
5-25-2020

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Recommended Citation

Rallo, Juan Ramon (2020) "Hyman Minsky: An Advocate of Big Government," *Journal of New Finance*: Vol. 1 : No. 1 , Article 2.

DOI: 10.46671/2521-2486.1001

Available at: <https://jnf.ufm.edu/journal/vol1/iss1/2>

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Abstract

In *The End of Laissez Faire* (1926) and in *The General Theory of Employment, Interest and Money* (1936), Keynes advocated a new model of the State which put an end to the *laissez faire* and leave to the Government the task of reaching macroeconomic stability through monetary, fiscal and even demographic control of investment. One of the most original and modern thinkers within this Keynesian tradition in defense of “Big Government” was the post-keynesian economist Hyman Minsky. The Great Recession has revived and reinvigorated the minskyian positions up to the point of becoming a “required reading” especially for central bankers (Yellen (2009)). In this paper I critically review the minskyian defense of Big Government as a mechanism to achieve macroeconomic stability.

Keywords

Hyman Minsky, Fiscal Policy, Big Government, State, Keynes, Full Employment

Acknowledgements

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Publication Date

5-25-2020

I. Introduction

According to Minsky, prices in a capitalist society have the function not only of assigning scarce resources amongst competitive ends, but also of guaranteeing the creation of a surplus of current production above current consumption which, once materialized into cash flows, allows to cover debt and to provide some remuneration to shareholders that makes the investment in new capital goods profitable (Minsky (1986)).

The way in which prices guarantee the creation of that surplus is by preventing workers from buying all what they have produced, meaning: “market prices of consumption goods have to be greater than the labor income per unit of output that is earned in the production of these goods” (Minsky (1992)). Therefore, the more workers employed in investment goods industries and the higher their wages, the higher consumer goods prices per real wage unit must be: i.e., consumer goods produced through capital-intensive processes require a larger mark-up on wages than those produced through less capital-intensive processes (Minsky (1986) p. 187). Additionally, this mark-up in consumer goods prices over real wages will also depend positively on the volume of public deficit, on the amount of corporate taxes and on the capitalist propensity to spend, and negatively on the workers’ propensity to save (Minsky (1986) p. 170). Therefore ¹:

$$P_c = \left(\frac{W_c}{A_c}\right) * \left(1 + \frac{W_i * N_i}{W_c * N_c} + \frac{D_f}{W_c * N_c} + \frac{T_\pi * \pi}{W_c * N_c} + \frac{c * \dot{\pi}}{W_c * N_c} - \frac{s * \dot{W}}{W_c * N_c}\right)$$

where,

W_c is the wage rate in consumer goods industries

N_c is the number of workers in the consumer goods industries

A_c is the average productivity of labour

W_i is the wage rate in the investment goods industries

N_i is the number of workers in the investment goods industries

Df is the budget deficit

π are profits before taxes

T_π is the corporate tax rate

c is the propensity to consume

π are after-tax profits

s is the propensity to save \dot{W} is wage rate after taxes

As we were saying, the creation of a surplus in current production over current consumption through the forced rationing imposed by the prices of consumer goods should allow debt repayment and an adequate remuneration of shareholders to stimulate the investment in new capital goods. However, the puzzle in the previous equation is that one of the components making up the price of consumer goods is entrepreneurial profits, being investment (I) one of the main determinants of those entrepreneurial profits (Minsky (1986) p. 170).

$$\dot{\pi} = I + Df + c\dot{\pi} - s\dot{W}^2$$

Therefore, the existence of the cash flows needed to validate outstanding debts and asset prices depends on the investment decisions which were made in the immediate past: an insufficient volume of investment will cause a drop in consumer goods prices which will lead to an insufficient surplus to validate inherited debts and asset prices. For this reason, according to Minsky, it is a mistake to assume that the free market can self-regulate itself to achieve full employment equilibrium: a fall in consumer goods prices does not set limits on its own by increasing consumption and employment in consumer goods industries, but paralyzes entrepreneurial

investment throughout the whole economy due to investment industries inability to cover outstanding debts and sustaining asset prices (Minsky (1986) p. 197-198).

Hence, the correct functioning of a capitalist economy requires sustaining a large volume of investment that generates, through its influence on the price of consumer goods, a high enough surplus that enables debt repayment and profits reinvestment. At the same time, the volume of investment depends on the spread between the demand price and the supply price of capital goods: the higher that spread, the higher the propensity to invest. The demand price (P_k) of an asset is the present value of its expected cash flows, while the supply price (P_0) is technologically determined by the relation between the wage rate and the average productivity of labor times a mark-up which depends on the minimum profit asked by investors as compensation and protection for the risks involved in investment (Minsky (1986) p. 195 and p. 253):

$$P_k = K(\pi_i), i = 1 \dots n$$

$$P_0 = \frac{W}{A_c} (1 + M)$$

where,

K is capitalization function

M is the mark-up on unitary labor costs

This potential investment demand will not become effective demand unless it is supplemented by financing. Financing comes from three sources: cash and financial assets on hand, free cash flows and external funds (Minsky (1986) p. 211-212). Since some portion of aggregate investment will be debt-financed, interest rates will exert some influence both on the supply and the demand price of capital goods: on the one hand, supply prices will be increased by the cost of the short term financing required to produce capital goods (Minsky (1986) p. 206); on the other

hand, demand prices which investors are willing to pay shall be lowered to provide them a larger margin of safety which compensates the higher risk implied in the periodical obligation to repay long term debt (Minsky (1986) p. 213).

High short term and high long-term interest rates will generate a small volume of investment, which will make it hard to repay debts and sustain asset prices. Low interest rates will ease the financing of a large volume of investment (especially with debt), which will positively reinforce itself by generating large volume of aggregate profits which will validate inherited debts and encourage new investments. Lastly, the existence of a normal yield curve — long term interest rates above short term interest rates — will provide the incentives for a larger volume of investment through short term and long term interest rate arbitrage: agents will borrow on low short term interest rates and will invest in assets with a higher long term yield (Minsky (1990)).

This kind of arbitrage between interest rates along the yield curve spreads two types of financial structures that Minsky labels as “speculative” and “Ponzi” finance (Minsky (1990) p. 371-379). The common characteristic of these two financial structures is that cash payment commitments (CC) for some periods are larger than the expected cash flows (Q) for those same periods:

$$CC_i > Q_i, \text{ for } i = 1 \dots k$$

The difference between both is that, in speculative finance, cash flows net of capital consumption (Q_y) for some periods are able to cover interest expense repayment (CC_y) but not principal expense repayment, expecting that future cash flows will be able to meet that principal.

$$P_k > K(CC); \hat{r} > \bar{r}$$

By contrast, in Ponzi finance, the cash flows net of capital consumption (Q_y) of an asset will not even allow to repay interest expense (CC_y) for all its periods; therefore it will be necessary

not only to refinance its principal expense, but also to increase total indebtedness just to meet the payment of accrued interest expense:

$$Q_y < CC_y, \text{ for } i = 1 \dots n$$

In other words, debt refinancing in Ponzi finance may actually increase the principal expense of liabilities up to a point where the present value of the expected cash flows of the asset ends up being inferior to the present value of its cash payment commitments for an array of interest rates much lower (νr) than those that eroded the net present value of the speculative financial schemes (r):

$$P_k < K(CC); \check{r} < \bar{r} < \hat{r}$$

Therefore, speculative and Ponzi finance are very sensitive to the movements of short-term interest rates. Only so-called hedge finance is robust enough against the short-term interest rate movements, as long as hedge finance is characterized by:

$$Q_i > Cc_i, \forall i$$

such that,

$$P_k > K(CC), \forall r$$

As we have indicated before, the transition from an economy dominated by hedge finance to an economy dominated by speculative and Ponzi finance will cause a short-term investment boom (Minsky (1986) p. 235) that will end up as a self-defeating prophecy (Minsky (1986) p. 242): the investment boom will bring about several half-finished entrepreneurial projects with an inelastic demand for short term refinancing, thus increasing short term interest rates (Minsky (1986) p. 239) and consequently eroding the margin of safety of every speculative and Ponzi financial

scheme. In that scenario, cash payments commitments of many speculative and Ponzi finances will exceed their cash inflows, disabling them either to meet their outstanding liabilities or to provide an adequate compensation for their shareholders.

All these imbalances will lead investors to liquidate part of their assets, pushing their demand prices below their supply prices. Therefore, investment spending will necessarily fall. Additionally, aggregate investment will be also negatively affected by three other factors: the supply price of capital goods will raise due to the increase in short term interest rates; their demand price will be reduced due to the smaller cash flows available for the shareholders and due to the higher general uncertainty; and lastly, some part of the demand for the assets will be met through the previously mentioned liquidation of assets. Those consequences will be especially severe amongst the entrepreneurial projects that are more capital intensive (and, therefore, in higher need of larger surpluses to meet their debts and to remunerate their shareholders). At the same time, and as second round effects, this reduction of investment will lessen the revenues of many other companies, causing problems even in those entrepreneurial projects with a hedge financial structure (Minsky (1982) p. 108).

In short, the normal functioning of a capitalist economy implies a tendency towards instability (Minsky (1982) p. 111): something Minsky called “the financial instability hypothesis.” The more capitalistic an economy becomes, the more unstable the system becomes (Minsky (1986) p. 222). And precisely, Minsky defends the intervention of Big Government to fight against his intrinsic instability of the capitalist system.

On the one hand, Minsky advocates for the intervention of central banks as lenders of last resort to avoid the collapse of asset prices which would degenerate into a deflationist stagnation (Minsky (1986) p. 44). However, Minsky is not a fan of an unlimited and immediate refinancing

of all maturing debt, since that would only contribute to prolong the fragile exuberance of the boom (Minsky (1986) p. 153).

On the other hand, Minsky advocates budget deficits to compensate the collapse in aggregate investment. As we have previously seen, both after tax profits and prices of consumer goods (needed to create a surplus that remunerates investment industries) depend both on the volume of aggregate investment as well as on the amount of budget deficits. This means that the transitory collapse of aggregate investment can be compensated through increases in budget deficits, thus preventing a reduction of aggregate profits and, as a consequence, also allowing the repayment of inherited debts and the remuneration of shareholders. In other words, the effects of an investment collapse can be compensated through a large enough budget deficit that avoids the reduction of profits and the resulting contraction of production and employment. How large should that budget deficit be? As large as the reduction of aggregate investment (Minsky (1986) p. 330):

$$\delta I = \Delta Df$$

As a rule of thumb, Minsky proposes that the weight of the budget deficit in the GDP should be “at least the same order of magnitude as investment” (Minsky (1986) p. 332). Given that aggregate investment in modern economies tends to be around 20% and 30% of GDP, the size of the government should match at least that same percentage.

These two mechanisms of Big Government —central banks and budget deficits— will allow Minsky to state the following: “Big Government capitalism is more stable than Small Government capitalism” (Minsky (1986) p. 325). The financial instability hypothesis vindicates Big Government.

II. The Problems of Big Government

The problems of Big Government as a stabilizing mechanism for the economy can be classified into three groups: short term problems (problems with a given capital structure), long term problems (problems with a variable capital structure within a given institutional framework) and very long term problems (problems with both a variable institutional framework and capital structure).

1. Short-term problems

As previously described, Minsky classifies consumer goods according to the degree of capital intensity with which they are produced. Capital intensity can be measured through “the ratio to the technologically determined wage bill of the after-tax profits that are required to validate the prices that were paid for capital assets” (Minsky (1986) p. 187).

In other words, prices of consumer goods produced by more capital-intensive methods will exhibit larger mark-ups than those produced by less capital-intensive ones: i.e., the weight of the wage bill in total costs will be smaller in the former than in the later since their more intense investing in labor-saving assets (on the contrary, the weight of the depreciation charge will be larger).

The choice among more or less capital- intensive production processes will depend on their relative profitability: that production process with a higher capitalized value (higher demand price) will be chosen. Therefore, if s is a less capital-intensive production process than t , s will only be chosen as an investment if $P_K^S > P_K^T$. The two elements that determine the capitalized values of the different possible structures of production are, on the one hand, the interest rates and, on the other, the expected cash flows from the final sale of the consumer goods that they contribute to

produce. Thus, two elements that might seem rather independent variables, but which are in fact deeply interdependent.

Capital-intensive production processes provide consumer goods much later than less capital-intensive production processes, since the former need to previously produce those capital goods that will replace workers: or, in financial terms, those more capital-intensive production processes will exhibit a longer Macaulay duration (Lewin and Cachanosky (2013)). Hence, both an increase in the demand for present consumer goods or an increase in interest rates will tend to affect capital structure intensiveness in the same way: they will drive the relatively more capital-intensive production processes out in favor of the relatively less capital-intensive ones (and vice versa: a decrease in the demand for present consumer goods or a reduction in interest rates will drive relatively less capital-intensive production processes out). In the end, an increase of interest rates will reduce the present value of later future cash flows; at the same time, an increase in the demand for present goods in relation to future goods will raise the value of earlier cash flows.

Therefore, all sustainable increase of investment should go in hand with an increase in savings. Following the Minskyan equation about consumer goods price determination, we can show that the only way to assure that an increase of investment does not yield an increase in the price of present consumer goods (P_C) — which, in consequence, drives out the more capital intense production processes — is through more government savings (deficit reduction: D_f), more entrepreneurial savings (less corporate taxes or less consumption out of after tax profits: $T_\pi * \pi$; $c * \dot{\pi}$) or with savings among workers ($\Delta s * \dot{W}$).

Since:

$$\bar{P}_c = \left(\frac{W_c}{A_c} \right) * \left(1 + \frac{W_i * N_i}{W_c * N_c} + \frac{D_f}{W_c * N_c} + \frac{T_\pi * \pi}{W_c * N_c} + \frac{c * \dot{\pi}}{W_c * N_c} - \frac{s * \dot{W}}{W_c * N_c} \right)$$

Then,

$$W_i * N_i = -Df - T_\pi * \pi - c * \dot{\pi} + s * \dot{W}$$

All this means that, according to Minsky, in a non-exogenously manipulated capital market where hedge finance dominates speculative and Ponzi finance (and where, therefore, short term savings are not channeled into long term investments), intertemporal coordination between consumption and production will be achieved through the movements of interest rates: an increase in long term savings will lower long term interest rates and will stimulate investment in more capital-intensive processes (i.e., long duration processes); a reduction in long term saving will increase long term interest rates and that will stimulate the investment in less capital-intensive production processes (i.e. short term duration processes).

On the contrary, in an exogenously manipulated capital market or in a market where there is a preponderance of speculative or Ponzi finance, investment in capital-intensive production processes will be increased without a corresponding delay in present consumption (long term investments will not be financed by long term savings).

That intertemporal imbalance will increase the relative prices of consumer goods which will in turn promote investment in less capital-intensive production processes, when actually the exact opposite is needed to validate the previous increase in long-term investment: i.e. a relative increase in the prices of those consumer goods produced by the more capital-intensive production processes (Minsky (1986) p. 188-189). That is to say, in the absence of enough long-term saving, an increase in investment to deepen the duration of the structure of production will reappraise those processes that are less capital-intensive. And that blowback will later lead to a reduction of investment in the more capital-intensive production processes, bringing about negative real and financial consequences on the whole economy.

With regards to the real consequences, the reduction of investment in the more capital-intensive industries will decrease wages and profits in those industries, loosening the excess demand which those incomes exercised over the consumer goods and which contributed to stimulate the less capital-intensive production processes: this is what Friedrich Hayek called the “Ricardo Effect” (Hayek (1939) p. 9-10; O’Driscoll (1977) ch. 5). With regards to the financial consequences, the reduction of investment in the capital-intensive industries will not enable those industries to meet their debts and to remunerate their shareholders, bringing about a rise in general uncertainty that could spread over the rest of the economy (including the financial system): this is what Minsky called “the financial instability hypothesis.”

If, in that context of an economic crisis caused by the overinvestment in capital-intensive productive processes, the government incurs in large public deficits to sustain aggregate profits (and more particularly, the profits of those investment goods industries mostly affected by the crisis: meaning, the more capital-intensive ones), Big Government will be contributing to contain financial instability at the cost of accentuating the Ricardo effect. That is necessarily true inside Minsky’s model as long as government deficit is one of the variables determining consumer goods prices: the larger the budget deficit, the larger the rise of consumer goods prices and therefore the larger the contracting pressure over the more capital-intensive industries.

In other words, the larger the budget deficit volume channeled into consumer goods demand (i.e., the larger the Keynesian multiplier effect), the larger the contraction of capital-intensive industries. This does not necessarily mean that the net effect on GDP of any budget deficit will always be negative: in cases where a deep economic depression has brought about huge volumes of idle resources, some public spending in the more capital-intensive production processes could be compatible with a parallel increase of investment in the less capital-intensive

processes (Hayek (1939) p. 42). It does mean, however, that the Ricardo Effect fueled by budget deficits constitutes an additional crowding-out effect hardly mentioned in the mainstream economic literature.

After all, it is frequently argued that crowding-out occurs due to the higher interest rates stemming either from the issuance of public debt or from the increased money demand associated with the multiplier effect (Blanchard (2006)). But the Ricardo Effect is a crowding-out effect which takes place even when interest rates are not increased (Hayek (1939) p. 32-33): it is the necessary result from the direct competition among production processes with different time profiles which will necessarily end up raising the costs of those factors of production with a more inelastic supply (bottlenecks). As Hayek stated, the Ricardo Effect is a mechanism by which the increase in the demand of consumer goods forces the reduction of the demand of (some) investment goods even when interest rates remain constant (Hayek (1969)).

Estimates of the multiplier effect of budget deficits during recessions should take into account this additional crowding-out effect: that which derives from fueling the demand of less capital-intensive production processes at the expense of decreasing investment in the more capital-intensive production processes. Given that current estimates of the multiplier effect —between 0.8 and 1.2 (Ramey (2011)) or even lower under more realistic hypothesis (Cogan, et al. (2010))— already accept that budget deficit contracts net private spending even without tax hikes (Ramey (2013)), the inclusion of this additional crowding-out effect would lessen even more the relevance of Big Government's public deficits as a short term stabilization mechanism. Under many contexts, it could actually make it wholly undesirable.

2. Long-term problems

The long-term problems of the stabilizer role of Big Government are essentially three: its negative contribution to economic growth; the bail out of zombie industries, and the chronification of inflation.

With regards to the first problem, the market, as an institution for the decentralized and competitive allocation of resources, is better in solving the typical problems of incentives (Demsetz (1967)) and information (Hayek (1945)) which affect any division of labor economy than the state, which is an institution that allocates resources in a centralized and monopolized manner (Kornai (1992)). In fact, there is ample empirical evidence showing the negative correlation between government consumption and economic growth (Barro (1989); Fölster and Henrekson (2001); Afonso and Furceri (2010)). Therefore, even if Big Government could stabilize economic fluctuations in the short run, this advantage would come at a large price in the form of lower potential economic growth: something Minsky does not take into consideration in his analysis.

With regards to the second problem, let us remember that, according to Minsky, entrepreneurial income (R) accomplishes three purposes within a capitalist system: covering the “technologically determined costs and overhead” (OV), the repayment of debt (D) and the remuneration of shareholders (S). All this means that any company must fulfill the following equation in order to remain viable (Minsky (1986) p. 177):

$$R > OV + D + S$$

From this, we can arrive at three possible scenarios. The first one is that revenues allow the repayment of both debts and the costs of production but are able to compensate shareholders' cost of capital. In this case, the company will stay in business but shareholders will stop any

reinvestment unless new profit opportunities arise: they will regret having invested originally in that company, but they will keep it afloat unless its liquidation value is higher than the present value of its future net profits.

$$OV + D + S > R > OV + D$$

The second possibility is that revenues allow the covering of the costs of production but neither the repayment of debt nor the remuneration of shareholders. In this case, the company will enter into bankruptcy and its debts will need to be restructured to stay in business under new financial arrangements:

$$OV + D > R > OV$$

The final case is that where revenues do not even allow the covering of the costs of production; here even the business model of the company will need to be restructured or otherwise liquidated:

$$OV > R$$

The first two cases mean that, although the company generates operating profits ($R > OV$), it is not correctly financed: consequently, its future sustainability depends on finding either new shareholders willing to accept lower yields or on finding new creditors willing to accept lower interest rates, so that the operating surplus becomes large enough to cover the repayment of debt and the remuneration of shareholders ($R - OV - D > S$). Certainly, there might be no investors with the specific time and risk preferences compatible with type of funding needed by the business, in which case the company will cease its operations either in the long run (no new reinvestment) or

in the short run (liquidation). But if those investors exist, this incorrectly financed company will become sustainable through financial restructuring.

On the contrary, the third scenario implies that the business model is not generating economic value: therefore, the company will need to close under any possible financial arrangement (except if investors accepted negative yields).

In times of economic depression, aggregate investment falls due to a general rise of uncertainty. In such cases, the revenues of countless businesses will go down and many of them will be placed under one of the three previous situations. In this context, there could be some reasonable arguments for supporting a governmental bail out of those businesses that suffer from a transitory collapse of revenues: i.e., of those businesses that may regain profitability in times of financial tranquility (businesses that in normal times can achieve $R > OV + D + S$) or even of those businesses that could be adequately refinanced in times of financial tranquility (businesses with $R > OV$ in normal times but which need to change their financial structure to become sustainable).

What cannot be justified under any economic reasoning is bailing out either companies that would not manage to cover their costs of production ($OV > R$) or companies whose profitability would be so tiny that no investor would be willing to reinvest in them in normal, healthy economic times. In any of these cases, a governmental bail out would only contribute to consolidate an inefficient allocation of resources: an allocation that either does not cover the opportunity costs of production or does not cover the opportunity cost of financing that production process. These two types of businesses could be properly called “zombie businesses”.

When a financial crisis is not caused by an unfounded financial panic, but by some imbalance between the intertemporal preferences of savers and the intertemporal plans of investors (Lewin (2011) ch. 6; Manish and Powell (2014)), then many business structures will be forced to

readjustment when facing losses or even bankruptcy (Lachman (1956) p. 122). Bailing out such companies would only consolidate zombie businesses, and that would only shift the burden of the readjustment to the rest of the economy reducing overall productivity (Caballero, et al. (2008)). Minsky does not explain how public deficits ensure that only sustainable (non-zombie) business will be bailed out through budget deficits. He simply states that, once the deflationist collapse has been prevented through the stabilization of aggregate profits, the economic system will be able to absorb any individual bankruptcies (Minsky (1986) p. 354): but sustaining aggregate profits includes the possibility of sustaining the profits of zombie businesses that should have entered into bankruptcy. In other words, Minsky does not provide a solution to the problem that zombie businesses could become predominant in the whole of the economy thanks to Big Government's deficits: as a matter of fact, Minsky's work only considers the possibility of an economy becoming stagnant as a consequence of a deflationist depression, but not as a result of the spread of zombie businesses (Minsky (1970)).

Up to this point, we have seen that Minsky does not take into account two of the most important long-run problems of Big Government. The same thing cannot be said with respect to the third one: chronic inflation. In fact, Minsky goes as far as to state (Minsky (1986) p. 315) that Big Government can be considered both a blessing (for its stabilizing role along the economic cycle) and a curse (for its role in generating inflation).

From Minsky's basic price equation, $P_c = \frac{W}{A_c}(1 + M)$, inflation in consumer goods can happen either because wages increase more than productivity or because the mark-up goes up: in particular, Big Government's influence is felt on the mark-up (Minsky (1986) p. 284). That mark-up depends, as we have previously analyzed, on the volume of investment, on public deficit, on consumption out of profits and on savings out of wages. Therefore, an increase in investment,

deficit or consumption out of profits will raise the mark-up and, unless those movements are accompanied by an increase in productivity or in savings out of wages, prices of consumer goods will go up. Nonetheless, this initial inflationist movement will not continue on its own if nominal wages are not increased and therefore if real wages are reduced as a consequence of the higher prices (Minsky (1986) p. 288).

Otherwise, if nominal wages are increased in parallel to consumer goods prices, then open-ended inflation will occur (Minsky (1986) p. 290). Several reasons could lead to this result, since the evolution of nominal wages after price increases depends on the interaction between the institutional framework and the expectations of economic agents. However, in Small Government capitalism, open-ended inflation cannot happen since the initial inflationist surge of investment will necessarily degenerate into a deflationist recession where prices will cease to increase (Minsky (1986) p. 299-300). However, these natural limits to open-ended inflation disappear with Big Government, since budget deficits and central bank refinancing sustain the aggregate demand of consumer goods and thus, they generalize the expectation that inflation will not be self-limited (Minsky (1986) p. 301).

Therefore, the risk of open-ended inflation is another important cost of Big Government: high inflation not only causes the famous menu and shoe-leather costs, but, when it is unevenly distributed throughout the economy, it also modifies the structure of relative prices and as a consequence the whole structure of production (this is the main lesson behind the well-known Cantillon Effect). At the same time, when a monetary standard becomes a bad store of value, the relative prices of the different classes of assets change, thereby lowering artificially the cost of those financial liabilities which act as close substitutes of money and which serve as partial hedges against inflation. Furthermore, a bad store of value also fuels the financial industry demand to

handle the resulting monetary uncertainty, thereby absorbing real resources that would be otherwise available for the economy (Friedman (1986); Horwitz (2003)). As a matter of fact, Minsky himself recognized that an unconstrained open-ended inflation derived from a structural public deficit could finally lead to the repudiation of the currency unit (Minsky (1986) p. 337): an event with gigantic economic costs (Hutchison and Noy (2005); Paoli, et al. (2009)).

Given all the previous adverse effects, Minsky advocates the avoidance of an unconstrained open-ended inflation through a structural budget balance (he presupposes the existence of a non-Ricardian fiscal regimen where inflation depends essentially on fiscal and not monetary policy): i.e., price stability is guaranteed by ensuring that the outstanding public debt can be completely met with future budget surpluses (Minsky (1986), p. 338-339). Therefore, Minsky thinks that budget deficits during recessions must be compensated by public surpluses during expansions.

However, let us remember that, according to Minsky, budget surpluses are contractionary as they depress aggregate profits. This means that, unless the initial stimulus is capable of bringing the economy sustainably out of recession in the short run, the need to guarantee price stability will end up enhancing a contractive fiscal policy during the depression: something that will slow down any potential recovery.

To sum up: in the long run, Big Government hinders economic growth and its large budget deficits contribute to bail out zombie industries and to chronify inflation unless those deficits are reverted in the short run. Therefore, governments could adopt two strategies: if they adhere to price stability, Big Government deficits would become an inefficient and insufficient policy to counteract these economic crisis characterized by long deleveraging processes and deep real readjustments.

If, on the contrary, governments do not stick to price stability and therefore budget deficits are not reverted in the short run, then zombie industries will be perpetuated and inflation will be chronified, contributing to a suboptimal allocation of capital in an inflationary stagnation (stagflation). Consequently, Big Government deficits could only contribute to stabilize economic activity when the crisis results from an unfounded collapse of expectations or from minor real and financial imbalances (and even in those cases we should consider the crowding-out effects previously analyzed), but that would come at the cost of hindering economic growth.

3. Very long-term problems

Big Government is not only destabilizing in the short run and stagnating in the long run: in the very long run, it also reshapes the institutional framework where economic agents operate. As a result, it is particularly interesting to study whether Big Government promotes the spread of speculative or Ponzi finance which eventually degenerate into the deflationist depression whose consequences Big Government tried to avoid initially.

Minsky does acknowledge that a Small Government institutional framework, where monetary and fiscal policies are not used to stabilize economic activity during recessions, would encourage economic agents to avoid and to correct fragile financial structures, as well as to learn from past financial mistakes. More specifically, without the expectation of governmental bailouts, lenders would possess the incentive to control borrowers' over-indebtedness: in the case of banks, their level of short term leverage would be overseen by depositors and other financial institutions, who force a run on any insolvent bank (Minsky (1986) p. 271 and p. 282).

Moreover, after an economic crisis, entrepreneurs would become more conservative, shifting away from speculative or Ponzi finance toward the kind of hedge financial structures

which do not lead to a new inflationist boom (Minsky (1986) p. 234), at least until both overconfidence returns to the markets and agents' liquidity substantially increases (Minsky (1986) p. 235).

Big Government notably worsens this institutional framework. On the one hand, the expectation of governmental bailouts (either by fiscal or monetary policy) reduces creditors' incentives to control their debtors, so that "there are no effective market barriers to bank expansion and thus to the destabilizing impact of banks upon demand" (Minsky (1986) p. 277). On the other hand, the reemergence of speculative or Ponzi finance after a crisis develops much faster when the government guarantees entrepreneurial profits and when the central bank commits to refinance any maturing debt, thus minimizing credit risk (Minsky (1986) p. 235 and p. 364).

To summarize: Minsky acknowledges that Big Government increases "moral hazard" and therefore the financial fragility of the whole economic system. It is tantamount to saying that Big Government's promises to intervene in order to guarantee macroeconomic stability will endogenously create the conditions that make that intervention compulsory (Minsky (1985)). How can these unintended institutional consequences of Big Government be prevented? According to Minsky, through regulation.

More specifically, Minsky defends that the central bank must acquire regulatory powers to determine the capital ratio of the financial institutions and to influence their liquidity structure through its discount window (Minsky (1986) p. 356-358). However, Governments all around the world already possess those powers and they have been unable to prevent the so-called Great Recession (the worst deflationist depression since the Great Depression). Perhaps, the chief cause behind this failure has been that, as Minsky recognizes, regulatory innovation will always be faster than regulators' mandates: "In a world of businessmen and financial intermediaries who

aggressively seek profit, innovators will always outpace regulators” (Minsky (1986) p. 281). Decentralized financial innovation and regulatory arbitrage by millions of economic agents who possess a deep and specific knowledge on their market segment will tend to beat centralized government orders (Kling (2009) ch. 2).

As a consequence, the optimal strategy for achieving financial stability in the very long run should consist in spreading the institutional incentives that promote self-regulation of any economic agent: something that can be accomplished by linking financial survival to the maintenance of good liquidity and solvency standards (hedge finance, in Minsky’s term). Certainly, if the abuse of speculative or Ponzi finance led to notable losses of capital, economic agents would learn the lesson and would sooner or later adopt hedge financial structures to avoid future losses (something that even Minsky admits).

Therefore, the typical institutional incentives of a free market system would lead to the development of robust financial structures in the long run (Selgin (1989)). On the contrary, Big Government’s interventions to sustain aggregate profits in the short run reward reckless financial behavior by insulating economic agents from the bad consequences of their bad financing choices. Big Government unintended failures ultimately create the necessity for further Big Government interventions that in turn degenerate into new problems that require new interventions (Mises (1929) p. 28).

III. Conclusion

Minsky defends Big Government as a tool for stabilizing aggregate spending through budget deficits. However, this policy is not exempt of notable problems which are not taken into account by the post-keynesian economist: in the short run, the stabilization of aggregate spending

is at best quite moderate once every crowding-out effect is considered; in the long run, Big Government hinders economic growth and tends to stagnate the economy by bailing out zombie industries and by chronifying inflation; in the very long run, it reshapes the institutional structure of incentives by rewarding financial imprudence.

We should consequently consider Small Government as a serious alternative for stabilizing the economy even within the Minskyan framework of analysis. Small Government capitalism would promote hedge finance self-regulation thus minimizing economic crises. At the same time, its free, flexible and stable markets would allow the reabsorption of any past investment error and would ease the relaunch of private investment as soon as the economic agents discover new profit opportunities. Debt-deflation cycles would not ensue in case the expectation of future profits does not collapse thanks to the ability of the whole economy to readjust failed investment and to restructure inherited debts. Obviously, one cannot absolutely discard any failure of coordination which could eventually be solved faster by some moderate budget deficit: but the costs of institutionalizing Big Government seem to be much higher than any occasional differential advantage that it could provide.

Footnotes

1. In an economy with no savings out of wages, with no consumption out of profits and no government, the revenues in the consumer goods industries ($P_c * Q_c$) must be equal to the total wage bill in both the consumer ($W_c * N_c$) and the investment goods industries ($W_i * N_i$):

$$P_c * Q_c = W_c * N_c + W_i * N_i$$

$$P_c = \left(\frac{W_c}{A_c}\right) * \left(1 + \frac{W_i * N_i}{W_c * N_c}\right)$$

Allowing for the government, then the revenues in the consumer goods industries must be equal to the total after-tax wage bill in the consumer and investment goods industries plus the after-tax wage bill in the governmental sector ($W_g * N_g$) plus governmental transfers (T_R):

$$P_c * Q_c = W_c * N_c + W_i * N_i + W_g * N_g + T_r - T_w * (W_c + W_i + W_g)$$

As budget deficit (Df) is just the difference between public spending and public revenues (including corporate taxes: $T_\pi * \pi$):

$$Df = W_g * N_g + T_r - T_w * W - T_\pi * \pi$$

Then,

$$P_c = \left(\frac{W_c}{A_c}\right) * \left(1 + \frac{W_i * N_i}{W_c * N_c} + \frac{Df}{W_c * N_c} + \frac{T_\pi * \pi}{W_c * N_c}\right)$$

Lastly, allowing for consumption out of after-tax profits ($c * \pi$) and savings out of after-tax wages ($s * W$), then revenues in the consumer goods industries will have to cover also these two magnitudes:

$$P_c * Q_c = W_c * N_c + W_i * N_i + Df + T_\pi * \pi + c * \dot{\pi} - s * \dot{W}$$

And therefore:

$$P_c = \left(\frac{W_c}{A_c}\right) * \left(1 + \frac{W_i * N_i}{W_c * N_c} + \frac{Df}{W_c * N_c} + \frac{T_\pi * \pi}{W_c * N_c} + \frac{c * \dot{\pi}}{W_c * N_c} - \frac{s * \dot{W}}{W_c * N_c}\right)$$

2. In an economy with no savings out of wages, with no consumption out of profits and without government, the revenues in the consumer goods industries ($P_c * Q_c$) must be equal to the total wage bill in both the consumer ($W_c * N_c$) and investment goods industries ($W_i * N_i$):

$$P_c * Q_c = W_c * N_c + W_i * N_i$$

Therefore, profits in consumer goods industries (π_c) will be equal to the wage bill in the investment goods industries, while profits in the investment goods industries will be equal to the difference between total investment spending (I) and their wage bill:

$$\begin{aligned}\pi_c &= P_c * Q_c - W_c * N_c = W_i * N_i \\ \pi_i &= I - W_i * N_i\end{aligned}$$

Hence,

$$I = \pi_c + \pi_i$$

Allowing for the government:

$$\begin{aligned}\pi_c &= W_i * N_i + Df + T_\pi * \pi \\ \pi_i &= I - W_i * N_i \\ \pi_c + \pi_i &= I + Df + T_\pi * \pi\end{aligned}$$

Therefore, total after-tax profits will be:

$$\dot{\pi} = \pi_c + \pi_i - T_\pi * \pi = I + Df$$

And lastly, allowing for consumption out profits and savings out of wages, total after-tax profits will be:

$$\pi_c + \pi_i = I + Df + T_\pi * \pi +$$

$$\dot{\pi} = I + Df + c\dot{\pi} - s\dot{W}$$

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