to the state. By 1924 the budget deficit had been reduced to 4.1% of GDP.

⁸² Vasco Marques Carvalho (2001) 'Monetary Regimes and Macroeconomic Performance: The Portuguese Economy (1910-1940), ' *ISEG Económicas, Seminário de Departamento* No.2/2001.

⁸³ Rodrigues was Minister of Finance between December 1923 and June 1924.

Table 6.2

Changes in the budget deficit, inflation and the exchange rate over selected periods

	1	2	3
	<i>Change in budget deficit as a percentage of GDP</i>	<i>GDP deflator Inflation</i>	<i>Annual change in exchange rate (%)</i>
1919-24	-6.4	34.1	-75.2
1919-26	-5.5	24.8	-46.0
1924-26	-3.2	8.1	2.8
1926-30	1.4	0.6	-2.0

Sources and Methods:

- 1 Results computed from data in Eugenia Mata & Nuno Valério (1996), 'Monetary stability, fiscal discipline and economic performance. The experience of Portugal since 1854,' In Jorge Braga de Macedo, Barry Eichengreen and Jaime Reis (eds) *Currency convertibility: The Gold standard and Beyond*. London: Routledge, table 8.2, p220. Dina Batista, Carlos Martins, Maximiano Pinheiro & Jaime Reis (1997), 'New Estimates for Portugal's GDP 1910-1958,' *Banco de Portugal*, October, table B, p253.
- 2-3 Computed from data in Batista *et al*, tables B and C.2, p253 and p261.

In the beginning of 1926, the exchange rate stabilised at 94.75 escudos per pound. Exchange rate stabilisation was brought about by a series of reforms. In July 1922 for example, exporters were obliged to deposit in the Bank of Portugal an amount of foreign currency corresponding to 50% of the value of their exports, raised to 75% in 1924. Furthermore, Castro's government sold the silver coins removed from circulation in 1917, equivalent to £2m. The result was an increase in gold and foreign currency reserves, enabling the Portuguese authorities to intervene in the exchange market in order to stabilise exchange movements. The government reduced foreign exchange needs by

imposing payment in escudos of the charges related to outstanding external debt of bonds denominated in foreign currency and held by Portuguese citizens.⁸⁴ Initially the market interpreted these measures as an indication of weakness of the escudo, resulting in depreciation. But, in the second half of 1924, the movement of nominal and real exchange rates began to reverse.⁸⁵ The nominal exchange rate hit a low of 154.75 escudos per pound in July 1924 and began to rise sharply. By the end of 1924, the escudo-sterling exchange rate was at 100.5. Fernando Teixeira dos Santos comments that the relative stability of the exchange rate in the second half of 1924 suggests that Portugal could have declared convertibility of the escudo.⁸⁶ This would have been in line with the examples of other countries, which, following the recommendations of the Genoa Conference in 1922 returned to the gold standard.

The improvement in macroeconomic indicators between 1924 and the beginning of 1926 does, however, prove insufficient to render the Crisis as an inevitable explanation of the Republic's collapse. It is necessary to distinguish between stability and improvements in stability indicators. In 1926 the cost of living was thirty times its 1914 level.⁸⁷ There was no restoration of convertibility, and political and social convulsion was evidenced in 7 new governments between 1924 and 1926.⁸⁸ Portugal also faced a £19m war debt to Britain. Portugal's inability to repay translated into the rise of total foreign debt as interest

⁸⁴ Two thirds of external debt held by Portuguese citizens. Service of debt paid in gold and amounted to £1.2m. With this decision, Portuguese authorities were able to reduce debt payments in foreign currency by almost two thirds. Alberto Xavier (1950), *Memórias da Vida Pública*. Lisbon: Livraria Ferin.

⁸⁵ Note role of expectations in reversing ER trend. Eugenia Mata (1987), 'Cambio e politica cambial na economia portuguesa, 1891-1931,' *Cadernos de Revista de Historia Economica e Social*, 8.

⁸⁶ Op. Cit, Mata & Valério (1996), p188.

⁸⁷ Hugh Kay (1970), *Salazar & Modern Portugal*. London: Eyre & Spottiswoode, p30, citing Pattee.

⁸⁸ Op. Cit, Carvalho, p9, citing Neves.

payments accumulated. The exchange rate remained unstable. Only in 1928 did the exchange rate stabilise at 108.25 escudos to the pound sterling. The escudo was only deemed officially stable in June 1931 when Portugal adopted the Gold Standard after forty years of suspended convertibility, and well after British restoration in 1925, only to abandon the Standard three months later. It was precisely this lack of stability until later in the decade that allowed Alves Reis to print his counterfeit notes. It is unlikely that the Crisis would have occurred had regulation been more rigorous and inflation been less pervasive. The opportunity to print undetected the escudo equivalent to approximately £3m in counterfeit money would simply not have been there. The nation may well have been more stable in 1926, but not enough completely to appease the discontent resulting from what West refers to as a period of 'continual anarchy, government corruption, rioting and pillage, assassinations, arbitrary imprisonment and religious persecution.'⁸⁹ It is in this sense that the nation-wide discontent that resulted in revolution is better perceived as the culmination of the nation's economic and political woes in previous years, which had made assassination and revolution social norms.

Nevertheless, the fact remains that the Republic was more stable in 1926 than it had been at any stage in the post-war era and, despite this, the nation experienced its first military coup. Surely this suggests that some event *extraordinaire* was a causal factor in the military coup. The solution to reconciling the instability suggested by the Crisis's advent and the stability illustrated by macroeconomic indicators lies in the relative nature of stability. The Republic was sufficiently unstable to allow the concealment of Reis's counterfeiting endeavours, but sufficiently stable to discount political and economic instability as adequate causes of the military coup.

⁸⁹ Citing West describing 1910-1926, Op. Cit, Kay, p26.

7 Conclusion

The ground has now been prepared for a final assessment of the effects of Portugal's 1925 Bank Note Crisis. The Crisis aggravated inflation in 1926 by approximately 5.9%, an amount equivalent to 0.88% of GDP at current market prices. Granger causality tests indicate how money supply is a candidate causal factor of inflation. The significance of the money supply variable lagged by one year suggests the importance of the money supply in determining the following year's inflation. There is however a myriad of caveats that need to be cited concerning this autoregressive model. First, it must be considered that temporal precedence is not a sufficient indication of causality. Second, given that the *golpe* occurred in May 1926, we must consider the possibility of ex-post reasoning. It is difficult to ascertain with much degree of certainty whether or not the bulk of the inflationary effect of Reis's monetary injections was felt prior to the May 1926 *golpe*. However, inferences from section two partially dispel this uncertainty, by suggesting that a little under four-fifths of the money spent was disbursed prior to the summer of 1925; therefore it is likely that the bulk of the illicit monetary injection's inflationary effect was felt before May 1926.

Furthermore, there are problems associated with available data. For example, there are possible discrepancies in the proportions in which the additional money injected by Reis was spent and the weighted values used to calculate GDP. The nature of any such discrepancies is impossible to determine, given that only general accounts of Reis's expenditures exist. Perhaps the most debilitating assumptions made by the model are those concerning full employment and the constancy of money velocity. In order for an increase in high-powered money to have a proportional increase on prices, assumptions of full employment and the constancy of money velocity must hold. Unfortunately the absence of

data makes it impossible to determine conclusively the validity of these assumptions. In spite of the weaknesses of the analysis, it provides a preliminary staging point from which further investigations might be launched, testing with greater accuracy the strength of the analysis's assumptions.

Arguably more significant than its effect on inflation was the effect of the Crisis on the First Republic's already tarnished credibility. Following the Crisis, the Lisbon press popularised notions of the Republic's incompetence. Exchange rate appreciation fails to reflect the loss of credibility that is manifested in capital flight. Appreciation is however to some extent the product of price stabilisation. Granger causality tests suggest that prices cause the exchange rate. Intuitively, falling prices create excess demand for escudos, placing upward pressure on the exchange rate. We also need to consider the existence of pervasive capital flight prior to 1925. But, in the absence of capital account data for the years prior to 1939, it is near impossible to confirm such conclusions with any degree of certainty. Credibility loss might alternatively be perceived as a reflection of the government's inability to raise finance on the domestic government debt market. The reduction in consolidated internal debt in 1927 illustrates the unwillingness of individuals to take up government bonds.

It is a further conclusion of this essay that credibility loss caused by the Crisis facilitated the creation of a climate conducive to the accession of Salazar's economic orthodoxy. Of course, the attraction of Salazar's orthodoxy and its roots lay also in factors that existed independently of the Crisis, such as Portugal's failure to repay war debts, high levels of public deficits and political and nominal instability.

The May 1926 coup occurred in the post-war Republic's most stable macroeconomic year, which suggests the importance of some

event extraordinaire. Despite indicators of growing economic stability, institutional stability appears to have proved inadequate to prevent the occurrence of the Crisis. It goes without saying that Waterlow's incompetence played a pivotal role in facilitating Reis's plan. It is interesting to surmise that, in free moments, the discredited Sir William may have spent some time wondering what happened to a letter he had written to the Governor of the Bank of Portugal in 1925, contrary to the conspirators' rule against direct communications. The letter read as follows:

'Dear Sir, I have pleasure in acknowledging receipt of your confidential letter of 23rd December, the contents of which I have noted and for which I am obliged.

Yours faithfully, W.A.
Waterlow.⁹⁰

To the extent that the Scandal's 5 December 1925 revelation preceded the January 1926 plot to overthrow the Republic, the Bank Note Crisis is a potential causal factor. From an inflationary perspective, it is however difficult to see how the Crisis engendered revolution. The Crisis would have had a general upward effect on prices as opposed to any specific effect on the group - the military - that initiated the revolution. However, the inflationary effect of the Crisis was felt most acutely by the military, because of consistent downgrades in purchasing power, both in absolute terms and relative to other sections of the state apparatus. The Crisis's inflationary impact on the military was compounded by the Republic's policy of arranging pay increases that discriminated against senior officers. The Lisbon press commented on how middle and high-

⁹⁰ Reproduced by T. Kisch (1932), *The Portuguese Bank Note Case*. London: Macmillan, p20.

ranking officers constituted part of a distressed group of 'new poor' who resented the relative wealth of the 'new rich' in Lisbon.⁹¹ This does, however, fail to consider that military discontent grew from a growing sense of military alienation following World War I. It is in this light that the revolution might be perceived as resulting from the culmination of discontent from economic and political instability in previous years. Conversely, it is unlikely that the coup would have happened in the absence of a crisis, given the stabilising political and macroeconomic environment.

Bearing in mind the limitations of data and the weaknesses of assumptions made, it is the conclusion of this essay that the Crisis aggravated inflation and induced a loss of credibility in the First Republic. The credibility loss proves more significant than its inflationary counterpart when explaining the Crisis's relationship with the collapse of the *Primeira República*. The Crisis was in effect a trigger event which granted to the grievances of the coup's protagonists (grievances which had been accumulating from years of economic and political instability and which were partially accentuated by the Crisis's inflationary effect), a degree of moral certainty. This is not to say that the Crisis was a *sine qua non* for revolution, but rather that the Crisis increased the likelihood of its happening.

⁹¹ António H. de Oliveira Marques (1974), *A História da Primeira República Portuguesa: As Estruturas De Base*. Lisbon: Ricardo Tavares, pp402-406.

Bibliography

- Batista, Dina & Martins, Carlos & Pinheiro, Maximiano & Reis, Jaime (1997), 'New Estimates for Portugal's GDP 1910-1958,' *Banco de Portugal*, October.
- Bull, Andrew (1997), 'Alves Reis and the Portuguese Bank Note Scandal of 1925,' *The British Historical Society*, No. 24: 22-57.
- Carvalho, Vasco Marques (2001), 'Monetary Regimes and Macroeconomic Performance: The Portuguese Economy (1910-1940),' *ISEG Económicas, Seminário de Departamento No.2/2001*.
- Egerton, F.C. (1943), *Salazar, Rebuilder of Portugal*. London: Hodder and Stoughton.
- Esteves, P (1993), 'Portuguese prices before 1947: inconsistency between the observed cost of living index and the GDP price estimation of Nunes, Mata, Valério, 1989,' *Bank of Portugal Working Paper 19/93*.
- Fryer, Peter & Pinheiro, Patricia McGowan (1961), *Oldest Ally – A Portrait of Salazar's Portugal*. London: Dennis Dobson.
- Gallagher, Tom (1983), *Portugal, A Twentieth Century Interpretation*. Manchester: Manchester University Press.

Note: References in the text or notes to works by more than two authors use only the first author's name followed by "et al."

Hamilton, James D. (1994), *Time Series Analysis*. Princeton: Princeton University Press.

Kay, Hugh (1970), *Salazar & Modern Portugal*. London: Eyre & Spottiswoode.

Kisch, T (1932), *The Portuguese Bank Note Case*. London: Macmillan.

Lains, Pedro & Reis, Jaime (1991), 'Portuguese Economic Growth, 1883-1985: Some Doubts,' *Journal of European Economic History*, vol. 18, no.2: 441-453.

Mata, Eugenia (1987), 'Cambio e politica cambial na economia portuguesa, 1891-1931,' *Cadernos de Revista de Historia Economica e Social*, 8.

Mata, Eugenia and Valério, Nuno (1991), 'Foreign Public debt and economic growth in Portugal 1830-1985,' *Estudos de Economia*, Vol. 11, No.4.

(1996), 'Monetary stability, fiscal discipline and economic performance. The experience of Portugal since 1854,' In Jorge Braga de Macedo, Barry Eichengreen and Jaime Reis (eds) *Currency convertibility: The Gold standard and Beyond*. London: Routledge.

Neves, J.C. (1994), *The Portuguese economy: a picture in figures, XIX and XX centuries*. Lisbon: Universidade Católica.

Nunes, Anabela & Mata, Eugenia & Valério, Nuno (1989), 'Portuguese Economic Growth, 1883-1985,' *Journal of European Economic History*, vol. 18, no.2: 291-33.

Oliveira Marques, António H. de (1972), *History of Portugal*. Lisbon: Ricardo Tavares.

(1974), *A História da Primeira República Portuguesa: As Estruturas De Base*. Lisbon: Ricardo Tavares.

Reis, Artur Virgilio Alves (1927), *O Angola e Metropole – 'Dossier Secreto.'* Lisbon: Artur Reis.

Sachs, J & Larrain, F. (1993), *Macroeconomics in the Global Economy*. New York: Harvester.

Schwartzman, Kathleen C. (1989), *The Social Origins of Democratic Collapse: The First Portuguese Republic in the Global Economy*. Kansas: University Press of Kansas.

Teigh Bloom, Murray (1966). *The Man Who Stole Portugal*. London: Secker & Warburg.

Tillotson, John (1992). 'The Portuguese Bank Note Case,' *Manchester Faculty of Law, Working Paper, No.13, Nov.*

Valério, Nuno (1994), *Estatísticas Históricas Portuguesas, Vol.2*. Lisbon: Edições Cosmos.

Wheeler, Douglas (1978), *Republican Portugal, A Political History 1910-1926*. Wisconsin: University of Wisconsin Press.

Xavier, Alberto (1950), *Memórias da Vida Pública*. Lisbon: Livraria Ferin.

Appendix A

Chronology of selected economic and political events, 1854-1932

1854	September 31	Portugal joins the gold standard.
1889	April 28	António de Oliveira Salazar is born.
1891	July 31	Portugal forced off the gold standard and into free float.
1896	September 3	Alves Reis is born , the son of a funeral director who had himself gone bankrupt during his career.
1908	February 1	Assassination of D.Carlos and Crown Prince.
1910	October 4-5	Republican revolution. King Manuel II goes into exile. The <i>Primeira República</i> is born. About this time Salazar starts as a student at Coimbra University.
1916	March 9	Portugal enters First World War.
1914-21		Failed attempts to introduce foreign exchange controls to prevent vertiginous decline of the escudo. Exchange rate Control Council created in December 1919.
1918	April	Charter permitting Bank of Portugal to issue money to finance government expenditures without the backing of metal reserves. Not revised until 1931. Heavy taxation precluded by the politically unstable environment.
1922	June	Portugal intervenes in the escudo's free float using the <i>Fundo de Maneio Cambial</i> . Achieved limited success after July 1924.
1924	December 4	Marang first arrives at Waterlow and Sons.
1925	February	Marang makes first delivery of fraudulent notes.
	June 5	Reis creates his own bank, the Bank of Angola and Metropole.
	July-December	Reis attempts to acquire controlling stake in the Bank of Portugal.
	December 5	The Scandal is revealed in Lisbon daily, O Século. Reis is arrested the following day on board a ship bringing him back to Lisbon from Angola. Tried in Oporto in May 1930 and sentenced to twenty years imprisonment.
1926	May 28	Military revolt signaling the end of the <i>Primeira República</i> : triumvirate of General Gomes de Costa, General Fragoso Carmona and Captain Mendes Cabeçadas. Beginning of military dictatorship – ‘A <i>República Autoritária</i> ’ (‘Authoritarian Republic’). Carmona is president, beginning 26 November 1926,

Sources: John Tillotson (1992). ‘The Portuguese Bank Note Case,’ *Manchester Faculty of Law, Working Paper* No.13, Nov, pp1-7. Antonio H. de Oliveira Marques (1972), *History of Portugal*. Lisbon: Ricardo Tavares, pp185-187. Hugh Kay (1970), *Salazar & Modern Portugal*. London: Eyre & Spottiswoode, pp460-461. Peter Fryer & Patricia McGowan Pinheiro (1961), *Oldest Ally – A Portrait of Salazar’s Portugal*. London: Dennis Dobson, p257.

		while also remaining prime-minister until his election on 18 April 1928 as president and the appointment of a new prime minister, Vicente de Freitas. In effect, there was no president until 26 November 1926 when Carmona replaced Machado, the First Republic's last president. In the interim, 9 July-26 November, there was only a prime-minister, Carmona.
	June 26	Salazar appointed Finance Minister, but resigns after five days.
1928	April 27	General Carmona reappoints Salazar as Minister of Finance.
1931	July 1	Portugal returns to the gold standard after a forty year suspension of convertibility at a parity of 110 escudos to the pound sterling.
	September 21	Portugal follows Britain's lead and abandons the gold standard after only three months of re-established convertibility.
1932	April 28	Portuguese Bank Note Case in London Bank of Portugal vs. Waterlow and Sons comes to end.
	July 5	Salazar becomes Prime Minister. The Estado Novo is firmly in place. Salazar is relieved of his duties (he did not resign) because of physical incapacity on 27 September 1968.

Appendix B

Political instability 1910-1926: cabinet and ministerial changes, strikes and parliamentary closures

Table B.1
Reasons Presidents left office, 1910-1926

<i>Reason</i>	<i>Number</i>
Term expired	2 ^α
Assassinated	1
Military <i>golpe</i>	2
Resigned	3

Source: Schwartzman, Kathleen C. (1989), *The Social Origins of Democratic Collapse: The First Portuguese Republic in the Global Economy*, Kansas: University Press of Kansas, table 2.1, p35.

^α Teófilo Braga completed his term, but it was only a three-month interim term.

Table B.2
Reasons for closing parliament, 1910-1926

<i>Reason</i>	<i>Number</i>
Term expired	3
Military <i>golpe</i>	4
Dissolved by president	2

Source: Schwartzman, Kathleen C. (1989), *The Social Origins of Democratic Collapse: The First Portuguese Republic in the Global Economy*, Kansas: University Press of Kansas, table 2.2, p36.

Table B.3
Number of cabinets per year, 1910-1926

<i>Year</i>	<i>Number</i>	<i>Year</i>	<i>Number</i>	<i>Year</i>	<i>Number</i>
1910	1	1916	1	1922	3
1911	2	1917	2	1923	2
1912	1	1918	2	1924	2
1913	1	1919	4	1925	4
1914	3	1920	7	1926	1
1915	4	1921	6		

Source: Schwartzman, Kathleen C. (1989), *The Social Origins of Democratic Collapse: The First Portuguese Republic in the Global Economy*, Kansas: University Press of Kansas, table 2.3, p37.

Table B.4
 Number of strikes per year, 1910-1926

<i>Year</i>	<i>Strikes</i>	<i>Year</i>	<i>Strikes</i>	<i>Year</i>	<i>Strikes</i>
1910	85	1916	7	1922	22
1911	162	1917	26	1923	21
1912	35	1918	11	1924	25
1913	19	1919	21	1925	10
1914	10	1920	39	1926	7
1915	15	1921	10		

Source: Antonio H. de Oliveira Marques (1972), *History of Portugal*.
 Lisbon: Ricardo Tavares, p161.

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