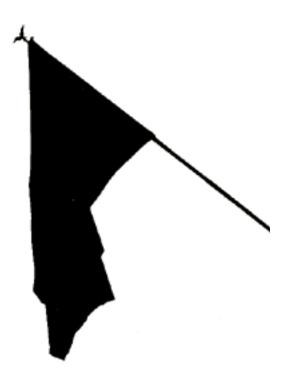
# Can Austrian Economics Break Bricks?







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Benjamin Darrington benjamin.darrington@yale.edu PO Box 203734 New Haven, CT, 06520 Lachmann, Ludwig. Capital and Its Structure. London: London School of Economics

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## **Can Austrian Economics Break Bricks?**

## GOVERNMENT CREATED ECONOMIES OF SCALE AND CAPITAL SPECIFICITY

by Benjamin Darrington

#### INTRODUCTION

Austrian theory emphasizes capital in its understanding of the macroeconomy. Whereas other schools of economic thought treat capital at a high level of abstraction, Austrian economists have gone beyond aggregate quantities and looked at the heterogeneous nature of physical capital and inter-temporal relationships between different stages of the production process. The unique method and unusual attention applied by Austrian economists to the theory of capital led them to see the business cycle as an outcome of distortion of the timeaspect of capital investment caused by inflationary monetary policy. In the study of the business cycle, Austrians have stressed the role of credit expansion in distorting the time structure of production by encouraging unsustainable investment in higher order goods. These booms are inevitably followed by an economic downturn as the economy undergoes the time consuming and painful process of liquidating malinvested capital and moving resources to the production of lower order goods. The Austrians were able to arrive at this insight because they recognized that production involves combining a variety of specialized goods, in particular locations, into certain patterns, to create products for consumers, and that time and resources are necessary to assemble these patterns, use them to produce finished goods, or reorganize them for the production of different goods.

The Austrian insights into the nature of capital allowed them to identify governments and their monetary policy as the source of the business cycle, but the actions of the state shape other aspects of the structure of production as well. Besides affecting when entrepreneurs intend to complete the production of consumption goods through investment in longer or shorter lines of production, the government also figures prominently in the determination of which goods are produced, how they are produced, and where production takes place. By analyzing the effect of government policy on these other

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augment the systems failings and provoke further intervention. The one upside to the situation is that as the state monopoly capitalism grows ever more fragile and its failings more severe and obvious and the time draws nearer when the system will undergo thoroughgoing reform or crumble under its own unwieldiness in the face of sheer inefficacy, public outrage, and outside competition. The opportunity will then exist to try to replace this system with institutions that are more efficient and, hopefully, more just. microeconomic aspects of production it is possible to come to a clearer understanding of the causal chain between the actions of the state and economic disruption, and strengthen the case against market intervention.

The economic policy of the government systematically biases market competition in favor of larger firms and centralized production. The characteristics of the capital goods which prevail in this system are both the cause and the symptom of this distortion: They reflect the production techniques developed by these favored organizations as most compatible with their unique needs, as well as techniques which have been rendered artificially desirable by subsidies, publicly funded development, and regulations, and are constituted such that they are most appropriate for use by centralized enterprises. Production in this environment tends towards capital intensive, high volume/low unit cost techniques based on highly specialized equipment whose efficient operation depends upon the existence of large, reliable, and complex, networks of intricately related and equally specialized complimentary capital, regular ongoing use, and extreme regional division of labor.

Just as inflationary monetary policy distorts investment in the direction of higher order producer's goods, government creation of artificial economies of scale distorts investment in favor of more specific and concentrated capital. These qualities in the makeup of the economy hinder economic adaptation to economic change and entrepreneurial error by slowing the liquidation and reassignment of misallocated resources and increasing depreciation in capital goods when changing circumstances decreases demand for their services. The distorted capital structure decreases the resilience of the market mechanism and enlarges the crisis tendencies of the mixed economy, thereby increasing the need for further economic intervention to maintain the state capitalist system.

#### THE CORPORATIST STATE

The state wields its power to regulate the economy to further the causes of powerful private interests. Unwilling and unable to defend their profits and market share in the face of real competition, big business depends on the state to shield it from the forces of market discipline. The government restricts competition from abroad, cartelizes industries domestically, and does its best to shift the costs and risks of doing business onto the public while maintaining monopoly capital's control of the profits. In exchange, big business supports the state's quest for ever expanding power by giving the regulator's power a raison d'etre through the inherent enormity of its conduct and its perennial crises, docilely accepting government control, bankrolling the state's operation by doing the dirty work of expropriating value in the manner of the "tax farmers" of the past, and furthering the careers of cooperative politicians and bureaucrats through financial contributions and cushy private sector positions. While the partnership might not always be completely friendly, the fates of the two groups are inextricably wedded: Big business cannot survive without big government and big government cannot survive without big business.

The existence of institutions that can shape the pressures of economic competition in favor of certain enterprises naturally invites rent-seeking behavior from the outside. If the costs of making money by satisfying consumer desires in a competitive market place exceed the costs of capturing profits through government largess or the restraint of trade by influencing the outcomes of political decisions, profit seeking enterprises will face incentives to forgo the former for the latter. The largest and wealthiest businesses stand at a great advantage in the competition to use the power of the state to further their own causes. These businesses have strong interests in the outcomes of particular government decisions. While the collective interests of other parties, like the public at large, might trump those of large businesses, they

#### CONCLUSION

An overriding theme of economic policy is the protection and furtherance of the interests of monopoly capitalist corporations. The production techniques necessary to overcome the multiplicity of grave flaws inherent in gargantuan operations such as these would be uneconomical if not for the government's constant efforts to pay for them publicly, either by defraying the cost of developing and using of these technologies, or expanding the advantages of large firm organization so that it offsets the massive costs of using this flawed system. The immense mass of privileges granted to the operations of the monopoly corporations generates non-market driven economies of scale and skews competition in the favor of bigger firms.

The capital developed for and, of necessity, employed by these firms has a strong tendency towards certain characteristics including a high degree of use specificity, and geographical concentration. These features would prove a great liability to the companies that use them if it were not for the government's frequent actions to stabilize market conditions, soak up excess supply with public expenditures, and bailout insolvent corporations when what should be minor economic upheavals turns into catastrophic disaster under the brittle and inflexible capital structure of the corporatist economy.

The policy induced distortion of the composition of capital is just one more way in which the instability of state monopoly capitalism is enhanced. The tendency towards volatility in economic conditions and the decreased resilience and speed of the self-correcting mechanisms of the market in a mixed economy promotes a vicious cycle of increased regulation and intervention by government in efforts to correct and lessen the damage of the "market's" failings in order to assuage public discontent with unemployment, lack of financial stability and opportunity, and poverty, and protect the interests of the parasitic elites in business and government, that support, control, and benefit from the state capitalist apparatus. The new intervention policies only for a lower order good. A spring making machine might successfully be converted for making wind-up toys, but an entrepreneur may be hard pressed to find a market in his area for the two million toy per year capacity of his plant after his screen door manufacturing buyers who buy his springs go bankrupt. In general, it will likely require a much lower price to liquidate a concentrated stock of malinvested capital good than a widely dispersed stock. Just as the body can deal better with small amounts of many different kinds of poison over time than a single large dose of one, so an economy can better assimilate smaller and more diverse stocks of a newly undesirable consumer goods and the capital goods set-up to produce them rather than large quantities of a single good. As with the degree of specificity, fixedness, and durability in capital goods, state actions that favor greater regional specialization by promoting larger production scales deepen and prolong the problems of misallocated capital. stand at a distinct disadvantage against these concentrated interests in organizing efforts to influence decision-making.

Not only does big business hold an advantage in competition for state privileges, it is absolutely dependent them and will expend great effort, if needs be, to get them. While there are definitely certain real advantages to bigness, large organizations face a host of challenges to their efficient operation and thus their continued existence in the marketplace. As the internal operations of large organizations are based on bureaucratic and institutional incentives rather than prices and market competition, large firms face many of the same problems, albeit at a smaller scale, as the centrally planned economies of socialist countries. Carson (2007b) has attempted to bring the rational calculation argument of Mises and the distributed information arguments of Hayek to bear on large organizations. Just as a planning board in the USSR had no way of allocating resources and planning output in the absence of price signals, the management of large corporations are hard pressed to find a rational grounds for allocating budgets for various projects, determining the efficacy of different departments, assigning individual salaries, etc. The tendency in large organizations to "shoot the messenger" who bears bad news or unpopular facts, the immense amount of information processing involved in operating a complex enterprise without the aid of money prices to summarize objective facts, and the vast gulf between decisionmakers and the realities of the shop floor, mean that the transfer and acquisition of knowledge within large corporations is severely hampered. Just like in centralized states, the incentives facing individual actors within large corporations often have only a tangential relationship to the interests of the organization. Within large, centrally managed organizations, there are many opportunities to shirk productive work and inducements to engage in self-aggrandizing politics and counter-productive institutional maneuvering. In many cases today, the only really significant advantage that large firms have over small firms is their ability to manipulate and take advantage of the state. Just as the state could not maintain its present size and scope in the face of outside competition without its legal monopolies on money, roads,

schools, law, and protection, the large corporations that dominate the economy could never maintain their position in a competitive environment in the absence of an elaborate system of legal privilege.

No matter how valuable and necessary state-granted privileges might be to big businesses, if it were not in the interest of government decision-makers to cooperate with businessmen, the corporate state could not exist. However, numerous incentives exist for political decision makers to manifest the drive towards economic intervention, and wield the power they gain from it, in favor of big business. Politicians and bureaucrats in the government as well as the state as a whole stand to benefit immensely from state intervention that favors big firms and large scale production.

Government depends on the existence of institutions that can intervene in the operation of society and affect changes desired by officials. When government power increases, so does the relative prestige, importance, and power, of politicians and bureaucrats. For these reasons, among others, these groups seek to increase the scope of state power. Like law, education, academia, defense, and communications, the economy is a crucial systempunkt whose capture and control yields immense power over the other aspects of the social organism. It therefore bears the brunt of much of the state's efforts to expand its dominion.

Large centrally organized firms facilitate the government's task of maintaining its hegemonic position in society. The ability of the government to effectively regulate the economy depends on the existence of economic institutions with organizational structures that can be easily monitored and controlled. The regulation of a large number of small businesses requires greater duplication of effort to inspect financial records, ensure regulatory compliance, and collect taxes. Small organizations are harder to punish for not cooperating with the law because they have less total value to seize and the owners are more likely to fight the government since it is their money and business directly at stake, not to mention the fact that small business are looked upon more favorably by the general population than seemingly faceless and distant corporations. The equipment used by small enterprises does changing service providers for medical care, cable, Internet, changing one's mailing address for bills, magazines, and the many other necessary tasks of moving are time consuming and laborious. Individuals also place a great deal of value on living where they already are. Perhaps they grew up in the area, moved there in the first place for climate, local schools, or recreation opportunities, have friends and family and other valued connections in the community, etc. Perhaps Area B is an entirely different country and moving from Area A would involve applying for citizenship, learning a new language, and adapting to a new culture. The greater the degree of regional specialization the higher the cost of rearranging factors of production.

Regional concentration of production also increases the specificity of the productive inputs involved. Even if all of the existing productive capability in Area A could also be used as is in other, shorter, lines of production, the new uses for the capital most likely involves much more rapidly declining marginal value product for additional units of the input than were found in the original production function. The reason for this is that the structure of production for the new good as it is presently arranged is unlikely to be equipped to profitably employ massive quantities of the newly available input. A light bulb factory in an area that makes car parts is possibly capable of profitably employing as an additional input, at a slightly lower price than it has been paying, the output of a local plant that has converted its operation from creating filaments for car headlights to filaments for light bulb, but it would probably require a large decrease in price to assimilate the product of 10 converted headlight filament factories into its operation or to overcome the cost and complications of moving it to light bulb producers somewhere else or bringing the other factors of light bulb production to the filament producers, especially if the prevailing light bulb making techniques are themselves regionally concentrated or employ capital intensive and specific technology. Because the repurposed use of capital played little or no role in the planning for the original investment, the new output for the repurposed capital will likely not serve a very pressing or large consumer need, even if the new product can be costlessly incorporated into the structure of production

unemployment of original factors that must suddenly and en masse shift to [different areas] of production (Rothbard, 1962, p. 1000)" and increases the depreciation on the reassigned capital goods that must be used for different ends, turned into new capital goods, or left unused.

The disequilibrating and disruptive effects of a shift away from production of a certain good are aggravated by the degree to which the production is concentrated in certain areas—a quality associated with large scale production, for one because more product is produced in a single facility and because the high fixed costs from all of the infrastructure needed to operate this kind of production create the opportunity for the realization of regional economies of scale by spreading out these costs over more firms.

Imagine two scenarios involving two regions that trade their products with each other. In Situation 1, one region, Area A, specializes in the production of one type of good, higher order goods, for example, and the other region, Area B, specializes in lower order production. In Situation 2, the different orders of production are spread evenly between the two regions. Quantity of production is equal under both scenarios (perhaps the benefits of division of labor under regional comparative advantage in Situation 1 equals the benefits of lower shipping costs in Situation 2). Under Situation 1, Area A will obviously be hit harder as the structure of production is shortened in a recession following a credit-expansion boom than it would in Situation 2. In Situation 2, while both economies would suffer the effects of the recession, the impact on the lives of individuals would be spread more evenly. While interpersonal utility comparisons are impossible in economics, diminishing marginal utility suggests that the greater diffusion of the negative effects of a recession would be a superior outcome. More importantly, the overall effects of recession would be greater in Situation 1. For one, labor and capital are not perfectly mobile. Moving inputs for shorter production processes from Area B to Area A would be costly and time consuming. Some factors, like heavy machinery can only be moved at great cost and other, like factory buildings, cannot really be moved at all. Moving labor is perhaps even more costly. Selling a house, packing up and moving possessions,

not lend itself to certification, regulation, and safety testing, and the labor employed does not lend itself to the effective enforcement of laws concerning things like labor negotiations, minimum wage, minimum age, professional licensing, racial and sexual quotas, citizenship requirements, maximum hours, etc. Informal and small scale economic relationships are almost beyond the range of government efforts to enforce its mandates and collect taxes. By making business an agent of policy the state also creates a useful scapegoat for diverting the ire of the public towards the iniquity and exploitation of existing economic relations and positions the state to act as "white knight" to protect the public and avenge the evils and excesses of "private enterprise."

Besides serving the needs and desires of the state as a whole, the corporate state is also in the interest of individual political decisionmakers. Politicians depend on the contributions of big businesses to finance election campaigns to gain and hold on to office and politicians are more than willing to help out these special interests in ways that their busy constituents will not notice or not care about. Bureaucrats in regulatory bodies are often subject to the phenomenon of "regulatory capture." The operation of any industry involves a vast amount of technical and institutional information. Legislators do not have the time, specialized knowledge, or inclination to process this information effectively and must delegate responsibility for the content, administration, and evaluation of these programs to specialized institutions. When law makers decide what regulations to adopt and how much money to allocate for them, the regulatory bodies play a large role in the policy making processes that affect them. At the same time, regulators, who often started their careers within the industry they regulate, work very closely with the industries they are entrusted with overseeing and depend on their good will to execute their jobs effectively and to make possible lucrative private-sector positions for them after they leave government.

Once money and power come together in a project to use the laws to manipulate the market for private gain further such interventions in the economy are all but inevitable. As Ludwig von Mises explained, interference in the market mechanism creates a cycle of intervention as every attempt to address the problems created by intervention creates more problems necessitating further intervention. "*The middle-of- theroad policy* [interventionism] *is not an economic system that can last. It is a method for the realization of socialism by installments.*(1950)" The process is neither costless to the ruling elite nor is it permanently sustainable:

> "When the consumption of some factor is subsidized by the state, [a common modus operandi of many economy of scale creating policies,] the consumer is protected from the real cost of providing it, and unable to make a rational decision about how much to use. So the state capitalist sector tends to add factor inputs extensively, rather than intensively; that is, it uses the factors in larger amounts, rather than using existing amounts more efficiently. The state capitalist system generates demands for new inputs from the state geometrically, while the state's ability to provide new inputs increases only arithmetically. The result is a process of snowballing irrationality, in which the state's interventions further destabilize the system, requiring yet further state intervention, until the system's requirements for stabilizing inputs finally exceed the state's resources.(Carson 2007c)"

At some point the crisis tendencies of the system exceed the means of the state to correct and the structure must change radically or collapse. In the mean time, its beneficiaries are able to paper over the cracks and defend their privileged position: as the unsatisfactory outcomes of political capitalism come to light, the government enacts electorate pleasing measures to supposedly reign in and regulate the excesses and destructive characteristics of the corporate economy that appear to limit and control the power of corporations and the instability of the market while actually furthering the interests of business. This cycle of regulation allows the elites in business and government to have education and training for a particular task, the greater the longer it will take her to find new work and the greater the loss in pay during the readjustment. The less specific, fixed, and durable the capital structure in an economy, the less painful the liquidation and readjustment of capital will be.

A primitive money economy with few types of capital goods, most of which have a high multispecificity, would recover relatively quickly and painlessly from a credit induced misallocation of resources. However, a great deal of specificity and durability of capital goods is inevitable in a technologically advanced, division of labor society with a great deal of historical capital accumulation and desirable from the point of view of entrepreneurs and consumers. The fact that a building contractor, if his business goes under, will suffer a far greater loss and experience much greater difficulty finding a new buyer for a highly specific dump truck compared to a very nonspecific pickup truck is likely offset by the fact the dump truck can haul more dirt and do it more quickly and economically than the pickup. In a purely free market there would be no tendency to invest in capital that would be more specific or durable than the warranted by accompanying increases in productivity.

But to the degree to which the specificity and the magnitude and length of the stream of services from a particular article of capital are increased through interference with the market system, these characteristics are not only uneconomical but also a pure hindrance to the quick and easy adaptation to economic change. Indeed, the artificial scales discussed before promote these characteristics. The tendency for production under the liberal corporatist system to be more capitalintensive, employ more specialized forms of capital (think of a robot operated assembly line versus a machine shop), and be more sensitive to disruptions in the supply of complementary inputs (One of the major automakers used to have a commercial about how big of deal it was to shut down a step in their assembly line process to fix mistakes - it brings the whole operation to a stop and is immensely costly, the point being that they, unlike their competitor, were willing to do it to ensure quality), exacerbates the problem of malinvestment. In the face of a need for changes in production, this increases the "frictional"

entrepreneurs in other, seemingly unrelated, production processes who adjust their operations accordingly (Lachmann). When problems in the application of resources in an economy comes to light, as in the crisis stage of the Austrian business cycle, a large part of the structure of production has to be reconfigured all at once. This conversion will take time and unemployment will result until the laid-off labor's capital compliments can come back on line in a new pattern of production. In addition, the necessity of having the existing capital stock, arranged for a completely different consumption pattern, "make do" in a new economic environment will entail a large loss in value compared with the arrangement of resources that would have prevailed in the absence of the interest rate distortion. In the absence of perfect information, finding uses for the capital that is still desirable will take time and resources as its owners work to locate new buyers for the good, move it around and install it. Some of the existing capital, unfit and unconvertible for new economic conditions, will even have to be scrapped or abandoned. This same argument applies to any sort of economic disruption, such as natural disasters, wars, the development of new technology, and changes in consumer demand for certain goods, that necessitates the transformation and rearrangement of the capital structure of production.

The time required and the value lost in reconfiguring capital for a new use varies greatly depending on the nature of the individual good. Production goods that can easily accomplish a variety of tasks or be moved easily and cheaply will more easily fit into the new structure of production. *"There are different degrees of nonspecificity for any factor, and the less specific ones will be more readily shifted from one stage or product to another.* (Rothbard, 1962, p.523)" At the same time, goods that were designed to be less durable will lose less value. The depreciation from a drop in the demand for a good's services and an increase in the rate of discount (caused by the rise in the interest rate during the credit crunch) on the future stream of a good's services will fall more heavily the greater the durability of a good. The same conditions apply to human capital. The more highly specialized a worker's skill set and the more time and money she has invested in their cake and eat it by pacifying public opposition and strengthening their power at the same time.

This claim that government regulation of the market has been shaped by, and serves the interests of, the business community and that a large share of successful companies owe their very existence to government control of the economy, contradicts the commonly excepted story of the history of government economic regulation. Conventional wisdom maintains that the modern role of government in managing the United States economy ushered in by the Progressive and New Deal programs was a populist effort to reign in the power of the large corporations that developed in the lassiez-faire conditions of the 19th century. This account is embraced uncritically by both the critics and supporters of economic intervention and its historical manifestations. Nevertheless, a large body of revisionist scholarship exists that explodes this myth with powerful evidence of the corporatist nature of these "reforms."

Working from very different ideological directions, historians from the Libertarian Right and New Left have arrived at surprisingly convergent conclusions about the true nature of the 20th century regulatory state. Gabriel Kolko (1963) turned the historiography of the "Progressives" upside down by showing how corporations turned to the state to insulate them from the discipline of the market when their profits were threatened by competition in the first two decades of the century. James Weinstein showed how "The political ideology ... and the broad programmatic outlines of the liberal state [e.g. the New Deal, Great Society, etc.] ... had been worked out and ... tried out by the end of the First World War. (1968, Introduction)" and how "The ideal of a liberal corporate social order was formulated and developed under the aegis and supervision of ... the more sophisticated leaders of America's largest corporations and financial institutions. (ibid.)" William Appleman Williams wrote a number of works on the political and business leadership's imperialist and expansionist motives behind American diplomacy throughout the country's history. On the free market libertarian side, Murray Rothbard (1972) saw the big business ran planned wartime economy of World War I as an important precedent and inspiration for later attempts by corporations to use the power of the state to cartelize industry. Joseph Stromberg (2001) uses Rothbard's Austrian theory of regulatory cartelization and Schumpeter's "exportdependent monopoly capitalism" to explain the rise of American empire and the bureaucratization of the United States. This is only a small sample of the significant work in this line of historical thinking. That the mainstream view is still propagated in both the public schools and academia and accepted unchallenged by most people, is a testament to the effectiveness of apologists for the corporatist state to sell economic exploitation and Bismarckian paternalism as idealistic defense of the common man and the difficulty of challenging the "court intellectuals" and comfortable political class orthodoxies of the state-dominated university system.

#### CAPITAL COMPOSITION UNDER ARTIFICIAL SCALE ECONOMIES

The tendencies of state monopoly capitalism to distort competition in favor of large firms and centralized production have been criticized on many grounds—social, economic, and ethical—not the least of which that it represents an extreme departure from efficient production and a massive violation of individual property rights. Somewhat less attention has been paid to the effects of this phenomenon on the innovation and discovery and adaptation and error correction functions of the market process.

Critics of the Austrian business cycle theory sometimes ask why the liquidation and movement of resources to shorter production processes following the crisis need be so disruptive to the economy. "[How can] *bad investments in the past require the unemployment of good workers in the present?* (Krugman, 1998)" Besides unemployed labor, why must existing capital go unused? "If one believes that prices work to allocate resources, there is always the possibility that a misguided, bankruptcyinducing investment by one entrepreneur will represent a profit opportunity for another. If there's a market for used cement trucks, why should a cement truck purchased under incorrect price signals lie idle when its original owner has gone under? (Maclachlan, 2001)"

The Austrian answer is that these criticisms have brushed over the extremely heterogeneous and complex structure of physical capital in an economy. Capital is not an undifferentiated and fungible blob of "K" that can be instantly and costlessly applied to any production process (Callahan, 2002). In the real world, capital consists of things like hotel furniture, semi-trailers, and chainsaws, that are situated in a certain location, can only be used for a limited number of purposes - and then only in a complementary relationship with certain other factors. Reallocating invested capital requires time and resources to move the item, find a new use for the good, or convert it into a different kind of useful good. A change in one part of the production process has larger ramifications as it changes the availability and prices for capital for

legitimately contract into arrangements with the characteristics features of the corporation under libertarian justice theory. Like intellectual property, respected libertarians and Austrians economists have come down on both sides of the issue and the argument is to complex to be done justice here, let it to suffice to say, following Carson(2007c), that whether or not limited liability corporations would be possible in a thoroughly liberal legal order, that the present legal systems favors the corporation over other forms of economic organization by making it more convenient and straightforward to incorporate than to form other sorts of contractual partnerships, granting explicit statutory recognition to corporate arrangements, and otherwise easing the corporations way through the jungle of state created law.

The corporate form favors the creation of larger firms because it increases the marketability of ownership in a firm spreading the risk of owning a large enterprise over a greater number of people and limits the liability of investors in an enterprise for the actions of their agents in the firm, who grow more numerous and harder to monitor the larger an organization becomes. For these reasons, conditions that favor the formation of corporations increase economies of scale.

#### **ARTIFICIAL ECONOMIES OF SCALE**

Corporatist economic policy manifests itself in the creation of artificial economies of scale and mitigation of the costs of diseconomies of scale. This effect tips the equilibrium between the two forces in the direction of larger firms, and large scale, centralized, production. In a free market, the size of firms and the scale of production techniques employed would tend to represent efficient allocation of resources and choice of techniques. The competitive outcomes of an economy where incentives have been shaped by market exogenous forces, of which this effect is a sterling example, do not represent the preferences of the sovereign consumers but rather the interests of the parties behind the coercive intrusion and the inevitable negative side effects of their interference with the self-regulating market mechanism.

Economies of scale are decreases in the unit cost of a good that come about through the increased efficiency of higher volume production. These include lower costs from spreading fixed costs over a larger quantity of output, discounts on the purchase of bulk input, and productivity gains from greater division of labor in workers and equipment. Diseconomies of scale are increases in the per-unit cost of producing a good in higher volumes. Examples are the increasing size and costs of the bureaucracy necessary to run larger organizations, greater disconnect between decision makers and the consequences of their decisions, and the difficulty of communicating information effectively between large numbers of people.

In any industry, entrepreneurs face a different set of opposing forces favoring larger and smaller operations. The firms that strike the best balance between the economies and diseconomies of scale tend to be more successful. Since rival firms must either adopt the best practices available or lose out to their competition, entrepreneurs try to discover the ideal magnitude scales for their enterprises. Those that succeed at this prosper and are imitated while those that fail lose money or go out of business, thus firm size and production scale tend to homogenize within a given industry. Changes in the relative magnitude of the economies and diseconomies of scale entrepreneurs face, ceteris paribus, alters their incentives, which in turn shifts the "ideal scale" around which the actual scales of production in an industry tends to cluster. By enacting pro-big business policy the state creates artificial incentives to bigness and induces entrepreneurs to change the fundamental aspects of the economy's composition.

In thinking about these economies of scale it is important to remember that the firm and the production process are not the same thing. The firm itself is a production process, faced by its own economies and diseconomies of scale, whose product forms an input in other production processes. It is possible to imagine a large assembly line production process operated on a contractual basis by several proprietary firms and individuals who own their own equipment and machinery. It is also possible to imagine a number of small workshops owned by a single large conglomerate. However, the psychological association between big firms and big production does have a basis in reality. Policies promoting big firms tend to promote large-scale production and vice versa. On the one hand, the clear task delineation, ease with which workers' efforts can be evaluated based on accuracy and output numbers, minimization of the sphere of individual worker volition, simplification and quantification of the information used for accounting and planning, and applicability of "scientific management" techniques, under large scale production makes it especially suited for adoption by large firms. On the other hand, large firms have a relative advantage over small firms in the execution of large scale production techniques due to such factors as the highly interdependent nature of different stages in a centralized production process. When efficient production depends on a high degree reliability and predictability between the different steps of production, as they do in assembly line production for example, the costs and risks of bargaining that must take place between small independent firms are higher. In the present context, policies favoring bigger firms and bigger production processes will be treated together as will the effects of these policies.

"The exchange or pooling of patents between competitors, historically, has been a key method for cartelizing industries. This was true especially of the electrical appliance, communications, and chemical industries. G. E. and Westinghouse expanded to dominate the electrical manufacturing market at the turn of the century largely through patent control. In 1906 they curtailed the patent litigation between them by pooling their patents. G.E., in turn (later to become the patriarchal see of Gerard Swope), had been formed in 1892 by consolidating the patents of the Edison and Thomson-Houston interests. AT&T also expanded "primarily through strategies of patent monopoly." The American chemical industry was marginal until 1917, when Attorney-General Mitchell Palmer seized German patents and distributed them among the major American chemical companies. Du Pont got licenses on 300 of the 735 patents."(Carson, 2007c)

Intellectual property also promotes time and investment intensive forms of development and research with high potential payoffs at the expense of the incremental, tinkering sort of innovation that would prevail in the absence of these "rights," which tilts the market for the development of new technology and techniques in favor of centralized institutions and high-tech solutions. Contrast the products that come out of the open source and free software movements and they types of organization that create it with the products and organizations created by software companies based on a scarcity model like Microsoft.

Even the very concept of the limited liability corporation, it has been contested, is a form of state privilege and antithetical to the free market. Authors like Piet-Hein van Eeghen (2005) have contested that the entity status of the corporation, as a legal "person" separate from the shareholders, managers, and works, is incompatible with classical liberal views on agency and liability. Others, like Robert Hessen (1979) and Stephan Kinsella (2005), have maintain that individuals can scale car manufacturing company today. Even if he could get a business off the ground he would be hard-pressed to find a specialty or niche in which he could compete with the larger incumbent firms--regulation takes certain product characteristics such as fuel efficiency and safety out of the realm of competition and product differentiation by mandating them. When these factors are present, the firms in an industry are fewer and bigger than they would be otherwise.

Professional licensing has a consequence of making certain kinds of labor artificially scarce. In many cases the body that certifies new entrants to a field is a board of incumbent professionals in that very field, i.e. the new entrants would-be competition. Because of the high cost of licensed labor, the market substitutes away from these kinds of labor as much as possible. This often takes the form of investing more capital relative to labor than would prevail in a free market. There would be much less demand for the development and adoption of things like robot orderlies and high tech scanning equipment if doctors were cheap enough and plentiful enough to spend adequate time examining and listening to their patients.

#### **Spurious Property Rights**

The enforcement of bogus property rights was historically one of the most important means of exploitation and centralization of power. Feudal lords did not claim to deserve part of their peasants' product because they represent the will or welfare of their peasants—they maintained, through force if necessary, that the peasant's land belonged to them and that these "tenants" owed them payment for its use. The same sort of system continues today.

Although opinion on the matter are far from unanimous, the mainstream libertarian view rejects "intellectual property" as an illegitimate and unnecessary monopoly and thus a deviation from the free market. The existence of patents, copyrights, trademarks, and the like, have helped big businesses limit competition which creates artificial economies of scale.

Economy of scale creating policy takes myriad forms but all these market interventions share a common quality: they externalize the costs of bigger firms or larger volume production techniques on the public while internalizing the benefits for business. Policies with this effect can be further separated into certain general classes, notably "[using] *the coercive taxing power either to accumulate corporate capital or to lower corporate costs* (Rothbard, 1969)," cartelizing markets through regulation, and the enforcement of spurious property rights. What follows are a few examples to illustrate each of these categories. No doubt the reader can think of many more patterns and instances of these processes. The categories and examples draw heavily on Carson's (2007c) treatment of state policies that promote organization centralization and size.

#### Accumulating Capital

The government pays for a massive amount of research and development for the private sector. Much of the current technology in use was developed by the government, either for ostensibly military applications, or mercantilist efforts to support the "competitiveness" of industry and economic "development" and "growth." The institutions that do the research are bureaucratically managed, vertically organized, overseen by government, and executed in cooperation with, and for the use of, big business, and the technology they beget bears the imprint of this pedigree. It is invariably high-tech dependent, centrally controlled, large-scale, and capital and resource intensive to operate—the sort of "high technology" lamented by "appropriate technology" advocates like E.F. Schumacher and Kirkpatrick Sale who correctly identify its nature and effects while missing the state's role in its development and adoption.

Some economy of scale creating spin-offs of the military industrial complex include jumbo jets which would not exist without the bomber technology developed by the military, nuclear power, which, whatever its advantages, requires centralized, capital intensive, and high-tech facilities and an elaborate distribution system and would have probably been developed after decentralized forms of clean energy like solar in a free market, and synthetic fabrics like Nylon, manufactured with elaborate technology and capital intensive chemical processes.

Examples of private technologies developed with the government are even more numerous, as the government has a hand in university and corporate research departments everywhere: "Data submitted to the Joint Economic Committee of Congress by the National Bureau of Economic Research reveals that public research, not private, led to 15 of the 21 most therapeutically valuable drugs introduced between 1965 and 1992, and other studies done in the 1990s suggest that only a minority of important drug discoveries in recent years—estimates range from 17% to 40%—were the result of commercial research.(O'Leary)" In 1998, federal government agencies provided more than \$14 billion a year to university researchers around the country to conduct scientific research (Association of American Universities).

Sometimes the government skips indirect redistribution to big business through means like subsidized R&D, and just gives money away to large corporations. In 1979, the federal government bailed out the auto-industry dinosaur Chrysler with 1.2 billion dollars in loan guarantees (Hickle). After 9/11, congress passed a \$15 billion financial aid package for the struggling airline industry and set up a government compensation fund for victims of the attack to deter them from suing the airlines (Snow). These things never would have happened if these firms had not employed millions of people and represent vast amounts of fixed capital investment. Obviously, "industrial policy" hand-outs make it advantageous for firms to be huge.

#### **Lowering Costs**

Carson (2007) identifies infrastructure expenditures on the part of the government as an especially insidious and representative example of this process. "Spending on transportation and communications networks from general revenues, rather than from taxes and user fees, allows big business to externalize its costs on the public, and conceal its true operating expenses." Centralized mass production requires a single producer to supply a very large market. The comparative efficiency of large scale production depends on the advantages of concentrated production one area outweighing the costs distributing goods over a wide area. When the public pays for roads, rails, and shipping, the products of centralized production are consumed at uneconomic levels. Would an aluminum can made by Alcoa and filled with beer by the Miller Brewing Company in Milwaukee really cost much less to a consumer in Atlanta than a returnable glass bottle from a local microbrewery if the price reflected the full cost of shipping the raw materials from places like Jamaican bauxite mines, the electricity used to make the aluminum, and the gas and road wear expended in transporting the product?

Ronald Coase (1937) has pointed out that government measures relating to the market (sales taxes, rationing, price controls) tend to increase the size of firms, since firms internally are not subject to such transaction costs.

#### **Cartelizing Markets**

Most regulation has the tendency of cartelizing industry. Spreading the burden of fixed costs over a larger volume of production is the source of many economies of scale. Regulations adds fixed costs to any production process. The effort required to comply with a given regulation is roughly the same between big firms and small firms, the difference is that small firms have to cover the cost of compliance with a smaller amount of sales. Regulation also increases the complexity and cost of getting into an industry. Anyone who has attempted to start a business has faced the bewildering maze of restrictions they must familiarize themselves with and hurdles they must leap to remain within the law. Incumbent firms get to adopt to these restrictions gradually while a new entrant in the market must figure it out all at once at the same time that they are working to establish themselves in the industry. The greats significant barriers to entry. The burdens of modern safety, fuel efficiency, and emissions standards make it impossible for a talented engineer and entrepreneur like Henry Ford to start a small-