

the wage rate). According to Pivetti (1998, p. 43), “there is nothing ‘paradoxical’ in the positive correlation between interest [rates] and the price level”.

The logic of that correlation is a cost-push channel of monetary policy, where the rate of interest plays a role in the cost of opportunity for firms to invest and it affects their cost of production and pricing decisions.

Many empirical models have been proposed to understand the impact of interest rates on marginal costs. For instance, Klein (1995) showed supporting evidence for US data; Barth and Ramey (2001) provided the same evidence using US data for 1960–96, showing that after a restrictive monetary policy shock, the price–wage ratio increases. In a similar vein, Hanson (2004) finds evidence of a price puzzle from 1959 to 1979.

Other denominations of Gibson’s paradox are “the Cavallo–Patman effect” (Taylor, 1991) and “the price puzzle” (Eichenbaum, 1992).

ALEJANDRO FIORITO

See also:

Banking and Currency Schools; Natural rate of interest; Wicksell, Knut.

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Glass–Steagall Act

The expression “Glass–Steagall Act” is commonly used to refer to the provisions of the US Banking Act of 1933, relating to the separation between commercial banks and investment banks (see Norton, 1987).

Although they have been only partially implemented, the Glass–Steagall Act limitations to commercial banks’ involvement in security activities had a profound and

long-lasting influence on banking in the United States. With the Great Depression of the 1930s, the share of corporate securities in commercial bank security portfolios shrank considerably, and in the following decades never returned to its pre-1929 levels. The share of government securities grew correspondingly. The Glass–Steagall Act is considered to be the main determinant of this trend, even more than the Great Depression and the enormous increase in the issuance of government bonds needed to finance the Second World War – indeed, it is the only one of these three factors whose influence was not of a temporary nature (see Ramirez and DeLong, 2001, pp.97–101).

The effects of the Glass–Steagall Act on the business of investment banking were also relevant. Before the reform, investment banks and commercial banks constituted financial conglomerates, owned by the same financiers and run by the same directors: the huge pool of deposits was thus enslaved to the needs of investment banking, making commercial banks the passive underwriters of the securities to be placed, and allowing investment banks to cash disproportionately high fees without bearing any risk. After the reform, investment bankers had to “organize” themselves the money in order to carry the securities, and then find non-bank long-term investors willing to buy them (see Carosso, 1970, pp.427–32).

The Glass–Steagall Act had as its main purpose to prevent commercial banks from entering the capital market: public authorities – through deposit insurance and access to the lender of last resort – accorded commercial banks the privilege to operate the transformation of a short-term riskless funding into longer-term risky loans. In no event would this privilege be used to purchase securities, thus fanning the flames of financial speculation.

The end of the arrangement given to US banking by the Glass–Steagall Act dates back to long before the formal repeal of that Act in 1999 (see Barth et al., 2000). Since the 1970s, a new and growing wave of unchecked developments of financial transactions channelled short-term liquid loans into capital markets, in a way, however, different from that of the pre-Glass–Steagall Act era. The link between the money market and the capital market has not been recreated through the practice of the interlocking banking managements and the commercial bank subscription of bonds and stocks, but rather through the development of money market instruments alternative to deposits. Investment banking has become a highly leveraged business financed in a completely unregulated money market – the so-called shadow banking system – dominated by financial institutions without banking licences, which carried out a role similar to that of traditional banks.

Behind these non-bank intermediaries there are of course also the traditional banks themselves, which, since the early 1980s, were permitted by public authorities to engage in transactions prohibited by the Glass–Steagall Act. At the beginning of this new, very profitable and completely unregulated financial circuit, commercial banks played only a marginal role – something much to the taste of investment banks, which in fact campaigned against the progressive emptying of the compartmentalization measures. Commercial banks, on the other hand, pushed for the abolition of a set of rules that, instead of promoting their traditional field of action, had come to exclude them from the market-based financial intermediation that was impetuously developing with the blessing of public authorities.

The global financial crisis that erupted in 2008 has put an end to two decades during which practitioners and academics produced a huge number of studies to demonstrate

that the introduction of the Glass–Steagall Act in 1933 was an emergency measure without any rational justification, and had adversely affected the development of American capitalism (see, for example, Benston, 1990). Since then, many voices, even within financial orthodoxy, have been raised against the repeal of the Glass–Steagall Act, calling for a return of its provisions. The usefulness of this return is controversial, not only because the climate of hostility against every form of financial regulation that prevailed over the last decades has been little changed by the crisis. The unholy concentration of power and wealth in the hands of a few who control the financial system and, through it, the whole industrial and political system of the United States is today undoubtedly similar, if not even more pernicious, than the one that occurred at the beginning of the twentieth century. However, the nature of this concentration of power and the ways in which it operates have since then radically changed, and it is not at all obvious that old-style Glass–Steagall prohibitions can be as effective today as they were at the time.

The reintroduction of prohibitions as formulated in 1933 would restrict the traditional activities of commercial banks, without impairing “non-bank” activities, thus simply restoring the unsatisfactory pre-1999 state of affairs. While in 1933 the separation of commercial banks from investment banks was sufficient to separate money market activities from capital market activities, today this is obviously not the case. A new and effective Glass–Steagall Act could hardly refrain from making impractical any gimmick that makes long-term investor commitment perfectly “liquid”. From a legal standpoint, this goal could be accomplished by restricting the access of investment banks to the money market, irrespective of the intermediary and the financial instrument used. This solution raises the problem of how to accommodate the demand for short-term liquid assets that offer a safe return. The way to deal with this problem today seems to be the same as in the decades before the 1980s, when the main financial instrument of the money market was the Government debt.

ALDO BARBA

See also:

Financial crisis; Investment banking; Lender of last resort; Narrow banking; Shadow banking.

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the profits and the debt created by the shadow banking system, and the management of these, are all “dominated” by commercial and investment banks, in the words of Cetorelli and Peristiani (2012, p. 48).

Identifying investment banks as the principal actors in the production of debt and profits is a key first step in understanding the shadow banking system. Yet this is relatively simple compared to understanding the nature and magnitude of investment banks’ relationships with hedge funds, structured investment vehicles, CDOs and other entities that are connected to investment banks to highly varying degrees. With investment banks as the core actors, and off-balance-sheet special purpose vehicles as their satellites, the relationship between the two types of entities is far from uniform.

In many cases entities such as CDOs are relatively monolithic entities. Much like a mortgage-backed securities tranche, a bank would issue a CDO and then pretty much leave it alone. Yet as Cetorelli and Peristiani (2012) show, structured products have evolved towards an ever greater degree of management.

While shadow banking has been somewhat demystified, this market is still vastly more important to the economy than it is understood.

WESLEY C. MARSHALL

See also:

Asymmetric information; Bank money; Bubble; Endogenous money; Financial crisis; Financial supervision; Flow of funds; Glass–Steagall Act; Investment banking; Money and credit; Money creation; Narrow banking.

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Sovereign lending

Sovereign lending is lending to a foreign government. The key feature of the notion of sovereign lending is therefore to be found in the fact that the debtor is a State – the debt is public debt, not private debt – while the creditor is a foreign lender – the debt is external debt, not internal debt.

The term “sovereign lending” is generally used to refer to the case in which the debtor is a developing country, and the debt is not denominated in its domestic currency. Yet, in light of the strong growth in the share of public debt placed abroad in domestic currency

by both advanced and developing countries, it seems appropriate not to restrict the definition to emerging economies and to government debt denominated in foreign currencies. For example, sovereign lending is the issuance by Latin American sovereigns of foreign debt denominated in local currency. Sovereign lending is without any doubt also the loan that China gives to the United States by purchasing the securities issued by the US federal government. And the loan that France grants to Italy when buying Italian government bonds is certainly sovereign lending, although the lender and the borrower share the same currency.

The problems related to the notion of sovereign lending are linked not so much to the dichotomy between public and private debt – even though this dividing line may also give rise to some difficulties – but to the dichotomy between internal and external debt. Indeed, the definition of external debt is not unique, as there are three different definitions. The first is linked to the legal system that governs the debtor/creditor relations, and it regards as external the debt issued under the jurisdiction of a foreign court. The second definition focuses on the currency in which the debt is issued, and it regards as external the debt issued in a foreign currency. Finally, there is the definition used by the compilers of official statistics, which is based on the residence of the investor and considers as external every debt contract in which principal and interests are due to non-residents (see Cowan et al., 2006). Which definition is the most appropriate of course depends on the issue under discussion. When considering the degree of legal assistance that the lender is able to get in order to protect its rights in case of default, it is clear that the appropriate definition is the first. If we look at the matter from the point of view of exchange-rate risk, or of the borrower's ability to satisfy the lender with an asset that he can create at will, the appropriate definition is the second. When we look instead at the capability of the debt contract to ease the borrower's external constraint, the relevant definition is the third: a debt issued in the debtor's currency and governed by its legal system, when purchased by non-residents, usually gives rise to a foreign currency influx that can match current account deficits in the balance of payments.

The public debate about sovereign lending in this decade is dominated by issues related to the first definition given above. From that standpoint, a debt implies the existence of a legal entity able to subdue the debtor to the creditor in a framework of rules accepted by both (Buchheit and Gulati, 2010). For sovereigns this entity does not formally exist, and therefore economists have produced a vast number of works focused on the trivial attempt to explain why States pay their debts, even if there is not a court that forces them to do so (see Rogoff and Zettelmeyer, 2002).

Much more relevant is the second definition of external debt, as the currency in which the debt is defined brings attention to the trend towards global financial integration recorded over the past decades. During the 1980s and 1990s, emerging countries suffered the so-called “original sin”, only being able to borrow in the form of short-term foreign-currency-denominated external debt (see Eichengreen and Hausmann, 1999). This state of affairs has changed completely with foreign direct investment and portfolio equity now accounting for the majority of emerging countries' liabilities, and with their external debt increasingly denominated in their own currencies. Certainly, the transformation of some of the emerging countries in economies of great importance on a global scale is among the reasons why there has been an increase in their ability to borrow in their own currency. However, the emergence of the idea that the central bank should be

an institution independent of the political power and that the management of the currency must not be subordinated to the goal of internal development but to that of price and exchange-rate stability should not be underestimated. A second strand of research related to the issue of the currency in which the debt is denominated analyses the function of the central bank as debt-crisis-solver thanks to its action as lender of last resort, discussing the difficulty of developing an institution of comparable effectiveness at the international level (see Fischer, 1999).

This consideration brings us to the third and most important sense in which a debt, whether it is denominated in domestic or foreign currency, can be considered external; that is, a factor capable of relaxing the external constraint. From this point of view, the role played by the placing of public debt overseas is ambiguous. That these, as well as other, market-based capital inflows can expand the margins offered by the loans of the International Monetary Fund is a fact. However, it is also a fact that the movements of financial capital on a global scale are erratic, and the ability of a country to be the recipient of these inflows is subject – even more than in the case of loans from international organizations – to the adoption of policies aimed at the satisfaction of the creditor at the expense of economic growth-oriented policies. To the extent that this happens, in the longer term sovereign lending may operate as a factor of aggravation of the external constraint rather than as a means to overcome it.

ALDO BARBA

See also:

Central bank independence; Currency crisis; International Monetary Fund; Lender of last resort; Original sin.

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State money

The term “state money” refers to the chartalist approach to money defended by Knapp (1905 [1924]) and, in modern times, mainly by Wray (1998, 2002) and his colleagues at the University of Missouri–Kansas City. Conceptually, state money is defined as money “accepted by the state in discharge of liabilities to the state” (Wray, 1998, p. 11). It rests on a certain story regarding the origin of money and the functioning of the monetary circuit, and it has heavy normative implications, as it legitimizes a functional approach to public finance.

The orthodox approach to money, that is, *metallism*, highlights the medium-of-exchange

toll, real interest-rate hikes lead to higher inflation rates, through interest cost push (see Kaldor, 1982, p. 63).

PETER KRIESLER

See also:

Central bank credibility; Endogenous money; Friedman rule; Inflation targeting; Interest rates setting; Monetary targeting; Money neutrality; Money supply; Natural rate of interest; Policy rates of interest; Rules versus discretion.

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Thornton, Henry

Henry Thornton's (1760–1815) masterwork (*An Enquiry into the Nature and Effects of the Paper Credit of Great Britain*), published in 1802, stands at the starting point of the line of thought according to which the regulatory basis of a developed financial system is not gold, but central bank's discretion. For his placing great emphasis on the Bank of England as a regulator and guarantor of the liquidity of the British financial system, Thornton is considered the "father of the modern central bank" (Hetzl, 1987, p. 3). This expression is undoubtedly correct if "modern" stands for "mainstream". Indeed, the rediscovery of Thornton in the twentieth century (see Hicks, 1967, among others) should not obscure the fact that, together with Ricardo, he is the great theorist of the neutrality of money. Yet, while Ricardo stuck to neutrality, hammering with it central bankers' discretion, Thornton was much more flexible, thus propping up the role of the central bank. In Thornton's work, for the first time, short-run non-neutrality and long-run neutrality of money are considered as equally important. This problematic coexistence, then as now, sets the boundaries of the theory and practice of money management.

The Bank of England's decision in 1797 to suspend redemption of its notes in gold

showed how the monetary debate of the previous decades had lagged behind the developments of the British financial system. The discussion had run aground with Adam Smith's idea that paper did nothing else than replace gold, and some automatic mechanism would ensure the reflux of overissued means of circulation to their point of departure. Thornton rejected the idea of a constant relationship between the whole circulating medium and the volume of transactions. Having widely extended the definition of money (bills of exchange, notes, and so on), he noted that there are different velocities of circulation for different types of money (bills circulate less rapidly than notes), and for the same class of paper money at different times (the preference for central bank notes can vary). Paper credit was endogenously created according to the needs of trade, but it was not self-regulating and the smooth functioning of these means of circulation largely depended on confidence. Then there was the problem of controlling money creation, and of varying the supply of central bank notes in order to buffer the destabilizing effect of any sudden change in their demand.

The theoretical foundation of this position is a very sophisticated version of the quantity theory of money, which is able to take into account that outside money was only a small part of the overall means of circulation. Thornton realized that the interest rate is the connecting link between the money supply and the price level: "[w]e may [. . .] consider this question as turning principally on a comparison of the rate of interest taken at the bank with the current rate of mercantile profit" (Thornton, 1802 [1962], p. 254). An interest rate lower than the rate of profit would start a process of excessive endogenous money creation, thereby fuelling an increase in prices, which would in turn propel further creation of endogenous money. This point was clearly stated in *Paper Credit* (ibid.), and indeed Thornton strictly opposed usury laws, which for over a century had set an upper limit of 5 per cent to the rate of interest, thereby preventing the money rate of interest from keeping pace with the profit rate. With a ceiling to the market rate of interest, the resulting price increases would have required a quantitative restriction on money, up to the point of resorting to gold convertibility.

The fact that Thornton – ten years after *Paper Credit* and its strong support for the suspension of bullion payments – became one of the champions of the return to gold (he was one of the drafters of the *Bullion Report*) should not be surprising in light of the positive correlation he always upheld between the money stock and the price level, and his strict adherence to the long-run neutrality of money. Thornton was a bullionist, albeit a moderate one, and his moderation depended on two beliefs he never abandoned: (i) monetary contractions can have destabilizing consequences on industry; (ii) the credit system is based on confidence, and when confidence is shaken, the central bank must restore it, not by implementing any restrictions, but on the contrary by lending without limitations. This led Thornton to reject the idea that the high price of bullion was always indicative of an overissue that should be countered by a credit squeeze. He considered it imperative to distinguish an internal from an external drain; and also in the case of an external drain, that a credit restriction was needed only in order to face permanent misalignments of internal and external prices, not to face temporary mismatches (as in the case of a bad harvest).

With respect to the exact nature of the destabilizing consequences of price changes on industry, Thornton's contribution has been regarded – especially after Hicks (1967) – as an anticipation of Keynes. This is too favourable to Thornton, or perhaps too

unfavourable to Keynes. Thornton described deflation and inflation as basically distributive phenomena owing to rigid nominal wages. In particular, he was very worried about the possibility that, in an attempt to deflate prices through a credit squeeze, the manufacturer could find himself deprived of credit at the very moment when income distribution evolves against profits, thus making him “absolutely compelled by necessity to slacken, if not suspend, his operations” (Thornton, 1802 [1962], p. 118). In Thornton’s view, changes in the velocity of money circulation are due to changes in confidence. Hence, according to Hicks (1967, p. 179), “he has not one but two of the key-points of the Keynesian system; he has the Liquidity Preference and he has the stickiness of wages”, although – owing to his adherence to the doctrine of full employment – he is deficient on the multiplier. But liquidity preference is important for Keynes not so much because it offers a constructive theory of the interest rate, but because it allows him to challenge the orthodox theory, to wit, the idea that the rate of interest may act as an equalizer of demand and supply of savings (Garegnani, 1979, pp. 67–73). Thornton’s short-run non-neutrality of money concerns instead precisely the temporary real disturbances that price changes generate during the process that in the longer run brings the market interest rate towards convergence with the natural rate of interest.

ALDO BARBA

See also:

Banking and Currency Schools; Bank of England; Bullionist debates; Central bank money; Endogenous money; Inside and outside money; Money creation; Money neutrality; Natural rate of interest; Quantity theory of money; Real-bills doctrine; Reflux mechanism.

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Time inconsistency

An important issue in the mainstream literature on economic policy is whether monetary authorities can get some “additional output” by means of a demand stimulus. The answer depends on the shape of the Phillips curve. In the long run, both New Keynesian and New Classical economics agree that the Phillips curve is vertical, so that one cannot reduce the rate of unemployment below its “natural rate”. In the short run, however, a demand stimulus may have a positive impact on economic activity depending on whether the resulting inflationary effects are fully transmitted (vertical Phillips curve) or not (negatively-sloped Phillips curve) to nominal wages and other factor costs.

New Keynesian economics points out that, owing to nominal rigidities, the “surprise inflation” that goes along with unexpected demand stimulus takes time before it is