

Cutting the Money Supply

On March 22 (April 4)¹ 1922, Greek Minister of Finance Petros Protopapadakes proposed to Parliament what became known as the Greek 6 ½ percent Forced Loan of 1922. This curious and radical proposal was enacted, promulgated and put into force three days later.²

As Moody's described it, "The loan is obligatory on the part of holders of National Bank Notes and for an amount equal to the [sic] half of the sum held."³

At the time, the National Bank of Greece (NBG) was a hybrid commercial and central bank with the sole authority to issue Greek banknotes (paper currency). Instructions for holders of the notes—circulating in denominations of 5, 10 (shown below), 25, 500, and 1000 drachmas were fairly simple:

1. Cut the notes in half along the vertical axis.
2. The (left) sides bearing the portrait of George Stavros (the late founder of the bank) were to continue to be used as currency at half the value printed on the note, until such time as new (whole) notes were printed as replacements.
3. The (right) sides bearing the Royal arms or "crown" were to be considered provisional bonds, to be replaced by newly printed bonds at half the value printed on the banknote.
4. Although "The half of the notes which will represent bonds of the State is not allowed to circulate as money under heavy penalty"⁴, debts existing at the time—apart from the national debt—were allowed to be paid ½ in notes and ½ in provisional bonds for three months after the passage of the law. National debt was to be repaid completely in "circulating money".



¹ Until 1923 Greece remained on the Julian calendar hence the "earlier" date is customarily used although "translated" into the Gregorian calendar this would have been April 4. The difference between the two calendars explains why the 1917 Soviet October Revolution took place, according to the Gregorian calendar, in November.

² See Louis Cassimatis (1988) *American Influence in Greece 1917-1929*, Kent State University Press, (google ebook).

³ *Moody's Municipal and Government Manual 1922*, page 375, (google ebook).

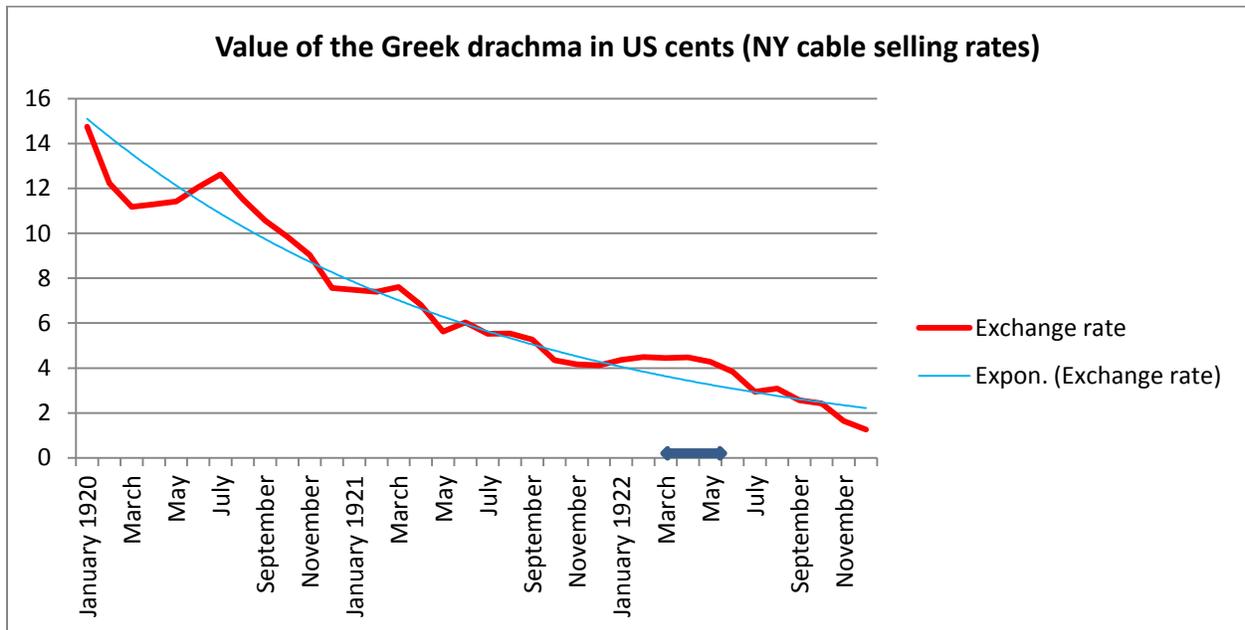
⁴ *Moody's*, op cit.

Holders of the note halves were given 6 months to exchange them for new notes and bonds.

The law applied to all issued notes—amounting to about GRD 3.2 billion—including those held in the custody of the NBG (and therefore not “in circulation”)⁵. The forced loan and associated government bonds amounted, consequently, to approximately GRD 1.6 billion. That amount was immediately credited to the Government’s account at the NBG.

The bonds accrued interest at an annual rate of 6 ½ percent with coupons payable in April and October. They had a maturity of 20 years. A last important feature of the scheme was that holders of the crown halves and, later, the permanent bonds, were entitled to pledge them as collateral to the NBG in exchange for a loan not to exceed half their par value. The annual interest on that loan was 6 percent.

What was the impact of this surprise and almost instantaneous drop in the money supply on the price level? In the absence of data on representative prices, I use the USD drachma exchange rate as a proxy.

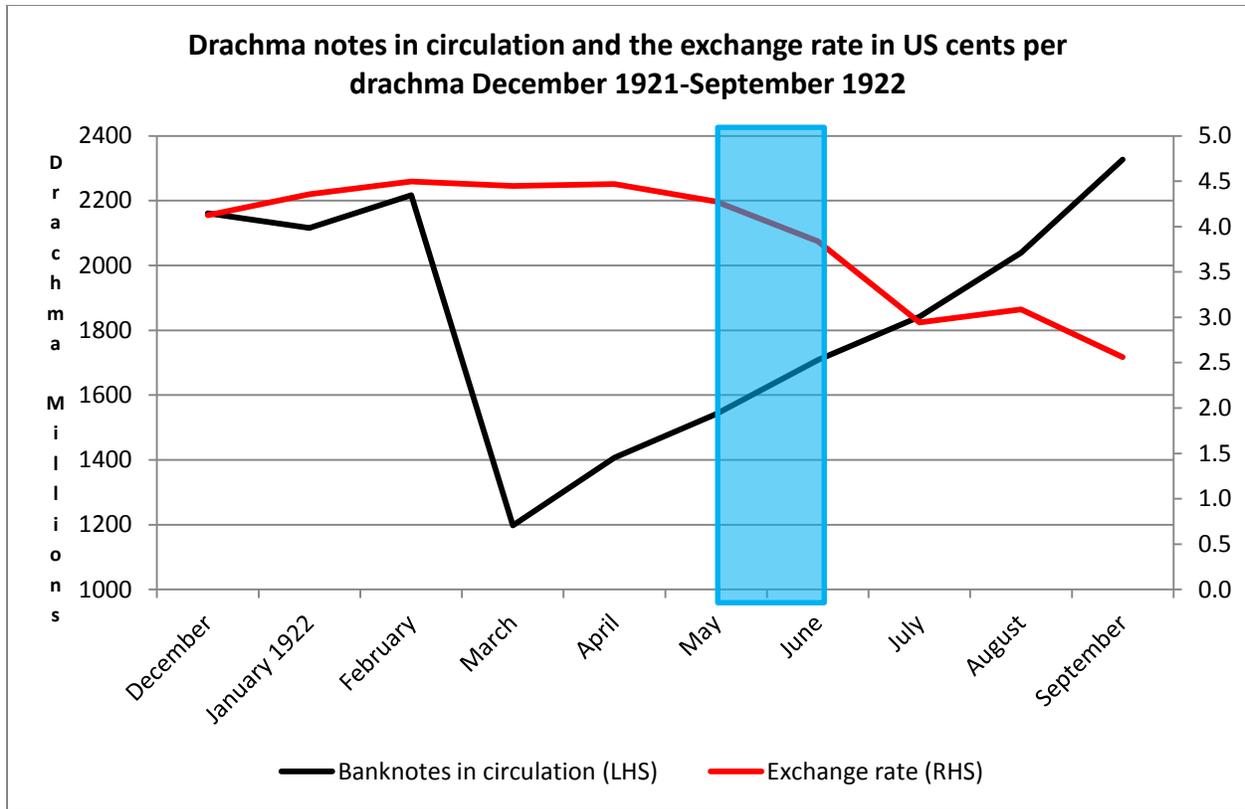


Source: League of Nations, *Memorandum on Currency 1913-1922*, Geneva 1923.

The literal cutting of circulating money in half seems to have had a transitory stabilizing impact on the drachma at about 4 US cents but it should be noted that the stabilization appears to have commenced in November of the preceding year, well before the measure was enacted. The impact was short-lived, as by July 1922 the drachma had returned to the exponential depreciation trend line.

Taking a closer look at the months immediately surrounding March 1922, the immediate impact of the forced loan on the value of banknotes in circulation is clearly evident.

⁵ On March 24, 1922 the NBG held GRD 792.4 million in custody. Exceptions to the rules were made, primarily for foreign nationals, so that the ultimate amount of currency cut was slightly smaller than GRD 3.2 billion.



Source: League of Nations, op. cit. and *Memorandum on Central Banks 1918-1923*, Geneva, 1924.

The fall in banknotes does not seem to have had a significant impact on the exchange rate although the acceleration in the growth rate of notes evident by June is associated with a rapid depreciation of the exchange rate that month (shown within the blue column). Nevertheless, the quantity theory of money does not seem to explain well the data in as much as the supply of banknotes was 8 percent lower in August than in February 1922 while the value of the drachma *fell* by 31 percent during the same period.

Although it is tempting to read too much into this isolated episode, I do think it succinctly raises several important issues to ponder regarding our current financial turbulence, 91 years later. I will talk about all of these in some detail in future blog posts. For now let me outline them:

- The line between “money” and “debt” or alternatively stated as between “central bank monetary liabilities” and “government debt” can become quite fuzzy indeed. Since this line is seen by many as a tripwire in a minefield strewn with an explosive compound known as “money creation” or “deficit financing by money” it seems important to sort this out. Does it really matter whether the Federal Reserve finances its purchases of Treasury debt in the open market with overnight deposits (bank reserves); overnight repos; 7 day term deposits; or 30 year central bank bonds? Yes it does, but not because the first is called “money” and the latter three “debt”⁶. In the Greek case, a given piece of paper was first “money”, then, with the stroke of a pen and

⁶ See <http://bit.ly/19yzjZS> and <http://www.voxeu.org/article/exit-path-implications-collateral-chains> where I argue that Treasury debt may be more liquid than bank reserves (money).

slice of a razor, became a creature of modern Greek mythology—a ½ money ½ bond hybrid. The government, perhaps fearing the crown half might circulate as interest-bearing money, prohibited that it be used as such—presumably to control the amount of monetary expansion occasioned by the rapid spending of the bond proceeds immediately credited to it by the NBG. Nevertheless, bond holders partially circumvented this desire by using their bonds as collateral to borrow from the NBG⁷. In other words, the crown half was transformed from money to bonds to collateral from which money arose phoenix-like from the coffers of the NBG.

- The line between fiscal and monetary policies in reality may be quite a bit more blurry than it appears on paper, but more importantly, central banks at times undertake fiscal (or quasifiscal) operations such as the US Fed Maiden Lane facilities while treasuries sometimes execute monetary operations (US Treasury Supplementary Financing Program)⁸. The 2009 joint Federal Reserve US Treasury press statement⁹ expressed the aim to restore policy responsibilities to their rightful agencies but its intent—most notably regarding the Federal Reserve’s Maiden Lane facilities—has not been entirely realized. In the Greek case it is important to note that the decision to “cut” the money supply was taken not by the central bank but by the Minister of Finance and the Parliament. Furthermore, the option provided bondholders to borrow at a highly attractive rate from the central bank was also Government—not central bank--policy. Assembling the pieces of the puzzle, the Greek event represented not a tightening of monetary policy but an *expansionary* fiscal policy. It is the latter that explains the depreciation of the drachma. In a high inflation environment, 20 year bonds payable in fiat money (or “forced currency” as money not backed by gold was then called) amounts to confiscation. The entire GRD 1.6 billion amortization payment due in 1942 would have been worth about 50 1922 Greek cents in an environment where the price level was expected to triple every year. Simply put, and neglecting the arithmetic between the NBG and Government, the Greek note-holders were directly taxed to the tune of at least GRD 800 million—GRD 1.6 billion in cash forcibly exchanged into virtually worthless bonds¹⁰ minus the GRD 800 million they might have obtained in loans by posting their bonds as collateral at the NBG. The Treasury obtained GRD 1.6 billion in current purchasing power against the issuance of the bonds while the general population made up the difference by suffering the anonymous “inflation tax”¹¹.
- When examining central bank balance sheet policies it is important to examine what is happening to all of the moving parts of the balance sheet not just to those most prominent in the academic literature of the 1960s such as the “monetary base”. Since balance sheets by

⁷ An investor in May 1922, having pledged GRD 2 million in crown halves as collateral to borrow GRD 1 million from the NBG, might have immediately bought dollars and then sold them in December 1922 for GRD 3.45 million. After repaying the loan, a profit of approximately GRD 2.45 million would have remained.

⁸ See <http://www.treasury.gov/press-center/press-releases/Pages/hp1144.aspx>

⁹ See <http://www.federalreserve.gov/newsevents/press/monetary/20090323b.htm>

¹⁰ To paraphrase Keynes (though not referring to the Greeks) from *A Tract on Monetary Reform*—they received finely engraved acknowledgements on watermarked paper [of taxes paid], page 62.

¹¹ As in the case of any tax, the public also bears the “deadweight” loss arising from relative price distortions.

definition balance, changes in one item invariably lead to changes in another item. Identifying the balancing item can be crucial in analyzing the impact of the policy. Indeed, it makes a significant difference whether the central bank issues currency to acquire an international reserve asset or to acquire a claim on the public sector that will never be repaid. In the former case the bank obtains an interest bearing asset in a “hard” currency that serves to back the local currency issued. In the latter case, the central bank has essentially facilitated the augmentation of the public sector deficit. Thus the merit in emphasizing the “irredeemable” qualifier in the well known remark by Irving Fisher (1911) in *The Purchasing Power of Money*, “Irredeemable paper money has almost invariably proved a curse to the country employing it.”

- Consolidating the central bank and government fiscal accounts illuminates balance sheet policies and clears up some common confusion about unorthodox monetary policy. The “Fiscal Theory of the Price Level” will be the topic of a future blog post—suffice to say that inflation is not always and everywhere a central bank phenomenon. Fiscal policy is often the culprit. Could this be behind Milton Friedman’s claim that “...with today’s paper money it is governments and governments alone that can produce excessive monetary growth, and hence inflation.”¹²?
- All accounting is fiction. I have seen many central bank balance sheets where worthless assets¹³ were valued at “par” thereby hiding large central bank losses and negative equity. So numbers may not mean what they appear, assets may be illusionary and liabilities hidden. Mixing dodgy central bank and fiscal accounting makes for a potentially hypnotic and opaque brew.
- When one looks back through history, it is clear that monetary and fiscal measures taken in the first half of the 20th century were many orders of magnitude more radical than anything taking place in the 21st century, notwithstanding the ability of modern means of communication to whip up a frenzy of commentary. That policy was more radical probably has something to do with the respective severities of the problems, different demographics, more representative political representation today or perhaps just a lack of modern imagination. But maybe it is just that with regard to unconventional policies we “ain’t seen nothin’ yet”! Scissors at the ready....

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¹² Friedman, Milton (1994) *Money Mischief*, page 204.

¹³ A typical example is a zero coupon, 100 year, bullet amortization, government bond.