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Incorporating Social Capital into the Austrian Business Cycle Theory

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Abstract:
This paper incorporates insights from social capital theory into the traditional Austrian business cycle theory (ABCT). Whereas in the standard Austrian narrative, recovery processes entail the reallocation of investment resources from more towards less-capital intensive industries, social capital may represent an alternative avenue for investment energies. Unique characteristics of social capital are surveyed and strategic opportunities for leveraging social capital by different decision maker types are explained. Recognizing social capital developments amidst business cycles helps to account for the long-term resilience and continual social progress of economic performance amidst increasingly interventionist central banking practices.

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1 Introduction

Forged at the intersection of sociology and economics, social capital theory emphasizes the economic role of human relationships. Whereas traditional theories of production focus upon the direct effects of combining physical capital with labor, social capital theory investigates the networks of meaningful human relationships within which productive endeavors are typically embedded (Granovetter 1985). In short, who you know and how you know them often matters. Social capital theory is thus the recognition that the structure of human relations shapes productive outcomes and economic performance (Putnam 1993). Furthermore, these meaningful relationships undergird the processes of institutional evolution at the core of economic development and social order more generally. Hence, "[s]ocial capital refers to the norms of trust that enable a society to function effectively (Meadowcroft and Pennington 2007 , 13)."

Many Austrian economists have embraced the idea of social capital. Drawing from argues social capital is best understood as heterogeneous. In short, certain networks can service particular goals better than others. She sees the emergence of broader norms and institutions as bi-products of "social entrepreneurship," a process wherein under-utilized components of social networks are combined into innovative sets. Similarly, Ikeda (2008) suggests the idea of social capital is germane to the Austrian insight that market processes are driven by entrepreneurial alertness.

Recognized as a sub-category of productive capital more generally, social capital can obviously complement material production. Just as more and better physical resources yield greater outputs and value, more and better social capital can better foster successful plans. Thus, in so far as aggregate levels of trust in society are seen as a form of social capital, and the processes of entrepreneurial discovery and technological innovation both rely and depend upon trust; market processes and social progress are both buttressed by more and better stocks of social capital. Inversely, Storr (2008), Meadowcroft and Pennington (2007, 2008)) highlight the effects from prosperity onto the accumulation and quality of social capital. Wealthier and more technologically connected communities tend to provide better conditions for more trusting relationships to flourish. Carilli and Coyne (2008) notice this complexity of social capital implies a very limited potential for governments to effectively plan cultural outcomes without error.

In summary, social capital enhances our understanding of economic processes. Seen through a particularly Austrian lens, social capital like the capital structure writ large is ultimately a distillation of coordinated human knowledge. Chamlee-Wright and Storr (2015) argue these many linkages between social capital theory and Austrianism reaffirm a broader connection with classical political economy (Boettke 2007).[1] Yet, while many Austrians have embraced the concept of social capital, I am aware of no explicit attempt to incorporate the idea into the Austrian Business Cycle Theory (ABCT). This paper is an attempt to partially address this gap in the literature.

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The central banking system instigates the Austrian version of the trade cycle by confusing the expectations of market actors. Guided by the misleading information of politically manipulated interest rates and a fiat money supply; producers over borrow, over extend capital-intensive production processes, and over produce consumables, all relative to the real demands of buyers and savers in the market. As these malinvestments experience cash flow crises, recessionary effects begin.

The traditional ABCT receives common criticism. The rational expectations framework implies profit-seekers should not commit systematic or cyclical errors through time without learning to adapt. Why do market participants simply not ignore artificially cheap credit? Second, while the central banking system has grown in size and scope, the material effects of business cycles have improved. By what mechanism has continual economic performance outpaced the disruptive effects of credit manipulation? Answers lay beyond the scope of the traditional ABCT.

I argue that a social capital augmented ABCT provides a complementary response to previous rejoinders of rational expectations critiques. When asked why market actors do not learn to ignore the false signals of central banking,[2] O'Driscoll and Rizzo (1985) and Carilli and Dempster (2001) have argued that agents are trapped in a sort of prisoner's dilemma. Without some enforcement mechanism to assure coordinated action, each seller-producer-qua-borrower is enticed towards cheap credit and to profit ahead of competitors. While the traditional ABCT suggests economic recovery is largely a process of reallocating physical capital from more intensive to less intensive production lines, including social capital into one's vision of the capital structure thus provides an additional strategic avenue for salvaging and recovering personal utility. Hence an additional response to rational expectations may be that market actors do learn and adapt, but in ways not typically captured by the traditional ABCT.[3]

Different groups leverage social capital in different ways. While, many have noticed the complementary effects of social capital, others have highlighted its compensating or substitutable qualities. Communities plagued by physical scarcity and poverty, often possess strong and robust networks of mutual assistance. Similarly, contexts that experience exogenous capital shocks via natural disasters have been noted to more extensively leverage social capital to assist recovery efforts.

Social capital possesses a variety of unique traits apart from physical capital. In short, social capital is not subject to material scarcity. Hence, social capital is not as prone to rivalrousness as much as physical capital tends to be, nor is it as subject to depreciation. Social networks are also more robustly cross-applicable to different plans and production processes relative to physical resources. Thus, we should expect the process of reallocating social capital after errors to be less disruptive and wasteful than changing physical capital combinations. Hence, investing to enhance or expand the prominence of one's social capital within a broader set of plans may provide a sort of haven for limited investment energies when volatility is expected in the future financial and or material productive sectors. In so far as social capital has the potential to increase and improve with usage, these moments of increased reliance essentially represent additional investments in social capital. In result, with greater stocks and qualities of social capital, the capital ratio of the economy writ large becomes less critically dependent upon physical capital production lines and in turn better equipped to endure the material consequences of volatility in the future.

The remainder of this paper is organized as follows. Section 2 summarizes the traditional ABCT. Section 3 surveys the rational expectations critique of ABCT and some standard Austrian responses. Section 4 explains how ABCT may account for social capital. Section 5 explains the defining and unique features of social capital and outlines how different decision makers throughout the economy may leverage social capital amidst cyclical volatility. Section 6 concludes.

2 The Traditional ABCT, Critiques, and Replies

Traditional adherents of the ABCT (Hayek 1933, Hayek 1935, Mises 1912 [1981], and Mises 1943) essentially ascribed to Say's Law (1880). Unencumbered by central planning or interventionist monetary policies, the market for loanable funds is seen as self-adjusting. The interest rate operates as a price, thus coordinating the plans of those willing to save and supply loans, along with the plans of producers in need of borrowing investment capital. Functioning prices in the various capital markets of the economy, assure the effective self-adjustment of proportionate supplies and demands for diverse and varied goods and services (Mises 1920 [1935]). Whereas market prices help society to produce the right amounts of various goods and services, the interest rate helps society to produce and distribute the efficient amounts of goods and services across time. This natural rate of interest equilibrates the lending market so that there are neither systemic shortages nor surpluses of loanable funds. Hence, no gluts or dearths of consumer ready or intermediate production goods occur systematically. If there exist more borrowers willing to pay higher premiums for investment capital relative to savers and lenders,

then interest rates will rise and attract a greater supply and or discourage less eager borrowers. Visa versa is also true; the interest rate will fall if the proportions are reversed.

An unhampered market in lending and throughout the capital structure will thus harmonize the expectations of buyers, sellers, spenders, savers, lenders, and borrowers across the diverse production areas of the economy and over time. As consumers forgo present consumption and opt to save more for the future, their unspent financial capital provides a reliable signal to industrial producers to make fewer present consumer goods and also signals suppliers to be prepared for increased sales in the future. Hence, savings provides a real financial incentive for producers to borrow, expand production lines, and again be prepared for future sales. When capital-intensive products arrive ready made on store shelves, consumers can draw upon their previously saved resources to buy up the available stocks. Hence ABCT is premised on the idea that changes in the money supply and manipulations of the interest rate confuse these inter-connected expectations and thus disrupt the self-adjusting processes of saving, investment, production, and consumption.

Rather than the credit supply reflecting lenders' real preferences to forgo present consumption, save wealth, and afford goods in the future; the market for borrowing under a central banking administration is largely shaped by new additions to the money supply and political adjustments to the interest rate. Specifically, ABCT posits that expansions in the money supply increase bank reserves and available credit, thus lowering the market rate of interest below the otherwise natural rate. With artificially low rates, sellers take on additional debt and expand production lines, but the final products are unmatched with proportionate consumer demands, as no one actually saved wealth to purchase the available supply (See: Ebeling 1978).

Once the excessive production of capital-intensive goods are noticed to have been based on false expectations and incorrect information, investors will seek to begin producing more consumer-ready goods that are less capital intensive. This adjustment process entails real time and wastes real resources. Factories must be closed, machinery discarded, laborers re-trained, etc. Hence the more complex the economic structure of society is and the more extensive the divisions of labor for goods and services therein, the more difficult and prone to error will be central banking interventions.

Rational expectations can be crudely summarized by the phrase, "on average people are correct." When estimating future prices in competitive markets, errors of over optimism are offset by equal and opposite errors of over pessimism. Hence on aggregate, society's estimations of market prices tend to be correct or at least not prone to systemic errors. So long as decision makers can invest or search for more and better information, we should expect initial rounds of error to be corrected over time (Lucas 1972 and Muth 1961).

Here we see an obvious tension between the standard ABCT and rational expectations. Mainly, if market agents are rational profit maximizing actors, they ought not to be subject to systemic and or cyclical forms of incorrect expectations. Why do market participants not learn to ignore or properly adjust to the actions of central banks (Hummel, 1979; Tullock, 1987; Cowen, 1997; Wagner, 1999 ; Caplan unpublished).

Some Austrians (O'Driscoll & Rizzo, 1985; Carilli & Dempster, 2001) have responded suggesting investors and producers suffer a form of prisoner's dilemma in the loanable funds market. Any individual producer whom ignores cheap and affordable credit, in effect allows her competitors to gain a relative advantage in the industry. Yes, all producers would be better off to simultaneously ignore false interest rates and subsidized credit, but without a binding constraint to coordinate their behaviors in tandem, each individual firm is enticed to borrow and gain profit share over others. Hence all producers are in effect incentivized to take advantage of artificially low interest and embrace affordable yet unsustainable credit. Thus, the observed existence of repeated Austrian-styled cycles is not necessarily incompatible with the preliminary assumption that individual market actors behave rationally.

I argue that a social capital augmented ABCT complements the prisoner's dilemma response to RE criticisms. Whereas credit manipulation is in part difficult for market participants to ignore, some forms of strategic adaptation and reactive social learning can and do occur in response to central banking policies. Social capital possesses inherent features distinct from physical capital thus making it at times less vulnerable to the material consequences of cyclical volatility. Hence, social capital investment may serve as a strategic avenue for investment energies to avoid the consequences of credit manipulation. Such is not directly implied by traditional portrayals of the ABCT in large part because the capital structure within the standard model is simplified and does not account for the intangible value possessed within knowledge. Social capital theory provides an ideal avenue through which to incorporate the productive value of knowledge into the ABCT.

3 Social Capital and the ABCT

Hayek's (1935) initial description of the ABCT relied upon a triangle heuristic to represent the heterogeneous nature of the physical capital structure. See Figure 1 below.

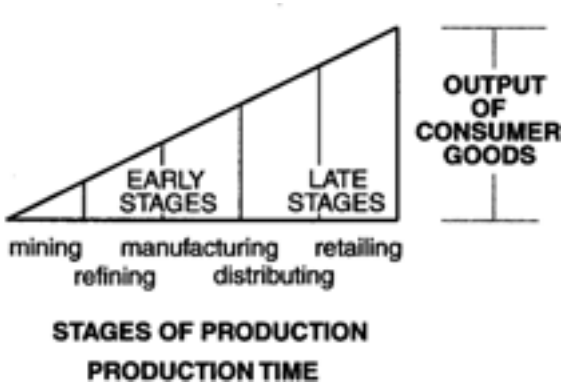

Figure 1: The Capital Structure of the Economy

The horizontal axis represents the time length of a production process, whereas the vertical axis represents the consumable value of capital at its respective stage of the production process. Usable forms of physical capital typically require some process of investment and reconfiguration in order to be readily consumable. Raw materials and natural resources provide little direct value until they are combined and or refined through middle stages of production. Different goods and services require production processes of different lengths of time. A simplistic good such as a pencil, likely has a shorter production structure and produces a lesser degree of value than a more complicated and capital-intensive product like an automobile.

The smoothly sloped hypotenuse connecting the two axes reflects the proportionate matching of material resources across the intermediate goods needed during the various stages of production. No systemic shortages or surpluses inhibit the steady production of any particular good or service. Neither automobile nor pencil production is obstructed or delayed by excesses or scarcities of middle stage resources, laborers, or equipment; all because of the functional elements of the pricing mechanism applied throughout both the capital and loanable funds markets (Hayek 1945).

Hence again, the manipulation of the money supply and interest rates by central banking obstructs this otherwise self-adjusting process of capital allocation. Artificially low interest rates encourage producers to invest in longer than optimal stages of production, and thus create kinks and or gaps in the hypotenuse of the capital structure triangle. See Garrison's (2001, 69) rendition in Figure 2 recreated below.

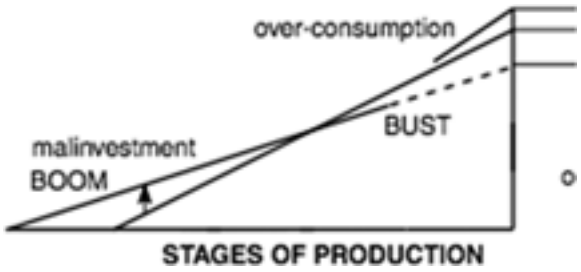

Figure 2: The Capital Structure component of the ABCT

As the products of the elongated production processes come to fruition, producers lack reliable and affordable access to the complementary resources needed to complete and or sell their full stocks. Buyers, having never actually been signaled through higher prices to forgo consumption or increase their rates of savings, never stopped buying and consuming ready-made products. Hence, consumers lack the available wealth to purchase the larger quantity of capital-intensive goods. The recession period typically entails the closing and deconstructing of the longer production lines, and simultaneously new investments in more consumer-ready and shorter production processes.

While this binary description of capital insensitivity accurately conveys the time-based aspects of production amidst credit manipulation, it is not a complete portrayal of the strategies available for market actors. Evans and Baxendale (2008) explain certain production functions are more susceptible to cheap credit signals than others, as some industries operate on tighter profit margins. Young (2015) argues similarly, preferences for risk are absent from the traditional Hayekian triangle model. In the wake of disrupted plans, resource reallocations may occur along a third dimension for risk. In short, experienced rounds of business cycles may lessen investors' preferences to take on risk. See Figure 3 below (Young 2015 , 204).

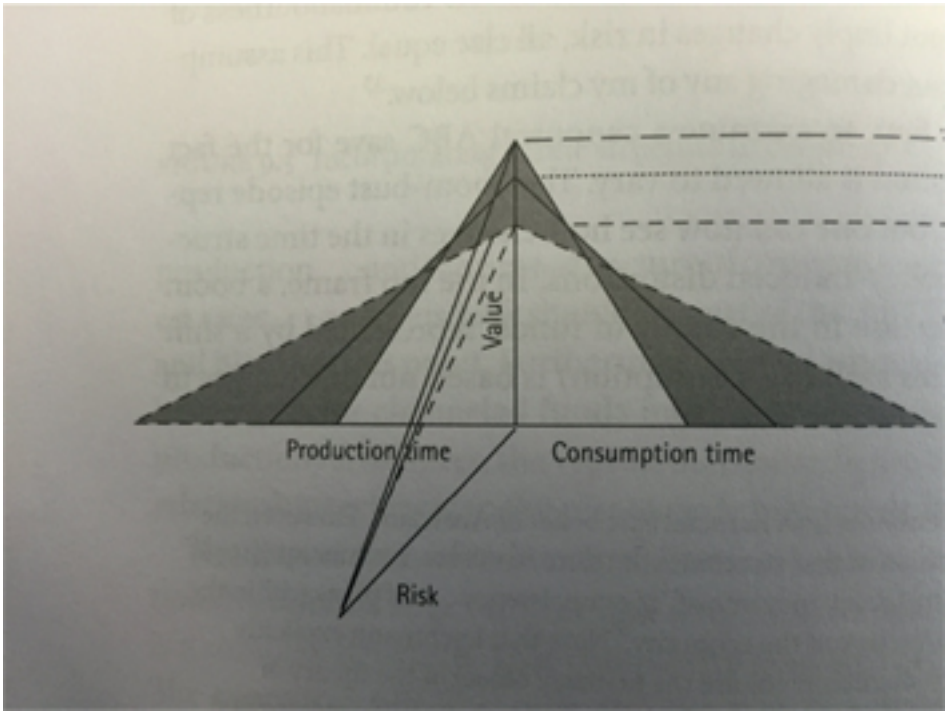

Figure 3: Risk augmented Capital Structure in the ABCT

Higgs (1997) attributes the duration of recessions and stagflation to regime uncertainty: a weak confidence in one's ability to accurately gauge risk because of the frequency and unpredictability of policy changes. In summary, future cycles may be partially forestalled or their effects in part mitigated by reallocations of investment into third dimensions apart from early and late stage capital production. Social capital may operate as a viable means of mitigating risk, or it may represent another dimension of investment opportunity all together.

Social networks, like shorter-stage production processes, are less dependent upon complex arrangements of physical resources. Hence, more systematically leveraging social networks and or investing time and energies into the formation of new social relationships may serve as an alternative avenue to insulate one's welfare from the effects of future business cycles. But social capital strategies are not captured in the traditional ABCT in so far as it relies upon Hayek's triangle heuristic and presumes all forms of capital are reflected therein.

4 Some Unique Features of Social Capital

Many attribute the long run economic performance of society to the general accumulation of human knowledge (Mokyr 2002). Hayek (1960 [2011]) , 76–78) clarifies; knowledge in this sense must be understood apart from scientific information. Instead, the knowledge crucial to social progress is more abstract. It is precisely the dispersed forms of knowledge that a particular individual cannot directly know or have access to that more profoundly contributes to her improved productivity and more successful plan fulfillment in today's world relative to the past. For example, I have no idea how vaccines actually work, let alone how to make or mass manufacture them. And yet, I obviously benefit from vaccines. Apart from the scientific knowledge of how vaccines work, the more dominant influences upon my welfare stem from the surrounding divisions of labor that allow them to be produced and distributed throughout society alongside the broader institutional factors such as private property rights, the freedom of contract, and a general level of trust. Without these surrounding networks and institutional factors, a direct knowledge regarding the science of vaccines would be moot.

From here on, I use the term social capital to refer to these forms of extra-individual knowledge. In this sense, social capital is both the myriad of human relationships in place throughout society and the accumulated institutional norms and trust that resides within them. Conveniently, these are precisely the two related definitions that have emerged from social capital theory in recent decades. Granovetter (1985) has emphasized network analysis, Putnam (1993) has focused more upon the norms of trust and reciprocity. Both definitions maintain the metaphor between social relationships and economic capital, as both, like traditional notions of physical and human capital, possess real potentials to shape productive outcomes. More and better stocks of social capital, like more traditional resources, yield easier and greater plan fulfillments.

Economists credit the accumulation of knowledge as the source of long run human progress because of the unique qualities of knowledge relative to physical resources. Ridley (2010) suggests that knowledge accrues in a reproductive process akin to sexual reproduction. When bits of information combine, they produce new and unique units. Unlike physical resources, original pieces of knowledge remain available for future reconfigurations alongside the additional forms of new and reconfigured information. Lessig (2008) similarly notes that when digitized, many different experimenters can use the same piece of data simultaneously, without degrading quality or quantity. Hence, the growth of and durability of knowledge is more inherently a cumulative and potentially limitless process compared to material production and distribution. The status of scientific information and accuracy may ebb and flow throughout history, just as material resources and financial wealth may succumb to booms and busts, but knowledge, embodied as social capital (human relationships and social institutions), endures, grows, and evolves.

Social capital possesses (at least) three unique features apart from physical capital that shape how individuals leverage it and contribute to societal outcomes amidst business cycles. First, the qualitative features of social capital are assessed differently from physical capital. Second, social capital is non-material and hence not subject to deterioration or physical destruction in the same ways as traditional forms of capital. Third, as a productive resource, social capital has a broader swath of alternative uses than particular forms of physical capital. Each are explained below.

4.1 The Quality of Social Capital

The productive value of physical capital is typically some function of the quantity and quality of the available stock. More units of a given resource can presumably yield more output, just as qualitatively better ingredients yield more valuable output. In contrast, social capital is more difficult to quantify meaningfully (Burt 2000) and not necessarily more utility enhancing with increased size (Heap 2008). In both definitional types of social capital (networks and institutions) social capital can be a useful and functional complement to the general fulfillments of plans. In short, I can succeed more easily and effectively if I have access to a larger or better network. The individuals who comprise a social network may have better or more reliable access to forms of physical capital or knowledge sets that I do not personally possess. Hence by leveraging my personal relationships I can effectively access resources and skill sets that I may lack direct access to. Similarly, in a world with a better institutional system of inter-personal trust, I can presumably better fulfill my plans. But, what constitutes "better" is more complicated for social relative to physical capital.

As Granovetter (1973) described, social networks are either bonding or bridging. Some relationships are strong and relatively exclusive, whereas others are looser and more inclusive. Hence, the productive quality of social capital depends upon an efficient matching process between particular plans and the appropriate network type. If membership within a group entails the usage and consumption rights of scarce and high value assets, then limiting and monitoring group membership according to strict protocols may be necessary to protect and preserve the shared resource. In contrast, many if not most of our interactions and dependencies in society rest upon weak tie connections. I barely know any of the names of the staff at my favorite restaurant, let alone any information about the myriad of individuals throughout the divisions of labor at the earlier stages of production that go into making my meal.

4.2 Social Capital is Non-Material

Social capital, like knowledge more generally, is non-material. Hence, social capital is not subject to scarcity or rivalrousness; nor is social capital subject to depreciation over time, like physical resources inherently tend to be. For physical assets, marginal uses involve some potential and inevitable form of exclusivity via scarcity. Either other users are upheld from simultaneously using the resource, or users must invest additional effort to maintain quality from depreciating. In contrast, additional users to a social network may invoke resource depletion or over usage of those resources specifically held in common throughout the network (Harden 1968). Again, this is precisely why more tightly bonded networks tend to impose the capacity to filter memberships, monitor rates of usage and consumption, and impose graduated sanctions. Hence, with well-designed and enforced rules social networks can shape membership processes to fit the unique traits of their resources and populations (Ostrom 1990).

Some social networks are less centered upon the shared access to physical resources, but are instead designed or evolved for the purpose of sharing knowledge. Such knowledge-based networks do not need as many or as stringent bonding mechanisms like monitoring and graduated sanctions. In such circumstances, additional members to the network can represent added rather than depleted value to other group members

and the network writ large. The marginal new member can represent a new stock of knowledge or an additional sub network of relational connections to help other members access physical capital or knowledge sets previously less accessible. Hence the productive quality of knowledge-based networks, inverse to physical capital stocks, tends to grow with additional users and greater marginal rates of usage by individual members. In fact, it is more often under, rather than over usage that degrades the productive value of social connections (Ostrom 2000).

Similarly, the marginal use of social norms and institutional rules has an opposite effect on their productive quality relative to using physical capital. An additional person conforming to the established standards of language, customary law, or the rules of good conduct, in effect enhances the functional and productive capacities of those institutional patterns.

4.3 The Multi-Specificity of Social Capital

Physical capital is heterogeneous, meaning that the necessary inputs for one productive channel may not service alternative production channels. But, all capital tends to also be multi-specific. Meaning, certain capital units can service other production functions within some range. Different forms of capital obviously have different ranges of multi-specificity. For example, early stage natural resources lend themselves to a large variety of productive outlets, whereas other more refined and specialized mid-stage inputs may only work for a more narrow and limited set of uses.

Social capital, like traditional capital in the Austrian vision, is heterogeneous and also multi-specific. While different networks range in their qualitative capacities to fulfill different types of productive plans, some networks can service a variety of productive intentions. And, some networks likely have wider and narrower ranges of cross-applicability than others. However, in so far as all production functions entail some combinations of physical capital and labor, and in so far as all said stocks of capital and labor are embedded within social networks, and in so far as all social networks are comprised of real human beings qua labor units; social capital is generally more multi-specific than physical capital. Social networks, comprised of real, infinitely varied, and complex, human relationships, can be deployed and re-deployed for a similarly infinite set of alternative plans. I can exploit or completely re-tool my social network for a totally different set of functions without physical degradation or material consequence. Similarly the range of diverse plans that can potentially be accomplished amidst a social environment possessing effective and established institutions and trust is nearly infinite relative to the scope of plans that particular units of physical capital within that context can be applied to.

5 Social Capital Investment as a Strategy to Cope with Volatility

Some evidence supports thinking about social capital as a complementary resource for plan fulfillment and economic development. Temple and Johnson (1998) show countries with greater social capital in the 1960s grew more substantially in the 1980s. Other research suggests the role of social capital can also function as a sort of substitute or compensating differential for lacking physical or labor resources. Hayek (1988) and Granovetter (1973) comments regarding the limitations of strong group bonds, La Porta et al. (1997) test and confirm Fukuyama (1995) thesis that stronger family ties impede the expansion of larger corporations. Similarly, poorer communities tend to have more prominent norms of reciprocity and mutual aid, but also tend to lack trust and participation in larger more societal wide commercial institutions (Venkatesh 1997). Furthermore, social capital has been shown to be an adept resource at assisting the processes of evacuation, resilience, and recovery associated with natural disasters (Chamlee-Wright 2010). Hence amidst the persistent or unexpected dearth of physical capital, individuals tend to rely upon social networks more intensively.

I argue that a variety of recent labor, consumer, managerial, and socio-institutional trends, especially in the wake of the 2008 financial crisis, can be seen as strategic investments in social capital to offset the material hardships of credit-induced business cycles. As over investments in capital-intensive production lines were discovered and reconfigured, different strategic agents throughout the economy more substantially leveraged their existent social networks and increased their investments in further social capital development. These more leveraged social networks and the greater accrual of social capital more generally, are in effect productive potentials of society that are less susceptible to the material consequences of credit manipulation in the future. The following subsections each describe some viable ways social capital can serve the needs of different types of decision makers throughout the economy amidst recessionary cycles: individual laborers, consumers, managerial decision-makers within firms, and institutional innovators.

5.1 Laborers

Unemployment is a major proxy for assessing the effects of business cycles. Hence, a full and accurate accounting of the strategic opportunities available to laborers is crucial to understanding recovery. In the wake of business failures, workers are unexpectedly dismissed, struggle to maintain their previous consumption levels, and expend real energies to find new employment and restart their career paths. Standard ABCT suggests that new labor demands will accrue in the less capital-intensive sectors of the economy. Hence, laborers themselves may invest resources and energies to improve their future employment prospects in these less-capital intensive fields.

Within this traditional strategy set, social capital may play an integral role. Workers can leverage networks and personal relationships more substantially in the wake of unexpected displacement. An individual with a larger group of social relationships or particularly more contacts to individuals within less-capital intensive industries is better equipped to recover employment than less connected or less well connected counterparts.

But, shifting from capital intensive to consumer ready production fields is not the only strategy available to displaced workers. In so far as workers recognize the volatility associated with capital intensive industries, as rational expectations theory would suggest, they are also more likely to select towards employment opportunities that provide larger and more robust networking opportunities for future contacts and preferred career enhancements. Last, workers can explicitly invest additional resources and energies to build and develop larger social networks more geared for future employment prospects.

Conventional wisdom alludes to social capital's potential to mitigate the effects of volatility for workers. First, is the longstanding observation that individuals often access labor opportunities through social networks over anonymous application processes (Mouw 2003 , Ioannides and Loury 2004). Second, many leverage the opportunity of unexpected layoffs to gain more formal education credits and enhance their specialized skill sets. Irrespective of the real potentials for schooling to enhance human capital or build practical skills, formal education for professional careers tends to carry measurable network opportunities (Marmaros and Sacerdote 2002 and Loury 2006).

The social capital potentials for laborers to adapt to volatility are perhaps most noticeable when viewed generationally. Upon graduating college, new labor force participants in recent years have more substantially leveraged social networks than past generations. Over 31 % of those surveyed between the ages of 18 and 29 resided with their parents in 2014 up from below 27 % in 1980. "For many Millenials, mom and dad help ease the sting of a skimpy paycheck or a financial setback. More than a third… (36 %) say they depend on financial support from their families (Pew Research Center 2010 , 39)." Apart from leveraging family and friends to financially offset the harsh conditions of the recessionary economy, the Internet and social media have become a critical aspect of navigating the job market especially for younger workers. Over 62 % of surveyed Millenials, more than any other age group, connect to the internet daily via mobile devices apart from home computers, 75 % have profiles on social media websites, and over 32 % report daily usage (ibid.). Ellison, Steinfield, and Lampe (2007) notice online social media provides the strongest avenue for developing bridging social networks, i. e. the most relevant for labor market placement (See also: Valenzuela, Park, and Kee 2009).

In the wake of realizing the costs of previous plans amidst a business cycle, laborers in today's economy can and do leverage social capital to improve their material conditions. Furthermore when deciding how and where to invest available but limited resources and energies, expanding and enhancing one's social capital is an enticing and effective option. Such enhanced networks represent a productive resource that will not be as systematically degraded or devalued amidst future cycles.

5.2 Individual Consumers and Investors

Ordinary citizens serve dual roles as suppliers of loanable funds and as demanders of consumable goods in the ABCT framework. Individuals decide how much of their personal earnings to consume or save for future consumption. In the presence of artificially low interest rates, as was the case regarding sub-prime mortgages pre-2007, people were encouraged to take advantage of relatively cheap credit to buy either additional units of real estate or on average more expensive units then they otherwise would have. Yet, citizens were never inclined to forgo consumption and increase savings to actually afford paying off mortgages. Hence, as more houses hit the market, the sellable value of existing units fell below the debt owed and instigated financial crisis.

With upside down mortgages, few savings to reinvest, narrower employment opportunities, and relatively stagnant wages, consumers in the recessionary economy had limited opportunities to adapt their investment decisions. First, as traditional ABCT would predict and suggest, efforts and resources were redirected towards more consumer ready and less capital-intensive processes. While some were simply disappointed that properties did not accumulate as much value as hoped and thus retained ownership for longer durations than planned,

many others took losses and or abandoned homes to be reclaimed by banks. Here it seems obvious that individuals more equipped with larger and better-connected social networks could more easily navigate the real estate market to resell unwanted units.

Other individuals still took adaptive strategies to preserve and promote their well being as spaces were converted to more consumer ready rental space. Again, here we recognize how viable social networks make this process easier and more profitable other things equal. Recent developments in the so-called sharing economy, such as the website AirBnB, have leveraged software potentials, social media connectivity, and the accumulated reputational mechanisms therein into new profit streams. Such innovations and adaptations would not be well captured by the traditional ABCT but can be situated compatibly once a venue for social capital is incorporated into the capital structure. AirBnB has been so popular in recent years that it is imposing measurable losses on the traditional hotel and hospitality industry (Guttentag 2015).

In summary, rational individual consumers and investors coping with credit induced recessions can and do leverage social capital resources as viable strategies to preserve and promote their interests. First, it seems reasonable to recognize that individuals with more and better stocks of social capital endured preferably over others with comparable physical and human capital stocks sans social capital. Second, given the more limited potentials for real estate liquidation, individuals likely more heavily leveraged their existent social networks during the recession. Last, the narrower opportunities for financial re-investment individuals on the margin likely found additional investment and participation in new and additional social networks valuable.

5.3 Managerial Decision Makers and Firms

Business cycles also impose unique conditions upon the strategic decision makers within firms and formal organizations. Similar to the dual roles played by ordinary citizens in the standard ABCT, firms represent both the demand side of the labor market, as well as a substantial component of the demand side for loanable funds. Hence, in response to business cycle volatility firms have had to creatively adapt to maintain production processes that appeal to more cost sensitive consumers and more potentially wage needy but long run and social-capital-conscious laborers.

In ordinary market conditions, firms often pay efficiency wages above the market average to attract more talented, experienced, or motivated labor forces. Thus, applicant pools are larger and comprised of better-qualified applicants. Existing workers also need less monitoring to assure performance standards.

With less available loanable funds and more urgent needs for financial investment to retool production lines during recessions, firms may find it harder to afford efficiency wages and thus harder to attract top talent in their respective industries. The conditional factors of a work experience and environment can thus compensate for low pecuniary wages in the basket of values afforded to laborers. Hence, firms in the modern economy are both experimenting with and converging on office spaces and general corporate cultures that emphasize a supposedly preferable work life balance (Ghoshal 2005). Google for example, apart from outfitting workspace with leisure items like game tables, allows and encourages their employees to dedicate substantial amounts of the day to working on private business ventures.

While understated, these new management trends are arguably leveraging, investing in, and benefitting from social capital. Whereas the value of work experience for laborers, has been traditionally assessed by its associated wage rates, material conditions, and enhancement potentials for skill sets, firms today appear to be competitively offering both direct opportunities for employees to enhance their professional reputations and grow closely networked relationships with other similarly motivated and talented laborers.

Other trends in conceptual business models are also tapping into the new and rising potentials of social capital. In response to less available loanable funds, and uncertain consumer demands for capital-intensive products, strategic advice in the business start up world has embraced the idea of the minimal viable product (MVP) pr lean startup (Ries 2011). The idea is straight forward, rather than subjecting investors, managers and laborers to the larger scope of risk and uncertainty entailed with a traditional business model, the MVP approach suggests stripping away any extraneous services not crucially necessary for maintaining a base of satisfied customers. A food truck operation rather than a full service restaurant is one obvious example. Building a solid customer base, hence social capital development is arguably the critical component of the MVP approach and its successful application. A core group of dedicated and satisfied customers and their presumed willingness to promote a business's reputation is both a direct input to future sales and also a tangible signal for potential investors to gauge the profitability of expansion.

5.4 Social Entrepreneurship and Institutional Innovations

As various agents throughout the economy adapt to business cycle conditions, by more intensively leveraging their personal social networks, such inadvertently serves as an effective investment in the general stock of social capital. With greater uses of social networks and broader swaths of plans being pursued within such networks, new norms and innovative institutional discoveries of cross network potentials are afforded and encouraged. In essence, additional investments in social capital provide spillover benefits throughout the economy and society writ large. In particular, social capital provides enhanced opportunities for individuals and firms in the present and future economy to better endure and adapt to the conditions of business cycles compared to similar agents operating under past conditions.

Whereas aspiring entrepreneurs and small business owners in years past needed to invest resources and energies towards collecting sales leads, deploying targeted marketing and advertising, and achieve competitive product placements in retail spaces, a business start up today can create products on a variety of virtually free software applications, communicate instantly with business contacts across national borders at almost no financial cost, advertise services to a global audience of potential customers, and target potential employees with reliable estimations of their reputations and skill sets. At first, such outcomes seem merely a residual of the technological effects of computer and internet innovations, but what I hope to emphasize is that social capital is the particular feature of these internet technologies that has made such strides possible, uniquely innovative, and particularly resilient to business cycle effects. In short, the preferable conditions of business start-ups today relative to yesterday are sufficiently similar to how all individual laborers and businesses face preferable conditions to adapt and endure business cycles today relative to the past. Liquidating excess products, reselling real estate, finding new or additional personal employment, appealing to a niche market of laborers, buyers, or renters, have all become radically easier in recent years. To the extent that such strategies are components of effective economic recovery, effectively enduring business cycles writ large has also become easier.

6 Conclusion

While the ABCT received renewed attention amidst the financial crisis of 2008, traditional expositions remained orthogonal to certain subfields of modern macroeconomics and some historical observations. Rational expectations theory insists that agents possess the capacity to learn and adapt their behavior to systemic trends. By incorporating social capital into the broader capital structure, adaptive behaviors become more apparent and recognizable without jettisoning the broader insights and mechanics of the standard ABCT.

Social capital possess a variety of unique qualities apart from physical or human capital, such as its non-materiality and greater multi-specificity, which make it a viable arena for adaptable investment amidst recessionary conditions. Different types of agents throughout the economy and society face and perform a variety of strategic opportunities to leverage existing social capital, invest more substantially in social capital, and reap benefits from more extended and robustly useful stocks of social capital.

Notes

[1]See also: Chamlee-Wright and Myers (2008) and Chamlee-Wright (2008) .

[2]See: Bilo (2014) .

[3]Salter and Luther (2016) provide a similarly complementary response by arguing that boom and bust effects are possible in an equilibrium world occupied by agents guided by rational expectations.

References

Bilo, S. Hayek's Theory of Business Cycles: Theory That Will Remain Obscure. 2014, http://ssrn.com/abstract=2412162.

Boettke, P. 2007. "Liberty vs. Power in Economic Policy in the 20th and 21st Centuries." *Journal of Private Enterprise* 22 (2): 7–36.

Burt, R. 2000. "The Network Structure of Social Capital." *Research in Organizational Behavior* 22 : 1–83.

Cachanosky, N, and A Salter. 2016. "The View From Vienna: An Analysis of the Renewed Interest in the Mises-Hayek Theory of the Business Cycle." *The Review of Austrian Economics*. (forthcoming).

Caplan, B. unpublished. xxxx Why I am Not an Austrian Economist.http://econfaculty.gmu.edu/bcaplan/whyaust.htm.

Carilli, A, and C Coyne. 2008. "Government Intervention and the Structure of Social Capital." *The Review of Austrian Economics* 21 (2–3): 209–218.

Carilli, A, and G Dempster. 2001. "Expectations in Austrian Business Cycle Theory: An Applications of the Prisoner's Dilemma." *The Review of Austrian Economics* 14 (4): 319–330.
Chamlee-Wright, E. 2008. "The Structure of Social Capital: An Austrian Perspective on Its Nature and Development." *Review of Political Economy* 20 (1): 41–58.
Chamlee-Wright, E. 2010. *The Cultural and Political Economy of Recovery: Social Learning in a Post-Disaster Environment* Routledge.
Chamlee-Wright, E, and J Myers. 2008. "Discovery and Social Learning in Non-Priced Environments: An Austrian View of Social Network Theory." *The Review of Austrian Economics* 21 (2–3): 151–166.
Chamlee-Wright, E, and V Storr. 2015. "Social Economy as an Extension of the Austrian Research Program.." In *The Oxford Handbook of Austrian Economics*, edited by P Boettke, and C Coyne, 247–271. Oxford University Press.
Coleman, J. 1988. "Social Capital in the Creation of Human Capital." *American Journal of Sociology* 94 (supplement): S95–S120.
Cowen, T. 1997. *Risk and Business Cycles: New and Old Austrian Perspectives* Routledge.
Ebeling, R. 1978. *The Austrian Theory of the Trade Cycle and Other Essays* The Ludwig von Mises Institute.
Ellison, N, C Steinfield, and C Lampe. 2007. "The Benefits of Facebook 'Friends:' Social Capital and College Students' Use of Online Social Network Sites." *Journal of Computer-Mediated Communication* 12 (4): 1143–1168.
Evans, A, and T Baxendale. 2008. "Austrian Business Cycle Theory in Light of Rational Expectations: The Role of Heterogeneity, the Monetary Footprint, and Adverse Selection in Monetary Expansion." *Quarterly Journal of Austrian Economics* 11 : 81–93.
Fukuyama, F. 1995. *Trust: The Social Virtues and the Creation of Prosperity* Free Press.
Ghoshal, S. 2005. "Bad Management Theories Are Destroying Good Management Practices." *Academy of Management Learning & Education* 4 (1): 75–91.
Granovetter, M. 1973. "The Strength of Weak Ties." *American Journal of Sociology* 78 (6): 1360–1380.
Granovetter, M. 1985. "Economic Action and Social Structure: The Problem of Embededness." *American Journal of Sociology* 91 (3): 481–510.
Guttentag, D. 2015. "Airbnb: Disruptive Innovation and the Rise of an Informal Tourism Accommodation Sector." *Current Issues in Tourism* 18 (12): 1192–1217.
Harden, G. 1968. "The Tragedy of the Commons." *Science* 162 (3859): 1243–1248.
Hayek, F. 1933. *Monetary Theory and the Trade Cycle* Sentry Press.
Hayek, F. 1935. *Prices and Production* Augustus M. Kelly.
Hayek, F. 1945. "The Use of Knowledge in Society." *American Economic Review* 35 (4): 519–530.
Hayek, F. 1988. *The Fatal Conceit* Routledge.
Heap, S. 2008. "Social Capital and Snake Oil." *The Review of Austrian Economics* 21 (2–3): 199–207.
Higgs, R. 1997. "Regime Uncertainty: Why the Great Depression Lasted so Long and Why Prosperity Resumed After the War." *The Independent Review* 1 (4): 561–590.
Hummel, J. 1979. "Problems with Austrian Business Cycle Theory." *Reason Papers* 5 : 41–53.
Ikeda, S. 2008. "The Meaning of 'Social Capital' as It Relates to the Market Process." *The Review of Austrian Economics* 21 (2–3): 167–182.
Ionnides, Y, and L Loury. 2004. "Job Information Networks, Neighborhood Effects, and Inequality." *Journal of Economic Literature* 42 : 1056–1093.
La Porta, R, F Lopez-de-silanes, A Shleifer, and R Vishny. 1997. "Trust in Large Organizations." *American Economic Review* 88 : 333–338.
Lessig, L. 2008. *Remix: Making Art and Commerce Thrive in the Hybrid Economy* Penguin.
Lewis, P, and E Chamlee-Wright. 2008. "Social Embeddedness, Social Capital and the Market Process: An Introduction to the Special Issue on Austrian Economics, Economic Sociology and Social Capital." *The Review of Austrian Economics* 21 (2–3): 107–118.
Loury, L. 2006. "Some Contacts Are More Equal Than Others: Informal Networks, Job Tenure, and Wages." *Journal of Labor Economics* 24 : 299–318.
Lucas, R. 1972. "Expectations and the Neutrality of Money." *Journal of Economic Theory* 4 : 103–124.
Marmaros, D, and B Sacerdote. 2002. "Peer and Social Networks in Job Search." *European Economic Review* 46 : 870–879.
Meadowcroft, J, and M Pennington. 2007. *Rescuing Social Capital From Social Democracy* The Institute for Economic Affairs.
Meadowcroft, J, and M Pennington. 2008. "Bonding and Bridging: Social Capital and the Communitarian Critique of Liberal Markets." *Review of Austrian Economics* 21 (2–3): 119–133.
Mises, L. 1943. "'Elastic Expectations' and the Austrian Theory of the Business Cycle." *Economica* 10 (10): 251.
Mokyr, J. 2002 *Gifts of Athena: Historical Origins of the Knowledge Economy*.
Morris, M, R Williams, J Allen, and R Avila. 1997. "Correlates of Success in Family Business Transitions." *Journal of Business Venturing* 12 (5): 385–401.
Mouw, T. 2003. "Social Capital and Finding a Job: Do Contacts Matter?" *American Sociological Review* 68 : 868–898.
Muth, J. 1961. "Rational Expectations and the Theory of Price Movements." *Econometrica* 29 (3): 315–335.
Ostrom, E. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action* Cambridge University Press.
Ostrom, E. 2000. "Collective Action and the Evolution of Social Nroms." *Journal of Economic Perspectives* 14 (3): 137–158.
O'Driscoll, G, and M Rizzo. 1985. *The Economics of Time and Ignorance* Routledge.
Pew Research Center. 2010 *Millenials: A Portrait of Generation Next: Confident, Connected, Open to Change*.
Putnam, R. 1993. *Making Democracy Work* Princeton University Press.
Ridley, M. 2010. *The Rational Optimist: How Prosperity Evolves* Harper.
Ries, E. 2011. *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses* Crown Publishing Group.
Salter, W, and W Luther. 2016. "The Optimal Austrian Business Cycle Theory." *Advances in Austrian Economics* 20 : 45–60.
Storr, V. 2008. "The Market as a Social Space: On the Meaningful Extraeconomic Conversations That Can Occur in Markets." *Review of Austrian Economics* 21 (2–3): 135–150.
Temple, J, and P Johnson. 1998. "Social Capability and Economic Growth." *The Quarterly Journal of Economics* 113 (3): 965–990.
Tullock, G. 1987. "Why the Austrians Are Wrong About Depressions." *Review of Austrian Economics* 2 : 73–78.

Valenzuela, S, N Park, and K Kee. 2009. "Is There Social Capital in a Social Network Site? Facebook Use and College Students' Life Satisfaction, Trust, and Participation." *Journal of Computer-Mediated Communication* 14 (4): 875–901.
Venkatesh, S. 1997. "The Three-Tier Model: How Helping Occurs in Poor Communities." *Social Service Review* 71 (4): 574–606.
Wagner, R. 1999. "Austrian Cycle Theory: Saving the Wheat While Discarding the Chaff." *Review of Austrian Economics* 12 (10): 65–80.
Young, A. 2015. "Austrian Business Cycle Theory: A Modern Appraisal.." In *The Oxford Handbook of Austrian Economics*, edited by P Boettke, and C Coyne, 186–212. Oxford University Press.
Hayek, F. 1960 [2011]. *The Constitution of Liberty: The Definitive Edition* The University of Chicago Press.
Mises, L. 1912 [1981]. *The Theory of Money and Credit* Liberty Fund.
Mises, L. 1920 [1935]. "Economic Calculation in the Socialist Commonwealth." Reprinted in." *Collectivist Economic Planning: Critical Studies on the Possibilities of Socialism*. Routledge.
Say, J. 1880 [2001]. *A Treatise on Political Economy: Or the Production Distribution and Consumption of Wealth* Batoche Books Kitchener.