

Exploring a Role for Capability Theory in SSA Labor Process Research

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ABSTRACT:

Since its origins in the 1970s and eighties, Social Structure of Accumulation (SSA) research has moved away from its early emphasis on organization-level dynamics of profit-making, reinvestment, and labor process (within their broader institutional setting). Recent authors have begun to explore ways of renewing this emphasis. This paper proposes using the theory of “organizational capabilities” to reinvigorate this dimension of the SSA approach. An organizational capability is the capacity to mobilize disparate resources to achieve competitively important results. Capability theory focuses on path-dependent development of the firm’s ability to survive within its competitive environment and the importance of organizational learning when that environment changes. These emphases are well suited for deepening an SSA-oriented understanding of how the institutional structure of capital accumulation reaches into, and is in turn affected by, competitive dynamics at the firm level. The argument is illustrated with a preliminary application to the emergence of a post-1970s SSA in the U.S.

1. Introduction

The resurgence of scholarly interest in Marxism in the late-sixties U.S. introduced a sharp focus on the organizational processes and relationships by which surplus value is extracted. Important examples were Marglin (1974), who traced the productivity gains in the earliest factories not to changed technology, but rather to intensified supervisory pressure; and Stone (1975), who analyzed how steel companies re-configured intra-working class and worker-capitalist relations in the context of late-nineteenth century technological advance. Edwards (1979) analyzed historical systems of labor control, and Gordon (1978, 1980) began to explore the role of the labor process in historical stages of capital accumulation. These developments were fleshed out in influential work by Gordon, Edwards and Reich (1982; henceforth, “GER”). GER presented a theory of capitalist development through “social structures of accumulation” (SSAs), centered around the organization of work and workers in the firm and tying that to a broad network of institutions that affect surplus value and capital accumulation. While SSA theory has continued to be an important strand within Marxian analyses of capitalism (see McDonough 2008 for a review, and McDonough et al. 2010 for a collection of articles), its trajectory has led somewhat away from the initial focus on organizational processes and relationships (Wallace and Brady 2001). This paper proposes strengthening that emphasis within SSA research by bringing to bear insights from evolutionary theories of organizational capability.

“Organizational capability” (OC) refers to the capacity to mobilize and deploy resources at the firm level in competitively useful ways. The genealogy of the concept goes back at least to Edith Penrose (1959), who argued that effective competition is idiosyncratically based on company managers’ evolving perceptions of investment opportunities. A focus on the emergence of capability over time in relation to the firm’s external competitive environment made it natural for the theory to develop within the broad context of the “evolutionary economics” of Nelson and Winter (1982). Some early OC theorists placed the idea firmly within the context of broad sets of institutional arrangements (Lazonick 1990, Chandler 1992). Just as with early SSA authors’ emphasis on organizational processes, that interest has tended to diminish, as recent OC research has focused more on capability within the firm or, at most, in relation to the immediate industry setting.

Pursuing the initial inclination of both SSA and OC theorists, to examine organizational dynamics in the capitalist firm within a broader institutional context, can allow the two approaches to complement one another in flexible and powerful ways. The central argument is that by highlighting firm level dynamics, insights from OC research can deepen our understanding of how SSAs function, break down, and are reconstructed. It is also implicit that bringing the institutional framework back into the foreground could strengthen investigations into the evolution, functioning, and modification of capabilities at the organizational level, but this will be left for future research to explore. It will be argued that the two frameworks are a good fit because OC theory addresses the labor process, focuses on organizational change in relation to the firm’s external environment, is (like most Marxian approaches) methodologically holistic rather than atomistic, and tends toward a democratic bias.

The paper is organized as follows. The next section gives an overview of SSA theory, emphasizing those aspects that are most germane to this study and related labor process research. Then OC theory is explored, with a focus on those elements most relevant to the SSA approach. The argument is then illustrated in a preliminary way through an application to the reconstruction

of the SSA in the U.S. following the breakdown of the post-World War II order. A final section concludes.

2. The SSA and organizational dynamics

An SSA refers to the set of economic, political, and other institutions that provide the broader context within which capital accumulation occurs. These institutions are typically thought to encompass labor market structures, credit markets and practices, legal and regulatory systems, and the like. While it is acknowledged that almost any social institution affects accumulation in some way, those comprising the SSA are the ones that impinge directly and significantly upon accumulation by individual capitalists and firms (Gordon *et al.* 1982). It will be useful in the present context to focus briefly on the interface in early SSA theory between firm-level accumulation and the institutional environment.

2.1. Early SSA research and the labor process

GER argue that the firm level “microeconomic activity of profit making and reinvestment” occurs along with its concomitant, “how each individual capitalist goes about organizing the labor process” (1982, 25). While these individual activities are not part of the SSA, they are associated with its “customary... organization of the labor process” (25) and various closely related institutions. That “customary organization” might be thought of as a kind of received wisdom, a set of “best practices” nested firmly within a corresponding set of supporting institutional arrangements. GER, indeed, provide clear descriptions of the customary firm level labor processes characterizing each of the stages of U.S. capitalism that they analyze (1982): how the organization of skills, technologies, and both intra- and inter-class relationships are combined by successful capitalist firms (within corresponding institutional settings) to create profitability and enable capital accumulation.

That association, between organization-level labor and related processes on the one hand and their institutional framework on the other, plays an important role in SSA theory’s understanding of historical transitions from one stage of capitalism to another. The increasing success of growing numbers of firms, in doing what the institutional framework has facilitated, begins to put pressure on the capacity of key institutions to provide the requisite support. As isolated problems generalize to crisis and the SSA enters a period of decay, innovative capitalists are already experimenting with new ways of doing things. In the process, they are also buffeted by conflicting initiatives by other class actors, such as workers’ organizations and competing capitalist groupings. These explorations and pressures will seed the growth of new forms of “customary organization,” both shaping and being shaped by class struggles and the development of new institutional frameworks.

For example, the “homogenization” stage emerged in part out of firms’ efforts to reduce the pivotal role of skilled workers by means of “new methods of mechanization, [and] new production techniques...” that “reduced required skills to the barest minimum” (Gordon *et al.* 1982, 113). Mass production organized around the assembly line, growing ranks of foremen and supervisors, and professional personnel departments were all important innovations. These firm level changes became new forms of customary organization – a “drive system” exercising “technical control” (Edwards 1979) – in conjunction with an SSA involving capital market-supported corporate consolidations, aggressively nationalist and anti-union employer

associations, a co-opted craft trade union movement, and other key institutional supports. Eventually, the vigor of these changes created new pressures – as, for example, reduction to common skill denominators within large industrial workforces encouraged workers to respond to the drive system *via* a reawakening of industrial unionism.

2.2. Labor process research post-GER

The understanding of capitalist firms' evolving skill sets and practices has from the start played an important role in SSA theory's very Marxian vision of contradictory growth and change. But by the late 1980s, as they struggled to conceptualize the rise of Thatcher, Reagan, and neoliberalism, SSA researchers moved away from the earlier focus on firm-level labor processes and profit-making in institutional context. Rather, the spotlight shifted to macro-level changes in policy frameworks, (inter)national investment patterns, and evolving labor, financial, and product markets. (See, for example, the collection of articles in Kotz et al. (1994) and the survey in McDonough 2008; that this trend has continued is suggested by a follow-up collection of articles, McDonough et al. (2010)).

Most of the research into the era's extraordinary flux in work organization and technologies took place, instead, in a large literature on "the transformation of work" (Wood 1989). This work influenced both later SSA re-explorations of labor process issues and some of the organizational capability research that will be discussed below. Thus it will be useful to include a brief review here.

Piore and Sabel (1984) presented an influential argument that new work-technology configurations would undergird improved work lives and economic performance. The case centered around "flexible specialization" in manufacturing, through which mass production of standardized products would be replaced by quickly changeable setups of modular, automated machinery operated by highly skilled workers. Related, Jones (1984) argued that flexible systems would not replace skilled work via automation, because computer-linked technologies still relied on the discretion and tacit problem-solving of production workers. (This Similarly, Walker (1989) claimed that worker input into computer-regulated production would actually be enhanced, and that the emerging flexible production approach meant that "[n]ow Fordism is under fire, due to...new capabilities of machinery, workers and management" (73-74). Jones' emphasis on tacit knowledge and Walker's focus on learning by doing and worker and management capability mirrored central concerns in the then-emerging capability paradigm, as described below.

But the flexible production view had its critics, whose concerns often presaged those of the next round of SSA theory. Many saw "flexibility" *a la* flexible specialization as both a precursor of greater segmentation and a wedge for increasing inequality. Atkinson (1988) claimed that the new regime was deepening labor market segmentation, between a core of permanent, skilled workers and a periphery of contingent, unskilled ones. Jenson (1989) argued that "...flexible specialization has an undesirable and costly downside...unemployment, income polarization, and fragmentation of the labor movement" (141). Rosenberg (1991) presented "flexibility" as a Thatcher-Reagan push for reduced bargaining power and protections for labor, surveying research on the impact of greater wage, employment and functional flexibility (with the latter providing the direct link to the flexible specialization debate).

Rosenberg (1991) was one of the relatively few to place the flexible production debate in a context directly relevant to SSA theory: the relationship between changing work and technology

systems and the 1970s crisis of advanced capitalist economies. Another was Appelbaum (Appelbaum and Batt 1994, Appelbaum et al. 2000). Her work with several co-authors focused during this period on “high-performance work systems”: changes in work organization to increase employee autonomy and communication and collaboration with one another; the requisite upgrading of workers’ basic, technological or occupational, and leadership skills; and adoption of appropriate incentives, financial, intrinsic and job security. The key argument was that in a broad context of intensifying competition, such interconnected labor process systems would boost company performance.

Berggren (1989) also looked at corporate efforts to boost performance via labor process innovations, but with a less optimistic interpretation. He described the “...difficult search for alternatives in car assembly 1974-87” by Swedish vehicle-makers (180). Berggren examined experiments with work organization-technology pairings that the companies tried in coping with external circumstances that increasingly rendered their traditional, assembly-line manufacturing problematic: worker alienation, the global economic slowdown, and the rapid emergence of fierce, international competition. Problems in recruitment, turnover, quality and productivity were addressed by various combinations of the traditional model with Japanese methods (quality circles, etc.) and with more radically decentralized, modular production models. Berggren argued that Japanese management approaches did not break from Taylorism, but merely made workers more active participants in a production process that tightly subordinated them to routinized assembly programmed by management-controlled technology. He found that the more radical model, while performing well in terms of quality and productivity, ran into “...a central contradiction in manual assembly between the managerial interests in worker commitment and initiative on the one hand, against those of subordination, and securing a high pace of work on the other” (190).

This focus on external crisis-driven capitalist experimentation with new labor process and control models is, of course, exactly what lay at the heart of early SSA theorizing. By the end of the 1990s, researchers in the SSA tradition were beginning to look again in that direction.

2.3. Newer SSA labor process thinking

An early effort to re-focus SSA research was by Naples (1996). She argued that in the context of secular expansion under the post-World War II SSA, the high-output, highly mechanized coal mining employed in the Appalachian region of the U.S. led to rising militancy and disruption, and falling productivity, among unionized workers. In addition, workers and the union became increasingly active in pursuing compliance with new, federal health and safety regulations put in place during the 1970s. There, unlike in the Swedish auto case discussed above, capitalists had an escape option: shifting production to non-union surface (“strip”) mines farther west. But like Berggren, Naples argued that the labor process – institutional influence was bi-directional. The behavior of and relationship between workers and capitalists in coal were shaped by “the components of the SSA” and the “worldview” bound up with that institutional structure; but “before a new worldview takes shape, many novel practices are experimented with” (110).

In Prechel (2000) the micro-to-macro connection is stronger. Firms “do not simply react to the institutional arrangements,” but rather seek to influence them in both the economic and the political realms (7); thus, “without understanding the intricate and routine day-to-day organizational processes it is hard to understand how social structures are constructed...” (6). At the same time, managerial practices begin to change when decision and control methods are no

longer effective at the institutional interface between firms and their macro-environment (251). But Prechel's analysis of organizations in the midst of historical SSA transitions revolves mainly around access to financial capital rather than the capital-labor and labor process components of an SSA.

The strongest call for refocusing has appeared in the work of Wallace and Brady (2001; 2010), who explicitly set out to renew GER's "central premise that the transformation of the labor process is a defining feature of each SSA" (2010, 121). Linking the flexibilization, globalization and SSA literatures, they argue that from the 1970s onward, segmentation's decay has generated explorations leading by the turn of the century to a "spatialization" SSA in the U.S.: the "spatial restructuring of the labor process so that different work tasks can be done in different geographic locations" (2001, 111). In their view, spatialization's decentralized production remains under centralized control by means of a system of "technocratic" labor process control, a concept based on Burris (1993): coordination and command of work via computerization. The technological foundations of spatialization and technocratic control are seen as computing and communications and faster and more efficient transportation. Its characteristic practices are task modularization, outsourcing and subcontracting, just-in-time production, capital flight, downsizing, de-unionization, concessionary and two-tier labor contracts, and contingent labor. These practices are said to involve an intensified segmentation of labor, between those with computer-related expertise – with more autonomous, secure, well-compensated jobs – and those without, whose jobs are routinized, coercive, and contingent. Inequality increases, and the ability of labor to resist is blunted by the threat of relocation, the distancing of management, and an ideology of neo-Taylorist inevitability. By the early 2000s, they argue, spatialization was into its consolidation phase.

Wallace and Brady thus re-introduce central concerns of early SSA research, while drawing heavily on the labor process and control work of the later 1980s and 1990s that took place in other research literatures. At the same time, most of their analysis (2001; 2010) takes a rather bird's-eye view of location-related corporate strategies, practices and effects. The forces that are seen as having eroded the segmentation SSA's efficacy and pushed toward spatialization and technocratic control are similarly broadly and not micro-focused (2001, 109-111). The key technological change is computerization, which is a very broad technological category with widely disparate applications and implications in different industries and settings; and the central organizational change is spatialization itself. Unlike in Edwards (1979) and GER (1982), there is little discussion the interplay and contradictions of specific technologies and forms of work organization in turning inputs into outputs.

Lippit's reformulation (2005) also touches upon business practices that underlie the capital-labor elements of an SSA. Lippit analyzes the inertial effects of custom and expectations in allowing coherent structures of SSA institutions to persist over long periods of time and to require lengthy processes of breakdown and reconstitution. These effects channel how capitalist firms and their managers and workers relate amongst themselves and to entities in their external environments. Lippit describes the constellation of broader institutions that (when working well) encouraged firm-specific employee expertise acquisition in Japan into the 1980s, but he does not make the additional connection with the corresponding "customary organization of the labor process" (in GER's terms, 1982): for example, the much-studied practices of total quality management and just-in-time production (see, for example, Garvin 1983).

Thus despite a welcome turn toward theorizing about the labor process in SSA research, there is considerable room for closer attention to its characteristic technologies, activities, and forms of organization (all in relation to the broader institutional environment). The research literature on organizational capabilities, in contrast, has studied extensively the evolution of these kinds of firm-level dynamics. Processes of experimentation and organizational learning, the role of functional flexibility, intra- and extra-firm informational transfer, the sources of organizational inertia – these and many other concerns treated in the literatures reviewed above have been central in capabilities research. Because the forms of customary organization of the labor process are important loci of dynamism, breakdown, experimentation and change as SSAs move through time, the introduction of key concepts from capability theory may contribute significantly to the power and flexibility of the SSA approach.

3. Organizational capabilities and SSA theory

There is a huge and multi-faceted research literature on organizational capability (OC). After a very basic introduction, this section focuses on those aspects that are most relevant to the SSA approach. A good definition comes from Helfat and Peteraf (2003): “an organizational capability refers to the ability of an organization to perform a coordinated set of tasks, utilizing organizational resources, for the purpose of achieving a particular end result” (999). Because “particular end result” refers typically to survival within an external competitive environment, the OC approach fundamentally involves looking at what firms can do well relative to both one another (the industry) and the broader market setting (the opportunities and threats posed by changing demand, technology, regulation, and so on). Researchers have used this concept to understand sources of differential competitive success across firms, and processes of innovation and change (in products, processes, and organization itself). The firm-environment relationship is bi-directional, a point which is addressed below.

Research in OC theory became associated very early with the “evolutionary economics” initiated by Nelson and Winter (1982). They argue that the informational environment is truly uncertain, decision makers’ cognition is limited, and – therefore – firms operate on the basis of combinations of “routines”: repetitively patterned ways of finding and processing information. Effective routines must be coherent with one another and must work well enough to effect the firm’s survival given the demands of its competitive environment. In most OC research, organizational routines are thought to underlie capabilities (Becker 2004).

The operation of routines in the creation and implementation of capabilities implies that firms know what to do and how to do it, whether tacitly or explicitly. Thus another important stream within OC research has to do with organizational knowledge and learning: “...the knowledge base of the firm as leading to a set of capabilities that enhance the chances for growth and survival” (Kogut and Zander 1992, 384). That capability flows from a knowledge base links the firm to the realms of technology, science, and management doctrine. To some extent, routinized knowledge is codified and cognitive; but in many respects it is tacit, helping to make the underlying capabilities difficult to imitate but also imbuing them with path-dependence and inertia and thus resistance to change (Cohen et al. 1996).

How capabilities change and organizations adapt has become the subject of a major stream of OC research, on “dynamic capability.” Nelson and Winter had earlier discussed the problem in terms of “search”: “routine-guided, routine changing processes,” themselves routines that

“operate to modify over time various aspects of operating characteristics” (1982, 17-18). Teece and collaborators explore the importance of such processes in managerial and organizational response to changes in the broader competitive landscape (Teece et al. 1997): “We define dynamic capabilities as the firm’s ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments. Dynamic capabilities thus reflect an organization’s ability to achieve new and innovative forms of competitive advantage given path dependencies and market positions” (516).

Particularly in the context of SSA theory, the relationship of dynamic capability to the broader range of OCs is important. Winter (2003) suggests that the firm’s set of OCs geared toward performance within a given competitive environment be considered “zero-order capabilities” (992); dynamic capability, then, can be thought of as specializing in first-order change, modifying zero-order capabilities in response to significant change in the competitive environment. Key concerns in this part of the literature have included the extent to which a given body of zero-order or static capabilities is path-dependent and change-resistant, a question of critical relevance in understanding SSA persistence as discussed by Lippit (2005). A related issue is how much purposeful control managers exercise over changing capability. Zollo and Winter (2002) emphasize the deliberative aspect of dynamic capability and tie it to processes of articulation and codification of new knowledge. Other authors have argued that experiential, behavioral, or ad-hoc learning may also be important in dynamic capability within certain settings – for example, in the kinds of turbulent market transitions (Helfat and Peteraf 2003) that would characterize SSA breakdown and re-emergence.

While recent OC research has tended to focus mainly on organization-level response to given changes in the external environment, some earlier efforts directed attention also to the way that firms’ capabilities are embedded within systemic institutional influences. An important example is the work of Alfred Chandler (1990, 1992), looking at structural differences between the U.S., Germany, and England during the first three-quarters of the twentieth century. Chandler sees firm-level capabilities as having been linked to systemic changes in corporate form and globalization. But the labor process and its relationship to these broader changes is not a primary focus of his work. In a related body of research, Lazonick (1990, 1994) directly explores the linkages between organizational capability, the labor process, and the institutional environment. Lazonick argues that competitive capabilities emerge within a “mode of social organization” comprised of systems of labor training and control, supply chain relationships, capital access, education, and social status. Lazonick is especially interested in modes of social organization as powerful influences on the differential abilities of firms in particular countries to develop the OCs necessary for successful global competition. For example, he argues that in the late 1800s, efforts by some British capitalists to break their craft unions were hampered by the absence of institutional supports for managerial coordination and technological innovation, as existed in the U.S. Thus the struggle to build new OCs both shaped and was shaped by the very different interacting webs of related institutions in each country. Here the analytical kinship between OC theory and an SSA type of analysis is quite explicit.

Later work by Lazonick along these lines (2001) offers additional insights on current SSA concerns. He argues that the breadth and depth of a country’s “skill base” is a key determinant of its firms’ international competitiveness, the sustainability of its systemic “prosperity” and the extent to which prosperity is shared (47). Lazonick traces late 20th century U.S. problems in all these areas to firm-level “segmentation,” rather than integration, in the organization of work and

technological innovation. One aspect is “functional segmentation,” or lack of interaction among functions like R&D, product design, and production engineering; cross-functional integration or its lack is a frequent object of OC and management research. But Lazonick links functional segmentation to what he calls “hierarchical segmentation” between managers and workers: Following decades of relative success with organizational learning confined to managerial ranks and “taking skills off the shop floor” (49-50), U.S. firms in many industries increasingly struggled to keep pace with foreign competitors that “have developed productive capabilities by integrating managers and workers into their organizational learning processes” (50). He develops this theme by means of a detailed comparison of work organization, technology deployment, and innovation practices at major U.S. and Japanese firms.

Clearly, Lazonick has more in common with Appelbaum and co-authors (Appelbaum and Batt 1994, Appelbaum et al. 2000), in their assessment of the productive and egalitarian potential of elements of “Japanese management” vis-à-vis high-performance work systems, than with Berggren (1989) and Wallace and Brady (2001), who argue that these forms are merely a refinement of the Taylorism underlying the segmentation SSA and its bureaucratic control system. The point here is that he bases his theory of (U.S.) companies’ response to the forces of crisis and change on how those forces put pressure on customary ways of organizing and controlling the labor process, the microeconomic activities of profit-making and capital accumulation, as in the work of early SSA theorists. Like those researchers, Lazonick ties firm-level processes to their institutional environment. He sees the narrow and shallow skill base accompanying the U.S. model as linked to an educational system that starves K-12 while lavishing resources on exclusive universities, a professional accreditation system designed to monopolize important knowledge areas, and a financial system that demands quick shareholder payouts (79-80).

The next section explores the potential contributions of OC theory to the SSA approach by a selective application of relevant concepts to the formation of a post-segmentation SSA in the U.S.. This analysis is quite preliminary, and is intended to suggest the potential of the method.

4. Capability and change in post-1970s U.S. capitalism

From GER (1982) onward, SSA theorists have developed a broadly shared understanding of the decay of the post-World War II U.S. SSA: Beginning in the late 1960s, capital’s “accords” with labor and the citizenry became increasingly costly. A sustained period of vigorous accumulation, whose benefits were widely shared relative to other capitalist eras, began to push up unit labor costs and restrict capitalists’ bargaining power and adaptive flexibility. In the context of increased competition from Japanese and European firms whose economies had by then recovered from the war, rising costs at home spelled trouble for erstwhile dominant U.S. corporations. Breakdown in the “Pax Americana,” triggered especially by the Vietnamese and then by OPEC, was a final straw. Profitability fell and the existing institutions were incapable of mediating its restoration through normal cyclical dynamics. A widespread perception of crisis took hold among U.S. capitalists, managers and business theorists (see for example Hayes and Abernathy 1980).

As Naples (1996) points out, it is tempting to look back at historical SSA transitions as if their timing, contours, and outcomes were obvious. But why were U.S. firms so inflexible in their response to the international challenge? Manufacturers in Japan, Germany, and Sweden, for

example, in industries like auto, also employed highly paid labor enjoying different but in every case strong institutional protections. Yet the SSAs in these countries responded in different ways than in the U.S. to crisis in the 1970s. OC theory can help explain why U.S. capitalists could not regain their footing still within the terms of the existing labor, policy and institutional framework, but moved instead to build a new institutional context around a highly spatialized neoliberalism.

4.1. Experimentation and change

Underlying the post-war SSA's customary labor process, with its segmentation and technical control, was a set of OCs based in a strongly American separation of conception and execution. Product and process design were engineered by management, and it was management's job to enforce their implementation by workers. Lazonick's notion of "hierarchical segmentation" (2001) describes this vertical dimension. The horizontal separation of functions that also characterized U.S. work organization has also been critiqued by many OC-oriented researchers (for example, Clark and Fujimoto 1991; Grant 1996). An important aspect of the system was the rigid separation of the R&D, product design, production engineering, production, and sales and service functions. Just as workers were not permitted to interface with product and process design, employees in each functional area were expected to focus exclusively on its tasks as defined by management, and their interactions with those tasks were mediated by chains of managerial command reaching vertically through the functional division and then into the corporate level. The customary labor process did not facilitate flows of information horizontally or vertically within the firm (Aoki 1990) or between the firm and its external environment. These disjunctures reduced dynamic capability (Teece et al. 1997) and impeded the processes of organizational learning that would be required for effective adaptation and response to the firm- and macro-level challenges accompanying that SSA's decay. Particular instances of the lack of vertical and horizontal integration (Baldwin and Clark 1991) would have to be overcome or alleviated by means of changes in work, technology, and/or location.

Experimentation in these dimensions would need to be based on a thorough knowledge of firm- and industry-specific technologies, products, and processes – Winter's "zero-order capabilities" (2003). It would also seem to require enhanced organizational learning, "the social substance" of "the innovation process," which "depends on the integration of an ever-increasing array of specific productive capabilities" as production becomes more complex, but which had traditionally been monopolized by management (Lazonick 2001, 50). This is the context in which efforts to develop high-performance work systems and to import Japanese management methods to the U.S., as described in section 3, took place. Berggren (1989) had argued that unlike in Sweden, with its strong unions and policy framework of low unemployment and a wide safety net, U.S. managers by the late 1970s could rely on workers' economic insecurity and collective weakness to underpin new approaches to restoring profitability. While experimentation was widespread (see Bushnell 1994, Appelbaum et al. 2000, Cappelli 2001), firms could move toward picking and choosing those elements of employee involvement, quality improvement, team production, flexible work and related incentives that were compatible with continued managerial control and little-altered, technology-driven production systems. Compatibility was enforced by means of a steady rise in the proportion of the supervisory workforce (Gordon 1996).

While this flux in work organization proceeded from the late 1970s onward, U.S. companies also moved at an increasing pace to change the location of stages in their production systems. Shifting

manufacturing to the non-union southern U.S. was already happening in the 1950s, and this accelerated within and across industries and expanded to offshoring as the effects of systemic crisis intensified. These developments are well known. Most relevant in the present context are the dimension they added to labor control and the new set of capabilities required to make them work. Wallace and Brady (2001, 2010) and many others have focused on the former, describing how the threat of re-locating jobs, facilities and whole companies became a potent weapon in forcing workers and unions to accept new work arrangements and reduced compensation. In terms of the latter, a great deal of learning via experimentation was undertaken as the requisite capabilities were developed. Firms worked to find effective approaches to global supply chain management (Richardson 1995, Lee and Oakes 1996). They struggled to strike a balance between outsourcing and keeping capability development in-house (Kotabe 1989, Kogut and Zander 1996). Ways of integrating geographically dispersed functions like manufacturing, marketing, and R&D had to be explored (Kim et al. 2003).

The outcomes of these and related organizational learning processes, especially by larger companies with the visibility and resources to attract imitation and research attention and influence public opinion and policy, affected the shape of the emergent SSA in the U.S.. At the level of customary labor process and the system of labor control, what emerged was a hybrid system of “flexible Taylorism” (Berggren 1989, 1993). Its elements include selected aspects of high performance and quality-related practice, grafted on to ongoing corporate deskilling, downsizing, and relocation campaigns (Osterman 1994, Biewener 1997, Goldstein 1997). This spatialized flexible Taylorism emerged in the context of – both enabled by and encouraging – neoliberal shifts in U.S. and multilateral trade and investment, labor market, social and other policies. This new configuration broadly restored profitability across a spectrum of U.S. industries and sectors.

4.2. Characterization and periodization

What are the implications of the above for how to describe and date the SSA that emerged following the breakdown of the segmentation SSA? Most authors writing in this tradition have characterized the new formation as “neoliberal” (Rosenberg 1991, 2010; Kotz 2008, 2009). This has made sense, given their focus on the macroeconomic and policy framework, including changes in broad labor market patterns as well as the nature of the (de-)regulatory regime within which global economic activity has increased. Picking up on the latter, Wallace and Brady (2001, 2010) have argued that when the labor process is re-centered within the SSA frame, the overall picture is better titled “spatialization,” whose effects they view as key to enforcing the increased flexibilities of labor (employment, function, and pay). For them it is important also to specify the corresponding system of labor control, and “technocratic” works well in helping to explain what they view as the new SSA’s characteristic centralized control of spatially decentralized activity. But a capabilities-theoretic perspective has suggested here that there is an additional, critical layer of labor process dynamics underlying spatialization. The hybridized work and technology practices characterizing that layer, as discussed in section 4.1, suggest that the new SSA’s system of labor control might be better described as “spatialized flexible Taylorism.” The SSA itself is shaped significantly and at all levels by the forces and directions of globalization, as emphasized by Wallace and Brady, by neoliberalism, as stressed by the others just cited, and by flexible Taylorism, as argued here. Its naming will be left to others and future work.

More importantly, the features that are seen as most central must be significant for how the emergence of the new SSA in the U.S. should be dated. Focusing on neoliberal market-, macro- and policy-level developments may suggest that its exploration phase had ended and consolidation begun by around 1990: Thatcher-Reaganism, the ascendancy of the Washington Consensus, and the taming of organized labor were mostly in place by the end of the 1980s. On the other hand, considering the underlying capability-building that has been analyzed here as necessary in constructing a new customary dynamic of labor process and control may suggest it took a few years more.

The hybridized flexible-Taylorist system probably had not been broadly disseminated until the mid-1990s at the earliest (Appelbaum et al. 2000, Cappelli 2001). Similarly, the labor-process forms, usages, and implications of spatialization were also still evolving in the late 1980s. In one widely cited example, in the mid-eighties Chrysler outsourced critical drive train components to Mitsubishi as a cost-cutting measure. This strategic move was illustrative of an approach that came increasing criticism as impeding firms' ability to develop new technological capabilities to keep pace with market changes (Prahalad and Hamel 1990), and from which U.S. manufacturers gradually drew important lessons. Another timing marker was the use of downsizing programs by profitable companies during the expansionary phase of the business cycle (Sennett 1998). Not until the mid-nineties, with U.S. workers politically and economically weakened and pressure from the shareholder value movement escalating, did this weapon become part of the spatialization arsenal as cited by Wallace and Brady (2001, 114). There are many other examples of newly-learned capabilities for exploiting the opportunities created by neoliberal globalization that spread and matured only during the 1990s. This periodization is closer to that preferred by Wallace and Brady, who argue that the period of segmentation's decay and the new SSA's exploration extended through the 1990s, with the consolidation of the latter commencing around the turn of the century (2010, 127).

Thus there was unevenness between the maturation of the new SSA's broader institutional framework, which came a decade earlier, and its characteristic firm-level processes of labor transformation and control. This disparity shows up in the transition toward a new decay process. The contradictions of unregulated, neoliberal globalization were already on display by the time of the Asian financial crisis of the late 1990s and, more deeply and broadly, in the near-meltdown triggered by the crash of the U.S. mortgage-backed-securities market in 2008. Many have viewed the crisis of 2008 as an indication that this SSA is no longer viable, and thus, that its decay is well advanced (for example, Kotz 2009). On the other hand, Wallace and Brady's view (2010) seems to be that the regime, by 2007 into only its first full-fledged decade, is still consolidated. Given the argument developed here, the answer may be that while the SSA's sources of systemic instability are clearly apparent, its firm-level processes of labor exploitation and profit-making – its customary labor process – is not yet facing fundamental challenges. It is clearly true that the aggregate effect of many thousands of company-level spatialized, flexible Taylorisms is to depress aggregate demand. But the mechanisms of corporate profitability are still working well, outside the brief periods of systemic near-collapse. The practices of spatialized, flexible Taylorism and their underlying, learned capabilities are still facilitating the extraction of labor and the appropriation of profits for individual firms of all sizes across broad sectors of the U.S. economy.

This coincidence of instability-generating weak demand, slow rates of economic growth and capital accumulation, and acceptable corporate profit rates has been pointed out by Kotz and

Wolfson (2010). They argue that a highly deregulated regime of capitalism can constitute an SSA even if it does not entail rapid growth and accumulation. In this instance, the argument developed herein can help explain how this might work. Unlike the decay periods of previous SSA's, the present one has yet to experience a breakdown in the ability of customary labor processes to generate profits for capitalists. The inherent macro-level contradictions of this SSA have yet to be matched by micro-level ones.

The implications of this analysis will be taken up in the final section.

5. Conclusion

This paper has extended efforts to re-introduce a focus on the labor process into SSA research, in particular the work of Wallace and Brady (2001, 2010). The extension has been by means of a body of theory dealing with organizational capability: the firm's ability to bring resources to bear in a coordinated way to accomplish some task or goal that is important to its competitive performance. Capabilities may have to do with a specific area of technical knowledge, a kind of organizational activity, or the coordination of both in higher-order tasks. Research on various kinds and aspects of OC has been applied to understanding problems faced by U.S. companies as the post-World War II SSA broke down in the 1970s, and as they explored new ways of organizing labor and technology in the process of profit-making. The application has drawn especially on work done by Lazonick (1994, 2001), which suggests that a vertical structuring of organizational learning and innovation as the province of upper-level managers has historically characterized U.S. firms. This deeply-ingrained Taylorist kind of separation between conception and execution has conditioned the results of experimentation with labor process changes associated with Japanese management and high-performance work systems. In the context of a broader institutional shift toward neoliberal policies domestically and abroad, the result has been a combination of flexible Taylorism (Berggren 1989) and spatialized production (Wallace and Brady 2001). Together with neoliberal governance (Kotz 2008), these have formed the chief components of a post-segmentation SSA.

What are the contributions of OC concepts to this analysis? Three seem important: helping to understand the pathway of change from old SSA to new; recognize the full dimensions of the new customary labor process; and anticipate potential labor-process sources of contradiction and decay in the current SSA.

Capability theory, with its focus on the accumulation over time of organizational-specific resources and knowledge, has emphasized the tendency for corporate change to be path-dependent (Teece et al. 1997). The implication for SSA transitions would be that during periods of breakdown and decay, the directions of managerial and capitalist experimentation and organizational learning are functions of existing, tightly-interwoven webs of mutually-reinforcing OCs. Technological knowledge is only one dimension. How work is organized and coordinated on the shop or office floor, how authority and discretion are distributed and governed in particular kinds of situations, how coordination and agency are distributed across geographically-dispersed locales—all these question involve long-term processes of capability development, and strongly condition the kinds of alternatives tried and how they are evaluated when existing arrangements stop working well. (Organizational path-dependence can also help answer the question posed in Lippit (2005): What are the sources of coherence and persistence in an SSA?) The kinds of vertical segmentation in the post-War SSA described by Lazonick (2001)

helps in understanding the narrowly delimited use of team problem-solving and production, and their thorough-going subordinated to managerial and technological control, in the new regime. Taylorist capabilities wired deeply into the makeup of U.S. firms channeled experimentation and change toward the kind of hybridization discussed above. Hierarchical segmentation in particular (Lazonick 2001, 50) helps explain the concomitant swelling of supervisory ranks (Gordon 1996). Strategic segmentation (Lazonick 2001, 51) between corporate- and operational-level managers helps understand the concurrent downsizing of middle-management layers. Overall, the things that companies did “well” profitability-wise, and how they did them – in conjunction with the evolving institutions with which those capabilities had to be consistent – were powerful channels in shaping the exploratory and ultimate responses of corporate capital to inefficacy and crisis.

The full range of practices and knowledge that had to be modified or constructed in the newly emerging labor process can also be analyzed using capability theory. Section 4.1 discussed many specific instances. In production and logistics, just-in-time and team work (delimited as described earlier) had to be learned and roles and authorities established and practiced; flexible tooling and/or computerized work pacing had to be adapted and integrated, as appropriate to each firm and industry setting. Functional integration had to be increased, which required new allocations of authority and communication, new relationships of trust and information-sharing, and re-configuration of job responsibilities at many levels – again, carefully shaped and delimited to remain compatible with hierarchical control and managerial power. And centralized control of spatially decentralized production required learned capabilities in balancing outsourcing with co-location of manufacturing and R&D, integrating within and across functions, and managing supply chains. The point here is that an OC-theoretic approach encourages and facilitates a broader, more multi-dimensional strategy than has yet emerged in efforts to re-introduce labor process issues into SSA research.

Finally, capability theory may prove helpful in pointing toward potential sources of contradiction and breakdown as the current SSA moves forward in time. As noted earlier, macro-level contradictions in neoliberalism have been extensively studied: the aggregate result of deregulated, labor-squeezing profit seeking at the firm level is systemic demand reduction, indebtedness, and instability. But as long as most companies’ profit-making strategies are working well most of the time, it may be possible for national and global authorities to contain crises and continually nurse the economy back to “health.” What does the foregoing suggest may increasingly appear as labor process-related contradictions in this SSA’s capacity for underpinning corporate profitability and accumulation? It may be that spatialized production will eventually make the necessity for cross-border labor and social-change cooperation, and viable mechanisms for pursuing it, clear enough that existing efforts will expand and gain traction. It may also be that constant pressure and periodic ruptures in workers’ livelihoods will erode the worker compliance needed for flexible Taylorist practices to work adequately. Lazonick (2001) has suggested that the organizational learning required for innovation in products and processes is impeded by the degree of hierarchical, functional, and strategic segmentation remaining in U.S. firms. He argues (51) that segregating learning as an upper management domain may work reasonably well in some industries (e.g., pharmaceuticals), but is unlikely to in the broad range of industries where coordination of complex physical tasks is key. It is possible that as systemic pressures and breakdowns grow, the SSA’s intrinsic barriers to innovation and to cooperation and compliance by workers at all levels may be exacerbated and begin to eat away at profitability and, hence, corporate success within and support for the current institutional framework.

All of the above illustrations will require further, in-depth treatment for the analytical power of the arguments being proposed in this paper to be assessed. There is a variety of testable propositions that can be generated, and this process of empirical investigation needs to be pursued. What this paper has tried to accomplish here is simply to point out the potential for OC theory to add to our understanding of how SSAs are constructed, function, break down and change. In particular, it has been argued that OC theory offers a powerful set of ideas for analyzing labor processes at the firm level, how those processes are connected to the broader institutional environment, and how firms and the institutional environment interact during periods of major SSA transition.

There are two additional considerations that make capability theory potentially important and compatible in SSA research.

One is that OC theory is in certain respects methodologically akin to many radical political economy approaches, and similarly hostile to mainstream economic orthodoxy, in its focus on social processes rather than atomistic choice. The contrast with orthodoxy was brought out especially in the 1990s, when OC researchers had to respond to mainstream cooptation efforts (Milgrom and Roberts 1990, Williamson 1999). Capabilities evolve through human interaction within organizational contexts that matter to both the character of the interaction and the outcome (Aoki 1990, Chandler 1992, Hodgson 1998). This methodological commitment is further similar to radical Keynesian notions of uncertainty (Crotty 1993) versus optimal choice from probabilistically known alternatives: “(T)he orthodox canon...abstracted from the uncertainty...the uneven, groping character of technical advance, and the diversity of firm characteristics and strategies – that is, from the key features of the capitalist dynamic.... There is no reason to believe that...the ‘habitual reactions’ of extant firms include the reaction patterns that are the best in a broader set of possibilities” (Nelson and Winter 1982; 28, 142).

In addition, OC theory can have a strongly democratic bias due to its emphasis on the role of workers in building capabilities. Organizational learning is seen as enhanced by accessing tacit knowledge at the shop floor level (or its equivalent in a non-manufacturing setting) and combining it cross-functionally with constructed information from within and without the firm. Internal integration matters to capability formation and especially the operation of strong dynamic capability. But internal integration is often thought to require participatory work practices and commitment by the firm to stable and rewarding employment (Pfeffer 2007). U.S. companies’ retrograde performance in this regard has been widely noted by practitioners, as for example in this quote from one of the leaders of the “quality” movement so heavily studied by OC researchers: “(T)he collective worker education, experience, and creativity is the major *underemployed* asset in the economy of the U.S.” (Juran 1978, 16, emphasis in the original).

In neither of these respects, regarding methodology or class, has the OC approach adequately incorporated issues of class and power (Appelbaum and Batt 1994, Lazonick 2001). It thus has much to learn from Marxian approaches like SSA theory. Most OC research takes place within the strategic management and related disciplines, where capitalist control is unchallenged and capitalism is presumed to be the only interesting or even conceivable form of society. Nevertheless, the potential is there – at both the methodological and applied levels – for insights from OC theory to leaven and deepen SSA analysis by re-linking it with issues of organizational process and change.

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