



Schumpeter, Sweezy, the Financial System, and Innovation: Small versus Big Business

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Abstract. Joseph Schumpeter's writings on entrepreneurship and innovation have had a profound impact on economic theory and economic thought. Schumpeter initially saw the small entrepreneur as the source of innovation and economic growth within an economic system but later saw large corporations as the source of much innovation. One of his students and friends, Paul M. Sweezy, was influenced by this thinking, and he also emphasized (along with frequent co-author Paul Baran) the role of large corporations in the US and global economies. In today's times, Schumpeter would be impressed with the success of large firms regarding innovation but probably would be disappointed about the marginalization of the small entrepreneurial firm and the traditional banking system and their diminished roles in innovation. Sweezy would have predicted such an outcome as inevitable given trends in capitalist economies. This paper summarizes Schumpeter's and Sweezy's (and Baran and Sweezy's) views on how the banking system and financial markets could play a role in innovation and explains how a modern day monopoly capital system and its financial system have transformed entrepreneurship and innovation away from small business and the small entrepreneur.

Keywords: Schumpeter, Sweezy, entrepreneurship, innovation, finance, banking.

JEL Codes: B26, B31, B51

1. Introduction

Entrepreneurship is an omnipresent theme in contemporary capitalism. As long as entrepreneurship leads to greater innovation, greater worker productivity, and better standards of living it appears as a necessity and a condition for economic growth and development. The roles that entrepreneurship and innovation play in keeping a capitalist economy dynamic and growing has been a dominant and persistent theme in most of the economics literature at least since Adam Smith's *Wealth of Nations* (1776) or Jean-Baptiste Say who was the first to put the

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entrepreneur as a central character of a market economy (Steiner, 1997). Since then, the entrepreneur has become a common place of the “managerial vulgate” (Dardot and Laval, 2014) and an almost mythological figure of capitalism (Bairoch, 1995). To study entrepreneurship is to stray from these apologetic representations. Joseph A. Schumpeter (1980 (1942); 1983 (1911)) is probably the economist who deals the most extensively with the entrepreneur as a major actor of capitalist dynamism (Reisman, 2004, p. 4).

Schumpeter’s writings on innovation and entrepreneurship have received a great deal of attention over the decades (Augello, 1990; Blaug 1997, pp. 445-446; Arena and Dangel-Hagnauer, 2002; Backhaus, 2003; Gislain, 2012; Burlamaqui and Kattel, 2019). As with mainstream economics, Schumpeter once believed that the role of the small entrepreneur (Schumpeter, 1983) was crucial in bringing about innovation, new jobs, and rising standards of living. Additionally, the entrepreneur was also seen as an antidote to large business concentration in that established industries were sometimes usurped by upstart business and new technologies that replace older businesses and technology by shaking up the economic structure and disrupting existing firms. According to Schumpeter, this process of “creative destruction”—or the “competing down process” as he calls it in *Business Cycles* (Schumpeter, 2017, (1939), p. 739)—was one in which older industries were replaced by newer ones thanks to the decline of the older industries and their products and the rise of new products due to entrepreneurship (Schumpeter 1983). Newer industries, however, eventually became mature ones, and their products and services eventually saturated markets. If innovations appeared in clusters, and then after their appearances there is a subsequent period of an innovation “drought”, then an economic downturn was likely to occur. These were the findings of Edmonson (2009) as well regarding the performance of the US economy, and he noted that large organizations play the primary role in innovation in most modern economies.

As time went by, Schumpeter² began to see large corporations as a source of innovation and rising standards of living. These organizations had the financial and industrial capacity to develop new products, although he also thought that the decline of small business as a source of innovation would eventually cause the middle classes to lose a lot of confidence in the capitalist system since small business and profitable innovation were vehicles of class mobility (Schumpeter 1980 (1942); Foster 2011). Schumpeter saw the railroads as successful, large entities which were able to raise large amounts of initial equity funding by selling shares of stock and incorporating as limited liability corporations, which itself was a big innovation according to him although limited liability corporations preceded the railroads (McCraw 2007, pp. 264-267).³ Later, once achieving large sizes, railroads began to finance many of their own capital investments and innovations. The observation that larger businesses were more successful and

2. Edmonson (2009) also notes this, but also sees governments and large universities as sources of innovation as well.

superior at substantive innovation was borne out by Schumpeter (McCraw 2007, pp. 352-353) and more modern writings, some of which noted that R&D conducted by highly monopolized industries and large firms was a benefit (Kamien and Schwartz 1982; Darby and Zucker 2006) whereas others saw it as a cause for alarm and rejected John Kenneth Galbraith's view (1956) of beneficial innovation coming from large firms and concentrated markets (Nelson, Peck, and Kalachek 1967).

Paul M. Sweezy knew Schumpeter as a teacher and a friend (Swedberg, 1991, p. 140; McCraw, 2007, p. 220) so much so that Sweezy contributed to the edition of *History of Economic Analysis* after Schumpeter's death (Swedberg, 1991, p. 178). Sweezy and Schumpeter often debated in person and in writings on capitalist entrepreneurship and innovation (Samuelson 1969 and 1972; Foster 1999 and 2011). The so-called "debate on secular stagnation" has been studied by many scholars (Dockès, 2015; Potier 2015). Sweezy was both an admirer and a critic of Schumpeter's work (Sweezy, 1943). Schumpeter was thought to have had an influence on Sweezy's thinking regarding innovation, business cycles and economic growth (Foster 2014; Baran and Sweezy 2017). One of the most crucial issues of the Schumpeter-Sweezy debate was about the anteriority of profit and innovation: was it innovation that produced profits, or was it accumulation that permitted innovation? Schumpeter thought that profit was a *consequence* of innovation whereas Sweezy thought that profits or surplus, or the accumulation of profits or surplus, came first, and then firms looked for investment outlets through innovation to absorb the surplus (Schumpeter 1980 (1942); Sweezy 1942 and 1953; Foster 2011).

In his textbook, Romer (2012) assumes in his models a Schumpeterian view. For Schumpeter, economic crises mostly arise due to innovation cycles wherein sometimes not enough new innovations are forthcoming to yield new products and new industries so as to keep an economy growing. For Sweezy, economic crises arise from a lack of surplus absorption wherein the number of new innovative products and businesses are not enough to absorb all the surplus generated in a capitalist economy, and so growth stagnated as a growing portion of surplus failed to be reinvested. In general, for Schumpeter, innovators and innovation engender profits, whereas for Sweezy, profits pursue or look for possible innovation as an investment outlet (Schumpeter 1980 (1942); Sweezy 1942 and 1953; Foster 2011). Samuelson (1969, 1972) and Foster (1999, 2011) have written about a congenial, public debate held at Harvard University during the 1946-47 school year between Schumpeter and Sweezy on their opposing ideas.

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3. Aside from mentioning the importance of capital markets, commercial paper, and lines of customer credit from manufacturers such as General Motors, a disproportionate amount of Schumpeter's writing dwells upon banking and the banking system as sources of financing for entrepreneurs and firms and as keys to economic development. However, in *Theory of Economic Development* (1983 (1911)), he devotes the third chapter to a discussion of credit and capital and discusses the money market and demand for credit in general terms.

The anteriority issue is of first importance when it comes to understanding how the size of the firm impacts innovation. The Schumpeterian conception of the anteriority of innovation allows small business to carry out innovation and turn their success into profits. But Sweezy's conception of the anteriority of accumulation and profit is more compatible with big business accumulating capital and investing in innovation. This paper looks at how these two economists, especially Schumpeter, see the financing of entrepreneurship and innovation over time as the average size of firms has become larger and larger. As firm size has grown, many potential entrepreneurs are finding it more and more difficult to obtain financing for their start-ups or small business or new product ideas because so many are currently suffering from a high level of personal indebtedness. Additionally, most new product innovation is now occurring through the efforts of large corporations, an aspect of modern industry noted by Sweezy and his co-author of the book *Monopoly Capital*, Paul A. Baran. The role that banks and the financial system have played in financing entrepreneurship and innovation has changed dramatically since Schumpeter's first writings on entrepreneurship, and this paper explores those changes.

2. Schumpeter on Financing Entrepreneurship and Innovation

Schumpeter was basically of the view that banks and the banking system were key institutions to any nation's economic development and advancement and not just as conduits of deposits and loans (Schumpeter 1983 and 1989; Festré and Nasica 2009; Lakomski-Laguerre 2002 and 2016). In *Business Cycles*, Schumpeter proposed a minimalist definition of the bank: "They are nothing but establishments for the manufacture of means of payment" (Schumpeter, 2017 (1939), p. 102). In his unfinished work *Das Wesen des Geldes*, Schumpeter dealt extensively with banks and credit:

"Banks are firms as well, but firms of a special kind that, as we initially, entirely tentatively suggest, attend to a portion of the money and credit transactions of households and firms. We also include institutions that language does not call banks, if they fulfill the function of banks – thus the American trust companies and German giro institutions, thrifts and account-managing, possibly also credit-issuing, post offices, and all the satellites of the banks that are hive-offs of individual functions, such as discount houses on the London money market, stock exchange brokers when they also finance the transactions that they provide, etc." (Schumpeter, 2014, p. 153)

To Schumpeter, banks served the purpose of coordinating and channeling financial resources at favorable interest rates to either currently successful or potentially successful firms and at the same time denying such resources to those which were in decline or ready to go bankrupt. Banks were the "Ephors" of a capitalistic system: "The banker, therefore, is not so much primarily a middleman

in the commodity ‘purchasing power’ as a *producer* of this commodity ... He makes possible the carrying out of new combinations, authorizes people, in the name of society as it were, to form them. He is the ephor of the exchange economy” (Schumpeter, 1983, p. 74). In ancient Sparta, the ephors were magistrates in charge of the control of the administration. The ephors supported and helped the kings but also exercised control over them. The ephors were the watchers and supervisors of the city (Richer, 1998).

The banker is the ephor of the capitalist economy because he supports the entrepreneur’s projects but at the same time he exercises a certain control over him by selecting the viable and profitable project and rejecting the others. In this metaphor, the entrepreneur appears to be the king of the capitalist economy. Therefore, bankers can be perceived to be the ephors of the capitalist economy through their financing of entrepreneurial activities which lead to economic growth but also occasional economic crises and periods of “creative destruction” when old products and markets would be replaced by new ones. In this sense, the banking system assists the market in picking the “winners and losers” of a competitive economic system by evaluating the potential and performance of business enterprises, especially the newer ones. In *Business Cycles*, Schumpeter adds: “It should be observed how important it is for the functioning of the system of which we are trying to construct a model, that the banker should know, and able to judge, what his credit is used for and he should be an independent agent” (Schumpeter, 2017 (1939), p. 116). The function of the banker in the Schumpeterian framework cannot be reducible to a mere creditor: he must be able to judge, to know, to anticipate. “The banker must not only know what the transaction is which is asked to finance and how it is likely to turn out, but he must also know the customer, his business, and even his private habits, and get, by frequently ‘talking things over with him’, a clear picture of his situation” (Schumpeter, 2017 (1939), p. 116). However, banks could also succumb to imprudent decision making during financial bubbles (Schumpeter 1989; Leathers and Raines 2013). Banks are also considered active buyers and sellers in the markets for financial instruments, and by doing so further help market efficiency by helping firms with potential greater profitability in the future. Initially many merchant businesses are financed by commercial banks, but this would soon change.

As Dieter Bögenhold suggests, despite the fact that “entrepreneurship has become a prominent and strategically important issue when talking about driving forces towards prosperity and job creation” (Bögenhold, 2019, p. 145), the very notion of entrepreneurship seems to be “somehow vaguely and oscillating defined” (Bögenhold, 2019, p. 145). In Schumpeter’s theory, the entrepreneur is above all an *economic function* linked to the introduction of innovation within the economic sphere: “The carrying out of new combinations we reserve the term “enterprise”; the individuals whose function it is to carry them out we call “entrepreneurs” (Schumpeter, 1983 (1911), p. 74). Of course, under the label

“entrepreneur” fall a vast heterogeneity of cases and situations both in the history of economic thought and in economic reality. Due to a lack of place, this paper cannot deal with the complexity of the semantics around the uses of the term entrepreneur (see Bögenhold, 2019). But Schumpeter’s theoretical ambition is precisely to grasp the essence of economic phenomena beneath their historical manifestations. In a 1928 article titled “*Unternehmer*”, Schumpeter summarizes his conception of entrepreneurship:

“The essence of the entrepreneurial function lies in recognizing and carrying out new possibilities in the economic sphere. Such an economic leadership thus occupies itself with tasks that can be summarized in the following types: (1) the production and carrying out of new products or new qualities of products, (2) the introduction of new production methods, (3) the creation of new forms of industrial organization (for instance trustification) (4) the opening up of new markets, (5) the opening up of new sources of supply.” (Schumpeter, 2003, p. 250)

The Schumpeterian entrepreneur is, therefore, an economic function embodied in an economic agent that carries a new object, i.e. an innovation, defined as “the execution of new productive combinations” (Schumpeter, 1983 (1911), p. 66) or as Schumpeter defines it in *Business Cycles*: “innovation is the setting up of a new production function” (Schumpeter, 2017 (1939), p. 97). To put it in a nutshell and in order to simplify our demonstration, we stand at the Henrekson and Sanandaji formulation according to which “the Schumpeterian definition of entrepreneurship” refers to “innovative venture creation” (Henrekson and Sanandaji, 2018, p. 158). Entrepreneurs serve several economic purposes through job creation and innovation. Even if a self-employed individual or small business develops no new markets or products but simply serves an existing market, the firm’s employment of labor sustains the “circular flow” of markets. Better yet, if the firm innovates and creates substantive new products or services and creates new employment, it helps to expand the circular flow. In this paper the latter types of entrepreneurs are considered since the authors we discuss are mostly concerned with the long-term dynamism and sustainability of capitalism.

With industrial capitalism, the banking system evolved to a point where investment banking became crucial to raising the capital necessary for large-scale and rapidly expanding enterprises when investment bankers underwrote new stock issuances and financed mergers and acquisitions. According to Schumpeter, at the beginning of the 20th Century, the institutional pattern shifts from “competitive” to “trustified capitalism”. “Innovation in competitive capitalism is typically embodied in the foundation of new firms.” (Schumpeter, 1928, p. 384). In this historical type, innovation is carried out by small firms. “For a firm of comparatively small size, which is no power on the money market and cannot afford scientific departments or experimental production and so on, innovation in commercial or technical practice is an extremely risky and difficult thing,

requiring supernormal energy and courage to embark upon” (Schumpeter, 1928, p. 384). But in the second historical type, “trustified capitalism”, “innovation is, in this case, not any more embodied typically in new firms, but goes on, within the big units now existing, largely independently of individual persons” (Schumpeter, 1928, p. 384). Such “banker capitalism” would help to finance cartels and trusts and growing industry concentration as banking became somewhat entrepreneurial itself by financing mergers and acquisitions and offering new types of investment instruments (Festré and Nasica 2009). This period also saw the rise of central banks in many nations. These economic institutions would help to bring some order and rationalization of economic resources to a sometimes chaotic market environment in which new innovation and markets were causing a certain amount of market disequilibrium (Lakomski-Laguerre 2016). Central banks would prevent systemic risk from destroying a banking system and would serve as lenders of last resort. All of these stages in banking and economic development were part of Schumpeter’s thoughts on the “evolution” of an economic system as it goes through business cycles (see Chapter 3, “How the Economic System Generates Evolution,” in Schumpeter 1989).

With the emergence of large scale industries and enterprises, however, the role of the entrepreneur and small business person in a nation’s economy would be diminished according to Schumpeter: “Although credit creation still plays a role, both the power to accumulate reserves and the direct access to the money market tend to reduce the importance of this element in the life of a trust” (Schumpeter, 1928, p. 384). Although national output would be enhanced with such large producers and industries being able to accomplish more than their smaller counterparts partly thanks to the financing of large banks and powerful financial markets, such firms would possibly lead to the undoing of capitalism in the future as the role of individual entrepreneurs would be controlled by and subsumed under capitalist classes (see Chapter 12 and 13, pages 131-155, Schumpeter 1980).

“Although entrepreneurs are not necessarily or even typically elements of that stratum from the outset, they nevertheless enter it in case of success. Thus, though entrepreneurs do not *per se* form a social class, the bourgeois class absorbs them and their families and connections, thereby recruiting and revitalizing itself currently while at the same time the families that sever their active relation to ‘business’ drop out of it after a generation or two. Between, there is the bulk of what we refer to as industrialists, merchants, financiers and bankers; they are in the intermediate stage between entrepreneurial venture and mere current administration of an inherited domain. The returns on which the class lives are produced by, and the social position of the class rests on, the success of this more or less active sector – which of course may, as it does in this country, form over 90 per cent of the bourgeois stratum – and of the individuals who are in the act of rising into that class. Economically and sociologically, directly and indirectly, the bourgeoisie therefore depends on the entrepreneur and, as a class, lives and will die with him, though a more or less prolonged

transitional stage – eventually a stage in which it may feel equally unable to die and to live – is quite likely to occur, as in fact it did occur in the case of the feudal civilization.” (page 134).

These large firms are also successful innovators and become the main innovators within a more mature capitalist economy. Yet the success of capitalism through large scale industry and cartels sows the seeds of its own destruction because the cartelization of markets, the destruction of many jobs and occupations through technological changes, and the near impossibility of smaller businesses being able to successfully compete against larger ones create restlessness and anger within society against capitalism. For many, class mobility is stifled to a certain extent due to the gradual decline in entrepreneurship and small business opportunities. Capitalism’s success would also take away its dynamism: “This social function [entrepreneur] is already losing importance and is bound to lose it at an accelerating rate in the future even if the economic process itself of which entrepreneurship was the prime mover went on unabated. For, on the one hand, it is much easier now than it has been in the past to do things that lie outside familiar routine—innovation itself is being reduced to routine” (Schumpeter, 1980, p. 132). Therefore, Schumpeter’s forecast for the future of capitalism has an overall pessimistic tone in his book, *Capitalism, Socialism, and Democracy* (1980, originally published in 1942).⁴

3. Sweezy and Monopoly Capital Views on Financing Entrepreneurship and Innovation

In his debate with Schumpeter, Sweezy, following Marx’s writings, contended that the main reason for an economy stagnating and slipping into a recession or depression was usually due to a lack of absorption of surplus value, or underconsumption, not solely due to a lack of new innovation or entrepreneurship, although a lack of new products and innovation over time could lead to savings not being reinvested in order to perpetuate more growth (Foster 2011). According to Sweezy (1942, p. 180), “The real task of an underconsumption theory is to demonstrate that capitalism has an inherent tendency to expand the capacity to produce consumption goods more rapidly than the demand for consumption goods”. He then claimed that the rate of growth of consumption could not keep pace with the rate of growth of production which is spurred on by the desires of capitalists to accumulate and invest more and more. This was even the case if workers’ wages were allowed to increase so they could consume more. Even in

4. Schumpeter’s writings preceded the rise of hedge funds and large insurance companies getting involved in business finance. Yet, he probably would not have been surprised by their growth and size in the world financial system during the second half of the 20th Century because of the growth of large banks and corporations.

that case, their increases in wages would often not be enough to buy everything produced.

Later with Paul Baran (Baran and Sweezy 1966), the two clearly linked the lack of surplus absorption with a lack of or decline in cycles of entrepreneurship and innovation. After economic booms provided by innovations such as the steam engine, railroads, and then the automobiles, the US economy subsequently stagnated after the long booms associated with each innovation ran its course and was not replaced by another major innovation. Similar to Schumpeter's thinking on the downward portions of business cycles, according to Baran and Sweezy, without new innovations on the horizon in which to invest, markets would reach saturation, consumption growth would peak and then decline, which would in turn lead to underconsumption, a rising surplus, and economic stagnation. Unlike Schumpeter, Sweezy (1942) and Baran and Sweezy (1966) thought that the large corporation had less incentive to innovate than the small entrepreneur because of the disruptive nature of innovation in the marketplace, the uncertainty of research and development, and the ability to make higher profits through restricted output. The last strategy usually prevented markets from becoming saturated to a certain extent and prevented underconsumption. In fact, Baran and Sweezy noted that large corporations had greater expenses due to depreciation than to R&D and also bought up smaller, innovative firms with new products rather than spending a lot of money on developing their own new products. Whereas Schumpeter saw "creative destruction" leading to the demise and replacement of firms and industries, Baran and Sweezy thought that such a force was limited in modern times by larger firms buying up or imitating smaller ones that posed potential competitive threats. Regarding R&D spending, Baran and Sweezy thought a disproportionate amount of it was spent on package design and slight modifications of existing products which were not really paths toward transformative innovation.

In general, according to Sweezy and later Baran and Sweezy, savings and/or profits in a macroeconomic system could be greater than the investment and consumption needed to keep it growing, thus resulting in a recession (Sweezy 1942, Chapter 10). According to Sweezy, it was true that entrepreneurship and innovation allowed for the absorption of economic surplus through acting as channels for the investment of surplus, but what really triggered layoffs and downturns was the lack of investment outlets for surplus garnered by the capitalists. Again, for Sweezy, profits chased after innovation whereas for Schumpeter, entrepreneurs through their innovations produced profits. Entrepreneurship was never a focal point for Sweezy in his writings, although like Marx and Schumpeter he believed that business cycles were influenced by cycles of innovation (Baran and Sweezy 1966 and 2017). As soon as investment outlets began to dry up, the economy would go into a downturn (Sweezy 1942 and 1953; Foster 2011).

“Entrepreneurs, however, seek to avoid the pauper’s fate which awaits them in a stationary state of society by cutting costs, discovering new markets, inventing or popularizing new products—in general, by introducing ‘new innovations.’ Those who are successful enjoy a sort of temporary monopoly position which is the source of entrepreneurial profit. To be sure, the introduction of innovation does not take place smoothly and continuously, but rather in clusters or groups. This discontinuity in the process of innovation underlies the phenomenon known as the business cycle. This brief sketch of Schumpeter’s theory is sufficient to indicate that for him, as for Marx, changes in the method of production are a basic feature of capitalism and no mere epiphenomena which impinge in a more or less haphazard fashion on the economic process.” (Sweezy 1942, p. 95).

Because of the clustering of waves of innovation, the business cycle would follow the rise of emerging industries and their subsequent plateau or decline. Although similar in emphasizing the importance of the predominant mode of production in any economic era, Sweezy also wrote that Marx and Schumpeter were not similar in that Marx mostly saw immiseration and unemployment accompanying business cycles whereas Schumpeter saw success in creative destruction due to capitalism being able to improve itself further and attain greater heights after a decline and an economic slump. Interestingly, Sweezy noted that most mainstream economists failed to consider historical analysis of different modes of production in different eras, which in his opinion was a severe shortcoming of modern economics (Sweezy 1942, p. 95).

Although he did not emphasize finance that much in either *Theory of Capitalist Development* (1942) or *Monopoly Capital* (with Paul Baran, 1966), Sweezy and his co-author Paul Baran (1966) noted how much modern innovation was being done by larger corporations who used research and development and innovation as means of absorbing surplus. To Baran and Sweezy, much R&D spending was mostly “wasted” in that it was spent on new product design and packaging or other marketing efforts. In *Theory of Capitalist Development* (Sweezy, 1942, pp. 265-269), Sweezy claimed that the primary role of banks and finance, especially investment banking, in a capitalist economy is to help different industries toward greater concentration and monopolization. However, contrary to Hilferding (1981), Sweezy believed that “finance capital” would yield in dominance to “industrial capital” in that manufacturers, shippers and other large industrial firms would eventually be able to self-finance most of their operations and continue their dominance of markets without the assistance of financial capital.

However, Sweezy would later see things slightly differently (1994). He later saw the growth of a global financial system starting in the 1970s as the beginnings of the triumph of financial capital (or what he also called “speculative capital”) over industrial capital. In fact, the growth of a global capital network easily moving across borders to make large profits with low costs was the outcome of capitalism looking for new industries in which to make profits and invest surplus as investment in older industries reached a peak. Beforehand, banks and credit

markets served the interests of industrial capital, a notion along the lines of Schumpeter's way of thinking. But with stagnation in the mid-1970s and few viable investment outlets, investors turned to financial capital which had created a whole new set of innovative credit and financial instruments such as mortgage backed securities, hedge funds, etc. These were perfect outlets for surplus not being absorbed by current industries which had become older and mature and had saturated markets (e.g., automobiles, TV sets, etc.).

“The real economy, the one that produces goods and services that enable people to live and reproduce, is owned by a tiny minority of oligopolists. It is structured to yield them large profits, far beyond what they could or would even want to consume. Being capitalists, they want to invest most of their profits. But the very same structure that yields these profits puts strict limits on the incomes of the underlying population. They can just barely buy the current level of output offered to them at prices calculated to yield the going rate of oligopoly profit. There is therefore no profit to be made from expanding the capacity to produce the goods that enter into mass consumption. To do so would be to invest in excess capacity, a patent capitalist irrationality. What, then, are they to do with their profits?

In retrospect the answer seems obvious: they should invest in financial, not real productive assets. And that, I think, is just what they began to do on an increasing scale as the economy sank once again into stagnation in the 1970s. On the supply side, too, the situation was ripe for change. Financial activity, mostly of a traditional kind, had been stimulated by the postwar boom of the 1950s and 1960s, suffering something of a letdown with the return of stagnation. Financiers were therefore looking for new business. Capital migrating out of the real economy was happily received in the financial sector. Thus began the process which during the next two decades resulted in the triumph of financial capital.” (Sweezy 1994)

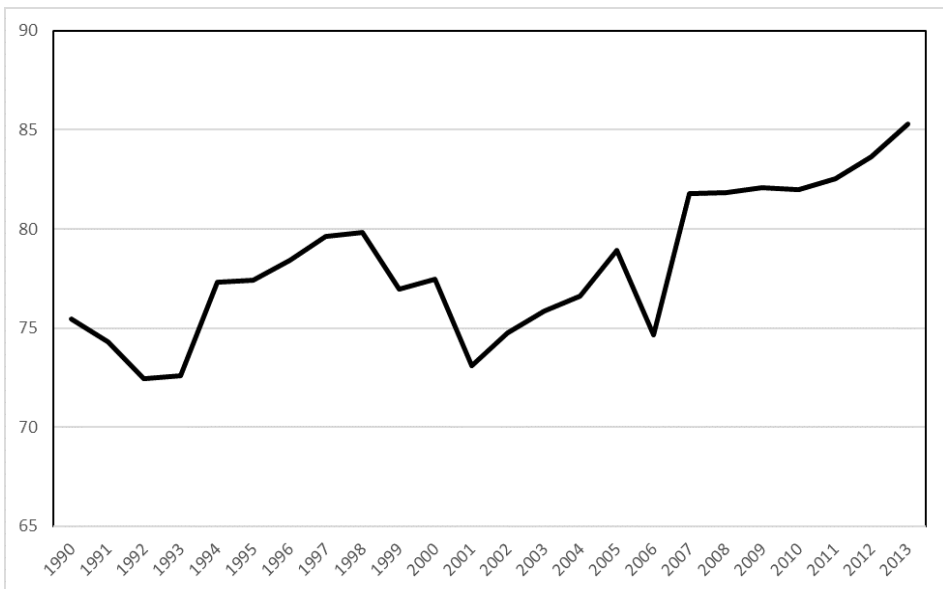
At the same time, substantive R&D was often carried out by the US government or research universities, especially if the outcomes of the R&D were uncertain, risky, and costly. Like Schumpeter, Baran and Sweezy saw the role of the small entrepreneur and small businessperson becoming increasingly unimportant in an economy dominated by large corporations and oligopolies. Much substantive R&D being done by the US government was also mostly for innovation in military weapons (Baran and Sweezy 1966).

4. Some Empirical Observations

Is there some empirical set of observations to support some of Schumpeter's and Sweezy's notions? Figure 1 below shows the dominance of large US corporations (those with revenues greater than \$250 million per year or more) in R&D since 1990. These firms have claimed 75% to 85% of the tax credits for R&D in the US, which underscores the contention of most modern day R&D

being done by larger, not smaller, organizations. As noted above, Sweezy begins to see what he noted as the dominance by financial capital of the modern capitalist system (Sweezy 1994). That is, with the stagnation of the global economic system during the 1970s, banking and financing become a new outlet for accumulation and the investment of surplus because of its high profit levels and because of the need to stimulate consumption beyond its stagnant levels at that time. Deregulation of the banking sector during this time also helps to propel finance and banking as one of the premier industries of the 1980s and subsequent decades. And in order to facilitate greater levels of consumption, access to credit cards and installment loans are expanded by banks as they decide to take on more risk in the pursuit of greater profits.

Figure 1: Percent of Total R&D Tax Credit Dollars Claimed by Corporations with Revenues of \$250 Million or More



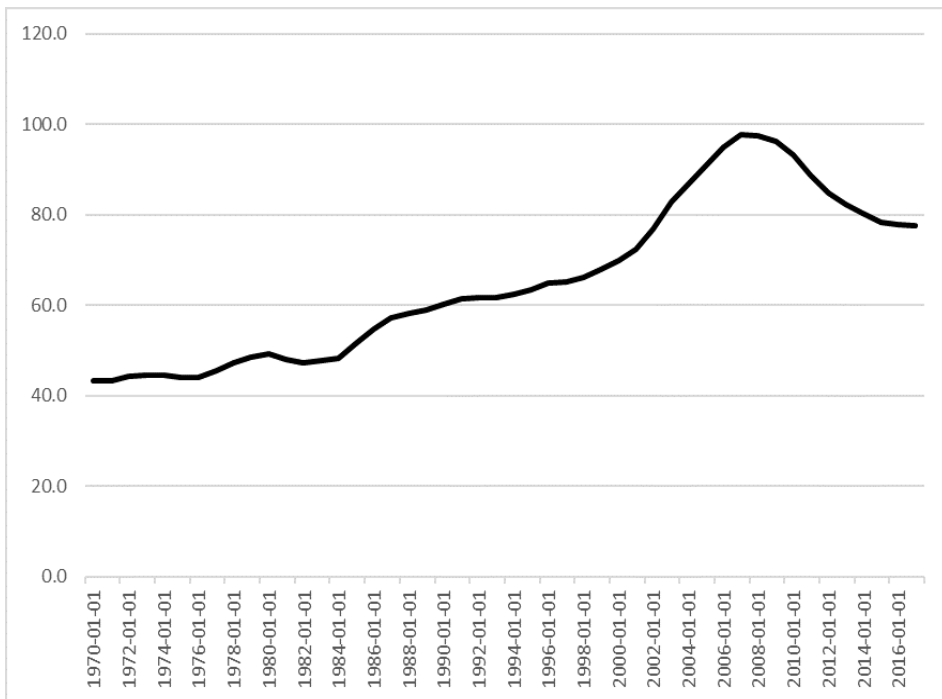
Source: US Internal Revenue Service (2019).

Already foreseen by Schumpeter (1928), the growing importance of finance in capitalism was later picked up by other members of Sweezy's intellectual legacy called the "Monthly Review School".⁵ Foster and Magdoff (2009) and Foster and McChesney (2013) noted how the "financialization" of capitalism, or how finance became ascendant as a major global industry, gave rise to various financial bubbles that burst, especially the international currency crises of the late 1990s, the high tech, dot.com bubble of the late 1990s and the housing and sub-

5. A name used to note those who follow the monopoly capital school of thought as advanced by Baran and Sweezy in their 1966 book, *Monopoly Capital*. *Monthly Review* was the socialist publication started by Paul M. Sweezy in the late 1940s.

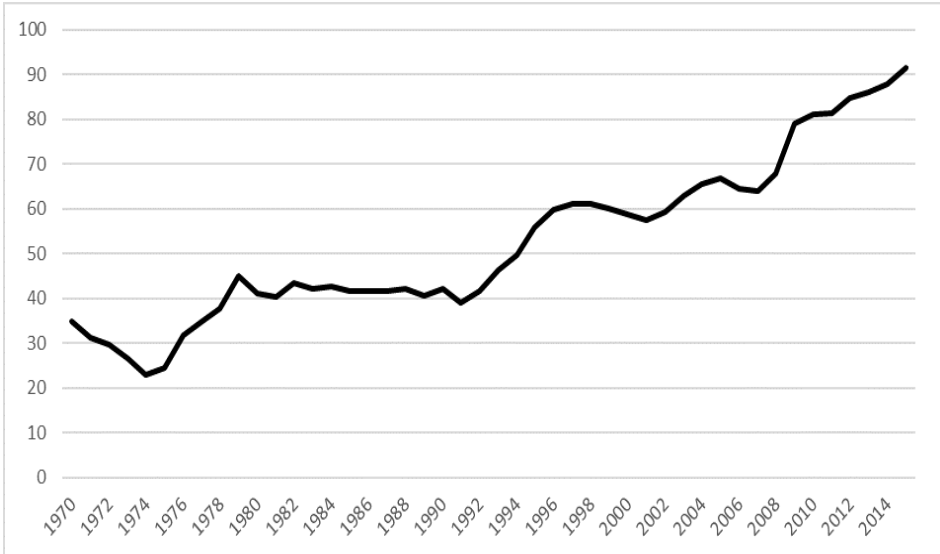
prime lending bubbles that burst in 2007. Additionally, financialization and the growing size of the consumer credit industry gave rise to excessive household borrowings in the US and elsewhere in order to allow individuals and families to maintain or reach a certain standard of living as wages for most workers stagnated from the end of the 1970s to the present time. Figure 2 shows the debt of household and non-business institutions in the US as a percentage of GDP, and Figure 3 illustrates the growth of all public (governmental) debt as a percentage of total GDP of the G-20 Advanced Nations since the 1970s. These trends can also be seen as a symptom of the innovation in and growth of financial capital. Although lower now than what it was before the housing crisis of 2007-2008, US debt still stands at 80% of GDP as of the writing of this paper whereas total G-20 Advanced Nations public debt is now around 90% of their combined GDPs in recent years. The growth of financial capital since the mid-1970s has done a lot to make such increasing debt possible and problematic in all economic sectors, although the entrepreneurial efforts and new products offered by the global financial services industries over the last fifty years or so have made it a growth industry employing thousands worldwide (Foster and Magdoff 2009; Foster and McChesney 2013).

Figure 2: Total Credit to Households and Non-business Institutions, % of US GDP, 1970 to 2017



Source: Bank for International Settlements (2019).

Figure 3: Total Public Debt of G-20 Advanced Nations as a Percent of their Combined GDPs, 1970 to 2015

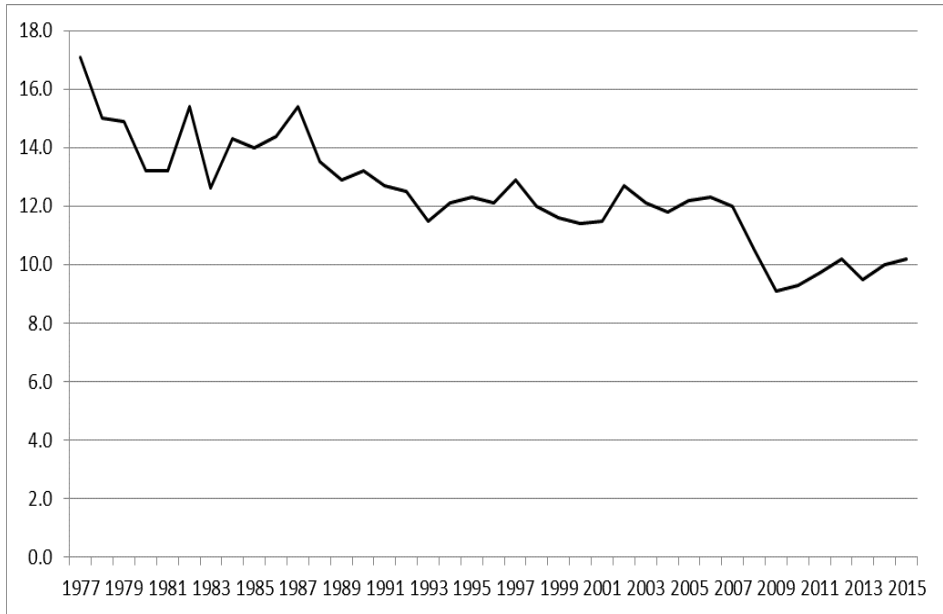


Source: International Monetary Fund (2020).

At the same time, the growing indebtedness over the last several decades of many individuals and households has perhaps made entrepreneurship more difficult and rare in the US. According to the US Small Business Administration (2012), most potential and small, existing entrepreneurs try to self-finance, but growing and widespread personal indebtedness has made this very challenging if not impossible for many. Lambert (2019), using a monopoly capital framework of analysis, shows that such growing indebtedness along with other factors in the US economy since the late 1970s, including greater industry concentration in almost all industries, are significant factors in explaining the decline of entrepreneurship in the US since the late 70s.⁶ Figure 4 below shows the downward trend in small business (all firm sizes) entry rates over the last four decades. A similar pattern is found for firms of size 1-4 employees, which includes the self-employed. As Schumpeter and Sweezy would predict, entrepreneurship perhaps has gone into decline due to the strength of larger businesses and their ability to access capital easier than smaller ones.

6. The data we display include all types of entrepreneurs whether they are innovators or not. As Storey (1991) and Van Stel (2005) point out, data that illustrate levels of entrepreneurship are difficult to define, measure, and compare across different nations because entrepreneurship is often not defined in the same manner by everyone within each nation or across the globe. Also, there seems to be some direct and indirect contradictory evidence to US SBA claims over the years that small businesses, especially new small businesses, and entrepreneurs are net job creators over the long run for the US economy (see, for example, US SBA 2001 and 2018). For example, among many others, Van Stel and Storey (2004) find little connection between firm births and employment in different parts of the UK.

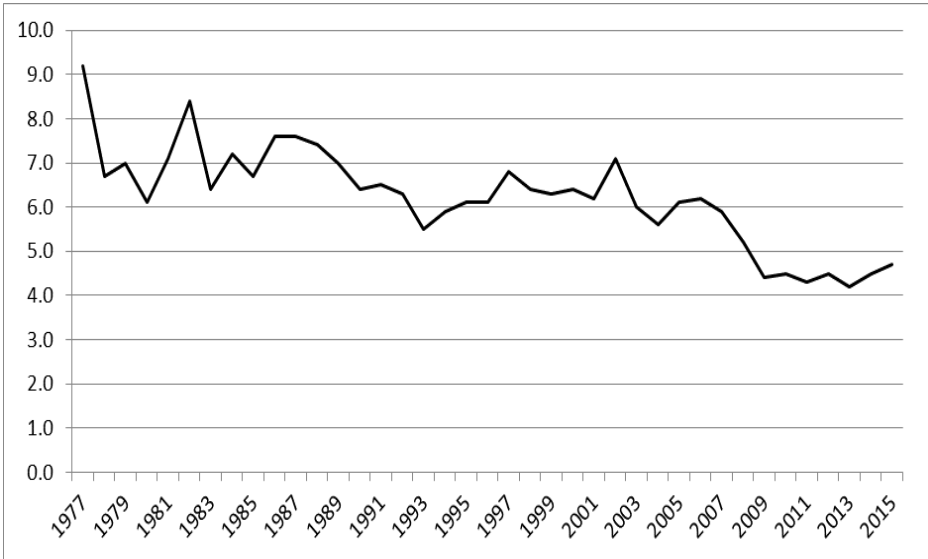
Figure 4: Entry Rate of New Establishments in US Economy, 1977-2015, as percent of existing establishments for a given year.



Source: US Census Bureau’s *Business Dynamics Statistics, 1976-2015*

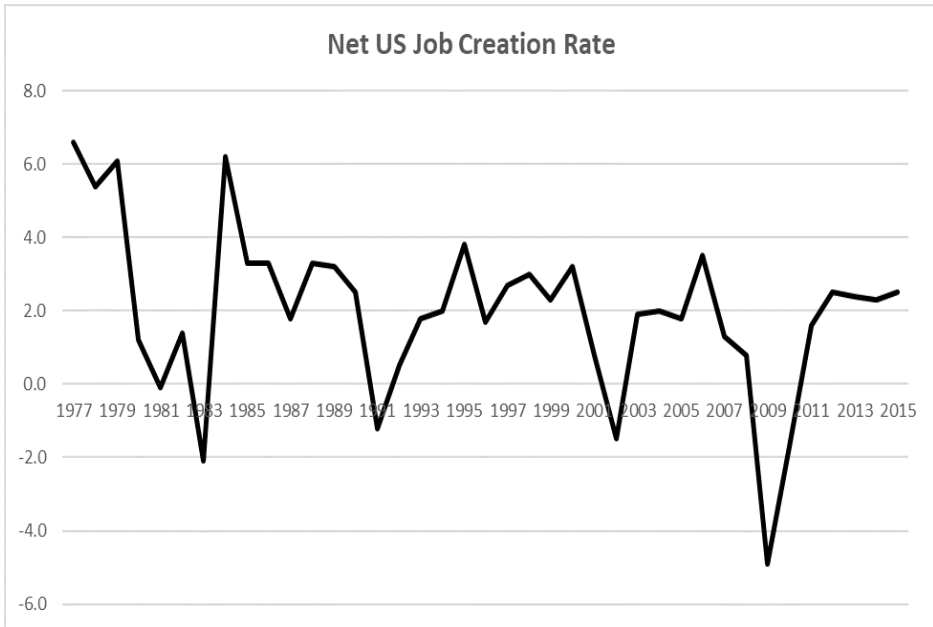
Since in Schumpeter’s mind entrepreneurship and innovation are linked to creating new industries and jobs within a capitalist economy, then the slowdown and decline in US entrepreneurship would be expected to show a slowdown in job creation by new firms and an overall slowdown in job creation and growth in the US economy, and this is what Lambert has found in his research. See Figures 5 and 6 below. The US economy, like other advanced economies, has traditionally relied upon new businesses as net, new job generators that keep an economy growing and that help to offset job losses from older and obsolete businesses as they close. However, the US economy appears to be losing this benefit of entrepreneurship as the number of new small business entries decline. This would mean fewer net jobs created as time goes by, which in turn would lead to higher overall unemployment levels than what would otherwise be the case. Schumpeter believed that entrepreneurship and innovation kept a capitalist economy from being static and allowed job creation which absorbed newcomers to the labor force as the population grew. A lack of job growth would be a threat to a capitalist system in that case.

Figure 5: Job Creation Rate by New Firms in US Economy, 1977-2015 (new jobs as a percent of existing jobs).



Source: US Census Bureau’s *Business Dynamics Statistics, 1976-2015*

Figure 6: US Net Job Creation, 1977-2015 (net new jobs as a percent of existing jobs).



Source: US Census Bureau’s *Business Dynamics Statistics, 1976-2015*

From a monopoly capital perspective, such outcomes should not be surprising. Banking and finance have become the domain of big business and are

not really that interested in financing smaller firms and entrepreneurs. More money is to be made by lending to large corporations, governments, and in the area of consumer credit. Also, major corporations do most of the innovation in modern times, and this leaves fewer and fewer new products and ideas being developed and originated by small entrepreneurs. It appears that the marginalization of small entrepreneurs that Schumpeter and Sweezy saw continues as well as the routinization of innovation foreseen by Schumpeter in the forties. The growing importance of finance at the expense of small entrepreneurs and of investment and innovation in the real sphere is a threat to job creation and economic growth as such, putting the capitalist economies under the sword of Damocles of instability and crisis.

5. Conclusion

Schumpeter was not very sanguine about the long term prospects of capitalism. He noted the cartelization of many markets, and although this brought some benefits, it would also eventually cause a revolt against capitalism and its successes. The era of small entrepreneurs and assistance to them by the banking system had already begun to fade toward the end of Schumpeter's career. Innovation and new product development came to be dominated by large firms. Sweezy agreed with this assessment and noted how the US economy would continue to be dominated by large firms. Later in his career, he foresaw how finance would become one of the dominant global industries thanks to banking deregulation, the globalization of markets, the high profit margins on lending, and the need for credit and finance to overcome the stagnation wrought by under-consumption/overproduction of the 1970s. Finance and lending overcame the stagnation by allowing more borrowing than ever before, which in turn expanded markets and increased consumption beyond certain limits. The last factor, however, created an unmanageable debt burden for most households, and this perhaps has led indirectly to a decline in entrepreneurship in the US. Additionally, since it is large corporations that do most of the innovation in the US economy now, mostly due to their huge financial resources and ability to finance most of their R&D internally, the banking and finance sectors perhaps play less and less of a role in R&D in the US as well.

Because large corporations, and in modern times many governments and universities as well, play such a large role in funding research and development and new innovations, much of the bank financing of innovation is done by smaller banks for small entrepreneurs and their ideas. Venture capitalists and self-financing are the other two major forms of small entrepreneur/small business financing. Much corporate research and development is financed internally within the organization as an expense of doing business, or it is raised through stock and other capital markets via large investment banks. Meanwhile,

government and university funding through tax dollars and non-profit sources indirectly subsidize corporate innovation because governmental entities and universities take on risks that the private sector will often not tolerate. Yet, large corporations are often the beneficiaries of such governmental and university financing of research and development efforts.

Therefore, the small and innovative firm faces the prospects of dealing with small lenders, venture capitalists, and/or self-financing for ideas that are usually developed “in-house”. Yet, in markets and in a world requiring greater sophistication, knowledge of, and investment in science and technology, it is probably becoming increasingly difficult for new, breakthrough ideas to be generated by self-employed individuals acting alone or in a small business setting. While certainly not impossible, and while many entrepreneurs can be successful in developing extensions or variations of new or existing products introduced by or marketed by larger firms (e.g., Uber and Lyft creating a variation of local taxi services), ideas and products that significantly impact economic growth and job markets may be increasingly relegated to larger firms who can more easily implement costly and risky new ideas even though much of the research for the ideas could have been done via direct or indirect government and/or university funding.⁷ Innovation will continue to occur, but some trends cast doubt on whether small business and small entrepreneurs will continue to play much of a role in innovation going forward.

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7. Singer (2014) cites a long list of recent and major innovations that were directly or indirectly supported through substantive government research funding: Google Search Engine, the Human Genome Project, GPS, artificial intelligence, shale gasoline, smart phone technology, and magnetic resonance imaging, among others.

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