STOREP

Italian Association for the History of Political Economy

Associazione Italiana per la Storia dell'Economia Politica

STOREPapers

ISSN 2282-0299

WP 14-2013

[title] **The Role of Savings in Defining the Difference Between Finance and Economics**

[author] Michael J. Gootzeit

[revision] Sep. 2013

[JEL codes] B000, B410, E210

[Keywords] Personal savings, business savings, investment, finance, growth.

[Abstract] The savings concept has never been investigated adequately even though it plays an important role in both the development of economics and finance. The finance version of savings initially emerged from the discussion of investment during the period starting about 1830. It emphasized direct business saving or "internal finance" in order to expand a firm, under the influence of Senior's and Mill's writings. The late 19th and early 20th century neoclassical version of "external finance" or "indirect" or "passive" personal saving in intermediaries, also emphasized by Keynesian macro, caused the idea of internal savings to retreat into the background and helped to create a cleavage between the disciplines of economics and finance. A subsidiary issue was what was the main cause variable for savings. Recent empirical microfinance studies of internal corporate growth in the finance literature emphasized wealth (net-worth or book value) or profitability (cash-flow, an income concept) of a business, while the mainstream economics literature continued to emphasize the interest rate and/or personal income as cause variables for savings in intermediaries. These ideas show how the different versions of the savings concept defined the differences between finance and economics.

Main Document: The Role of Savings in Defining the Difference Between Finance and Economics

Michael J. Gootzeit
University of Memphis, Memphis

JEL classification codes: B000; History of Economic Thought, Methodology; E210; Macroeconomics: Consumption, Saving, Wealth; G190; General Financial Markets.

Key Words: "personal savings," "business savings," "investment," "finance," "growth."

Abstract

The savings concept has never been investigated adequately even though it plays an important role in both the development of economics and finance. The finance version of savings initially emerged from the discussion of investment during the period starting about 1830. It emphasized direct business saving or "internal finance" in order to expand a firm, under the influence of Senior's and Mill's writings. The late 19th and early 20th century neoclassical version of "external finance" or "indirect" or "passive" personal saving in intermediaries, also emphasized by Keynesian macro, caused the idea of internal savings to retreat into the background and helped to create a cleavage between the disciplines of economics and finance. A subsidiary issue was what was the main cause variable for savings. Recent empirical microfinance studies of internal corporate growth in the finance literature emphasized wealth (net-worth or book value) or profitability (cash-flow, an income concept) of a business, while the mainstream economics literature continued to emphasize the interest rate and/or personal income as cause variables for savings in intermediaries. These ideas show how the different versions of the savings concept defined the differences between finance and economics.

Both External and Internal Savings Defined as the Mechanism for Businesses to Grow

The savings concept emerged in the literature from strictly a personal decision to the influence of both the personal and corporate motives on savings. The latter type of savings will be shown to be much more direct and to affect investment with much less of a lag than the former; it will also be shown to be responsible for the emergence of finance from economics as a separate discipline after the late 19th century. The close relationship between finance and economics may be described by the main causes of savings. For the corporate, as well as the personal sector, both income (or profits, <u>the net income of a firm</u>) and wealth (previously accumulated financial assets), will be shown to be important as a savings determinant.[1] The

[1] Corporate and personal savings may even be thought as directly related to the demand for labor, a "wages fund." This issue will also be discussed in appendix 1.

cleavage between these two disciplines depended on the relative emphasis given to these cause variables.

The details and relevance of the relationship between finance and economics have never been clearly described. It will be shown that the differences between the two disciplines is related to the fact that savings has a dual personality; related to personal and business' motives. Modern economics' books and researchers, using ideas based on 1930's Keynesian-type models, have focused on the relation of "indirect" or "passive"[2] personal saving in intermediaries (Spi) or "external finance" to consumption over time.[3] The period since the 1930's has also emphasized Spi because the accounting methodology for calculating national income in economics was being refined and economists began to emphasize the importance of consumption and therefore its Keynesian "alter ego," Spi, as an indicator of the influence of demand on a real cycle. For this reason, the part of the literature that emphasized Spi, seems to have been kept separate from the part which emphasized direct business saving (Sb) or "internal finance," although this part also became extremely important, especially in empirical financial studies of economic growth. In fact, current research into the concept of Sb, as it has evolved in the 20th century and been emphasized lately by the finance literature, easily outweighs studies devoted to Spi. Furthermore, the discussion of Sb has a long history during the 19th century and was the foundation for much of 20th century ideas on the role of financing business and government.

This paper will address several issues about the development of Sb that, although important, have not been much discussed in the literature so far. The first is the role of sacrifice or "abstinence" for a firm when it undertakes expansion by retaining, rather than paying-out earnings (profits), treated by Senior as a direct analogy to the role of an income earner saving rather than consuming. This type of internal finance was initially developed using a personal

---

[2] By "indirect" personal saving, I mean that the saving would originate external to the firm and could only affect investment, with a variable lag, after the intermediaries who receive deposits make loan decisions, some of which would involve the purchase of old assets and therefore not be productive. Indirect may also be called "passive" saving. See Jones 1948, p. 6. "Direct" saving would mean identical direct investment; it would originate internal to a firm, to which an individual would make a loan or from which an ownership stake would be purchased. This would mean a much shorter lag between saving and investment, although again not all saving would be productive. The latter was what the early classical writers meant by saving, but they assumed that virtually all of it would be productive.

[3] Using online reference techniques, one can find thousands of articles going back over 130 years on the topic "saving or savings." Many of them are applied and use aggregate saving data. Most of these applied studies talk about the role of savings in the formation of capital for a business or for a nation. Relatively few discuss the relation of savings to private consumption. Here is a sample of one article which does: Lansing and Maynes 1952. This article is based on data gathered by the Survey Research Center at the Univ. of Michigan and it is typical of what I would call a "consumer research" emphasis, which directly relates how Sp affects consumption and the implications of this for national income growth.

saving analogy and the earliest writers even discussed a type of business saving that was external, where financial intermediaries were absent. It came from high income or wealth investors and was important until the development of more sophisticated intermediaries, in the late 19th century, when internal saving took over as "the" method of finance. External direct business saving is foreign to modern readers and writers, so it has stayed vague in the literature and not been noticed as an important idea.

During the development of "finance" in the mid-20th century, microfinance studies used a balance of external and internal sources, to describe the mechanism of creating national private net investment. They looked at how creditworthy (for external) and how potentially profitable (for internal savings sources) was the "typical" firm. Finance came back to the classical model in describing how "book value" (a wealth variable), but this time internal to the firm, was an important determinant of savings and simultaneous investment. Both current and previously accumulated retained earnings could influence capital formation from internal sources. An added feature of this analysis was looking at the external credit-worthiness of the firm. The growth of debt finance from the public, from intermediaries and from other corporations during this period had become extremely important to the growth of large corporations relative to internal corporate saving.

External Personal Savings from Wealth in a Firm Predominated in Early Economics

External savings was related to the motives of an individual during the classical period. But, many writers such as Smith and Mill mixed personal and business saving together when they characterized individuals as direct investors in a firm. This approach has been lost in modern writings, where firm's self-finance and the intervention of intermediaries is so important. When Smith asked the question: "Who saves," the answer was always a person with excess wealth, who was trying to increase his wealth even more by making a quickly profitable direct investment. Both wealth and income maximization were the motive to increased savings. Smith implicitly recognized that if expected profits (income) increased, this would also increase expected wealth. The individual was treated as a profit maximizer, similarly to how the firm was treated in more modern writings. Furthermore, increased savings was treated as an increase in the demand for new workers, simultaneous to the new investment, which also had little effect on consumption: The WON (Smith 1789, p. 321)[4], described how "parsimony" or private direct saving helped to increase "the fund which is tested (sic) for the maintenance of productive

[4] See also Gootzeit 1995, where the early history of the Sb concept is outlined.

hands" and "is immediately employed as a capital…" and is "…consumed…by a different set of people…" So, private saving merely transferred potential consumption from a "rich man" (a business investor) to a group of new workers, it didn't reduce it. This quote illustrates the early relation between the personal and the business sectors, because the primary cause variable for the individual was the expected "profit" of the expanding firm and the savings was converted into "capital" (an investment) without a significant lag: "That portion of his revenue which a rich man annually…saves, as for the sake of profit, it is immediately employed as a capital…"(ibid.).[5] These ideas about external personal savings in business predominated until about 1830, when ideas about internal business savings become more prominent. In the early 19th century, just as in Smith, economists generally viewed business expansion as financed directly by rich individuals who owned non-corporate firms expanding their ownership.

The Profit Rate Becomes the Main Cause of Business Savings in the Early 19th Century; Senior on Internal Saving from Net Income

The concept of Sb is much older and clearly defined than the idea of Sp. The idea of the profit motive as an important cause variable brought the business sector into play. This took place decisively with the development of corporations and refinements in accounting for investment in the late 19th century. But, well before that, savings was described as being based on motives internal to a business, on the expected earning of profit. We turn now to a more in-depth treatment of the classical theory of savings based on profit expectations, as partly an external, from the individual, and partly an internal, from the firm, concept.

During the period after 1830, economic writers on business growth did not recognize the potential role of bank finance on direct lending to firms, which was sparse and primitive, even though the government bond market thrived, while the growth of the corporate bond market was some years away. Instead, internal savings began to be regarded as a positive function of expected profits. This approach was much different from the late 19th, but especially the early 20th centuries' Keynesian approach to external savings with intermediaries, as an immediate withdrawal from current consumption and a drag on demand.

The beginning of the divergence of finance from economics occurred in the early 1830's, when Senior gave one of the first descriptions of internal, rather than external savings, as the

[5] Neglecting the lag between Sb and investment was an important weakness in the ideas about savings during the 18th and 19th century, when the foundation of savings theory was established. How long would it take to use new savings productively and how many jobs would it eventually create were questions long neglected. This makes defining savings extra tricky.

principal method of financing growth. This approach described how growth would occur when firms self-finance through Sb. Senior discussed this topic under the heading of "abstinence." More recently, this term has had the connotation of an "individual" sacrificing current for future consumption. The interest rate has been the main cause variable. This has caused later writers to describe abstinence as if it were related to intermediary allocated external Sp, not saving internal to the firm, and contributed to the neglect of Sb as an important concept of the classical period.

The personal "abstinence theory of interest" (Senior 1836) showed how Sp would increase when the sacrifice of an individual not consuming in the current period would be compensated with a higher interest payment ("time preference"). The presumption was that the individual would then be able (and probably willing) to consume more in the future. A neglected part of Senior's ideas on abstinence, however, was the development of a theory of business saving, which depended on the ultimate conversion of savings into capital, just as was done in earlier writings. This part of Senior's theory was even more emphasized than the part describing interest induced saving. Higher potential profits, (Gootzeit 1995, p. 76), would lead to the eventual expansion of a business yielding higher actual future profits, thus: a growing economy.[6] This theory was different from the earlier classical theory because it was not based on the sacrifice of an individual wealth investor, but a business. The firm would not pay out current profit, but retain it for future growth instead. The influence of wealth on Sb was neglected.

Senior's discussion of abstinence in his lecture notes (Senior 1928; Gootzeit 1995, pp. 76-77) clearly separated personal (Sp) (based on interest) from business abstinence (Sb) (based on expected profit). He called the first "frugality" and the second "providence." The first was responsible for outside or external saving. The second was the main quality which would help a nation grow, however. Providence referred to internal business saving by a firm; "retain[ing] earnings." Thus, the net income of the firm, not the firm's wealth, determined Sb. The firm would reinvest all or most of its profits, rather than distributing them to owners. Senior recognized this type of abstinence as a sacrifice for the owners of the firm, (Sp was regarded as a sacrifice of consumption), but one which should be rewarded by higher future profits, rather than higher

---

[6] See Gootzeit 1992; also see 1995: p. 71 and p. 76. These articles, plus many texts, show that Senior was credited with an "abstinence theory of interest." My articles also show that Senior was actually describing an "abstinence theory of (expected) profit," where potential future profit (not personal interest meant for future consumption) was the positive influence on current direct saving.

future consumption.[7] The idea of future growth for the nation, which meant a higher average living standard, was implicit in these saving's ideas. The nation, which possessed this quality the most, would be the one with the most rapid capital accumulation. This idea that a provident nation would also be a growing nation, was probably the reason that Senior chose abstinence as one of the 3 major production factors, along with "labor" and "natural agents," (Senior 1836, pp. 57-9), omitting capital as a primary factor. Thus, abstinence was one of the sufficient conditions for the creation of capital, a "derived factor of production" (Bowley 1937, p. 143) and it was mainly business, not personal abstinence, which created capital. The emphasis in Senior was on how internal savings (Sb) may encourage growth; however, this emphasis is missing in most of the literature on Senior and abstinence. Instead, his ideas on personal abstinence are emphasized. This is a mistake that should be corrected in future interpretations of Senior's ideas.[8]

Mill's Ideas on the Role of Savings in Growth; External Savings from Individuals Was the Driving Force[9]

J.S. Mill's *Principles'*, like Senior's writings, described abstinence or saving as a method for directly increasing the size of the nation's capital stock: aggregate growth. But, Mill's ideas, because they focused more on personal, rather than business saving, were closer to earlier classical writers such as Smith, than they were to Senior's, because he focused on external Sb, direct investment by an individual from wealth or income. The popularity of Mill's ideas formulated mainly in his textbook had a stronger influence on the evolution of the mainstream line of thought on savings during the 19th and early 20th centuries than did Senior's. If Senior's ideas prevailed instead, the idea of firms using internally generated current profits for future expansion (what Senior called "providence") could have had a much earlier influence on modern macro theory than it has, even though virtually all modern national, or international, empirical studies of the influence of saving in the modern finance literature now emphasize internally generated business saving over time.

---

[7] Senior's two types of abstinence had two separate rewards: For "frugality" or Sp, the reward for abstinence was interest and potentially higher future consumption; for "providence" or Sb, the most emphasized of Senior's abstinence concepts, the reward for abstinence was higher future profits, hopefully eventually to be distributed to the owners of the firm, then to be used for consumption or more investment.

[8] There are exceptions to this statement, but they are few. These are writings, which emphasize Senior's ideas on Sb, rather than on Sp. (See DeMarchi 1987, p. 8 and J.S.N. 1925, p. 4).

[9] Some of the ideas in this section are also presented in my article: Gootzeit 2006.

Mill gave much more emphasis to what Senior called “frugality:” personal abstinence from outside the firm, which could be used by firms for capital formation and growth. He did not specifically discuss internal-to-the-firm generated saving. Thus, his analysis fit the model passed down from Smith, where consumption was the alternative to saving by high income and/or rich people.[10] Savings would be used by individuals to take or increase an equity position in a firm; it also led to a simultaneous increase in the capital stock. This was very similar to the Smithian version of outside savings; it was a version of business finance which was mechanized by the personal sector.

This version of Sp was **also a** lot different from the 20th century version used in most textbooks, which would only be derived from limiting the consumption of current income. If the new direct investment was made from wealth, it had little or nothing to do with current consumption. Mill never considered the difference between saving from current income and saving-from-wealth explicitly, but given his emphasis that most saving came from the upper classes, there was a strong probability that what he meant by saving would not come from current earnings, but from inheritances and previous personal saving. The general topic of saving from personal wealth for direct investment has been neglected in modern economics.[11]

To further reinforce the notion that the Millian concept of Sp meant saving-from-outside-wealth, not from current production, there was also no idea that saving would draw down effective demand. It would simply add to funds directly available for investment without much of a time lag. This is another idea that has been generally neglected by modern writers following the “short-run Keynesian macro model.”

---

[10] The classical savings function thus had both positive income and wealth elasticities. One also gets the strong impression from these writings that wealth had a much stronger impact than income on savings. Growth of a nation (its capital stock) depended to a large degree on inherited wealth.

[11] Large groups of people, especially in the U.S., compared to Europe and Japan, indulge in “negative saving,” or spending more than current disposable income, but this would be financed with credit to expand consumption, not with drawing down previous wealth to directly purchase capital goods. Using personal wealth to purchase capital directly seems to be more of a 19th century idea. Most of the 20th century focused on the importance of a positive national saving rate for capital formation, which meant limiting aggregate consumption to less than aggregate disposable income. The fact that other developed nations have a much stronger (and uniformly positive) Sp rate compared to what exists in the U.S. has also been a popular topic. e.g.: German Sp rates were much higher than those in the U.S. during the 1950s, 1960s and early 1970s because of reasons, which could mainly be regarded as psycho-socially frugal, or anti-prodigal: 1. Pessimistic expectations about the future; 2. Easily satiated consumer needs; 3. Aversion to debt especially in the purchase of consumer durables such as autos and housing, see Strumpel 1975, pp. 212, 214. Bank credit to consumers has been much slower to develop in Europe and Japan than it has in the U.S. One wonders if these Sp motives so important in other developed nations recently are still as strong compared to those in the U.S. as they once were; I would say “no,” but they still exist to some extent.

Mill's ideas helped to create a "dichotomy" in the subsequent literature on savings, which still persists. He emphasized external savings for business finance, Senior emphasized internal savings; which would come from a reduction in current profit payouts. The standard short run savings models taught in modern macro books also treat and emphasize external savings from individuals, but to intermediaries, which indirectly allocate it to business investment, with a lag. This will simultaneously cause a reduction in consumption and demand.[12] The finance literature, using empirical studies, emphasizes Seniors approach to describing internal savings as the driving force behind capital formation (providence rather than abstinence). This illustrates a more direct investment approach, even if it still considers lags. These two approaches should be much more integrated in the literature and in the texts.

The Emergence of Finance as a Discipline Separate from Economics; The Microfinance vs. the Macrofinance Literature

The strong influence of the "Cambridge" tradition of Marshall and Keynes caused Sb to be neglected in the theoretical literature of macro-economics. Marshall's *Principles*, Bk. 4, ch. 7 appeared to use an individual's demand curve for accumulation or investment: He "…convert[ed it]…into a positively sloped [personal] savings relation, with the market interest rate as the principal causal variable" (Gootzeit 1995, p. 720)[13]. Keynes described an aggregate version of this same personal saving function in ch. 14 of the *General Theory*,[14] while he neglected business saving as it has been neglected since the last part of the 19th century: "In economic theory the study of saving has traditionally been of private saving, and the division of private saving between business and personal saving has been left indeterminate…" (D. Smith 1963, p. 297).

Yet, as the finance literature emerged strongly after the WWII period, empirical studies on saving began appearing. They were interested in how total investment and capital formation would take place in different countries and they looked at the relation between national savings and investment. Most of these studies highlighted the importance of savings in the growth process and still emphasized the dichotomy between external and internal savings so important in the early 19th century. This relatively sudden shift in the literature gave a strongly empirical as

[12] See appendix 2.

[13] "Keynes' neglect of corporate saving was not new in the development of economic analysis, and H.G. Johnson has argued that it " 'reflects Marshall's inability to integrate the modern corporation into his system of economic analysis'" (Smith 1963, p. 297; comment from Johnson 1961, p.5).

[14] Keynes called this function "classical," but since it emanated from the last part of the 19th century, I would call it "neoclassical." Furthermore, as I have shown, Sb ("providence"), or a direct version of Sp, where rich people would save from wealth, not income, was an important component of "classical" savings theory neglected by the Cambridge tradition.

well as a theoretical emphasis to the study of investment and savings, although the theoretical frequently remained separate from the empirical studies.[15] The "macrofinance" theoretical track typical in economics' writings uses the methodology of the Marshallian and Keynesian traditions, mainly focused on the relation of Sp (external savings) and investment and examined in detail the "autonomous spending" or "employment" multiplier and "accelerator," eventually branching out to the whole literature on growth models in "economics."[16]

The empirical capital formation or "microfinance" track is the basis for the modern research on corporate finance. It consisted of individual studies of corporate growth. It also emphasized the role of a firm's income and wealth in influencing internal Sb as in 19th century writings. These empirical studies of the relation of internal savings to corporate growth was a decisive step in distinguishing the literature of finance. The important issue in microfinance studies was the mechanism of finance for national private net investment. Sb, under direct control of the firm, was assumed to be equal to ex post investment and the lag between them was omitted from consideration, a typical treatment of the early classical writings. Both internal or direct finance (from the firm itself) and external or indirect finance was important here.[17] This attempt to explain external finance was another important characteristic, which distinguished finance from economics writings.

New investment was a function of the potential profitability and creditworthiness of the "typical" firm. Studies on how investment funds were provided for large business used data based on internal funds available to the firm, including retained earnings from current profit and previously accumulated liquid wealth,[18] to predict corporate investment.[19] In so doing, they looked at the ratio of firm wealth (book value) to firm income or cash flow. But, they also

---

[15] "…[a] gulf appears to exist between economic theory on the one hand and findings of several important empirical studies of dividend behavior on the other hand" (D. Smith, p. 297). It could also be added that these empirical studies generally looked at international growth comparisons and compared the role of internal finance between countries to see how important it was in causing growth.

[16] Before growth theory became important, this was the format of a typical article which emphasized the "theoretical" Sp track: (Hansen 1948).

[17] Note that this approach was different from the classical idea of external (personal) savings being converted into investment with no significant lag. Instead, it looked at previously accumulated savings deposits <u>within the firm</u>.

[18] Here we have a methodology similar, but not identical, to the one used by classical writers, notably Mill, who also focused on both income and wealth as a source of current direct saving, but emphasized the individual saver, who may be a lender instead of an owner, rather than the firm, as the source of saving.

[19] In these studies, corporate wealth as well as current income is used to predict investment, but the (stock/flow) relation between wealth and past retained earnings is not specifically discussed. The classical writers assumed Sb from retained earnings or from individual wealth was identical to new investment, neglecting the investment time lag; the modern financial literature does not make this assumption, but it neglects to classify the positive influence of liquid wealth on corporate investment as another influence of <u>current</u> corporate saving, <u>instead it emanates from past saving</u>.

included a discussion of "information costs" and "capital market imperfections," related to the use of external funds such as corporate debt and new equity issues in funding new investment. (See Hubbard 1998.) The use and identification of external investment funds by a firm was a particularly troublesome complication for the successful prediction of future capital formation.

The source of investment funds was thus defined as a sum of internal plus external funds potentially invested during the current period; these funds were thus regarded as a proxy for Sb:[20] 1. Internal funds: These include part of current income (retained earnings, related to cash flow) plus previously accumulated liquid wealth in the form of financial assets, which may be converted into capital goods. Wealth would also include the physical assets of the firm no matter the liquidity of these assets. The firm's asset quality or composition could also be considered. 2. External funds: All new debt plus all new equity issued during the current period. Even though the latter would not necessarily lead to current new investment, there is the potential that it would in a relatively short period, so it should be regarded as an investment source. The focus is on the already existing financial and physical capital of the firm and the size of current income and how that influences new investment.

The Finance Literature's Theoretical and Empirical Studies of Saving by Corporations[21]

i: Investment Related to Income and Wealth, the Savings Concept Remains in the Background

Microfinance models did not consider the length of the lag between saving and investment. These modern writers on growth in the "financial" literature focused instead on explanations for the expansion of corporate investment, which can be tracked from various data sets, underlining the fact that much of it was financed internally, through retained income earnings. These studies also discovered that an increase in net worth (the firm's wealth, whether liquid or not) generated by current and past profit income (with cash flow or internal funds as a proxy)[22] had a positive relation with an increase in ex-post investment and the capital stock of a firm. Thus, they used ideas from the 19th century model of savings to explain business growth in much the same way as did Senior and Mill. But, because of the myriad of financing choices, they

---

[20] See Poterba 1987, 465, equation 2. Sb was never formally defined for a firm in relation to the sources of internal and external investment funds; I have tried to sketch out such a relationship here.

[21] Non-corporate business saving has also been studied, but only as part of "personal" saving: e.g.: See (Klein and Margolis 1954; D. Smith, 1963, n. 3.)

[22] "…cash flow is approximately current revenues less expenses and taxes…..[it may be] correlated with future profitability" (Hubbard 1998, 200). Internal funds are a stock on the assets side of a firm's balance sheet, which would increase its net worth and signify near term investment opportunities. "…all else being equal, investment [for a firm] is significantly correlated with proxies for changes in net worth or internal funds…" Hubbard 1998, 193).

also had to consider the additional complicating factor of the possibility of indirect **or external** debt and equity finance, with the many strategic possibilities involved.

Even though the general focus was not explicitly on the nature of saving in these studies, they did discuss implicitly the mechanism of direct saving by a firm, by attempting to define the relevant accounting concepts, regarded as proxies for cause variables, which would affect first, Sb, and then cause ex-post investment in a relatively short period, even though a formal definition of Sb was never stated. One of the main problems of using this data was the nature of corporate accounting's use of both stock and flow variables on the balance sheet and on the income statement, respectively. Saving and investment are flows, but could be affected by both the income or profit flow and the wealth stock of each firm, according to Senior's and Mill's ideas on both direct personal and business saving. I will show how these ideas infiltrated modern theories of corporate investment finance.

ii: The Internal and External Flow-of-Funds as an Influence on Corporate Saving

Internal and external "cash flow" (CF) is the main income/flow variable in these studies: "Most empirical studies use a firm's cash flow as a proxy for the change in net worth" and this could be regarded as "a measure of investment [and savings] opportunities" (Hubbard 1998, 201). CF, part of the firm's income statement, could also be a good proxy for profitability of the firm, and it would therefore fit in with Senior's idea of providence as the impetus for a firm's increasing its internal saving, even if it all does not come directly from retained earnings. Other writings examined how investment decisions would be made based on the "creditworthiness" of firms, using financial measures such as "dividend payout" or "debt ratings" (Cleary 1999, p. 673). They found that the most creditworthy firms were "the most sensitive to the availability of cash flow" (ibid., p. 674). But, CF could be provided to the firm from either internal or external sources, the former from current revenue and profit income, the latter from sales of new equity or debt issues. So, both internal and external CF could influence both investment and, by proxy, Sb.

If the focus, however, is only on "internal funds" (Cleary 1999, 673) used for investment, then we are back to the discussion of what I called direct finance, emphasized by Senior and Mill for non-corporations in the early to mid-19th century, which left out the use of intermediaries: "These results…suggest that managers choose to rely primarily on *internal* cash flow for investment, despite the availability of additional low cost external funds" (ibid., 677; emphasis mine). **Intermediary or indirect** external finance ("passive savings," see Jones 1948, p. 6) has thus been rejected by a large group of "least financially constrained" or "high creditworthy" firms (ibid, 673, 677)[23] even when it is available. Cleary calls this "a puzzle" because these firms could easily use outside sources, but choose internal sources instead.

Although these microfinance studies generally agreed with the conclusion that current income was most influential in generating corporate investment and saving because "changes in net worth" would mainly come about through the use of internal funds generated from profit to increase the capital stock, they also included detailed analyses about how external sources of saving could affect investment and they concluded that such an effect was not as important as the effect of internal saving. The availability of external funds and thus the demand for investment was dependent on "information related capital-market imperfections" (Hubbard 1998, 193), including issues about how to raise funds in both the equity and bond markets. The firm's saving was not simply regarded as an alternative to paying out dividends or the use of profit to augment personal income and consumption of owners as it was in Senior's writings; saving and investing were also subject to the uncertainties, but expanded opportunities, of the bond and equity markets, still allowing for the continued payment of dividends. But, even though indirect finance[24] played a larger and increasing role in expansion, something foreign to 19th and even early 20th century ideas, direct finance through internal/direct saving still played the central role in the growth of the nation's capital stock and the basic model used to describe a firm's growth was essentially classical.

iii: The Influence of Wealth on Sb; Mill's Concept and a Firm's Book Value

What was the influence of wealth on current Sb? This was also an important issue in those microfinance studies, where "book value" (BV) was the main wealth/stock variable. It was related to what Mill called "owner abstinence" in his discussion of Sp. Personal discretionary wealth could be converted into Sb. It could be reallocated by an individual to business ownership and it could be much greater than that individual's current income. Past accumulations of Sp could thus be simultaneously allocated for current investment by a firm and personal saving (abstinence) would be an alternative to consumption spending from wealth. The reallocation of

[23] See also Kaplan and Zingales 1997.

[24] An exception to this statement is the continued existence of the "commercial paper" debt market during this period, but mainly used by larger firms. This market was, in general, not acknowledged by the major classical writers. Bank finance also expanded gradually during this period.

part of liquid personal wealth by an individual for investment in a firm would be regarded as positive Sb according to Mill.[25]

This Millian idea of the reallocation of wealth affecting current business expansion has thus become part of the theory of modern corporate finance. It has been recognized that some of the firm's past Sb could remain in liquid form in the current period and thus be available to increase current investment. The micro finance theory of growth contains the idea that a firm's investment could be positively influenced by its internal wealth or "firm liquidity" or "internal funds" available for investment (Cleary 1999, 673-75), not only by its current income or profit. The strong implication was that these funds could have been provided to the firm by the accumulation of past retained earnings (Sb) in liquid form, so they would be a good proxy for currently investible firm wealth. It would therefore be theoretically possible for a firm to use all its current saving for future capital accumulation plus some of its past saving.

Sb means that any time a firm converts retained earnings to a fixed liquid asset (either financial or physical), it would increase its "book value" (BV), which would be a proxy for the firm's wealth or net worth. If it purchased equity or the debt of another firm, or another interest bearing liquid asset, these assets could be used for future, rather than current investment. So, BV includes the depreciated capital stock of a firm, plus the liquid part of past Sb, which may be used to increase the firm's future capital. The addition by the micro finance literature of BV as an important determinant of investment (See Cleary 1999, 675) went back to Mill's idea, which posited a positive relation between wealth and saving/investment, for an individual, but added the idea that this relationship would only hold for a firm with a high proportion of liquid/total, rather than fixed/total wealth, a firm that had not "exhaust[ed] all [its] internal finance" (ibid.). The reallocation of liquid wealth based on past Sb, as well as current income, based on retained current earnings (current Sb), both had a positive effect on a firm's internally generated saving, which, in turn, caused an increase in the firm's capital stock.

Summary

[25] Negative saving is a concept peripherally discussed in the literature. Personal wealth, used exclusively for current spending, rather than for investment, has been described in relation to the Keynesian treatment of negative Sp, when a reduction of personal wealth would be used to reinforce current consumption; this would also reduce future investment. An analogy of this would be when a firm reduced its wealth by using extra large dividend payouts, this could be regarded as (-Sb), and could also increase consumption and reduce future investment. For the classical version of Sb, paying out profit could be regarded as (-Sb); it would reduce future investment and capital accumulation; but generally only positive Sb was considered.

The concept of saving has a long history and therefore a long evolution in economics. It started out in the late 18th century as the idea of "frugality," where it was regarded as a rigorous personal trait to be admired and even honored, the opposite of "prodigality." There didn't seem to any concept such as "oversaving," but undersaving was regarded as a problem, because it would reduce the future standard of living (or consumption) needlessly. This was because there was little consideration of the length of the lag and even more important, of the mechanics, which would slow down and maybe even prevent the conversion of saving to investment. Furthermore, even more simplified, the idea existed in Smith's *Wealth* that when saving occurred, consumption wasn't far behind.[26] The time-linked process of converting saving to wealth and wealth to consumption was neglected.

"Rich people"[27] were regarded as the main savers: mainly large land or small business owners who could have inherited a large proportion of their wealth. So, saving could also mean ownership and it could also mean direct investment, similar to business saving (Sb) from retained earnings. Furthermore, the two principal savings' concepts were not clearly separated. Senior made a strong contribution to the literature on saving, when he put personal saving or "frugality" (Sp) into the background. He called Sb "providence" and focused on it as a principal means for growth. Most writings on Senior have neglected this fact when they have interpreted his "abstinence theory of interest," by regarding abstinence as Sp, rather than Sb. Senior actually had an "abstinence theory of profits." Profit provided the needed Sb, which functioned as a "wages fund," to advance both wages-in-kind to new workers and the necessary raw materials for the production process until the increased output was finally produced and sold.

Mill emphasized "frugality" or personal abstinence, but he also stated that the alternative to Sp was not necessarily spending on consumption, but instead direct lending by rich people to establish or expand existing businesses. It most likely involved ownership and would create an addition to the capital stock; thus it was similar to Sb, but it wasn't created only from current profits; it came from other types of income, or more likely, inherited wealth. I have called it: "direct personal saving to business from income or wealth" (Spw). This direct relation between personal funds and new investment dominated the classical literature on saving in the mid 19th century. It also emphasized the idea that current saving could be created from previously

[26] For the early Classical writers, saving implied nearly simultaneous investment, increase the demand for labor, the wage bill, thence consumption; the time lag between these steps was neglected.

[27] These were regarded either as high income or high wealth people; there was no distinguishing between these groups.

accumulated and liquid wealth, not necessarily current income or profit. This idea of positive saving from wealth became more popular in 20th century empirical writings, mainly from the literature on finance, when a firm's reported data on both wealth (in the balance sheet) and income (in the income statement) was used to explain "capital formation."

Very few writings have examined the evolution of the saving concept in economics and finance. An important article that did this, however, was (Bresciani-Turroni, BT, 1936).[28] BT looked at the relation between Mill and later "neoclassical" writers such as Walras and Bohm-Bawerk. He described the Millian or classical framework in terms of Spw, mainly from wealth and regarded Spw as also a direct increase in the demand for labor or the wages fund. Some later 19th century writers neglected the wages-fund idea of saving and focused more on the idea of what Senior had called "providence," or the influence of expected profit in causing direct Sb. BT also distinguished the unique difference between what he called "unexpected" and "expected" Spw. The former involved positive saving from wealth and the latter involved a situation when actual investment would precede actual saving, because of future positive expectations regarding the rate of Sb. This idea was advanced to try to explain how capital intensity could increase during growth, but it has been neglected by modern economics.

20th century research on saving focused on the growth of the modern corporation. This was a core part of the development of "finance" as a discipline separate from economics from the 1930s on. An implicit assumption was that investment (growth) would proceed from business saving. So, the research methodology relied on the construction of models and the search for data to evaluate and forecast investment behavior.[29] The research was based on the fact that a corporation may finance itself either directly or internally, through retained earnings, or indirectly or externally, through the use of intermediaries, which meant new equity or debt. The latter method of financing investment didn't start to become important until the late 1800's, so it was missing in the classical and neoclassical writings on saving. Marshallian and Keynesian writings on Sp rather than Sb, which are still the focus of the "economics" or "macrofinance" treatment, clove to the more classical tradition of using either the profit and/or interest rate, as the main Sp cause variable.

The finance literature's focus on "corporate studies" looked at the typical firm. They constructed models using groups of such firms in order to get conclusions about which financial

[28] See appendix 1 and (Gootzeit 1995).

[29] The focus in these studies was generally on realized investment, not saving, because the former was the ultimate goal of finance.

variables related to Sb were most important to encourage the growth of investment. I have called this process "microfinance." Sp was neglected and the focus on Sb was not only on "retained earnings" from "cash flow:" saving from current profit as it had been described during the 19th century. Additionally, the concept of "net worth" or corporate wealth became much more important. The idea of saving from wealth rather than from current income, which emerged from early classical writings, and which BT indicated was also present in Mill's writings, but which had never before been used in forecasting, had an important role in explaining how a modern corporation would grow. This was a major change from earlier writings and it has emerged as a major part of the finance literature. Additionally, the fact that both cash flow and net worth of a firm may both have been provided from external sources made the theory on which these 20th century studies of corporate growth much more complicated than the theory on which classical and late 19th century studies of Sb of direct (without intermediaries) corporate saving were based.

References

Bresciani-Turroni, C. (1936), "The Theory of Saving: I, The Forms of the Saving Process," *Economica*, N.S., Feb, 3:9, 1-23.

De Marchi, N. (1987), "Abstinence," in J. Eatwell, M. Milgate, P. Newman (eds), The New Palgrave, v.1, 8-9.

Cleary, S. (1999), "The Relationship between Firm Investment and Financial Status," J. of Finance, 14:2, April, 673-92.

Corbett, J. and T. Jenkinson. (1997), "How is Investment Financed? A Study of Germany, Japan, The U.K and the U.S.," Manchester School, Supplement, 69-93.

Gootzeit, M. (2006), "Finance vs Ownership: Mill's Two Abstinences and the Link Between Profit and Interest," *Contributions to P.E.*, 1-13.

----------------. (1995), "The Evolution of the Savings Concept," *History of Economic Ideas*, 3:1, 71-92.

----------------. (1992), "Senior's Abstinence Theory of the Supply of Business Savings," *J. of the History of Economic Thought*, 14, Fall, 244-56.

Hansen, A. (1948), "A Note on Saving and Investment," R.E.Stat, 30:1, Feb, 30-33.

Hubbard, G. (1998), "Capital Market Imperfections and Investment," J.E.L., 36:1, March, 193-225.

Johnson, H. (1961), "The General Theory After 25 Years," *A.E.R.,* 51:2, May, 1-17

Jones, H. (1948), "The Flow of Savings-1," *J of Finance*, 3:3, Oct, 1-26.

J.S.N(icholson). (1925), "Abstinence," in H. Higgs (ed), Palgrave's Dictionary of Political Economy, New ed, v. 1, pp. 4-5.

Kaplan, S. and L. Zingales. (1997), "Do Investment –Cash Flow Sensitivities Provide Useful Measures of Financing Constraints?," J.P.E., 112:1, Feb, 169-215.

Klein, L. and J. Margolis. (1954), "Statistical Studies of Unincorporated Business," R.E.Stat., 34: Feb, 33-46.

Kotlikoff, L. (1984), "Taxation and Savings: A Neoclassical Perspective," J.E.L., 22:4, Dec, 1576-1629.

Lansing, J. and E. Maynes. (1952), "Inflation and Saving by Consumers," J.P.E., 60:5, Oct, 383-91.

Mill, J. S. 1871. *Principles of Political Economy*, reprint of text from Mill's 7th edition, edited by W. J. Ashley, London, Longmans, 1909. Reprinted by A. Kelley, N.Y., 1987.

Poterba, J. 1987., "Tax Policy and Corporate Saving," *Brookings Papers on E.A.*, (2), 455-503.

Senior, N. (1928), Industrial Efficiency and Social Economy, ed. by S. Levy, 2 v., Holt.

--------------. (1836), Outline of the Science of Political Economy, Reprinted 1951 by A. Kelley.

Smith, A. (1789), The Wealth of Nations, 5th ed, reprinted by The Modern Library, one volume, 1937.

Smith, D. (1963), "Corporate Saving Behavior," Cana J. of Economics and Pol Sci, 29:3, Aug, 297-310.

[Appendix 1] Bresciani-Turroni Described The Role of Outside Direct Saving as a Wages Fund

That outside direct saving to business by the wealthy was the main feature of mainstream classical doctrine as represented by Mill, has been oft repeated, but never with so much emphasis and clarity as in the "London School Lectures" of May 1935 by C. Bresciani-Turroni published in 1936 (BT 1936). The first part of this article made clear that in classical writings emanating from Mill and Smith, the idea of "frugality" (direct personal saving to business from income or wealth) was the most prominent saving concept in the literature, while Senior's concept of "providence" or a firm's internal Sb for industrial expansion was hinted at, but still hidden from view (ibid., pp. 2-3). Rich and/or high income individuals saved and this saving was used directly for making loans to a firm ("mere" abstinence) or possibly for establishing or adding to ownership in a firm. Some versions of this concept also had to do with the idea of saving as a "wages fund," an advance of funds (money) to business before production took place to employ workers, or circulating capital, or "effective" labor demand. BT regarded this as a unique 19th century concept.

Senior's emphasis on the expected rise in the profit rate could allow firms to self-finance by attracting advances from outsiders,[30] just as the expected payment of interest. These advances could go directly to factors of production, especially labor, before production took place, to help a business expand. This additional business saving was thus regarded as a "wages fund,"[31] a concept emphasized by earlier writers who used an agricultural analogy when describing growth, when wages were paid "in kind." Although by this part of the 19th century, wages were mainly paid in money to workers in each industry, the idea of savings as a "wages fund," or an advance before production took place, became part of the early growth literature.

BT also emphasized that most late 19th century writers did not recognize any lag, instead emphasizing the close relation between savings and investment. With respect to Mill: "…those who save spend part of their income in buying *productive services of labor* instead of consumers' goods…" (BT 1936, pp. 2-3) "…Mill thus supposes that the decision not to spend on consumption goods is immediately followed by the decision to undertake investment…" (ibid., p. 3). Here, the concept of a "wages fund," was clearly enunciated. This was regarded as the "classical conception" of savings, where "…savings are used in advances to production, and the counterpart of money savings …on the goods side [is] an additional *fund* of consumption goods, which are reserved for the remuneration of 'productive' workers" (ibid., p. 10; emphasis mine).

This idea **may be compared with** Walras' theory of "capitalization," which stated that a person "…buys with part of his money income new capital goods instead of consumption goods…" (ibid., p. 3). The supply of saving was regarded as a demand for new capital goods, not labor; it was not a wages fund. Instead, it was a productive service, "…and total [business]

[30] Who are these outsiders? They could be direct lenders to the firm or investors purchasing an ownership stake. Either way, they would be outside entrepreneurs who wish to take some risk (owners would have more) in order to earn a return: lower risk interest or higher risk potential profits, and encourage growth.

[31] The idea of savings as a "wages fund" would come to dominate the literature on savings in the late 19th and the early 20th century, as will be shown. That it was a "business" saving concept will become abundantly clear.

savings are equal to the excess of the aggregate value of services supplied over the aggregate value of consumption goods demanded" (ibid., p. 4).

There was also the recognition that large new public use investment projects like the Suez canal (ibid., p. 13) or Chunnel could be debt or equity-financed privately, with the emphasis on personal saving from wealth, not income. BT called this "unexpected" saving and he emphasized much more than earlier writers the lag between such saving and its ultimate goal (investment). "It is before all necessary to distinguish between a transition period [a lag], following upon unexpected savings, and the conditions proper to a state of equilibrium when production has adjusted itself to the forthcoming savings" (ibid., p. 11; emphasis in original). "…investment…follows [with a lag] upon saving" (ibid., p. 17) when this occurs. If such saving were wealth-financed using accumulated past saving of individuals or businesses rather than their current income, there would initially (in the short run) be little or no reduction in the demand for or the production of consumption goods. However, an increase in the wages fund could eventually (in the long run) cause money and real wage increases to restrict profits, forcing producers of consumers' goods to restrict production. If saving were instead income-financed, the reduction of aggregate demand would occur quickly, causing the production of final consumption goods to fall in the short period.

If increased external personal saving was expected in the future, however, actual investment (using indirect equity or debt finance) could precede actual saving and this would result in "…lengthening the period of production…" (ibid., p. 17). But, production in the short period would not be affected adversely. Instead, the mechanism of production would become more capital intensive as labor displaced from the production of consumer would be reallocated into the production of investment goods. Eventually, the higher level of income produced would increase both the demand for and the supply of consumption goods and the size of the wages fund. This version of growth, which introduced exogenous investment increases, was foreign to many 19th century writings because it focused on new saving as a dependent variable. The concept of investment before saving has been neglected by modern economics.

[Appendix 2] An Interesting Case Study Which Looks at the Supposed Negative Relation Between Savings and Aggregate Demand

Will direct saving from the personal sector, even in the short run, cause aggregate demand (AD) to decrease much, if at all? A somewhat eccentric article (Lansing and Maynes, 1952), said "not much, if at all," because consumers used a significant part of their current savings to directly **invest, or to** purchase durable goods and real estate (ibid., p. 384), **investment like expenditures**. Thus, these "inflationary savings," caused consumers to take on debt and "invest in [some] consumer goods." This idea is consistent with the late 18th-19th century ideas, like Mill's, which treat much of saving as direct investment. The rest of savings, L & M called "deflationary:" it decreased current AD. The later fit more closely the 20th century savings model. These authors concluded that if deflationary savings were separated from total Sp in the U.S., "all income groups except the highest, [would have] negative savings" (ibid., p. 388). This article thus justified savings-from-wealth to purchase durable goods emanating from lower income groups as a significant part of the growth process, but it didn't attempt to measure such "investment-like" spending from consumer wealth, a disused remnant of classical ideas.[32]

Non-Owner vs. Owner Abstinence in Mill

External saving in Mill, could mean either increased ownership (with accompanying risk) or simply a direct loan with the promise to pay interest, similar to a bond purchase. (See Gootzeit 2006, p. 8; here we have at least the implicit recognition of the importance of the expansion of the private bond market.). The idea of direct lending was combined in a confusing manner with the establishment of ownership or management control in growing firms. Mill described two forms of external saving: "Non-owner and owner" abstinence (Gootzeit 2006, p. 7). The first he called "mere" abstinence**, where non-owners would lend directly to a firm, thereby increasing investment in the longer period**. The compensation for this was "interest." (ibid. and Mill 1871, p. 406.) This was what Senior called "frugality," or "pure" Sp; it was a flow from current income, achieved by foregoing consumption. **For Senior, such savings would not necessarily lead directly to investment.** "Owner/manager" abstinence had a much stronger influence in Mill's writings, however. This other compensation for Sp was related to the "gain [or profit] one expects" in the future from "superintend[ing] the employment of his own capital" (ibid.) This idea was much closer to Senior's idea of "providence," when a firm used Sb from internally generated profits for expansion, but it was described as an action of an individual. Somewhat unclearly, it was still framed as an aspect of outside personal saving, which would flow from personal wealth.

The implication of this latter idea was that personal income would always be too small and consumption too large to finance the necessary amount of new saving and investment. The

[32] As we shall see, the idea of "inflationary" savings from wealth by business could also be analyzed from the point of view of Sb by examining how the liquid funds of businesses accumulated in the past, their "liquid business wealth," has played a role in their expansion or in their investment practices leading to growth for a nation.

classical idea was that in order for growth to occur, much of new investment would have to come from wealth. Total national wealth would stay constant in the short run as it was transferred from the personal to the business sector, but it would hopefully rise in the longer period after new investment became rooted.

Sb would not only add to a nation's capital stock, it would delay current profit payouts to owners while the firm in which direct investment occurred was expanding; thus, a reduction in the rate of growth of personal consumption (or wealth) in the near future was recognized. As with Senior, Mill was interested in capital formation, ultimately leading to growth. There was not too much emphasis on the potential reduction of consumption growth in the short period as a result of saving-for-ownership and even less emphasis on a reduction of firms' current profit payouts; instead, the focus was that **expected** increased future profit from a larger capital stock as a result of external saving could ultimately (in the long run) lead to growth. Here, as in Senior, we have a version of the later finance literature's focus on how saving would cause business expansion. But, it also contained a version of the later economics literature's idea that savings could reduce consumption.