Munich Personal RePEc Archive

An initial 'Keynesian illness'? Friedman on taxation and the inflationary gap

Levrero, Enrico Sergio

Roma Tre University, Department of Economics

28 December 2015

Online at https://mpra.ub.uni-muenchen.de/68547/
MPRA Paper No. 68547, posted 28 Dec 2015 15:46 UTC

An initial 'Keynesian illness'? Friedman on taxation and the inflationary gap

Enrico Sergio Levrero (Roma Tre University)

Abstract

This paper examines Friedman's writings in the years 1941-1943 and compares them with those after the war with a view to assessing differences and similarities. Albeit a first assessment, Friedman's "Keynesian illness" in his 'Washington phase' will appear to have been less 'serious' and deep than he himself feared.

Keywords: Friedman; inflationary gap; price inflation; spending tax; quantity theory of money

JEL codes: B22, B31, E31, E51

1. Introduction

Friedman pointed out[1] that his contributions in the years 1941-1943 to the revision of the tax system prepared by the *Division of Tax Research* of the Treasury Department had a distinct "Keynesian flavour". As he wrote after rereading one of his statements made in 1942 before the United States Congress, "I had completely forgotten how thoroughly Keynesian I then was. I was apparently cured, or some would say corrupted, shortly after the end of the war" (cf. Friedman, 1998: 113).

Only scant literature and debate exists on this initial 'Keynesian illness' of Friedman, although it shows a first step in his views on price inflation before the restatement of the quantity theory of money. One reason may be that assessing the Keynesian "flavour" of Friedman's 1941-1943 writings is not easy due to the peculiar economic situation of the time. Another reason is that the term 'Keynesian theory' or 'Keynesian policies' has taken on many, ambiguous meanings over time – thus further complicating any judgment on that 'flavour'.

Regarding the first aspect, in the period 1941-1943 the American economy was moving fast towards a condition of full employment of resources due to the huge increase in war expenditure (cf. Crum, Fennelly & Seltzer, 1942; Fellner, 1942; Rees, 1959). The short-term danger thus became inflation rather than a shortfall in effective demand, also because shortages

[1] See M. Friedman and R. Friedman (1998) [hereafter Friedman, 1998]. As Friedman (1998: 113) told us, in those years he wrote numerous memoranda, reports and letters that have been "buried somewhere in the files of the Treasury Department". My research at the US National Archives did not unearth them, though it give me access to materials that I have used in this work. I have also utilized materials conserved in the Friedman Archives in the Hoover Institution, Stanford University, as well as publications of the US Congress and articles published at the time in *The Wall Street Journal*, *The New York Times* and *The Washington Post* (hereafter, WSJ, NYT and WP, respectively).

in basic commodities were rapidly increasing. As Eccles (1941: 1284) was already stressing in 1941, when the utilization of productive capacity was nevertheless still at 70 per cent, "(t)oday our problem is to curb consumer demand and purchasing power so that they will not divert too much of our productive capacity to the manufacture of nonessentials (…)".

As far as what is labelled as Keynesian is concerned, the idea itself of a Keynesian revolution (cf. L.R. Klein, 1949) is known to have been increasingly criticized in the last few decades (see, for instance, Laidler, 1999). However, it has also been recognized that "many important elements of the new message which Keynes was trying to convey in 1936" were neglected "by the IS-LM model" (Laidler, 1999: 4), thus concealing some of the main analytical innovations of Keynes regarding income determination and monetary analysis. When considering these elements - which have been developed (though in different ways) by the Cambridge economists nearest to Keynes, as well as by Lerner and Hansen in the United States during the period under examination - they allow us to make a sharper comparison between a Keynesian and the monetarist approach developed after the war by Friedman.

In particular, in order to evaluate Friedman's claim of an initial "Keynesian flavour" of his own work, two features which Friedman himself eventually deemed as properly Keynesian[2] will be considered. The first is the possibility of a *persistent* under-utilization of resources arising from a lack of effective demand, with the related point that an increase in the money-wage ratio will not necessarily lead to a rise in the aggregate demand due to a fall in the interest rate and/or an increase in the real value of wealth (the so-called Pigou effect). Second, on a methodological plane, we will consider as Keynesian a non-simultaneous determination of the money rate of interest (that is, of the equilibrium in the money market), on the one hand, and the level of income (that is, of the equilibrium in the commodity market) on the other, which instead characterizes Hicks and Modigliani's interpretation of *The General Theory* (namely, the IS-LM model), but which Keynes himself seems to have refuted as a first step in favour of a "linear" causal chain running from the money market to the commodity markets (see, for instance, Keynes ([1936], 1971-89, VII, chapters 14, 18, 21; Keynes, 1937: 251; Pasinetti, 1974. See also below, p. 12-13).

With this in mind, the aim of the present work will be primarily to reconstruct Friedman's activity in the period 1941-1943. Section 2 will be devoted to analysing Friedman's works on

---

[2] Friedman (1969: 97 and 1987: 256) maintains that the main proposition (or "error") of Keynes is the idea that stable unemployment equilibria do not arise from wage rigidity, which is instead considered a "rational answer" to those equilibria (see also Laidler, 1998: 265). In the meantime, however, Friedman interpreted Keynes's work as an half-revolution which took place *within* the framework of the quantity theory of money by only emphasizing that during the cyclical phase of depression the liquidity preference might become infinite and/or investments might be inelastic to the rate of interest. According to Friedman (1987: 257), Keynes viewed this situation as a limiting case, while his disciples (including Hansen and Lerner) viewed it as a normal case.

the "inflationary gap" while Sections 3 and 4 will assess their alleged "Keynesian flavour". We will then go on to analyse Friedman's writings on the spending tax (Section 5), which is also central in evaluating his activity in his Washington phase. Finally, in Section 6, the content of Friedman's writings in the years 1941-1943 will be compared with those after the war with a view to assessing differences and similarities.[3] Albeit a first assessment, his initial "Keynesian illness" will indeed appear to have been less "serious" and deep than Friedman himself feared.

2. The debate on the inflationary gap

During the years 1941-1943, the aims of curbing consumer purchasing power and of equity in taxation were central in the debates on the "inflationary gap" and the effects of price inflation.

At the time there was a broad consensus that in conditions of full employment an excess of the nominal aggregate demand on aggregate supply could be "closed" either by means of inflation or by means of taxation, direct price controls[4] and the rationing of consumer goods (see, for example, Eccles, 1941; Koopmans, 1942: 53; Henderson, 1941; Morgenthau, 1941; Smithies, 1942). Friedman himself, in his statement before the *Ways and Means Committee of the House of Representatives* on May 1942, while pointing out that "(t)he pressure to spend would be great enough (…) to break through any price control and rationing plan that could be devised without using a policing force so large as to constitute a serious drain on man power for industry and the armed forces" (Friedman, 1942a: 1-2), maintained that

> "(t)axation is not, however, the only method being employed to combat inflation. Price control and rationing, control of consumers' credit, reduction in governmental spending, and war bond campaigns are the most important other methods that are now being employed. But just as it does not seem feasible to prevent inflation by taxation alone, so these other methods cannot be relied upon in the absence of additional taxes" (Friedman, 1942a: 2).

The debate thus concentrated upon the effects of price inflation, the *relative* efficacy of the above-mentioned various possible measures to prevent it, and in this respect, the amount of taxes needed to close the "inflationary gap", namely the difference between the *expected* expenditures and the value of goods expected to be available. In particular, even if all were

---

[3] In the years before his "Washington phase" Friedman's activity concentrated instead mainly on various aspects of demand curves, econometric fields and the American income and consumption structure, rather than on the relation between money, prices and income.

[4] They were organised by the *Office of Price Administration* (OPA) which was created in Spring 1941 and had the authority to fix maximum prices. OPA action had some success in controlling prices which rose less than in other countries (see H. Rockoff, 1985). However, OPA's activity was characterized by great contrasts, as in the cases of the Chrysler Corporation and Aircrafts builders opposition to the price ceilings (see *e.g.* WSJ, June 27, 1941 and July 8, 1942). Moreover, as in the case of agricultural produce, there were many exceptions to price freezing which reduced the chances of its success, e.g. by fomenting requests for wage increases (see Fellner, 1942: 123).

supposedly using the same Keynesian tools, the estimates of the amount of taxes needed to prevent inflation differed markedly. For instance, those advanced in October 1941 by Friedman, Mack and Shoup in a preliminary mimeographed report entitled "Amount of Taxes needed in June 1942, to Avert Inflation" were greater than those advanced by OPA economists which forecasted no serious inflation problem until the fiscal year 1944.[5]

Now, Friedman's writings on these matters are crucial in evaluating his view on price inflation and income determination during his "Washington phase". Friedman here clearly distinguished between a cost-pull and demand-pull type of inflation. With respect to the former, he noted that you can move along an *increasing* aggregate supply curve or you can have a *shift* in that curve. Thus Friedman (1943b: 4-5, my emphasis) wrote[6] that "(a)lthough time rates of wages remain unaltered" there may be "a rise in labor cost per unit, and possibly in other unit costs also". Otherwise costs can rise "because the agents of production arbitrarily raise the price of their services by *concerted action*". In both cases

> "taxation is no cure (…). Whether the result were an increased money flow supported by an *expansible credit system*, or a decreased volume of production, or both, would depend in part on the tax policy that was adopted; but the rise in prices would be present in any case, in the absence of subsidies combined with rationing".

Friedman contrasted this case of cost inflation with that of a price rise "touched off by something other than a rise in money costs". The latter arises when

> "(c)onsumers, for whatever reason, increase their spending, or the supply of goods and services available declines, or there is a combination of both. As a result, dealers find that they can raise their selling prices without having goods pile up on their shelves".

Indeed, according to Friedman (1943b: 4-5, my emphasis), at the beginning of the war effort an increase in aggregate demand would not necessarily lead to a rise in prices since there would probably be constant unit costs of production and "the absolute amount of consumer goods and services may increase as *idle resources* are utilized". Nevertheless, "soon the scarcities become more general" and there will be a stage in which "total output and total money income

---

[5] The discrepancies in those estimates persisted afterwards but were opposite in sign. According to Friedman (1998: 111) this happened because, while in the process of lobbying Congress for the price control act OPA had argued that price controls were the only way to stop inflation, after February 1942, its interest changed and "(t)he Treasury (…) became an ally, not a competitor" in controlling prices. However, even before 1942, Henderson and other OPA officials stressed the need for taxation to prevent inflation, while Friedman (1943c: 136) himself stressed that "the question of exactly what constitutes an inflationary gap is extremely difficult to answer". It is also worth noting that Keynes believed that Salant and other OPA economists had overestimated supply and underestimated demand. Thus he wrote to J.M. Clark on July 26, 1941: "I have tried to persuade Gilbert and Humphrey and Salant that they should be more cautious" (Keynes, 1971-1989, XXIII: 192).

[6] Note that the Foreword of the book written by Friedman with Mack and Shoup (1943) states that "(t)he outlines of the approach that is taken in Part I were developed first by Milton Friedman".

stabilize". At this point, the rise in prices will become a necessity owing to "the decline in consumer goods as more production is devoted to war". Such a rise will produce "windfall profits, *at least in the first instance*", and in these respects "it differs from the price rise caused by increased difficulty of production". Friedman refers to the former kind of inflation arising from "money income" expanding "more than in proportion to income-earning activity" as "atomistic inflation" or "deficit-induced inflation", citing A.C. Pigou (1941: 439 and 442) as his main reference.

3. An initial Keynesian flavour?

Of course we are struck by the missing reference to Keynes in these works of Friedman, unlike those of Koopmans, Hansen, Harris and other American economists of the time, when analysing the causes of price increases. However, the analysis sketched out above contrasts to a great extent with Friedman's subsequent view on the determinants of the price level and its changes over time. For instance, as in Hansen (1941: 171), Friedman pointed out that no general statement can be made about the effects on prices of an increasing public debt (even when financed by money). Moreover, in his writings in the period 1941-1943, there is no reference to what Hansen (1944: 39) called "a hangover from a crude quantity theory of money", that is, that an increase in the income stream due to a rise in the quantity of money and/or in its circular velocity will automatically lead to a rise in the general price level with no effect on relative prices and the real income.[7] Furthermore, unlike in his writings related to the restatement of the quantity theory of money (see e.g. Friedman, 1969: 172), Friedman did not now seem to consider the trade unions as affecting the general level of prices only in very short periods, while having no *direct* role (when not influencing money supply) in explaining its ample fluctuations or its long run movements. Even if trade union action was to lead to "a decreased volume of production" and therefore to labour unemployment (see above, p. 4), there is in fact still no reference in Friedman's 1941-1943 works to a forthcoming fall in money wages due to the pressure of competition in the labour market.[8]

In the next section I will outline some elements that distinguished Friedman's position from a Keynesian one already in the period 1941-1943. However, a Keynesian flavour in his early writings on price inflation appears also when analysing what he called "atomistic" or "deficit-

[7] It is also worth noting that Friedman refers to an 'expansible credit system' in the above quotations from Friedman (1943b). See also footnote 19 below.
[8] In this respect, Friedman did not seem to follow Pigou (1941: 440), according to whom inflation can only stem from an increase in the stock of money or a (previous) increase in the desired proportion of money income to the stock of money. Thus Pigou stated that, in wartime, it is only because money is continuously created that wage inflation does not kill itself by leading to labour unemployment but produces a "vicious price spiral".

induced" inflation. On the one hand, Friedman, as mentioned above, not only maintained that such inflation cannot arise if there are "idle resources", but he seemed also to suggest that labour unemployment (other than frictional) can be, in actual fact, a normal phenomenon (see again Friedman, 1943b: 4-5). On the other hand, when considering a situation of full employment, as in wartime, he pointed out that if at an initial price level there is inconsistency between expenditure and the value of goods available for sale, it could be resolved by an increase in prices that raises "the ratio of saving to spending, or the ratio of tax revenue to spending, or both" (Friedman, 1942d: 8. See also Friedman, 1942c: 316). He thus wrote:

> "a price change does not involve merely a revaluation of goods and of incomes. Because of frictions and lags, price changes lead to a *redistribution of incomes* and to a change in spending-saving relationships. The initial increase in income from a rise in prices is likely to be concentrated in the hands *of recipients of profits*, a group that tends to receive fluctuating income and that is accordingly predisposed to save a disproportionately large part of any increase in income. Moreover, the receipt and spending of incomes are not simultaneous. All along the line, *it takes time* for recipients of higher incomes to readjust their spending patterns; it also *takes time to make competitive readjustments* of resource prices" (Friedman, 1943b: 11, my emphasis. See also idem, 1942d: 7-8).[9]

Such a change in income distribution as a way of closing the "inflationary gap" by raising the ratio of saving to spending is of course similar to what was put forward by Keynes in his works *Social Consequences of Changes in the Value of Money* (1923) and *How to Pay for the War* (1940) where Keynes,[10] after having considered the inability of *voluntary* savings to close the gap, advocated the need to obtain a "forced saving" by means of a "deferred wage" allocated in public bonds, instead of by means of an inflationary process leading to an income redistribution unfavourable to the labourers (or at least to the less organized workers). On the other hand, changes in distribution as a consequence of price inflation in conditions of full employment were usually admitted at the time on both empirical and theoretical grounds,[11] and Friedman clearly shared such ideas. Like Hart (1942), Koopmans (1942) and Smithies (1942),

[9] Note that according to Friedman, if there is no change in the ratio of saving to spending, inflation will close the gap only temporarily. For instance, if there is no business saving, no taxes, no stocks of consumer goods and the government needs half a production value of 100$, while the consumers always want to spend 70% of their received income, then the "primary consumer expenditure gap" will be 20$ in the first period, 24$ in the second period and so on, while money income will rise from 100$ to 120$, to 144$, and so on. Hence, the price response to the "inflationary gap" will change according to the circumstances, depending on whether, when profits rise, labour is quick to obtain higher wages or consumers are quick to interpret rising prices as a forerunner of further price rises, and so on (cf. Friedman, 1942d: 9).

[10] See also Keynes ([1941], 1971-1989, XXII). With respect to the long run, as is known, the idea that an increase in the rate of investment will lead to an increase in the amounts of savings per unit of capital through a fall in the real wage is an essential aspect of the post-Keynesian theory of distribution. However, also in the long run the needed increase in savings can be obtained by a change in the degree of capital utilisation without any need for a change in distribution. Moreover, this will lead to an increase in the amount of productive capacity (cf. Garegnani, 1992). This does not exclude the fact that, in special cases, such as the one considered here, there may ultimately be no room for increases in production, thus arriving at a redistribution of income to profits.

[11] See, for instance, H.W. Spiegel (1942: 112 and 123) and F. Machlup (1943).

Friedman thus saw the required fall in consumption in real terms as being achieved by wages lagging behind prices and leading to an increase in savings, as well as by the "illusion behaviour" of income receivers basing their spending behaviour upon the assumption that current prices and income remain stable. Moreover, Friedman seemed also to refer to "capital losses" inflicted by inflation as taken into account in planning current expenditure.

Two conclusions can thus already be advanced at this stage. The first is that in the years 1941-1943 the only "methods of avoiding inflation" which Friedman mentioned "in addition to taxation" were "price control and rationing" (Friedman, 1998: 112) while he did not even mention "money" or "monetary policy". Second, due perhaps to the influence of *How to Pay for the War* or to that of Keynes's *Treatise on Money* and the works on "forced savings" of Hayek, Pigou and Robertson[12] (all having been debated in Chicago in the 1930s), in his "Washington phase" Friedman emphasized that price inflation will have *real* effects in the form of changes in relative prices and income distribution. Except for a case outlined below (see pp. 11-12), at no stage do we instead find any *clear* argument concerning money neutrality,[13] nor any analysis of the determinants of the demand for money on which he will then found his restatement of the quantity theory of money (cf. Friedman, 1956).[14] In this respect, the real effects arising from price inflation we detect in his 1941-1943 writings should not be confused with those then sometimes put forward by Friedman in terms of changes in the *rate of inflation* probably affecting capital accumulation by changing the desired real quantity of money and the allocation of wealth to the various activities.

But a difference from his subsequent works also appears when his calculations of the "inflationary gap" and the amount of taxation needed to prevent inflation are analysed.

When dealing with the inflationary gap Friedman, like Keynes ([1941], 1971-1989, XXII: 291-292), stressed that at any given time there must be "momentary equilibrium" between aggregate demand and supply since the income of the public must always "be equal to the sum of taxes plus consumption plus savings". Furthermore, like Keynes, Friedman pointed out that the equilibrium to be maintained needed appropriate changes to be made in prices and in saving habits by placing obstacles in the way of consumption and so on. Thus he stressed that,

---

[12] See Robertson (1926) and Pigou (1929: 146 and 153)

[13] Indeed it is not clear if in his 1941-1943 writings Friedman considered those real effects of price inflation as being only temporary in character. He certainly viewed the redistribution of incomes as necessary for stabilizing the level (or the rate of change) of prices, if resources are fully utilized.

[14] Note that it might nevertheless be wrong to ascribe to Friedman an initial "Keynesian flavour" by only emphasising his 1941-1943 analysis of the real effects of price inflation, since it was common to many (also non-Keynesian) economists of the time. However, it is certainly a sign that, in that period, he had not yet elaborated his own monetary explanation of price inflation.

while "(i)n retrospect, there can be no gap", in prospect "there may well be a gap" (Friedman, 1943c: 131).

Now, the *ex ante* inflationary gap could be closed with taxation rather than inflation and, according to Friedman, two methods were used to estimate the required amount of taxation. The first was that adopted by Angell (1941), who estimated the expansion in spending on the basis of the historical relation between changes in the stock of money and changes in income. The second method, adopted by Gilbert and Perlo (1942), referred to the historical relation between investment and the national income. In both cases, the estimates of the expansion of aggregate demand were then compared with the estimated possible increases in output in order to determine the probable degree of price change (Friedman, 1943c, 114-115).

In this respect, three elements characterized Friedman's position, all attesting influence of the "Keynesian temper of the times". First, the estimate method he used is similar to the second one mentioned above. He actually compared the expected increase in the real output and that in war expenditure in order to obtain the expected available *civilian* output. In order to obtain the consequent amount of decrease in the civilian aggregate demand needed to prevent inflation, he then subtracted from the (calculated) available civilian output the change in demand for it that will occur if no new anti-inflationary measures were adopted. This latter change was estimated on the basis of the expected changes in the component parts of capital formation and in the propensity to consume assuming that disposable income and prices were the same as at the initial date.

The second element worth noting is that in his estimates Friedman (like Hansen, Samuelson and others at the time) linked the expected changes in capital formation to the expected changes in consumer spending, while he did not mention any influence of the rate of interest on the amount of investments. Thus he wrote:

> "capital formation probably has some tendency to decline if an increase in consumer spending slackens appreciably. Though this result is not to be counted on invariably, it seemed to deserve some consideration in the present analysis"(Friedman, 1943b: 42).[15]

Finally, and more importantly, Friedman refuted Angell's method of estimating the expansion in spending on the basis of the relation between changes in the stock of money and

[15] Simons' idea (1938: 23) that "saving may be a real affliction during a depression" since it may "aggravate hoarding and thereby aggravate maladjustments between the flexible and sticky prices" may have influenced Friedman in this regard. The effect of consumption on investment was on the other hand usually recognised at the time and at the Division of Tax Research. Thus Blough (1944: 6) wrote "since a businessman is a practical and prudent person he must have the assurance of a consumer market to induce him to invest and expand; accordingly the road to high employment is a high level of consumer purchasing power, for consumption gives employment directly and also creates investment, thus giving employment indirectly (…)".

changes in income when given the marginal circular velocity of money (that is, the ratio between a change in national income from one year to the next and the associated change in the stock of money). On the one hand, Friedman rejected taking the government deficit as equivalent to an increase in the stock of money, since it would mean assuming that the stock of money does not change for any other reason, and stressed that "(a) change in the deficit as a result of taxes levied solely on high incomes" might have a very different effect on spending "from an equal change in the deficit as a result of taxes levied on very low incomes" (Friedman, 1943c: 117-18). On the other hand, Friedman noted that Angell's estimates were based on historical data which showed the actual changes in the stock of money, making no explicit allowance for the reactivation of formerly idle money as a way of financing the government deficit. This procedure "implicitly assumes a constant relation between the changes in the total-stock of money and the amount of reactivation of formerly idle money" which, according to Friedman (1943c: 117-18), was not supported by the data. In particular, the data did not support the conclusion that "the marginal circular velocity of money may be considered as fairly stable".

4. Some elements of a traditional view on income and price determination

Here Friedman was apparently rejecting a year-to-year explanation of income changes on the basis of a "rude" quantity theory of money – an explanation which, though only in part, was supported by Fisher at the time,[16] but not, for instance, by Simons, who had outlined that the circular velocity of money can change even abruptly during the cycle (Simons, 1936: 164-165). However, Friedman (1943c: 119, our emphasis) also pointed out that the data used by Angell

> "may be adequate for studying the *average* circular velocity of money or the relation between *long-period* changes in national income and the stock of money".

Hence, on the whole, he already seems to share elements of the "Chicago tradition" that afterwards were to characterize his monetary analysis, where money will usually appear to be neutral in the long run, even if not in the short run (see e.g. Friedman, 1982: 60 and 1987:

---

[16] Thus in his statement on the Revenue Revision of 1941, Fisher (1941: 1976, our emphasis) noted that "there are those who doubt the possibility of controlling inflation by controlling the volumes of money because, they say, you would have to control the velocity of money too". But "these people are badly misled. Velocity in its important sense is *one of the most nearly invariable magnitudes known in statistics* (….). The really significant velocity is not that "transaction velocity" including, as it does, speculative transactions where the same property, stocks or real estate, is bought and sold over and over again, but "income velocity" which is centered on the spending of income and ultimate consumption, after the steady normal progress of commodities from farm and mine through successive manufacturing and marketing processes (…)". However, in order to explain the Great Depression, Fisher (1933) himself had maintained that over-indebtedness arising during the ascending phase of the cycle can lead to liquidation triggering distress selling, a fall in prices, a slowing down of velocity of circulation and so on (see Laidler, 1991: 300-301).

250).[17] Although there are no other traces in his "Washington period" writings of the idea that the equilibrium of the money market can be reached by making changes in the price level given the *real* income and a *stable* desired quantity of money in *real* terms, the context of the above quotation reveals to us a causal chain which in the long run goes from changes in the nominal supply of money to changes in money income thanks to a stable circular velocity of money.[18]

We thus begin to find a first element of a traditional determination of income and prices which may help us to explain Friedman's "conversion" against a Keynesian approach after the war. This is not, however, an isolated element and shows us that Friedman was still largely shaping his thinking in the period 1941-1943. He thus maintained that there exists a "*monetary veil* that obscures and at times conceals the physical realities of the economic system" (Friedman, 1943a: 50, my emphasis), which clearly contrasted with Keynes's emphasis on the *intrinsic* monetary nature of the economic relations in the market economies that led him to construct a "monetary theory of production" (cf. Keynes, [1933], 1971-89, XXIX: 81-82). Moreover, when analysing the effects of cost-push inflation, as has already been seen (see above, paragraph 6) Friedman stated that it will lead to "*a decreased volume of production*" unless "an increased money flow supported by an expansible credit system" occurs. Quite mechanically, cost-push inflation could therefore easily be transformed into being temporary in character unless it is followed by an expansion in the quantity of money.[19] Finally, when discussing the estimates by OPA economists of the inflationary gap, Friedman rightly observed that in a changing world their hypothesis "that ex ante saving next year is equal to ex post saving this year" has "little basis in either theory or fact". However, after simplifying the analysis by assuming an unchanged disposable income in calculating the inflationary gap, he further stated against Salant (1942) that the breakdown of the inflationary gap "among broad *classes* of output" is impossible[20] since "(t)he composition of the gap is determinate only at

---

[17] On the origins of Friedman's monetary analysis, see Patinkin (1969), Weintraub (1971) and Tavlas (1998). He seems to have been influenced by both the Chicago and the Cambridge tradition. In the latter, greater emphasis was placed on the desire of keeping money (see Levrero, 1999).

[18] It is worth noting that in his subsequent works Friedman, while never telling us what money is (cf. Tobin, 1965: 465), admitted that changes in its quantity can be determined by changes in the money income during the cycle (cf. Friedman, 1969: 269). However, he denied it could happen in the long run, as was argued for instance by Kaldor (1982) on the basis of the results of the Radcliffe Report.

[19] Indeed, Friedman does not specify at this time whether he considers as a normal state of affairs the existence of room for changes in the amounts of bank deposits in response to changes in the level of activity - something which would point us to an endogenous determination of the quantity of money. Nor is it clear why, even if the quantity of money remained the same, the rise in prices would lead to a fall in production, since, as we have seen, Friedman at the time seemed to link the amount of investments to changes in real income and did not emphasize any Pigou effect on consumption.

[20] Friedman's aim was probably to deny the possibility of averting inflation only by rationing or some direct price controls or indirect taxes.

specified relative prices for different classes of goods" and "it can be *anything at all* if relative prices are permitted to vary" (Friedman, 1942c: 319, my emphasis).

At least on theoretical grounds, if not in practice, Friedman thus stressed the existence of a strict relation between relative prices and outputs, probably influenced by his previous works on the demand curves of commodities (see, for instance, Friedman, 1935), or by the works of Knight and Schultz, who had taught Friedman in the 1930s and kept the general equilibrium analysis alive in Chicago. In this way, he differs from a Keynesian approach, since Keynes certainly never emphasized the effects of changes in relative prices on the composition of output. While admitting in Chapter 20 of *The General Theory* that changes in the aggregate demand might lead to changes in relative prices and the composition of production, as a first necessary step in the analysis he considered composition as given in determining the real income.[21] Moreover, in view of the uncertain effects of the changes in relative prices and the rate of interest on consumption and the propensity to save, Keynes made extensive reference to social and institutional factors (as well as to the different income levels earned by the workers and the capitalist class) in determining the composition of output and the propensities to consume of the different groups of society (see, for instance, Keynes, [1936], 1971-89, VII, chapter 8). And he saw those factors as relatively stable and given when determining the amount of employment on the basis of the income multiplier and the level of autonomous aggregate demand.[22]

To sum up, Friedman's analysis of the inflationary gap undoubtedly contained many Keynesian elements but also traces of a traditional approach which can help to explain his "conversion" just after the war. Indeed, his observation (put forward when analysing "how the fraction of resources used to produce goods not available for current consumption adjusts to the fraction of income that individuals wish to save") according to which "(n)o judgement is intended on the crucial issue separating the Keynesians and anti-Keynesians as to whether there is an automatic tendency for such an adjustment to be made at a level of full

[21] When considering unit constant costs in the case of unused productive capacity and thus a constant real wage when employment varies, this assumption is of course strengthened.

[22] In other words, Keynes adopted a two-stage argument in approaching economic phenomena. Taking as given the state of the long term expectations, the techniques, the available productive capacity, the social structure and the main forces determining distribution other than those acting through the changes in the level of output, Keynes in fact first determined "in isolation" the level of employment by assuming as given the marginal propensity to consume, the marginal efficiency of capital and the rate of interest. He then went on to consider the possible reciprocal influences of the envisaged variations in those independent variables, as well as the effects of a change in income level on those variables, together with the influences of all the other changes in the social and economic situation possibly occurring in the meantime. According to Keynes, such a procedure is the only one possible in any serious investigation of the economic phenomena and to be preferred to seeking refuge in useless and empty mathematical expressions (cf. e.g. Keynes [1936], 1971-89, VII: 297-298. See also Schumpeter, 1954: 473).

employment" (Friedman, 1943a, n. 2) also appears to move in that traditional direction if we just consider the "prevailing Keynesian temper of the time" (Friedman, 1943a: 253).

5. The proposal of the spending tax

Although in a different domain, a break with a Keynesian approach emerges even when we examine Friedman's proposal of a spending tax as a measure of avoiding inflation.[23]

In *How to Pay for the War* Keynes proposed a plan of compulsory savings to avoid inflation since the entire cost of the war could not be covered by taxation. According to him "(b)y such a plan (…) the wage and salary earner can consume as much as before and in addition have money over in the bank for his future benefit and security, which would belong otherwise to the capitalist class" (Keynes [1940], 1971-89, IX: 375). More precisely, the plan would have avoided the "machinery of war finance" operating "by the rise in price diverting real purchasing power away from the consumer to the profit-earning class, who in turn will transfer a large part of these profits to the Treasury," which would have meant

> that at the end of the war it is the profit-earning class which owns, in the shape of holdings in the national war debt, a claim on future production; while the wage-earning class, in spite of the extra-work done, owns nothing, having lost the right to consume now and having gained no rights to consume hereafter" (Keynes [1941], 1971-89, XXII: 145)

The plan was debated in the United States and an appeal for its adoption appeared in 1941[24] arguing that combining compulsory lending with taxation was the method of war finance "best suited to satisfy the requirements of equity" (cf. Fellner, 1942: 11). The plan was instead opposed by those who feared that compulsion would kill the "voluntary spirit" and to some extent by the trade unions which were suspicious of the simultaneous request to stabilize wages.

---

[23] Even if not analysed here because not directly relevant to the theme of the paper, a part of Friedman's activity in the years 1941-1943 was also aimed at contributing to reforming tax collection, which shifted to a pay-as-you-go system. The discussion of alternatives was very technical. The chief proposal was presented on July 27 1942 by Beardsley Ruml and most of the New York financial community strongly favoured it. The final version was signed into law on June 9 by President Roosevelt as the *Current Tax Payment Act* of 1943 after a debate spanning one year. Friedman was one of the architects of the Treasury's proposal, which aimed to achieve a greater collection of revenue and control of consumer purchasing power than the Ruml Plan. There was also a matter of equity which Friedman and the other American Treasury's advisers insisted on. While Ruml's idea of equity was that of giving "equal treatment to all taxpayers under a change in method of assessing taxes" (Ruml, 1943: 87), Friedman, Paul and others at the Treasury outlined that higher taxpayers "have capital, and they are in a position to meet the extraordinary demands on the new revenue act" (Paul, 1942: 60), while "the cancellation of the 1941 liabilities would constitute a windfall gain to persons whose income were abnormally high in 1941" thanks to "the war effort" (Friedman, 1942b: 62. See also Paul, 1943a).

[24] See the Memorandum on "Taxation for Defense", presented by Harris (1941) to the *Ways and Means Committee*.

During the summer of 1942, however, the United States Treasury developed a different proposal for a spending tax as a supplement to the income tax and presented it to the Senate Finance Committee in September 1942. While Keynes had considered such a tax as theoretically sound but impossible in practice, perhaps heeding Pigou's warning of the likelihood of the upper classes and savers thus escaping taxation to a great extent (cf. Kaldor, 1955: 12), the direct reference of the Treasury's proposal was Fisher's (1942) works on a progressive spending tax. Indeed, the proposal of the Treasury combined Keynes's plan and the spending tax, using spending as the basis for extracting funds from the public and treating some of the funds raised as compulsory savings instead of taxes. The proposal was thus received as a plan for enforced savings[25] and opposed by the Finance Committee and the financial community (see NYT, September 1,4,5,6,7,8, 1942).[26] Also, due to the fact that it was presented so late in the tax hearings that the plan would either be quickly discarded or prolong the tax bill deliberations further, five days after its presentation the Finance Committee rejected the plan by 12 votes to none (some members abstaining) and it was never heard of again.

Friedman supported and in part elaborated the Treasury's proposal, though refusing to treat part of the taxes raised as compulsory savings unlike White's prevailing position (see Friedman, 1988: 117-18). As in Keynes's plan, the background to Friedman's proposal was the disruptive effects of inflation which he deemed were in conflict with the utilization of the product for war purposes, fair income distribution and post-war stability. But Friedman thought that neither rationing nor compulsory savings could be effective in this regard. In the former case it would not be possible, according to Friedman, to get individuals to consume scarce goods in specified amounts and proportions (cf. also Wallis, 1942). In the latter case, the problem would be that compulsory lending might be satisfied with previous savings without decreasing the consumption of those who live on capital (Friedman, 1943a: 60). Furthermore, Friedman pointed out that it would be "impossible in principle" to enforce compulsory savings "since income and expenditures are never definitely known until after the end of a period" (Friedman, 1943a: 52).

As in Fisher's analysis of taxable capacity, in supporting his alternative proposal of a spending tax, Friedman first of all divided the individual income into two shares, a subsistence share and a surplus share. Thus he wrote (Friedman, 1943a: 58):

---

[25] See, for instance, *WSJ*, September 2, 1942; and *WP*, September 6, 1942.

[26] Against the spending tax, see also Haensel (1943: 219). While the tax was undoubtedly more complicated than the income tax, the difficulties associated with the proposal were not insuperable (cf. Poole, 1943; and Harris, 1943), although the issues of determining the minimum subsistence to be exempted and of how to treat housing spending still remained unsolved.

> "As a resource, much of what (an individual) consumes is an intermediate product, a cost of production, like the food to livestock. As a consumer, what he consumes is a final product, designated to satisfy the wants of the prime mover of the production process. In ordinary times, the consumer aspect of the individual is dominant. He is an end, not a means (….). In wartime, values change (…). The individual becomes a means, not an end".

It is thus in order to avoid workers receiving "less than they need for health and efficiency" (Friedman, 1943a: 58) that tax has to be progressive. However, the marginal tax rate could in this case be so great as in turn to impair efficiency, so that

> "in order to achieve a more efficient distribution of the available consumer goods and at the same time maintain the incentive value of income as much as possible, fiscal methods involving the withdrawal of income must be supplemented by savings-inducement methods, that is, by methods that impinge directly on spending, rather than on income" (Friedman, 1943a: 61).

This kind of taxation must reduce "types of spending that are least necessary for the maintenance of output in general and war output in particular". In the case of spending on commodities that use resources specially adapted to war production, special excises could to some extent be the appropriate remedy. For the rest, "the maintenance of output calls for restraining all spending in excess of a basic minimum" (Friedman, 1943a: 61) and the result can be achieved by "a progressive spending tax that exempts a basic minimum and imposes a higher rate of tax, the larger the excess of spending over the basic minimum".

Indeed, in Friedman's arguments in favour of the spending tax, the need to minimize any intervention imposing a limit on individual choices and the market mechanisms was central. In both wartime and in peace, taxation should in fact, according to Friedman, modify the control over current output granted by income without however seriously impairing the "function of income in organizing the use of resources". Moreover, in wartime, the amount of income above the basic minimum can still be permitted "to serve as a claim to future output", while "even the separation of income from control over current output need not be complete" (Friedman, 1943a: 56).

Friedman thus viewed the spending tax as the best measure for stimulating savings and preserving them on a voluntary basis, as well as for "*minimizing* the role of government intervention into the details of the economic system" in the transition from war to peace (Friedman, 1943a: 62, our emphasis).[27] Therefore, unlike Keynes's compulsory saving plan,

[27] Friedman admitted that the change in the composition of production after the war might generate unemployment and maintained that, with no need for public intervention, the savings accumulated during the war "can then provide the means for the repayment by bringing about the employment of resources that would otherwise be idle" (Friedman, 1943a: 57). Note also that according to Friedman (1943a: 62), in peace time a

Friedman did not try to avoid the claim on resources after the war being concentrated in the hands of the capitalist class alone. On the contrary, while curbing purchasing power, Friedman wanted to preserve savings as an individual effort to ameliorate one's future condition when income exceeds a certain minimum level. The emphasis is thus placed on an individual choice between present and future consumption which seems to clash with Keynes's view of different social classes that are structurally characterized by different propensities to consume and thereby affected by the war in such a way that the wage-earning class "in spite of the extra-work done" will run the risk, in the absence of any intervention, of owning "nothing, having lost the right to consume now and having gained no rights to consume hereafter" (Keynes [1941], 1971-89, XXII: 145).

6. Some final remarks

Summing up, in the years 1941-1943, Friedman appears to have to some extent already differentiated himself from the "Keynesian prevailing temper of the times" testified by the works of Hansen, Harris and Lerner, as well as Roosevelt's economic policies and the practice of economists such as Eccles, Galbraith, Henderson, Nathan and Salant. This differentiation emerges more clearly after the war, particularly when Friedman returns to Chicago in 1946. But already in 1944, when reviewing Altman's book, Friedman spoke in quite worried tones of a "Keynesian saving-investment theory" which "has had *such vogue* in recent years" (Friedman, 1944: 101). More important, immediately in 1946 in his remark that "OPA alone cannot prevent inflation" Friedman observed that "(a) major effect of OPA price control has been to disguise rather than prevent increases in price" and

> "We can and must take measures now to control the basic causes of inflation by limiting the supply of cash and bank deposits" (Friedman, 1946: A2209).[28]

Friedman consequently advocated minimizing public expenditure and raising taxation, as well as increasing the bank's reserve requirements and the rate of interest. He put forward the same policy proposals as Mints (1946) and Haberler (1946) who had begun to focus on the

spending tax "does not seem satisfactory". He thus disagreed with Fisher in this regard who saw any tax on savings as discouraging them and as merely a pre-tax on their yield. On the debate on spending tax and taxable capacity, see Kaldor (1955). Of course the spending tax stimulates savings and can be dangerous if the economy ever suffers over-saving in relation to investment opportunities.

[28] The remark is included in an Extension of W.H. Judd at the House of Representatives, April 16, 1946.

importance of monetary versus fiscal policies and on the crucial role of wage rigidity in explaining labour unemployment.[29]

While Friedman's monetarist "counter-revolution" took on a definitive shape only some years later (see Friedman, 1956), just after the war his scanty Keynesian background and changed economic conditions led thus him to develop those aspects which were present in Mints and Simons[30] against any obstacles to the market mechanisms and any active policies. Friedman therefore outlined early that

> "(e)conomists now tend to concentrate on cyclical movements, to act and talk as if any improvement, however slight, in control of the cycle justified any sacrifice, however large, in the long-run efficiency, or prospect of growth, of the economic system"

and he wanted instead to assure "both sets of objectives simultaneously" (Friedman, 1948: 133) by reforming the monetary system in order to eliminate the private creation of money and discretionary controls over the quantity of money by the central bank authority. Moreover, he advocated automatic stabilizing mechanisms during the cycle by means of a progressive tax system and a fiscal policy determining the volume of government expenditures entirely on the basis of the community's desire, need and willingness to pay for public services.

At the beginning, the "conversion" vis-à-vis a Keynesian approach mainly took the form of an insistence on rigidities in prices as a cause of unemployment (see also Patinkin, 1948) and on the time lag in the response by active policies against cyclical movements as a reason for abandoning those policies (see e.g. Friedman, 1947: 413-414). As immediately stressed by Neff (1949), it assumed the idea of an automatic and rapid tendency of the market economies towards conditions of full employment, since otherwise even in a flexible price world at least a *discretionary* counter-cyclical policy would appear necessary. It was, on the other hand, the firm belief in the absence of any automatic tendency towards full employment that led Keynes, against any laissez-faire ideas, to advocate using active policies to maintain a state of quasi-expansion and adopting measures to increase the propensity to consume and socialize a share of investment.

---

[29] In this regard, see also Modigliani (1944) and *A Symposium on Fiscal and Monetary Policy* by Mints, Hansen, Ellis, Lerner and Kalecki in the *Review of Economic Statistics*, May 1946. See also in the same review Haberler's (1946) assessment of Keynes's General Theory. Hansen (1946: 324) argued against such views of Mints and Haberler by observing that "(j)ust as cyclical price flexibility may intensify the cyclical problem because of the effect of such price changes upon business expectations, so sharp wage reductions are likely to be deflationary".

[30] See, for instance, Simons (1934 and 1936).

References

Angell J.W. (1941), "Taxation, Inflation and the Defense Program", *The Review of Economic Statistics*, 23, 2, 78-82.

Blough R. (1944), "Address before the National Tax Association at the Jefferson Hotel", September 1944, in *National Archives Agency*, "Central File of the Office of the Secretary of the Treasury 1933-1955", Entry 193, Box 198, Washington.

Crum W.L., Fennelly J.F., Seltzer L.H. (1942), *Fiscal Planning for Total War*, NBER, New York.

Early J.S. & Stein M. (1942), *British Wartime Price Administration and Price Movements*, Office of Price Administration, February 1942, US Government Printing Office, Washington.

Eccles M.S. (1941a), "Statement before the Committee on Ways and Means House of Representatives", in Revenue Revision of 1941, *Hearings before the Committee on Ways and Means House of Representatives*, Seventy-Seventh Congress, First Session, April-May 1941, US Government Printing Office, Washington.

Eccles M.S. (1941b), "Statement before the Committee on Banking and Currency House of Representatives", in Price Control Bill, *Hearings before the Committee on Banking and Currency House of Representatives*, Seventy-Seventh Congress, First Session on H.R. 5479 (Superseded by H.R. 5990), 'A Bill to further the national defense and security by checking speculative and excessive price rises, price dislocations and inflationary tendencies, and for other purposes', Revised, Part 2, September-October, 1941, US Government Printing Office, Washington.

Fellner W. (1942), *A Treatise on War Inflation. Present Policies and Future Tendencies in the United States*, University of California Press, Berkeley & Los Angeles.

Fisher I. (1933), "The Debt-Deflation Theory of Great Depression", *Econometrica*, 1, 4, 337-57.

Fisher I. (1942), *Constructive Income Taxation, A proposal for reform*, with Herbert W. Fisher, Harper and Brothers Publishers, New York & London.

Friedman M. (1935), "Professor Pigou's Method for Measuring Elasticities of Demand from Budgetary Data", *Quarterly Journal of Economics*, 50, 1, 151-163.

Friedman M. (1942a), *Statement by Milton Friedman before the Ways and Means Committee of the House of Representatives*, May 7, 1942, Hoover Institution Archives, Stanford, California, Friedman's Archive, Box 37, Folder 17.

Friedman M. (1942b), "Statement before the Subcommittee of the Committee on Finance United States Senate", in Withholding Tax. *Hearings before Subcommittee of the Committee on Finance United States Senate*, Seventy-Seventh Congress, Second Session on Data Relative to Withholding provisions of the 1942 Revenue Act, Wednesday, August 19, 1942, US Government Printing Office, Washington.

Friedman M. (1942c), "The Inflationary Gap: II. Discussion of the Inflationary Gap", *The American Economic Review, 32*, 2, 314-320.

Friedman M. (1942d), *The Inflationary Gap*, Treasury Department, Division of Tax Research, July 23, 1942, Hoover Institution Archives, Stanford, California, Friedman's Archive, Box 37, Folder 19.

Friedman M. (1943a), "The Spending Tax as a Wartime Fiscal Measure", *American Economic Review*, 33, 1, 50-62, reprinted in M. Friedman, *Essays in Positive Economics*, 1953, Chicago University Press, Chicago.

Friedman M. (1943b), "A Technique for Estimating the Amount of Taxation Necessary to Avert Inflation", with C. Shoup & R.P. Mack, in C. Shoup, M. Friedman & R.P. Mack, *Taxing to Prevent Inflation. Techniques for Estimating Revenue Requirements*, Columbia University Press, New York, 1943.

Friedman M. (1943c), "Methods of Predicting the Onset of Inflation", in C. Shoup, M. Friedman & R.P. Mack, *Taxing to Prevent Inflation. Techniques for Estimating Revenue Requirements*, Columbia University Press, New York, 1943.

Friedman M. (1944), "Review of 'Saving, Investment and National Income'", by Oscar L. Altman, *Review of Economic Statistics*, 26, 2, 101-102.

Friedman M. (1946), "OPA alone cannot prevent inflation", in United States of America, *Congressional Records. Proceedings and Debates of the 79th Congress,* Second Session, Appendix, volume 92-Part 9, January 14, 1946, to March 8, 1946, US Government Printing Office, Washington.

Friedman M. (1947), "Lerner on the Economics of Control", *The Journal of Political Economy*, 55, 5, 405-416.

Friedman M. (1948), "A Monetary and Fiscal Framework for Economic Stability", *American Economic Review*, 38, 3, 245-64, reprinted in *Essays in Positive Economics*, 1953, University of Chicago Press, Chicago.

Friedman M. (1956), "The Quantity Theory of Money: A Restatement", in M. Friedman (ed.), *Studies in the Quantity Theory of Money*, Chicago University Press, Chicago.

Friedman M. (1969), "The Optimum Quantity of Money", in M. Friedman, *The Optimum Quantity of Money and Other Essays*, Macmillan, London.

Friedman M. (1982), *Monetary Trends in the United States and the United Kingdom: Their Relations to Income, Prices and Interest Rates, 1867-1975*, with Schwartz A.J., NBER Research Monograph, University of Chicago Press, Chicago.

Friedman M. (1987), "Quantity Theory of Money", in *The New Palgrave: A Dictionary of Economics*, edited by Eatwell J., Milgate M. & Newman P, Stockton Press-Macmillan, New York-London.

Friedman M. & Friedman R.D. (1998), *Two Lucky People. Memoirs*, Chicago University Press, Chicago.

Garegnani P. (1978-1979), "Notes on Consumption, Investment and Effective Demand: I-II", *Cambridge Journal of Economics*, 2, 4, 1978 and 3,1, 1979.

Garegnani P. (1992), "Some Notes for an Analysis of Accumulation", in Halevi J., Laibman D., Nell J. (Eds), *Beyond the Steady State*, Macmillan, London.

Gilbert R.V. & Perlo V. (1942), "The Investment-Factor Method of Forecasting Business Activity", *Econometrica*, 10, 3/4, 311-16.

Haberler G. (1946), "The Place of the General Theory of Employment, Interest and Money in the History of Economic Thought", *The Review of Economic Statistics*, 28, 4, 187-195.

Haensel P. (1943), "Statement before the Committee on Ways and Means House of Representatives", in Individual Income Tax, *Hearings before the Committee on Ways and Means House of Representatives*, Seventy-Eight Congress, First Session on 'A proposal to place income tax on a pay-as-you-go basis', February 1943, US Government Printing Office, Washington.

Hansen A.H. (1941), *Fiscal Policy and Business Cycles*, W.W. Norton & Company Inc, New York.

Hansen A.H. (1944), "Inflationary potentialities of the public debt", in AA.VV, *Curbing Inflation through Taxation,* Symposium conducted by the Tax Institute, February 7-8 1944, New York, Books For Libraries Press, Freeport, New York.

Hansen A.H. (1946), "Notes on Mints' Paper on Monetary Policy", *The Review of Economic Statistics*, 28, 2, 69-74

Harris S.E. (1941), "Statement before the Committee on Ways and Means House of Representatives", in Revenue Revision of 1941, *Hearings before the Committee on Ways and Means House of Representatives*, Seventy-Seventh Congress, First Session, April-May 1941, US Government Printing Office, Washington.

Harriss C.L. (1943), "Revenue Implications of a Progressive-Rate Tax on Expenditures, A study of Selected Aspects of Irving Fisher's Proposal to Eliminate Savings From the Income Tax Base", *The Review of Economic Statistics*, 25, 3, 175-191.

Hart A.G. (1942), "What it Takes to Block Inflation", *The Review of Economic Statistics,* 24, 3, 101-111.

Henderson P. H. (1941), "Statement before the Committee on Banking and Currency House of Representatives", in Price Control Bill, *Hearings before the Committee on Banking and Currency House of Representatives*, op. cit., US Government Printing Office, Washington.

Hicks J.R. (1937), "Mr. Keynes and the 'Classics': a Suggested Interpretation", *Econometrica*, 5, 2, 147-159.

Kaldor N. (1955), *An Expenditure Tax*, Unwin University Books, London.

Kaldor N. (1982), *The Scourge of Monetarism*, Oxford University Press, New York.

Keynes J.M. ([1933], 1971-1989), "The Distinction between a Co-operative Economy and an Entrepreneur Economy", in *Collected Writings*, volume XXIX, "The General Theory and After. A Supplement", MacMillan St. Martin Press for the Royal Economic Society.

Keynes J.M. ([1936], 1971-1989), "The General Theory of Employment, Interest and Money", in *Collected Writings*, volume VII, Macmillan St. Martin's Press for the Royal Economic Society.

Keynes J.M. (1937), "Alternative Theories of Interest*", Economic Journal*, 47, 186, 241-252.

Keynes J.M. ([1940a], 1971-1989), "How to Pay for the War", in *Collected Writings*, volume IX, "Essays in Persuasion", MacMillan St. Martin Press for the Royal Economic Society.

Keynes J.M. ([1940b], 1971-1989), "The United States and the Keynes Plan", in *Collected Writings,* volume XXII, "Activities 1939-1945, Internal War Finance", MacMillan St. Martin Press for the Royal Economic Society.

Keynes J.M. ([1941], 1971-1989), "The Theory of the Gap", in *Collected Writings,* volume XXII, "Activities 1939-1945, Internal War Finance", MacMillan St. Martin Press for the Royal Economic Society.

Keynes J.M. (1971-1989), *Collected Writings*, volume XXIII, "Activities 1940-1943, External War Finance", Macmillan, Cambridge University Press for the Royal Economic Society.

Klein L.R. (1949), *The Keynesian Revolution*, Macmillan, New York.

Koopmans T.C. (1942), "The Dynamics of Inflation", *The Review of Economic Statistics,* 24, 2, 53-65.

Laidler D. (1991), "The Quantity Theory is Always and Everywhere Controversial – Why?", *The Economic Record*, December, pp. 289-306.

Laidler D. (1999), *Fabricating the Keynesian Revolution. Studies of the Inter-war Literature on Money, the Cycle, and Unemployment*, Cambridge University Press, Cambridge.

Levrero E.S. (1999), "Milton Friedman", *Studi Economici*, 68, 2, 5–79.

Machlup F. (1943), "Forced or Induced Savings: An Explanation into its Synonyms and Homonyms", *The Review of Economic Statistics*, 25, 1, 26-39.

Mints L. W. (1946), "Monetary Policy", *Review of Economic Statistics*, 28, 2, 60-69.

Modigliani F., "Liquidity Preference and the Theory of Interest and Money", *Econometrica*, 12, 1, 45-88.

Morgenthau H. (1941), "Statement before the Committee on Banking and Currency House of Representatives", in Price Control Bill, *Hearings before the Committee on Banking and Currency House of Representatives*, Seventy-Seventh Congress, op. cit., US Government Printing Office, Washington.

Neff P. (1949), "Professor Friedman's Proposal: Final Comment", *American Economic Review*, 39, 5, 955-56.

Pasinetti L. (1974), "La teoria economica della domanda effettiva", in L. Pasinetti, *Sviluppo economico e distribuzione del reddito*, Il Mulino, Bologna.

Patinkin D. (1948), "Price Flexibility and Full Employment", *American Economic Review*, 38, 4, 543-64.

Patinkin D. (1969), "The Chicago Tradition, the Quantity Theory, and Friedman", *Journal of Money, Credit and Banking*, 1, 1, 46-70.

Paul R. E. (1942), "Statement before the Subcommittee of the Committee on Finance United States Senate", in Withholding Tax. *Hearings before Subcommittee of the Committee on Finance United States Senate*, Seventy-

Seventh Congress, Second Session on Data Relative to Withholding provisions of the 1942 Revenue Act, Wednesday, August 19, 1942, US Government Printing Office, Washington.

Paul R. E. (1943), "Statement before the Committee on Finance United States Senate", in Current Tax Payments Act of 1943, *Hearings before the Committee on Finance United States Senate*, Seventy-Eight Session, H.R. 2570, An Act to Provide for the Current Payment of the Individual Income Tax, and for other Purposes, Revised May 6 and 7, 1943, United States, 1943, US Government Printing Office, Washington.

Pigou A.C. (1929), *Industrial Fluctuations*, 2nd rev. ed., Macmillan, London.

Pigou A.C. (1941), "Types of War Inflation", *Economic Journal*, 51, 204, 439-448.

Poole K.E. (1943), "Problems of Administration and Equity under a Spending Tax, *The American Economic Review*, 33, 1, 63-73.

Rees A. (1959), "Patterns of Wages, Prices and Productivity", in AA.VV, *Wages, Prices, Profits and Productivity,* The American Assembly Columbia University.

Robertson D. H. (1926), *Banking Policy and the Price Level*, Macmillan, London.

Rockoff H. (1985), *Drastic Measure. A History of Wage and Price Controls in the United States*, Cambridge University Press, Cambridge.

Ruml B. (1942), "Statement before the Committee on Income", in Revenue Act of 1943, *Hearings before the Committee on Income*, United States Senate, Seventy Eight Congress, US Government Printing Office, Washington, 1943.

Salant W.S. (1942), "The Inflationary Gap: I. Meaning and Significance for Policy Making", *American Economic Review*, 32, 2, 308-314.

Schumpeter J.A. (1954), *History of Economic Analysis*, Oxford University Press, Oxford-New York.

Shoup C., Friedman M. & Mack R.P. (1943), *Taxing to Prevent Inflation. Techniques for Estimating Revenue Requirements*, Columbia University Press, New York.

Simons H.C. (1934), "A Positive Program for Laissez Faire: Some Proposals for a Liberal Economic Policy", University of Chicago Press, reprinted in H.C. Simons, *Economic Policy for a Free Society*, The University of Chicago Press, Chicago, 1948.

Simons H.C. (1936), "Rules versus Authorities in Monetary Policy", *Journal of Political Economy*, XLIV, 1, February, 1-30, reprinted in H.C. Simons, *Economic Policy for a Free Society*, The University of Chicago Press, Chicago, 1948.

Simons H.C. (1938), *Personal Income Taxation. The Definition of Income as a Problem of Fiscal Policy*, The University of Chicago Press, Chicago.

Simons H.C. (1942), "Hansen on Fiscal Policy", *Journal of Political Economy*, L, 2, April 1942, 161-96, reprinted in H.C. Simons, *Economic Policy for a Free Society*, The University of Chicago Press, Chicago, 1948.

Smithies A. (1942), "The Behavior of Money National Income Under Inflationary Conditions", *Quarterly Journal of Economics*, 57, 3, 113-27.

Spiegel H.W. (1942), *The Economics of Total War,* D. Appleton-Century Company Incorporated, New York-London.

Tavlas G.S. (1998), "Was the Monetarist Tradition Invented?", *Journal of Economic Perspectives*, 12, 4, 211-222.

Tobin J. (1965), "The monetary interpretation of history – a Review Article", *American Economic Review*, 55, 3, 464-485.

Wallis W.A. (1942), "How to Ration Consumer Goods and Control Their Prices", *American Economic Review*, 32, 3, 501-512.

Weintraub S. (1971), "Keynes and the Monetarists", *The Canadian Journal of Economics*, 4, 1, 37-49.