



Economics & Politics

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DOI: <https://doi.org/10.1111/ecpo.12316>

Status: Published

What causes polarized stagnation, corporate economy, or welfare state?: Insights from new development economics

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Abstract

This study explores polarized economic stagnation from the perspective of a capitalist corporate economy. It introduces two institutional policy paradigms: economic differentiation (ED) and economic egalitarianism (EE). ED-friendly “market democracy” promotes shared growth, whereas EE-friendly “egalitarian democracy” leads to polarized stagnation. The corporate economy is portrayed as the epitome of the ED institution leading shared growth, whereas the redistributive welfare state based on EE institutions could bring polarized stagnation. Empirical analysis tests these hypotheses and discovers that the world's polarized stagnation may be linked to “welfare policy under egalitarian democracy” rather than “corporate growth under market democracy” as commonly thought.

KEYWORDS

corporate economy, economic development, economic differentiation, economic egalitarianism, new political economy, polarized stagnation, shared growth

I introduced the term “economic discrimination (ED),” intending it to convey the concept of “economically just treatment according to performance” as the fundamental institution for economic development (Jwa, 2017a). However, in this study, I have replaced this term with “economic differentiation (ED).” This decision is influenced by the recognition that the wording “economic discrimination” might raise social, political, or ethical concerns, particularly those associated with unjust economic treatment, contrary to the original intention. The purpose of this adjustment is to minimize the risk of such misinterpretations.

1 | INTRODUCTION

This study explores why the economy becomes stuck in polarized economic stagnation through the lens of the capitalist corporate economy. It provides the theoretical reasons why growth and distribution issues cannot be realistically handled without understanding the role of corporations in leading to shared growth in capitalism. It presents new economic development theory, empirical models, and evidence that corporations are the key promoters rather than spoilers of shared growth in capitalism and that the redistributive welfare system could lead to polarized stagnation by worsening income growth and market income distribution.

Mainstream market-centric economic theory has been unfriendly to the role of corporate firms in economic growth and development. Neoclassical production theory reduces the corporate firm to a technical production function, which is, in turn, reduced to its inputs, namely, capital, labor, land, technology, and so on. Therefore, the theory misses the holistic and synergistic organizational role that corporate firms as a social technology play in generating economic change in a complex way. This tradition of reductionism becomes a basis of growth accounting analysis.

While abundant in capital, labor, land, technology, and so on, these resources prove ineffective for high-value-added goods and services production without the support of an institutional setting for a corporate organization as an economic management system. All through a corporate organization, these production factors can be economically mobilized and transformed into valuable goods and services. It has sometimes been argued that the market can produce (Demsetz, 2008), or the state can too (as the socialists argue). However, it turns out that a pure market exchange system or the state alone is an inefficient producer due to information imperfection compared with a private corporate system acting as a social, institutional technology.

However, mainstream neoclassical economics has entrenched itself as a market-centric paradigm, prioritizing the market while relegating the role of the corporate organization to the background. The theoretical and policy debate has consistently revolved around the significance of the market versus the government in the economy. This study intends to bring the role of the corporate organization to the forefront of economic theory and policy, commensurate with its fundamental role in the actual economy, and thus comparable to the market and the government's role. Mainstream market-centric economics, having only a technical production function but lacking the role of corporate organization, can be called agrarian economics modeled after the agrarian economy based only on an exchange economy with generic firms. In contrast, the capitalist economy driven by the corporate system is a corporate economy. However, the communist/socialist economy was created by purging the private corporate system from capitalism and retaining only the factory, managed under the command system by the Communist Party.

Why did Paul Samuelson, the prime builder of neoclassical economics, continually project that the Soviet Union's economy would catch up with the US economy since his 1967 publication of *Economics* and argue that the Soviet economy would thrive, even just 2 years before the Soviet Union's collapse? "Contrary to what many skeptics had earlier believed, the Soviet economy is proof that... a socialist command economy can function and even thrive" (Samuelson, 1989, p. 837).

Why have most of the transition economies since the Soviet communist block collapsed returned to an agrarian economy nearly without any significant manufacturing sectors, with only the Chinese economy among them thriving for the last 40 years? How could Schumpeter

(1950/1942), who championed capitalist entrepreneurs as innovators leading the perennial gale of creative destruction, claim that socialism can thrive by overtaking capitalism? If so, what is the crucial difference between his brand of socialism vis-a-vis the collapsed socialist economy and the thriving Chinese socialist economy? How could the US economy catch up with the UK economy and continue dominating the World economy for over a century? What critical factor could determine who wins the economic rivalry between the US and Chinese economies? How can the US and World economies escape the polarized stagnation that has continued for over a half-century despite political and economic efforts to overturn it?

This study will show theoretically that these questions may not be fully answered without accurately evaluating the role of the corporate system in the capitalist economy, which has been almost neglected in the market-centric mainstream economics and the government-centered socialist economics, while, of course, emphasizing the synergistic roles of the development trinity consisting of corporate firms together with the markets and the government. The empirical work will investigate the main theoretical implications that a thriving corporate sector is critical to improving growth and distribution, that is, economic development, but a stagnating corporate sector will necessarily weaken them.

From this perspective, unless corporations' role in economic development is fully attended to, this could lead to a wrong judgment like that of Samuelson, who seems to have focused only on the speed of technological progress from the perspective of the neoclassical production function. He was correct in noting how fast the Soviet economy's technological progress was compared with the US economy's, particularly in the early period. However, he did not seem to pay enough attention to the fact that the Soviet economy lacked a corporate economy.

On the contrary, as will be elaborated on later, it is also interesting that Schumpeterian socialism can be interpreted, aside from its feasibility, as the economic system in which the communist dictatorship controls the labor union's anticorporate activities and whereby the capitalist corporate system is supposed to run the economy, which is far different from the former Soviet economy driven by the Communist Labor Party. Schumpeterian socialism looks pretty close to the miraculously grown Korean economy under the capitalist free market and incomplete democracy from the 1960s to the 1980s and the similarly grown Chinese economy called the socialist market economy under communist dictatorship for the last 40 years. Here, one could never miss the fact that the capitalist corporations played the paramount role as the development engine for both countries. In fact, Schumpeterian socialism can be interpreted as a revision to the traditional communist/socialist regime as well as the capitalist free market democracy, where both turn out to be less friendly to growing corporate organizations.

It is interesting to see how two renowned economists—Samuelson approaches the economy from the neoclassical growth accounting perspective and Schumpeter views it from a corporate economy—arrive at much different conclusions; the former is praising, whereas the latter is revising.

This study adopts the General Theory of Economic Development (GTED) (Jwa, 2017a) as the theoretical framework. The GTED emphasizes the roles of the trinity of corporations, government, and markets, particularly the role of corporations in capitalist economic development. The study's order of presentation is as follows. Section 2 will review the selective literature on the role of corporate firms in economic development, to show that capitalism is a corporate economy. Section 3 will briefly present GTED and its rich implications for capitalist economic development, including a corporate-led shared growth economy and a political economy regime for development. Section 4 will develop econometric models to analyze the corporate economy and the implications of the political economy. Section 5 will present the

results of empirical works for the World, United States, and Korean economies to test the corporate-led shared growth hypothesis and the role of redistributive welfare policy on growth and distribution. Section 6 will conclude the study.

2 | BRIEF LITERATURE REVIEW OF CORPORATE ECONOMY

Smith (1976/1776) strongly favored small, individually owned, or family-owned companies over large corporations such as the East India Company, which during his time were primarily government-chartered monopolies engaged not only in economic trade matters but also in political matters as the management of the colonies and thus must have been seen as economically inefficient and politically behaved, relative to the former generic firms. He lauded the former's organizational agility over the large corporations.¹

Moreover, in the middle of the Industrial Revolution, Karl Marx declared that corporations were the enemy of people, as they created economic inequality in society, and thus, they needed to be overthrown to pave the road to a communist regime. He welcomed the rise of the joint-stock company as the sign of socialization of capitalist ownership and the fall of capitalism so that the labor union or the state could nationalize ownership without disrupting factory management and production, making the transition to socialism much smoother (Marx, 1976, Book I, Chapter 32). However, his communism without joint stock companies failed, but capitalism led by them has thrived.

As the capitalist economy rapidly grew and there appeared an increasing economic concentration and monopolization by large growing corporations, economic harms done by them were heavily criticized theoretically and socially, and those large monopolists were caricatured even as “Robber Barons” in the United States during the late 19th and early 20th century. After the Great Depression of the 1930s, *laissez-faire*, unfettered corporate activities began to be seen as harmful and became regulated by various legal means. Since then, revised capitalism or mixed-economy ideologies prevailed, and corporations have been subject to a host of regulations in the name of fair trade and, at the same time, to heavy taxes as providers of government budgets for welfare states. However, economic theory or policy discussions have not duly recognized their contributions to capitalist development.

Coase (1937) argues that the firm is a substitute for the market at the margin, and that as market transaction costs rise, the firm internalizes those transaction activities and encroaches on the realm of the market; thereby, the extent of the market decreases. He implicitly assumes the largest possible, perfectly competitive market is provided from the outset as a default market and analyzes what would happen to the size of the market vis-à-vis the firm when the transaction costs increase. His analysis, therefore, implies that as the transaction costs increase, the realm of the corporate firms and the size of firms will increase relative to the size of the market. This implication contradicts the new institutional economics argument (North, 1990) that lower transaction costs are necessary for the growing firm sector and economic development, not only for market expansion. It seems that the Coasian theory of firm does not easily explain the role of firms interacting with the markets in economic development because the theory does not pay much attention to how the size and extent of the market grow to begin with, and so becomes reduced to the theory of vertical integration (Williamson, 2010). For example, the situation seems just like the case that a Smithian theory of specialization states that the division of labor increases or deepens as the extent of the market increases but fails to

address how and who will expand and cultivate the markets, breaking all kinds of barriers faced by the imperfect and high transaction-cost-ridden real-world markets. In this regard, unless the initial exogenous driver of market expansion is fully specified, the Coasian theory of the firm or the Smithian theory of specialization may turn into a tautology and, therefore, make it hard to explain what fundamentally causes economic development. However, the history of real-world economic development reveals that humans invented corporate firms to overcome the weakness of the markets and lead economic development. Note that if the market becomes perfect, whatever the reasons might be, then there is theoretically no need for firms to arise in the first place.

This interpretation can be conceptualized figuratively as follows. Figure 1 depicts the contours of the market economy and the corporate economy where A is the perfect market, B is the imperfect market, A + B is the actual market, and C is the nonexchange economy due to very high transaction costs to be cultivated into new markets by corporate firms. Here, the market is defined as a network of individual agents, households, and corporate firms, as Simon (1991) did in distinguishing the market and organizational economies. The traditional theory of firms, such as that of Coase (1937), starts by assuming the area of A + B + C is the perfect market by default and argues the market will reduce to A + B and then to A as the corporate firms substitute for the market incrementally when the transaction costs increase. However, this study argues that the perfect market may be as small as A by default, and that corporate firm can expand the market to B and further to C by overcoming the hurdle of positive transaction costs incrementally. Here, C may not be clearly defined due to the uncertainty about the size of the forthcoming transaction costs to be incurred, as is contoured with the dotted line.

Alchian and Demsetz (1977/1972) provide an interesting insight that the market and the firm are providing the same function of efficient resource allocation, both doing so by rewarding the owners of resources according to their productivity. However, the firm can do it better than the market in a costly information situation because the firm, based on team production, can more correctly monitor and meter the member's productivity to match the rewards. They argue that this is the reason why firms have come into existence. As the firm becomes more efficient in metering than the imperfect market as such, the firm can improve

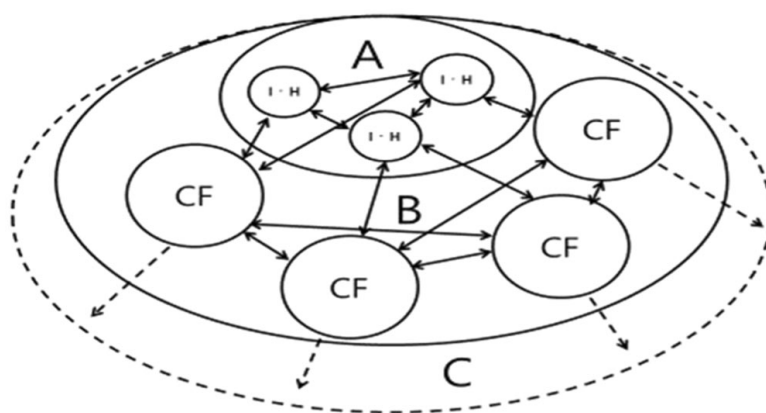


FIGURE 1 Constitution of corporate economy and market economy. A, perfect market without the need for corporate firms; B, imperfect market with positive transaction costs led by corporate firms; C, a highly imperfect market with high transaction costs waiting for corporate firms to cultivate, which may be the self-sufficient, nonexchange economy like a primitive or agrarian economy. CF, corporate firms; I-H, individuals and households.

the market outcomes of resource allocation. Moreover, Demsetz (2008, Chapter 9) criticizes the Coasian idea of corporate firms substituting for the markets and argues that the corporate firm arises to increase productivity by specializing in production.

Along this line, one can find similar arguments in literature to properly recognize the role of corporations in capitalism. Chandler (1977) argues capitalism is led by the visible hand of corporate management, compared with Adam Smith's invisible hand. Simon (1991) claims that the capitalist economy can be called an organizational economy (dominated by the private corporate organization) beyond the market economy. Moreover, recently, Greenspan and Wooldridge (2018) assert that the business of America is business, reaffirming that American capitalism has been led by the growth of corporations, implying that the US economy is in fact a corporate economy. Surprisingly, a renowned physicist, West (2017), recently joined the journey to build a corporate economy by proposing a science of companies as a general law of growth.

In addition to such literature, Micklethwait and Wooldridge (2003) present ample evidence in the history of economic growth and development to support the fact that corporate organizations have been the engine of capitalist economic development. In particular, they observed that becoming a successful business CEO has primarily been the goal rather than a means of living in the United States compared with what was found in Great Britain. This ideology was the engine of US economic development, allowing the United States to catch up with England, even though the joint-stock company was invented in the latter (op. cit., pp. 83–84).

This line of argument for a corporate economy can be traced back to Schumpeterian thought (Schumpeter, 1950/1942) regarding the role of entrepreneurs in innovative capitalism. Although he ended up with a gloomy prospect for the capitalist corporate economy and rushed into supporting the prospect of the rise of socialism after the demise of capitalism, he seems to have proposed his version of new socialism different from what operated in the Soviet Union. His socialism is designed to be managed by capitalist corporations and entrepreneurs, aided by the socialist dictatorship that could help control the then widespread social and political populism and labor union activities against corporations in liberal democracies that could threaten the survival of innovative capitalism.

“After all, effective management of the socialist economy means dictatorship not *of* but *over* the proletariat in the factory. The men who are there so strictly disciplined would, it is true, be sovereign at the elections. But just as they may use this sovereignty in order to relax the discipline of the factory, so governments—precisely the governments which have the future of the nation at heart—may avail themselves of this discipline in order to restrict this sovereignty. As a matter of practical necessity, socialist democracy may eventually turn out to be more of a sham than capitalist democracy ever was.....In any case, that democracy will not mean increased freedom. And, once more, it will mean no closer approximation to the ideals enshrined in the classical doctrine” (Schumpeter, 1950/1942, p. 302).

In addition, he winds up being a staunch supporter of a corporate economy rather than of the failed socialism devoid of the corporate system. His socialism may be understood as corporate socialism. “.... the socialist management could steer a course approximating the long-run trend of output, thus developing a tendency which as we have seen is not foreign to big-business policy. And the whole of our argument might be put in a nutshell by saying that socialization means a stride beyond big business on the way that has been chalked out by it or, what amounts to the same thing, that socialist management may conceivably prove as superior to big-business capitalism, as big-business capitalism has proved to be to the kind of

competitive capitalism of which the English industry of a hundred years ago was a prototype” (Schumpeter, 1950/1942, pp. 195–196).

In this regard, the countries currently experiencing ailing democracy and capitalism, such as the United States and other developed economies, might need to listen to Schumpeterian insights on the intrinsic weaknesses of liberal democracy harming capitalism and his alternative vision for socialism as the disciplined democracy and the extension of the capitalist corporate economy.

However, the Austrian school mistakenly interprets Schumpeter by championing the entrepreneur as a rescuer of the neoclassical production function without duly appreciating the role of corporate organization. For example, Israel Kirzner highlights the entrepreneur as an omnipotent individual agent who takes charge of the total factor productivity residual in the production function (Douhan et al., 2006; Kirzner, 2017). This study asserts that an individual entrepreneur without the umbrella of the corporate organization as social, institutional technology is as feeble as any other individual agent in the imperfect real-world market. As social protectors of entrepreneurs, corporate organizations must be rightly recognized as critical institutions for innovation. Also seen as belonging to the Austrian school, Hayek (1982), as a champion of the spontaneous market order and liberalism, contributed significantly to showing the impossibility of state-managed socialism lacking market order but, at the same time, expressed hatred of large corporations because they are taxis representing artificial, hierarchical order, the same as a socialist command economy against a spontaneous market order belonging to *cosmos* (Hayek, 1982, pp. 35–54, Vol. 1 and pp. 134–135, Vol. 2.)

Also, despite such literature that might imply the critical importance of corporations in development, they have never been treated seriously in the economic theory and policy-making arenas now dominated by the growth accounting framework. At most, one can find that policy discussions for growth recovery sometimes refer to the importance of corporate tax cuts and deregulation to stimulate corporate investment—while those issues are always subject to hot ideological debate, such as seen in the discussions of the pros and cons of supply-side economics and Neoliberalism.

At this juncture, I proposed the GTED to bring the neglected role of the corporate organization into the capitalist economic development mechanism (Jwa, 2017a). In addition, with the empirical works using the World cross-section data, I have found that the corporation is the engine of capitalist shared economic growth (Jwa, 2018; Jwa & Lee, 2020), which will be briefly introduced later. This study extends those works to time-series data on the US and Korean economies. By combining the information from the cross-section and time-series data analyses, we hope to gain richer insights into the issue of polarized stagnation.

3 | A GTED IN BRIEF: A MANIFESTO FOR CAPITALIST DEVELOPMENT

3.1 | The basics of GTED

3.1.1 | Development as a nonlinear order transforming process

The GTED (Jwa, 2017a) interprets economic development as a nonlinear order-transforming process of the complex economy as if the economy is transformed qualitatively as well as quantitatively from a wagon economy to a railway economy to an automobile economy to an

airplane economy to a space economy, as implied by Schumpeter (1974/1934).² This process is assumed to be subject to the Second Law of Thermodynamics, implying the law of increasing entropy of the closed system, which, in turn, means that the development requires the learning process via the nonlinear open interactions among economic agents or organizations. Open interaction, however, necessarily involves free-riding on others' success know-how. Therefore, a market failure in the sense of the traditional concept of positive externality becomes embedded in the development process so that the order-transforming development process of the complex economy is destined to fail to emerge in the beginning. This may explain why we have not routinely seen the emergence of economic prosperity historically and in the contemporary world.

3.1.2 | Economic differentiation (ED), an enabling institution for development

The GTED newly interprets from the evolutionary perspective that the market's function lies in ED, which treats economic differences differently by rewarding economic agents according to their performance, thereby incentivizing them. Logically, ED can help prevent or alleviate free-riding embedded in the development process. Therefore, the GTED argues that ED is necessary for economic development as an enabling institution. However, economic egalitarianism (EE), which treats economic differences equally or indifferently and negates ED, is a sufficient condition for economic stagnation.

3.1.3 | Trinity of development and GTED

Market

The market intrinsically gives incentives only to successful individuals and companies by helping only those who help themselves via ED. Markets always select and support, that is, economically differentiating the better-performing agents. Interestingly, the market's ED, that is, picking and supporting the market winners, can be thought of as not any different from industrial policy, because this is, in fact, what industrial policy is supposed to do.

However, the market, despite its role in rewarding success, is not sufficient for economic development. In the real world, the market's ability to enforce perfect ED is hindered by its inherent imperfections, leading to the widespread issue of free-riding. The transaction costs (or information costs) associated with market transactions subject to voluntary consent can pose significant barriers to the emergence of complex economic development. In the end, due to market imperfection in the real-world economy, the market alone cannot overcome the free-riding embedded in the development process and, therefore, fails to deliver enough incentives for development.

Corporate organization

Humans devised organizational mechanisms to address the limitations of markets. Private corporate organizations can solve the free-riding problem by reducing transaction costs through their hierarchical decision-making structure and complementing the market mechanism via the ED function. In this context, corporate organizations and the market have become integral to the intricate economic development process. The GTED asserts that the traditional development policy debate, which often pits the market-only

approach against the government-only approach, is incomplete without acknowledging the role of corporations. Without the empowerment and active participation of private companies, the growth and development of the capitalist economy is a challenging prospect only with the market or the government.

As a social technology, corporations inherently exercise the ED function of favoring high-productivity agents (Alchian & Demsetz, 1977/1972) and can help expand the market network. Corporate firms are pioneers or cultivators of new markets, as shown in Figure 1 above. Therefore, through the growth of corporate firm sectors, the extent of the markets also expands, and the market's overall ED function can also be strengthened for economic development. In this regard, a corporate firm is an enabling organization for capitalist economic development as it specializes in ED.

Historically, the agrarian society led by the classical market exchange economy lacked corporations. It evolved into the capitalist economy through the Industrial Revolution, which joint-stock companies drove. Theoretically and historically, the capitalist economy may be called a corporate economy, whereas the agrarian economy is a market (exchange) economy.

Government

Successful corporate firms, though, are also subject to the competitors' free-riding on their know-how of success. The government should actively induce the growth of private companies to supplement the weak market incentives by institutionalizing the ED principle as a policy to bolster corporate growth and economic development. Thereby, corporate firms can become indispensable participants and contributors to economic development.

In sum, the government's critical role in economic development is to supply the ED incentive system for the market and corporate firms. Only the corporate promotion policy based on the ED incentive can be a pro-market industrial policy to supplement the failure-prone laissez-faire market industrial policy. It can overcome various weaknesses of the traditional government-led industrial policy, such as the issues of picking the winner before the market and moral hazard (Jwa & Lee, 2019). Moreover, the welfare policy must be aligned with the ED incentive system so as not to harm economic development motives and so that it can be transformed into a development policy.

GTED

Consolidating these arguments, the GTED contends that economic development can occur when the market, corporate firms, and the government, like the trinity of economic development, make a concerted effort to establish a motivational ED institution that provides incentives based on performance, as shown by Figure 2. As the intersection area of the ED expands via the government efforts to promote the ED function of market and corporation, the possibility of economic development increases (like Figure 2-1) and vice versa mutatis mutandis (like Figure 2-2). This is a general theory in discovering the critical role of capitalist corporate firms and the government beyond the market-centric, laissez-faire model for economic development.

The ED institution is the enabling institution to create a shared growth mechanism. This is because the ED institution treats the economic differences differently according to performance and, therefore, can motivate the self-help spirit (via mindset change), becoming the necessary condition for growth and development for all, though differentially. However, anti-ED or EE institutions treat the economic differences indifferently, equally, or in reverse and, therefore, become a sufficient condition for economic stagnation by rooting out incentives to grow. The EE institution is naturally a disenabling, development-unfriendly institution.

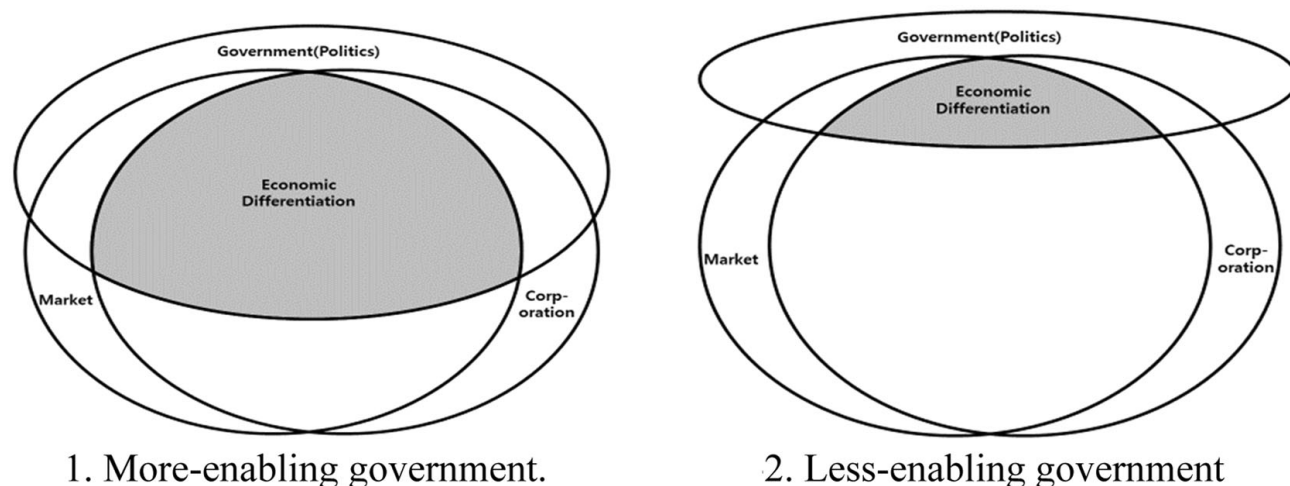


FIGURE 2 General Theory of Economic Development.

3.2 | A corporate economy for shared and inclusive growth

3.2.1 | Corporate-led growth and development

The GTED expands the traditional neoclassical growth model by acknowledging the significant role that corporations play in driving economic growth and development. It implies that mainstream economics and other social sciences must seriously consider the corporation's critical role in economic development.³ Conflicting lines of thought exist concerning the role of corporations in economics. Neoclassical economics is accustomed to disaggregating the corporation, company, or enterprise, whatever the name for such organizations might be, into capital, labor, and technology, thereby replacing the corporation with the production function. In this formulation, the corporate management system with entrepreneurs, the essence of social technology embodied in the corporate firm, disappears, and only the physical technology of the production factory remains.

According to the Schumpeterian vision of socialism quoted above, economists working with the various production function specifications amounts to working as the floor manager of the socialist production factory devoid of the corporations and entrepreneurs leading capitalist economic development via a new combination, that is, creative destruction. The former, the factory floor manager, is working in the world of equilibrium, so-called circular flow, under decreasing returns to scale, whereas the latter, the entrepreneur, is working in the disequilibrating world of development under increasing returns to scale (Schumpeter, 1950/1942, 1974/1934). From this perspective, the former works with the wagon economy's or railway economy's growth in terms of the number of products, given that the order of economy is fixed. However, the latter should work with the increasing complexity of an economy moving from the wagon to the spaceship economy. Therefore, the former is used to handle infinitesimal changes, the Schumpeterian circular flow, like quantitative growth given the quality (the order of economy) but has difficulty dealing with the Schumpeterian development of discrete jumps with the shift in quantity and quality in the disequilibrium. The former is like working with the market economy, where the market efficiently produces a given menu of goods within allocation economics, seeking an efficient allocation of given resources for the given ends. On the other hand, the latter works with the corporate economy, where the corporation endeavors to

produce new goods within development economics, ceaselessly seeking a new creation of resources and ends.

Corporate firms led by entrepreneurs⁴ are the creative destroyers. They continuously seek to exploit the increasing returns to scale to lead capitalist development by endlessly creating and internalizing the sources of market failure, such as externality, free-riding, or spillover effects, and expanding the market network. Otherwise, they play no role in development, just like a mediocre survivor resting in the equilibrium. Ultimately, it just might be that the successful creators of increasing returns to scale as innovators will lead capitalist economic development. Corporate-led growth and development may be its general pattern.

A reference to the elementary production theory could help clarify this interpretation. The development takes place along the ever-decreasing, long-run average cost curve of a developing firm where the economy is subject to the ever-dis-equilibrating forces—while the growth may occur along the usual U-shaped short-run average cost curve of a growing firm, satisfying all internal equilibrium conditions. Here, the former curve can be described as an envelope of the continually downward-shifting latter curves every time new goods are introduced. This implies that economic development occurs outside the textbook case of a well-behaved equilibrium. Therefore, economic development is an evolutionary process in which economics as science may have difficulty knowing much about its true nature.

The imminent policy question may be how to help those innovative developing corporations thrive endlessly. This study suggests that GTED is an answer, so the government needs to provide an ED institution that incentivizes those individuals and corporations who help themselves, just like the markets do every day, despite imperfectly. Government industrial policy should adopt the ED institution by helping those thriving, innovative corporations rather than the mediocre or failing ones based on their market performance, not the other way around, as is usually argued by populist economics and politics.

3.2.2 | Implication for growth and distribution: A corporate-led inclusive and shared growth

The GTED implies that growth and distribution cannot be separately treated practically, theoretically, and in policy-making. The ED paradigm is crucial to matching performance and reward, implying that growth and distribution are two sides of the same coin. They are the integrated and interrelated corporate production activities of buying inputs with rewards and putting them into production. In fact, providing appropriate rewards to the input owners to encourage their productive efforts is an essential part of the production process. In this regard, the reward determines productivity, whereas textbook economics teaches the reverse. For an efficient market or corporate economy, enough reward as an incentive should come beforehand or at least simultaneously with productivity performance.

“If rewards were random, and without regard to productive effort, no incentive to productive effort would be provided by the organization; and if rewards were negatively correlated with productivity the organization would be subject to sabotage” (Alchian & Demsetz, 1977/1972, p. 75). Although textbook economics assumes that marginal productivity determines the reward: “as if productivity automatically created its reward [assuming zero information costs, note by the author]... the direction of causation is the reverse – the specific system of rewarding which is relied upon stimulates a particular productivity response” (Alchian & Demsetz, 1977/1972, p. 77).

Schumpeter (1950/1942) also expresses a similar thought, saying, “Viewed from the economists’ standpoint, production—including transportation and all operations incident to marketing—is nothing but the rational combination of the existing “factors” within the constraints imposed by technological conditions: In a commercial society, the task of combining factors involves buying and hiring, and those individual incomes which are typical of such a society emerge in this very process of buying and hiring. That is to say, the production and the “distribution” of the social product are but different aspects of one and the same process that affects both simultaneously. Now the most important logical—or purely theoretical—difference between commercial and socialist economy is that in the latter this is no longer so. Since *prima facie*, there are no market values of means of production and, what is still more important, since the principles of socialist society would not admit of making them the criterion of distribution even if they did exist, the distributive automatism of commercial society is lacking in a socialist one. The void has to be filled by a political act, let us say by the constitution of the commonwealth. Distribution thus becomes a distinct operation and, in logic at least, is completely severed from production” (Schumpeter, 1950/1942, p. 173).

Schumpeter sees that production and distribution are not separable in commercial society but can be made so by political acts in a socialist economy that, however, turned out to be the core reason for the socialist regime's failure. The now most popular redistributive welfare system has been based on the presumption that once private production (and distribution) is determined in the market, the subsequent redistribution will not affect production efficiency much. This presumption is reinforced by the neoclassical economics assumption that as productivity automatically creates its reward according to the marginal productivity theory of distribution in the perfectly competitive market, the production efficiency already determined in private corporations can be preserved or even undisturbed by any arbitrary redistribution that follows. However, as far as the rules of redistribution are built into the economy, they will become a part of market institutions and naturally affect the production incentive. This is because factor suppliers will perceive the combined rules of rewarding both by corporations and the government as the ultimate rules of distribution applied in the production process. In this context, the redistribution recession extending the US Great Recession in 2009 due to diminished incentives to work caused by an expanded array of US safety net programs (Mulligan, 2012) is especially worth noting.

One needs to learn lessons from history. As Schumpeter discusses in the above quotation, socialism separated production and distribution as in capitalist redistribution, seeking to maximize production efficiency, probably hoping for no negative repercussions from the egalitarian distribution rule. However, most socialism eventually failed due to the lack of incentive for production efforts. Unless capitalism is abandoned, the conventional economic conceptualization that “production comes first and distribution follows” needs to be reconsidered as a policy guideline for redistributive welfare philosophy.

In sum, the GTED implies that corporations are necessary for shared-inclusive growth because the corporation is the epitome of the ED institution in the capitalist economy. The ED incentive structure intrinsically built into the corporate management system is conducive to shared and inclusive growth. It motivates most workers and business partners to improve their performance and productivity. This is why the capitalist corporate economy can promote shared and inclusive growth beyond an agrarian market economy and the socialist economy, even though that does not mean equal distribution. Historically, corporate firms have strengthened the role of the market economy by increasingly integrating the self-sufficient nonexchange sectors into the market network and, thus, helped capitalize on the exchange

economy, as shown by Figure 1 above. Thereby, capitalist corporations have contributed to creating a middle-income class since the Industrial Revolution by offering new sources of income to an agrarian society that had barely been surviving in the Malthusian trap. Today, advanced industrial economies have seen that agriculture as a share of gross domestic product (GDP) typically falls to single digits, and corporations increasingly manage modern agriculture.

However, socialist countries have rebuked and disbanded private corporations, claiming them as the fundamental source of economic inequality since their inception. Eventually, they ended up with quasi-agrarian, polarized economies devoid of the industrial sector and the middle-income class, as revealed when they failed. This phenomenon has also occurred in underdeveloped economies with fragile corporate economies. Polarized growth has also occurred in most developed economies where the once-thriving corporate sector has been suppressed. These observations, I hope, can help answer questions raised in the introduction.

3.3 | Choice of political regime for development: A new positive theory of political economy

Having identified the ED as an enabling institution for development, the GTED can now provide a new perspective on the choice of political regime for development. The GTED implies that politics should avoid introducing the EE rather than the ED policy paradigm if it can further economic development. In this regard, the economization of politics, defined as the politics' maintaining the ED policy paradigm, is development-friendly. In contrast, the politicization of the economy, defined as the politics' abandoning the ED policy paradigm for the sake of the EE policy paradigm, is development-unfriendly. This framework may help resolve the perennial question of what political institutions are necessary for economic development, thus enriching and expanding the scope of New Institutional Economics.

The New Institutional Economics led by North (1990, 1992), Eggertsson (1990), and others lack specific policy prescriptions for the choice of institutions for development beyond private property rights cum economic freedom. Similarly, it has not adequately answered what types of enabling institutions the government (including politics) should supply. Instead, it used to say, "Provide efficient private property rights and economic freedom. Then, market competition will more or less automatically bring the manna." It assumes that as long as an efficient property rights system prevails, competitive markets will work efficiently to handle most economic problems. However, experience tells us that the so-called efficient property rights and the resulting efficient market still seem remote, not to mention the efficient government and politics as the rule suppliers.

An interesting new approach recently suggested by Acemoglu and Robinson (2012, 2019), classifying institutions into inclusive and extractive ones, still seems to fall short of further sharpening the institutional approach. Their extractive institutions include totalitarian and nondemocratic political institutions and market-unfriendly economic institutions; this appears so self-evident that their argument seems tautological. However, their inclusive institutions entail efficient property rights, economic freedom, a market system, and liberal democracy respecting human rights and many other positive features, not much different from the lists the previous authors like Douglass North and others proposed. Nonetheless, the problem stems from the fact that they classify egalitarian or populist democracies as inclusive institutions, which are, by nature, prone to the anti-ED or EE policy paradigm and, therefore, are development-unfriendly. In fact, they have no idea of the need to distinguish between the ED

and the EE institutions, so they are unable to explain why, among most so-called Western-style democratic societies, the underdeveloped economies still fail to catch up with developed ones, falling into the middle-income trap, and the already developed economies face polarized stagnation for many decades, all seemingly under egalitarian democracies. In addition, they classify the inclusive political institution as a combination of plural politics and sufficiently centralized government without answering how those two elements could be consistently and harmoniously combined while apparently conceding the need for a strong centralized government for development. Here they are unclear about how a sufficiently centralized government can be democratic or different from an authoritarian government. With this simplified two-regime paradigm of inclusive versus extractive institutions, they have specific difficulty explaining the successful cases of Korea and China, mistakenly defining their development-friendly but authoritarian political regimes as development-unfriendly, extractive political institutions.

The GTED implies that the ED incentive is a grand theory of economic development. ED institutions are the emergence-enabling ones that the economics professions in general, particularly the new institutional economics, have long searched for. Now, ED institutions can tie up several loose ends of the new institutional economics. The ED policy regime, via its motivational function, can resolve most dilemmas usually faced by institutional economics: (1) it can strengthen the weak market forces of competition by activating rivalry, (2) it can improve inefficient property rights by helping incentivize the suppliers of know-how of success, (3) it can reform the development-unfriendly mindset (informal institutions) to a self-help spirit by awakening agents' sleeping instincts to economize, and (4) it can help navigate the government policy by providing the ED principle as the guideline for equitable and efficient institution building.

Moreover, the ED perspective can provide a crucial criterion for judging the development friendliness of political institutions: a political regime will be development friendly if ED-friendly but development unfriendly if EE-friendly. These implications can be summarized as a four-regime political-economy theory by combining the economic orders of ED versus EE institutions and the political orders of liberal democracy versus nondemocracy as follows: as market democracy (ED + liberal democracy) and market authoritarianism (ED + nondemocracy), which are development friendly, and egalitarian democracy (EE + liberal democracy) and Egalitarian dictatorship (EE + nondemocracy), which are development unfriendly, as shown by Table 1. In the same vein, this framework can also provide an important criterion to determine the development-friendliness of the welfare state: the redistributive welfare state will be development-friendly if ED-friendly but development unfriendly if EE friendly.

This four-regime political economy theory can explain why nondemocratic countries can develop if they adopt ED institutions (market authoritarianism), such as the now-developed countries during the Industrial Revolution in the 18th–19th centuries, Korea during the 1960s and the 1980s, and China since the 1980s. It can also explain why most developed Western democratic countries stagnated by adopting EE institutions (egalitarian democracy). All those episodes have been challenging to explain via the existing growth and development theories.

This approach presents a positive political economy theory, employing an incentive economics framework to evaluate the development-friendly nature of political institutions and ideologies—filling a void in New Institutional Economics. It overcomes the normative Marxian political economy rooted in extreme egalitarianism. Extending beyond the New Political Economy, primarily the economic studies of the political markets, this theory introduces a

TABLE 1 Political economy axis of economic development.

Economic order	Political order	
	Liberal democracy	Nondemocracy (authoritarianism)
ED policy paradigm	Market democracy	Market authoritarianism
EE policy paradigm	Egalitarian democracy (social democracy, revised capitalism, mixed economy, and so on)	Egalitarian dictatorship (communist/socialist dictatorship, totalitarianism, and so on)

Note: Jwa (2017a) and Jwa and Yoon (2004).

Abbreviations: ED, economic differentiation; EE, economic egalitarianism.

unique framework for assessing political institutions and ideologies, including the welfare state, for the development and advocates for their alignment with the ED policy principle to enhance development.

4 | CORPORATE PRODUCTION AND DISTRIBUTION FUNCTION MODELS

4.1 | Basic models

As GTED implies, production and distribution can be expressed mathematically as a function of corporation. I will derive a new functional form from the neoclassical production function $Y = A \cdot f(K, L)$ where Y is aggregate output, K is capital stock, L is total labor stock, and A is the efficiency parameter representing stock of technology. If one assumes that the $f(\cdot)$ function is linearly homogeneous, as usual, this equation can be transformed into $Y/L = A \cdot f(K/L)$. Here, note that the total asset of the company's balance sheet is the total book value of all economically valuable assets owned by the company, such as tangible assets, including physical capital, and intangible assets, including knowledge assets, such as intellectual property rights, all evaluated according to the standard accounting principle. It is the sum of the values of all productive resources excluding labor input, L . Since the efficiency parameter, A , refers to intangible knowledge assets, the total asset item can be considered a holistic integration of K and A , which is named CA in this framework. Considering this, the neoclassical production function can be transformed into a function of a per capita CA, CA/L , as follows.

$$\text{Production function: } Y/L = \alpha + \beta(CA/L) + \gamma X + \varepsilon, \quad (1)$$

where α , β , and γ are the coefficients to be estimated, CA is the company's total asset, and X is various policy and institutional variables including the proxy variables for welfare state that affect production other than the company's assets. ε is the measurement error. This aggregate corporate production function has the advantage of overcoming several conceptual and empirical weaknesses of the neoclassical model, such as the measurement of technology and capital (Ferguson, 1969; Harcourt, 1972).

On the other hand, considering the previous claim that production decisions are made in an integrated manner together with distribution, it can be assumed as an

approximation that distribution is also affected by the same variables as production. However, if some unique aspect of distribution decisions differs from production, such an element can be appropriately reflected in the X variable. The distribution function is defined as follows.

$$\text{Distribution function : Gini} = a + b(CA/L) + cX + \varepsilon, \quad (2)$$

where Gini is the market income Gini coefficient or any other variables measuring market income distribution, and CA/L and X are the same as defined in Equation (1).

Recent researchers are interested in the direct relationship between production and distribution. In this case, the distribution function can be conveniently transformed into a function of production, as follows.

$$\text{Modified distribution function : Gini} = a + b(Y/L) + cX + \varepsilon. \quad (3)$$

This specification may provide direct empirical evidence to shed light on the issue of shared and inclusive growth (Acemoglu & Robinson, 2012, 2019; Helpman, 2004). However, this should be interpreted as estimating an association between endogenous variables rather than a logical causal relationship like Equations (1) or (2). This is because both Gini and Y/L are logically endogenous variables. Here, the issue of the endogeneity of the variable, CA , may also be raised. However, CA can be thought of as determined by an independent economic decision-making entity, that is, the corporate organizations that internalize various shocks occurring in the market, so its exogeneity can be considered to be that high, while it is an empirical question.

Let's delve into the common-sense economic logic that underpins this model. The relationship between total production and total corporate assets, which are the core of the production function, can be succinctly summarized as follows: $(Y/L) = \beta \cdot (CA/L)$. This equation explains the flow (Y/L) on the left side by the stock (CA/L) on the right side. In other words, the GDP flow can be interpreted as the annual income generated in the form of a permanent pension at the rate of return β from the total asset stock of the national economy that can be economically utilized. β , in this context, can be seen as the comprehensive marginal productivity of all companies in the economy.⁵

4.2 | Hypotheses

Having specified the estimation models with the variables, one can define the hypothesis to be tested as follows.

4.2.1 | Hypothesis 1

Capitalist corporate-led shared and inclusive growth: If $\beta > 0$ in Equation (1), implying the positive effects of corporate growth on economic growth, and $b < 0$ in Equation (2), implying the inequality-reducing effect of corporate growth, the hypothesis will be sustained. This hypothesis is expected to hold in the capitalist economy in general because the capitalist economy is argued to be a corporate economy embodying a shared growth nature. However, if

the political economy regime is strongly unfriendly to a corporate economy, such as the egalitarian dictatorship, including socialism, and even a strongly egalitarian democracy, the situation of $\beta \leq 0$ and/or $b \geq 0$ may also be possible, which can then be taken as the evidence for such regime.

4.2.2 | Hypothesis 2

The ED-based welfare state versus EE-based welfare state: One can test this hypothesis by utilizing appropriate X variables to measure the extent of welfare state. In this case, if $\gamma > 0$ in Equation (1), implying the positive effect of the welfare state on economic growth, and $c < 0$ in Equation (2), indicating the inequality-reducing impact of the welfare state, the ED-based welfare state is confirmed. On the other hand, if $\gamma < 0$ in Equation (1), implying the negative effect of the welfare state on economic growth, and $c > 0$ in Equation (2), suggesting the inequality-increasing impact of the welfare state, the EE-based welfare state is confirmed. Of course, $\gamma = 0$ and $c = 0$ implies the effect of the welfare state is neutral to the growth and distribution. All these statements apply equally to the labor union variable, *mutatis mutandis*.

In addition, Equation (3) will supplement Hypotheses 1 and 2 by substituting the GDP for the CA variable. It will provide information on the coevolution of growth and distribution depending on the sign of the GDP variable, which, however, is not the primary concern here.

4.3 | Extended models for regime change

The above models can also be modified to estimate the effects of changes in the political economy regime. Given that the span of the data could usually be long enough in the time-series data, such as a half-century, one needs to consider the possibility of political economy regime changes in the sample period. Figure 3 conceptualizes the regime change analysis.

For this purpose, the study utilizes the dummy variable approach by adding the explanatory variable multiplied by the dummy variable, which takes 0 for the old regime era and 1 for the new regime era, whose coefficient reflects the impact of the new regime only (B), and the coefficient of the no-dummy-multiplied variable represents the old regime effect (A). The sum of (A) and (B) is the postchange total effect, which provides the postchange parameter. Note that this differs from the method of the dummy variable applied to the constant term in that this strategy checks the structural break in the slope parameters (Asteriou, 2006; Maddala, 1977). The old regime structure is taken as the underlying economic structure (A), on top of which the new regime effect (B) is imposed, where $(A + B)$ becomes the postchange structure.

	Political Economy Regime (B)
Political Economy Regime (A)	Political Economy Regime (A)

FIGURE 3 Concept of estimating effect of political economy regime change.

To do this experiment, one needs to estimate the following set of equations as follows.

$$Y/L = \alpha + \beta_1(CA/L) + \beta_2 D(CA/L) + \gamma_1 X + \gamma_2 DX + \varepsilon, \quad (4)$$

$$\text{Gini} = a + b_1(CA/L) + b_2 D(CA/L) + c_1 X + c_2 DX + \varepsilon, \quad (5)$$

$$\text{Gini} = a + b_1(Y/L) + b_2 D(Y/L) + c_1 X + c_2 DX + \varepsilon. \quad (6)$$

Here, D is a dummy variable that takes 1 for the period after the regime change and 0, otherwise. In this case, the structural reform may be identified by the significance of the estimated coefficients of the variables multiplied by the dummy variables, β_2 , γ_2 , b_2 , and c_2 . To understand the structure after the reform, we need to check the signs and significance of $(\beta_1 + \beta_2)$, $(\gamma_1 + \gamma_2)$, $(b_1 + b_2)$, and $(c_1 + c_2)$. Unlike the so-called double difference method (difference in differences) (Card & Krueger, 1994), which examines whether the constant terms of the equations, “ α ” or “ a ,” have changed before and after the reform, this approach verifies the change in the coefficients of the explanatory variables, that is, β , γ , b , c themselves. It traces the changes in the structure itself.

In addition, if the regime undergoes multiple changes, additional dummies can be utilized, forming a multiple regime change model where the concepts and interpretations of the two-regime model are equally applicable, *mutatis mutandis*.

4.4 | Choice and limitation of sample data

4.4.1 | Data on CA and Gini

The empirical works can utilize the time series or the cross-country data. However, the critical limitation is the lack of data on CA in both cases. The author's previous works used cross-section data, where the period and the sample countries were necessarily limited due to CA data availability. While utilizing time-series data, the current study faces the challenge of limited potential sample countries due to the lack of long enough CA data for regression. Even the primary sample, the United States, has the CA data only for the manufacturing sector since 1960, but for all industries, including manufacturing, mining, wholesale, and retail, but excluding the service industries, only since 1974. They are too narrow or short for regression purposes. Here, other developed economies do not even come close to the United States, not to mention developing countries. These challenges and limitations underline the complexity and depth of our research.

Given the limitations, the author compiled an aggregate of total assets in the balance sheets of US companies listed on the NY Stock Exchange, with headquarters in the United States, from the S&P Capital IQ database on financial statements. This data is then utilized as CA, an inevitable choice under the data limitation. For Korea, another sample country, the author constructed the CA data based on the official publication, *Analysis of Corporate Management*, by the Bank of Korea. This publication includes the data on corporate assets of seven major Korean industries: manufacturing, mining, electricity, construction, wholesale and retail, accommodation, and transportation. This publication reported their growth rates from 1962 to 2009, and since then, the population survey data on CA have begun to be compiled and reported. This allowed for calculating early data on CA through the back-casting method.

In this regard, the choice of the US and Korean economies for the empirical study is almost dictated by the availability of the data on CA. However, symbolically, the United States

represent the matured developed economies and Korea is the newly joined developed economy that experienced unique and rapid transformation from scratch after World War II. Combining the evidence of the World, the US, and Korean economies is hoped to help better understand the nexus of growth and distribution.

In addition, the data on the US Gini coefficients are from the Standard World Inequality Index Database (SWIID) by Solt (2022). However, Korea's income Gini combines the SWIID (Solt, 2016) up to 2016 and its extended series (2017–2021) forecasted using the Household Financial Welfare Survey Gini (2011–2022) that Korea has formally published.

4.4.2 | Data on X

In addition, the study uses two important institutional variables representing the characteristics of the country's political economy regime. One is a redistributive welfare system variable, but finding an appropriate, measurable proxy variable was difficult. Although actual government welfare expenditure data may be used, it is not easy because the standards and availability periods of the data and the effectiveness and operational efficiency of the welfare systems vary among countries. Therefore, this paper uses the ratio of the actual observed market income Gini coefficient to the disposable income Gini coefficient as a proxy variable (Gini ratio). This variable is meant to directly measure the effectiveness of redistributive welfare policies that aim to reduce the disposable income Gini below the market income Gini. However, considering the potential time lag of the government welfare policy response to the change in market income Gini, we use the Gini ratio (-1), a 1-year lag variable. It is found that the Gini ratio gets high as the disposable income Gini gets low in the cross-country data. In the case of the time-series data of the United States and Korea, the correlation coefficients between the Gini ratio and the social spending ratio to GDP are high, such as 0.67 for 1969–2020 for the United States and 0.88 for 1969–2021 for Korea.

In addition, the political economy regime's policy toward labor union activities is also an important barometer of its nature. It may be ED-friendly if not pro-union or EE friendly if pro-union. The unionization rate is used to represent the union activities.

4.4.3 | Choice of nominal versus real variable

CA is in nominal terms considering the corporate balance sheet are valued in current nominal terms and the appropriate deflator for CA is not available. The real Gross Domestic Product (GDP) is used as the dependent variable as usual in production function, but nominal GDP was used as an explanatory variable when it replaced the nominal CA in distribution function consistently with the Gini coefficient based on current income.

5 | EMPIRICAL RESULTS AND IMPLICATIONS

5.1 | The World economy

Two previous empirical results for the World economy are summarized here. One is the analysis by Jwa (2018) in Table 2. The other is the analysis by Jwa and Lee (2020) in Table 3.

TABLE 2 World production and distribution functions.

Independent variables	Dependent variable		
	Production function: Ln (nominal GDP/L) (Equation [1])	Distribution function: Market income Gini (Equation [2])	Distribution function: Market income Gini (Equation [3])
Ln (CA/L)	0.390*** (0.0226)	−1.452*** (0.400)	
Ln (nominal GDP/L)			−4.385*** (0.706)
CHHI	0.00002* (0.00001)	0.0002 (0.0002)	
Adjusted R^2	.753	.191	.258
Number of observations (time period: 2005 ~ 2013)	639 for 71 countries	363 for 66 countries	363 for 66 countries

Note: 1) These results were estimated with fixed-effect panel estimation method by EViews package. 2) Values in parenthesis are robust SEs. Statistical significance levels are as follows: ***, ** and * indicate 99%, 95%, and 90% levels of significance, respectively. 3) Explanation and source of variables: Ln GDP/L is the natural log of per capita nominal GDP. The reason for using nominal GDP as income variable (GDP/L) is because the time series span is practically too short for the benefit of the real value transformation; Ln CA/L is the natural log of per capita nominal corporate asset in the economy; GINI is income GINI coefficient in percentage terms; CHHI is corporate sector concentration by HHI (Herfindal–Hirschman index) method. The constant term is omitted for brevity. 4) Data source: CA is from S&P Capital IQ on financial statements, and GDP (gross domestic product), L (population) and Gini are from the World Development Indicators database.

Source: Jwa (2018).

TABLE 3 World production and distribution functions.

Independent variables	Dependent variable		
	Production function: Ln (nominal GDP/L) (Equation [1])	Distribution function: Market income Gini (Equation [2])	Distribution function: Market income Gini (Equation [3])
Ln (nominal CA/L)	0.419*** (0.036)	−0.445** (0.217)	
Ln (nominal GDP/L)			−2.450*** (0.342)
Gini ratio (−1)	−0.668* (0.348)	10.768*** (2.962)	9.125*** (2.811)
Adjusted R^2	.996	.979	.982
Number of observations (time period: 2006 ~ 2013)	479 (69 countries)	472 (69 countries)	472 (69 countries)

Note: 1) This is the fixed-effects panel estimation result from the EViews package. The production function result is from two-stage least squares Panel Estimation with the instrumental variable (IV) method to correct the endogeneity problem with CA by using the one-year lagged CA as IV. 2) Values in parenthesis are robust SEs with statistical significance levels indicated by *** at 99%, ** at 95%, and * at 90%. 3) Explanation of variables: See the note of Table 2. Two more control variables, the degree of openness measured by (export + import)/GDP and the average level of secondary school education, are utilized but not reported here, because they are not significant, except for the openness in production function with (−) sign, and not of primary concern here, and also to save space. The constant term is also omitted for brevity. 4) Data source: Cross-section CA data is from S&P Capital IQ on financial statements, and Gini coefficients are from SWIID by Solt (2016). See Table 2 for other variables. 5) Abbreviations: GDP, gross domestic product; SWIID, Standard World Inequality Index Database.

Source: Jwa and Lee (2020).

These two results have different purposes. Although some sample data overlapped, their periods were 1 year apart (due to the 1-year-lagged Gini-ratio variable in Table 3) and they used Gini coefficients from different sources. Table 2 intended to verify the hypothesis of corporate-led shared growth and Table 3 intended to additionally verify the effect of the redistributive welfare system on shared growth. However, they are complementary, since both tested the effect of corporations and welfare systems on shared growth under the same theory.

The results can be summarized as follows: In both cases, corporate growth significantly contributes to improving growth and distribution. The redistributive welfare system hurts both growth and distribution. In sum, the World data show corporate-led shared growth but welfare policy-led polarized growth. The increase in economic concentration in the corporate sector positively affects growth. Still, its effect on income distribution is insignificant. Growth and distribution are not substituting but coevolve by mutually enhancing.

These results imply that corporate growth has contributed to alleviating polarized stagnation through the shared growth effect, but the redistributive welfare system has worsened it by harming growth and distribution. However, it turns out that the negative impact has probably dominated the positive effect, so the net effect has been a growth stagnation cum polarization.

5.2 | The US economy

5.2.1 | Preliminary discussion

The US economy has experienced a series of significant fluctuations since the 1960s. These include the post-war boom, the Stagflation of the 1970s, the emergence of Neoliberalism in the early 1980s, the Great Moderation from 1986 to 2007, and the Great Recession of 2008–2009 following the subprime mortgage crisis of 2007. The rise of Neoliberalism, in particular, seems to be the most significant regime change in modern US political economy history, necessitating its incorporation in modeling the US economy.

In response to the failure of Keynesian wage and price controls and the Stagflation during the 1970s, Neoliberalism emerged as a powerful alternative policy paradigm, a form of capitalism without government intervention, driven by market fundamentalism and Monetarism. Under the ideology of market and individual responsibility, its doctrines encompass free competition, small government with less welfare provision and tax reductions, privatization, corporate deregulation, antilabour unions, globalization, and more, often under the banner of the Washington Consensus. The debate between Neoliberalism and embedded liberalism, a term for the previous regime under Keynesian government intervention coined by Harvey (2005), on their effects on the growth and distribution not only in the US economy but also in the global context, has been a heated issue in the political economy discussion since the 1980s when the Reagan and Thatcher administrations embraced Neoliberalism. The embedded liberalism camp has strongly criticized Neoliberalism for the so-called polarized growth since the Reagan era. (Harvey, 2005; Milanovic, 2016).

Therefore, the econometric analysis of the US economy needs to utilize the two-regime model, assuming a structural break around the early 1980s. Here, I pick 1981, the inauguration year of the Reagan administration, as the starting year of Neoliberalism and use the dummy variable, taking 1 for the years from 1981 and 0 before 1981.

Figure 4 depicts the growth trends of major variables utilized in regression for the bird's eye view of the US economy during the sample period, as the regression is run in growth terms to

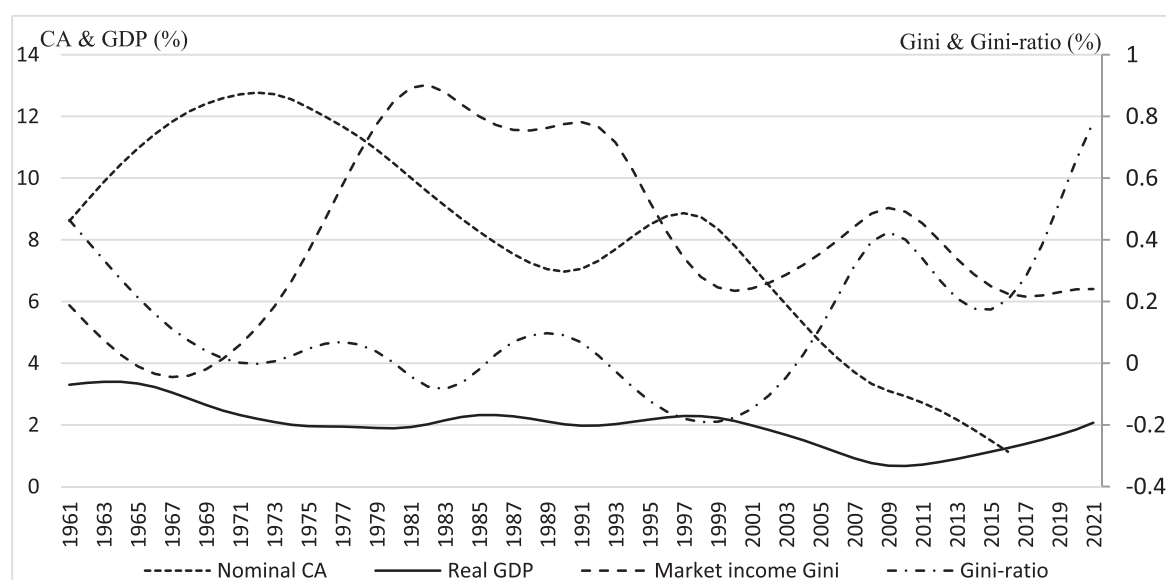


FIGURE 4 Growth trends of the US major variables. 1) Graphs are all drawn in growth trends, which are generated through the Hodrick–Prescott filter. GDP and CA are per capita growth trends. 2) Source of Data: See the note in Table 4.

avoid the nonstationarity problem. The correlation coefficients among their nontrended growth rates are as follows: The correlation coefficients of per capita real GDP growth with per capita nominal CA growth and Gini-ratio growth are 0.415 and -0.284 , respectively. The correlation coefficients of the market-income Gini growth with per capita nominal CA growth, per capita nominal GDP growth, and Gini-ratio growth are -0.289 , -0.189 , and 0.188 , respectively. The sign patterns look roughly consistent with the World results.

5.2.2 | Integrated and two-regime models: Results and implication

I report two sets of results for three equations: an integrated regime and the two-regime models. The reporting style is a little unusual in that the A, B, and A + B columns are presented in parallel rather than vertically so that they can be easily compared. The A + B column is the author's calculation, and their standard errors are calculated by using the asymptotic variance formula, $V(A + B) = V(A) + V(B) + 2 \times \text{Cov}(A, B)$. One can easily find the two-regime models provide additional helpful information (Table 4).

The implications are remarkably similar to the World case. The integrated regime model shows identical results to the World case of corporate-led shared growth but welfare policy-led polarized growth, except for the insignificance of the negative welfare policy effect on growth. For the two-regime model, corporate-led income growth and shared growth are confirmed, except that the shared-growth effects in the distribution function turn insignificant in post-neoliberalism. The coevolution of income growth and distribution is also confirmed.

For the welfare state effect, its effects on income growth turned from significant positive in pre-neoliberalism to negative though marginally significant in neoliberalism, and its negative effect on distribution turned to very significant in neoliberalism from insignificant previously. Finally, the labor union hurt the growth while giving no significant help to distribution.

For the control variables, the Volcker's shock had a significant negative effect on distribution but not growth. In contrast, the Great Recession had no significant impacts on growth

TABLE 4 Results of integrated and two-regime models of the US growth and distribution functions.

Independent variable	Dependent variable: Per capita real GDP			Dependent variable: Market Income Gini			Dependent variable: Market Income Gini		
	Equation (1)	Equation (4)		Equation (2)		Equation (5)		Equation (3)	
	Inte-grated-regime	Pre-Neo-liberalism (A)	Neo-liberalism only (B)	Post-Neo-liberalism (A + B)	Inte-grated-regime	Pre-Neo-liberalism (A)	Neo-liberalism only (B)	Post-Neo-liberalism (A + B)	Inte-grated-regime
Nominal CA/L	0.124** (0.050)	0.123** (0.053)	−0.009 (0.053)	0.114*** (0.042)	−0.057*** (0.013)	−0.067*** (−0.020)	0.033 (0.039)	−0.034 (−0.027)	−0.084** (−0.039)
Nominal GDP/L									−0.096** (−0.045)
Gini-ratio (-1)	−0.140 (0.340)	2.659** (1.052)	−3.047*** (1.088)	−0.388+ (0.252)	0.391*** (0.091)	0.035 (0.130)	0.371** (0.178)	0.405*** (0.112)	0.341*** (0.072)
Unionization	−0.233* (0.122)	−0.123 (0.125)	−0.190 (0.190)	−0.313** (0.157)	0.040 (0.040)	−0.003 (0.029)	0.119 (0.099)	0.116 (0.102)	0.050 (0.041)
Volcker's shock	−1.042 (0.971)		−1.191 (1.041)		0.774** (0.316)	0.840** (0.331)			0.920** (0.373)
Great Recession	−0.755 (0.632)		−0.524 (0.498)		−0.377 (0.250)	−0.362 (0.238)			−0.179 (0.276)
Constant	0.902* (0.503)		0.737 (0.478)		0.853*** (0.234)	0.887*** (0.246)			0.830** (0.315)
Adjusted R ²	0.159		0.222		0.271	0.268			0.253
Period	1962 ~ 2016	1962 ~ 2016	1962 ~ 2016	1981 ~ 2016	1962 ~ 2016	1962 ~ 2016	1962 ~ 2016	1981 ~ 2016	1962 ~ 2016
									1981 ~ 2016

Note: 1) All variables are in growth terms to avoid nonstationarity problems. For the endogeneity problem, no correlation was found between CA and estimated error. All estimates are EViews ordinary least squares estimates. 2) Values in parentheses are robust SEs. Significance level is *** at 99%, ** at 95%, * at 90%, + at 85%, and + at 80%. 3) Column B is the coefficient of the main variable multiplied by the dummy for neoliberalism. The A and B columns combined form the main body of the equation. The author calculates column A + B, where the asymptotic standard error is calculated by using the asymptotic variance formula, $V(A + B) = V(A) + V(B) + 2 \times \text{Cov}(A, B)$. 4) Source and explanation of major variables: GDP is from the World Bank. CA is from the S&P Capital IQ database, and market and disposable income Gini coefficients are from SWIID by Solt (2022). Unionization is from the Organization for Economic Cooperation and Development. Volcker's shock is a dummy variable that only takes 1 for the period of strict monetary management by Federal Reserve Chairman Volcker in 1979–1987 and the Great Recession is a dummy variable that takes 1 for the period of the subprime financial crisis 2008–2016. In addition, openness and education level were attempted, but they were insignificant, as in the case of the World. 5) Abbreviations: GDP, gross domestic product; SWIID, Standard World Inequality Index Database.

and distribution. These results may be because the CA and Gini-ratio variables partly capture or internalize their potential adverse effects.

In the end, the current US economic structure, which generally features corporate-led shared growth and redistributive welfare policy-led polarized stagnation, implies that stagnated growth and worsened distribution for the past several decades could primarily be due to the stagnant growth of the corporate economy and the rapid increase of welfare expenditures as worried by Greenspan and Wooldridge (2018).

Finally, an interesting implication emerges concerning the role of neoliberalism. It is found that neoliberalism's significant contribution was only to make the corporate-led shared growth effect insignificant, to turn the welfare policy-led positive effect on growth to negative (marginally significant), and to strengthen further the welfare policy-led worsening impact on distribution. Neoliberalism appears to have been contributing to polarized stagnation. These are astonishing results considering the policy doctrines of neoliberalism, which intend to enhance corporate-led shared growth further and reverse the negative role of welfare policy to a positive one for both growth and distribution. The results contradict such neoliberalism's policy doctrines. This may mean that the Reagan and subsequent administrations probably failed to properly implement their neoliberal policy reforms as they proposed, as Cohen and Centeno (2006) pointed out that for major economies, welfare policy was strengthened rather than reduced by increasing welfare expenditure, and the government expenditures relative to GDP did not change much. If so, this may imply that policies rather than the said doctrines might be responsible.

Now, the US political economy regime seems apparently to be under an Egalitarian Democracy friendly to the EE rather than the ED policy paradigm. Where it will be heading could be an important concern for the World economy as well as the US economy.

5.3 | The Korean economy

5.3.1 | Preliminary discussion

Figure 5 shows the growth trend of per capita real income, the growth trend of market income Gini, the growth trend of per capita nominal corporate assets and the growth trend of Gini-ratio in Korea since the 1960s. According to this, the Korean economy has experienced a continuous long-term decline in growth since the late 1980s after achieving remarkable economic growth of about 8-9% per year for about 30 years since the 1960s (Jwa, 2017b). Over the past 30 years, the Korean economy has never experienced a sustained growth trend reversal, while Korea has recently joined the ranks of developed countries. Since the political democratization in 1987, the per capita income growth rate, which was at its peak in the 1987 at 8.6%, has fallen to 2.2% in 2020, declining by about 1.9% per decade over the past 33 years.

At the same time, the growth trend of market income Gini coefficient, which had been continuously declining since the 1970s, reached its lowest point in 1986, and began to rebound from 1987, but rapidly increased from 1993, and the inequality index continued to worsen until the early 2010s. However, since 2012, the growth rate of the Gini has turned negative and income distribution has begun to improve, albeit slightly. This trend has continued during the recent 5 years (2017–2021).

Now, there seem to appear two important structural breaks: one is between the late 1980s and the early 1990s when political democratization took place, where the income growth began

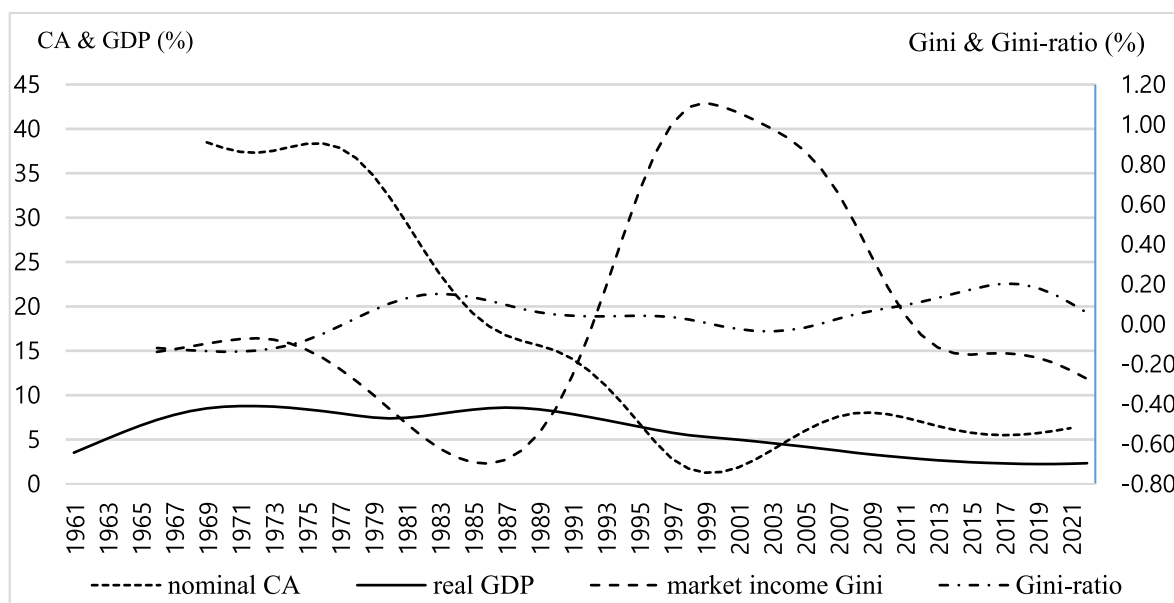


FIGURE 5 Growth trends of Korea's major variables. 1) Graphs are all drawn in growth trends, which are generated through the Hodrick–Prescott filter. GDP and CA are per capita growth trends. 2) Source of data: See the note in Table 5.

to decline, and the income distribution began to worsen, together with the steeper falling growth trend of CA. Another is around the most recent decade beyond the mid-2010s when the growth trend of market income Gini turned negative even amid the declining CA and GDP growth trends. The correlation coefficients among the variables' nontrended growth rates are as follows: The correlation coefficients of per capita real GDP growth with per capita nominal CA growth and Gini-ratio growth are 0.35 and -0.09 , respectively. The correlation coefficients of the market-income Gini growth with per capita nominal CA growth, per capita nominal GDP growth, and Gini-ratio growth are -0.31 , -0.29 , and 0.14 , respectively. The sign patterns look roughly consistent with the world's and the US's results.

After political democratization, Korea's 5-year, one-term Presidential system has experienced frequent regime changes between the right- and left-wing administrations. Considering this, in addition to the integrated one-regime model, Korea may need the multiregime model approach by having the democratization regime and its subregimes, such as the left-wing and right-wing regimes, thereby hopefully taking account of the recent structural break.

The concept of a multiregime change estimation is shown in Figure 6, where, in addition to the developmental era (A), the democratized era (B) is divided into three regimes: left wing (C), more substantial left wing (D), and the right wing (B) as the residual, default democratization effect after the regimes C and D take their shares from the democratization era.⁶ This classification is based on the author's judgment on whether their policy stance is friendly to the ED or EE paradigms, the former being the right-wing regime while the latter being the left-wing regime. Here, the developmental era is assumed to be a genuine ED paradigm with one of history's highest shared and inclusive growth episodes (Jwa, 2017b, 2020, 2023 and Jwa & Yoon, 2004). This classification is also consistent with the historical lineage of Korean party politics. The left-wing regime (D) is the substantially left-oriented, immediate previous government, whose economic structure (A + B + D) became the legacy of the current Korean economy. Therefore, one must fully grasp this regime (D) to understand the current Korean

		Left-wing (C): 10 years (1998~2007)		Left-wing (D): 5 years (2017~2021)
	Democratization era(B): Right-wing, 10 years (1988~1997)	Democratization era(B)	Democratization era(B): Right- wing, 9 years (2008~2016)	Democratization era(B)
Developmental era (A): 19 years (1969~1987)	A	A	A	A

FIGURE 6 Concept of Korea's multiregime model and regime classification. Political economy regime classification based on President: A = 19 years (Park Chung-hee + Chun Doo-hwan); (A + B) = 10 years (Roh Tae-woo + Kim Young-sam) + 9 years (Lee Myung-bak + Park Geun-hae); (A + B + C) = 10 years (Kim Dae-jung + Roh Moo-hyun); (A + B + D) = 5 years (Moon Jae-in).

economy. While the right-wing democrats are sometimes self-claimed as the lineage of the developmental era, their policy doctrines sound similar, but the implementations are far from the ED policy paradigm.

For this multiregime model, four dummies are required: As Korea's democratization era began with the new constitution, passed in 1987 with the direct election of the nation's President and implemented in 1988, the democratization dummy will take 0 before 1988 and 1 from 1988; Dummy for left-wing (C), taking 1 for 1998 ~ 2007 and 0 otherwise; and Dummy for left-wing (D), taking 1 for 2017 ~ 2021 and 0 otherwise. Here, logically, the democratization dummy (B) will represent all the non-left-wing, i.e., right-wing regimes as the residual effect, after all the left-wing regimes take their effects from the democratization effects.

5.3.2 | Integrated and multiregime models: Results and implication

The results are reported separately in Table 5 for the production function (Equation [4]) and Table 6 for the distribution function (Equation [5]) due to space limitation. The results of the distribution function (6) using the GDP as a proxy for CA are not reported to save space and also because they are not the primary concern of the paper.

Implications can be summarized as follows. First, the results of the integrated regime model over the entire 53 years are very similar to those of the World and the United States. Corporations are growth friendly and distribution friendly. The hypothesis of corporate-led shared growth is confirmed as well. Redistribution policies are antigrowth but neutral to distribution. Labor unions are neutral to both growth and distribution.

Second, in the multiregime model, during the development era (see Column A), corporations were growth-friendly in the production function though marginally significant and significantly contributed to shared growth. However, even though it was when conditions for redistribution policy were immature, the welfare policy was neutral to growth and redistribution. Corporations and welfare policies during the developmental era created the World's best-shared growth, as indicated by the World Bank (1993). The labor unions of the

TABLE 5 Results of integrated and multi-regime models of Korea's production function.

Independent variable	Dependent variable: Per capita real GDP									
	Equation (1)	Equation (4)								
	Democratization effects only				Postdemocratization structure					
	Integrated regime	Developmental era (A)	Right wing (B)	Left wing (C)	Left wing (D)	Right wing (A + B)	Left wing (A + B + C)	Left wing (A + B + D)		
Nominal (CA/L)	0.069** (0.030)	0.053++ (0.036)	-0.010 (0.040)	-0.300++ (0.178)	-0.109 (0.086)	0.043++ (0.029)	-0.257+ (0.188)	-0.066 (0.094)		
Gini ratio (-1)	-2.746* (1.460)	1.157 (4.484)	-4.986 (4.724)	-3.064 (5.243)	5.544*** (1.847)	-3.829** (1.635)	-6.893+ (4.948)	1.715*** (0.630)		
Unionization rate	0.063 (0.108)	0.328++ (0.226)	-0.268 (0.245)	-0.317* (0.170)	-0.588*** (0.160)	0.060 (0.093)	-0.257++ (0.166)	-0.528*** (0.105)		
Constant	4.927*** (0.862)		5.622 (1.006)***							
Adjusted R ²	0.130		0.202							
Number of observation (period)	53 (1969 ~ 2021)		53 (1969 ~ 2021)							
Period of regime (years)		53 (1969 ~ 2021)	34 (1988 ~ 2021)	10 (1998 ~ 2007)	5 (2017 ~ 2021)	34 (1988 ~ 2007)	10 (1998 ~ 2007)	5 (2017 ~ 2021)		

Note: 1) All variables are in growth terms to avoid nonstationarity problems. For the endogeneity problem, no correlation was found between CA and estimated error. All estimates are EVIEWS ordinary least squares estimates. 2) Values in parentheses are robust SEs. Significance level is *** at 99%, ** at 95%, * at 90%, ++ at 85% and + at 80%. 3) Columns B, C, and D are the coefficients of the variables multiplied by the dummies for the relevant regimes B, C, and D, taking 1 for the period of regime and 0 otherwise, respectively. The author calculated the parameters of the post-democratization era, A + B, A + B + C, and A + B + D, where the asymptotic SE is calculated by using the asymptotic variance formula, for example, $V(A + B + C) = V(A) + V(B) + V(C) + 2[Cov(A, B) + Cov(A, C) + Cov(B, C)]$. 4) Source and explanation of major variables: GDP is from the Bank of Korea. CA is from the *Analysis of Corporate Management* by the Bank of Korea. Korea's income Gini combines the SWIID series by Solt (2016) up to 2016 and its extended series (2017–2021) forecasted using the Household Financial Welfare Survey Gini (2011–2022) that Korea has formally published. Unionization is from the Korea Statistics Service. 5) Abbreviations: GDP, gross domestic product; SWIID, Standard World Inequality Index Database.

TABLE 6 Results of integrated and multi-regime models of Korea's distribution function.

Independent variable	Dependent variable: Market Income Gini									
	Equation (2)	Equation (5)								
	Integrated regime	Developmental era (A)	Democratization effects only			Postdemocratization structure				
			Right wing (B)	Left wing (C)	Left wing (D)	Right wing (A + B)	Left wing (A + B + C)	Left wing (A + B + D)		
Nominal (CA/L)	-0.017** (0.006)	-0.010* (0.006)	-0.016++ (0.010)	0.222*** (0.042)	0.035* (0.020)	-0.026** (0.010)	0.196*** (0.039)	0.009 (0.013)		
Gini ratio (-1)	-0.337 (0.335)	-1.006*** (0.430)	1.657*** (0.801)	0.923 (1.395)	-1.139* (0.642)	0.651 (0.645)	1.574 (1.317)	-0.488*** (0.082)		
Unionization rate	-0.001 (0.018)	0.016 (0.014)	-0.044++ (0.026)	0.165* (0.091)	0.036++ (0.021)	-0.028+ (0.020)	0.137++ (0.084)	0.008 (0.014)		
Constant	0.376+ (0.259)		0.125 (0.202)							
Adjusted R ²	0.059		0.391							
Number of observation (period)	53 (1969 ~ 2021)		53 (1969 ~ 2021)							
Period of regime (years)		53 (1969 ~ 2021)	34 (1988 ~ 2021)	10 (1998 ~ 2007)	5 (2017 ~ 2021)	34 (1988 ~ 2021)	10 (1998 ~ 2007)	5 (2017 ~ 2021)		

Note: See the note in Table 5 for detailed information on the regression analysis.

development era were pro-growth, although marginally significant, and neutral to distribution. The development era achieved a shared growth through synergistic cooperation among corporations, welfare policies, and labor unions.

Now, some comparison among the regimes will be attempted by looking at the columns, right wing (A + B), left wing (A + B + C), and left wing (A + B + D), under the column of the postdemocratization structure in Tables 5 and 6.

Right-wing regime (B): Via (A + B)

On the one hand, in the right-wing regime (see Column A + B), the corporate-led growth is maintained though marginally significant, and the shared growth effect is significantly strengthened. However, the redistributive welfare policy turned into a significant antigrowth factor from being neutral during the developmental era. Moreover, its prodistribution effect in the development era disappeared in the era of democratization. Overall, the positive effects of businesses on growth and distribution were maintained, but welfare policy turned into something unfriendly to growth and did not help distribution in the era of democratization. The right-wing regime was becoming closer to the US and the World cases.

Left-wing regime (C): Via (A + B + C)

The corporate sector became a marginally significant negative factor to growth and also a significant distribution-worsening factor. The welfare system played no significant role for growth and distribution. The labor union was unfriendly to growth and distribution, although marginally significant. This regime was almost opposed to the economic structures of the developmental era and the right-wing regime (B).

Left-wing regime (D): Via (A + B + D)

The substantial left-wing regime (D) is especially noteworthy because, while being similar to the left-wing (C), in that the role of corporations leading shared growth disappeared and the antigrowth effect of labor unions became more evident, the left-wing (D) regime uniquely shows that the redistributive welfare policy led to growth and distribution improvement very significantly. According to this study's perspective, this result implies that Korea, from 2017 to 2021, has solely relied on redistributive welfare expenditures in the name of improving distribution as well as growth by putting aside the role of the corporations for shared growth and even by abetting the labor union's solid antigrowth posture. This implication is, in fact, confirmed by the actual policy actions of the regime (D) as discussed below.

These results may be astonishing, but they may be better understood by examining the nature of Korea's right-wing and left-wing regimes. Korea's developmental era can best be described as the regime of Market Authoritarianism, which adopted a genuine ED policy paradigm, helping people, regions, and corporations who help themselves and providing government support, including welfare subsidies, based on the recipient's performance. However, the democratization movement pledged to reverse the ED paradigm to a democratic EE policy paradigm where performance excellence becomes relatively disregarded. After all, most government policies, including the industrial policy, have been conducted in an egalitarian way. However, the attitude toward the EE paradigm differs slightly between the right and left-wing regimes. The right-wing party is reluctant, but the left-wing party is active in swallowing it in the name of democracy. Moreover, an anticorporate policy tendency has increasingly become a meme of left-wing democratic political parties. They are even seeking a divestiture of large corporations which have led Korea's remarkable shared growth ever since the developmental era. The regression results seem to accurately reflect these historical facts and the trend of stabilized distribution under corporate and income growth stagnation in recent years (Jwa, 2017b, 2020, 2023).

Where is then now the Korean political economy regime and her economy truly standing? After the left-wing regimes (C & D), the Korean economic structure under the regime (D) is reminiscent of a state-led production and distribution system. This system appears to block the corporate sector's contribution to shared growth and control growth and distribution solely through the government's expenditures, resembling an economy without a private sector (orthodox socialism). This political economy regime is a departure not only from the right-wing democratic governments but also from the developmental era under Market Authoritarianism. In the end, this regime (D), by incorporating the left-wing regime (C)'s legacies, has transitioned to the substantially strengthened Egalitarian Democracy against the ED policy paradigm, reminiscent of socialism in essence, becoming the legacy for Korea now. Korea seems to be now under an Egalitarian Democracy, even more potent than the United States and the World.

However, the sustainability of this regime may become a concern. This regime adopted radically expansionary government expenditures for direct job creation and very lax welfare subsidies, forced a record-high increase in the minimum wage rate, and reinforced the regulation of large corporations, not to mention abetting militant labor union activities. As a result, not only have the incentives for companies to improve their shared growth nature significantly weakened, but also the trends of the government's fiscal deficit, national debt, and welfare expenditures are increasing alarmingly. The sustainability of such a policy paradigm can be seriously questionable, even more so when ignoring capitalist enterprises' crucial shared growth function.

6 | CONCLUDING REMARKS

This study aims to illuminate the importance of the capitalist economy as a corporate economy. This shift in thinking has important implications for our understanding of capitalist development, particularly polarized economic stagnation from historical, theoretical, and empirical perspectives.

From a historical perspective, the ascent of corporate organizations within the capitalist economy has been a transformative force, surpassing the agrarian market economy by igniting the Industrial Revolution. This underscores the pivotal role of the corporate organization in expanding the market and propelling shared growth, compared to the agrarian society in the longstanding Malthus trap, a narrative supported by a wealth of historical evidence. (Clark, 2007).

From the theoretical perspective, a large body of literature has existed to recognize the importance of corporate organization for economic development, except for the socialist tradition, while mainstream neoclassical economics has failed to integrate it into its theoretical framework. However, this paper argues via the GTED that the corporate organization constitutes a trinity of economic development together with the market and the government. The trinity needs to abide by ED for development. In contrast, economic development strays if the trinity is prone to EE.

The markets and corporate firms are the born epitome of ED by helping only those who help themselves. In particular, corporate firms have risen to supplement the weak ED function of the markets due to information and transaction costs. Corporate-led growth means inclusive and shared growth, though not equal, because corporate production and income distribution are an integrated process, and income distribution is a necessary reward for production based

on the ED paradigm. As the epitome of ED, corporations have become a fundamental mechanism for inclusive and shared growth in the capitalist corporate economy.

Similarly, a political economy regime that adopts the ED policy paradigm, such as Market democracy, is likely to progress. In contrast, one that embraces the EE policy paradigm, such as Egalitarian democracy, may regress. Likewise, an ED-based welfare state fosters progress, while an EE-based one may pave the road to a polarized stagnation.

Empirical findings support the theoretical arguments. Surprisingly, all the empirical results for the World, United States, and Korean economies broadly support the central theoretical hypotheses only with minor differences in significance level: capitalist corporate-led inclusive and shared growth and the redistributive welfare policy-led polarized stagnation. The World now seems stuck between corporate-led shared growth and welfare state-led polarized stagnation, suggesting the World political economy regime embraces Egalitarian Democracy. Despite the corporate-led counterforce of shared growth, the welfare state has emerged as the primary cause of polarized stagnation. Its exception is witnessed by the state-led shared growth of Korea's most leftist government regime through the alarming increase of government welfare expenditures. Still, its sustainability seems questionable as it suppresses corporate growth and abets militant labor unions on top of the mounting deficits.

Lastly, a suggestion for future research is warranted. The empirical findings could be limited by the need for a standardized database and probably by the lack of solid analytical techniques to deal with political economy issues. Their robustness may need to be further scrutinized by the concerned political economy professions. This is because the paper's subject matters are among today's most concerning and intriguing political economy issues. Future empirical works could be furthered by developing better databases and analytical techniques.

ACKNOWLEDGMENTS

The author appreciates the valuable comments from two anonymous referees. The author also appreciates the helpful comments on the early draft by Professors Young Back Choi at St. John's University, Yoonbai Kim at the University of Kentucky, and O. Yul Kwon of the Beedie School of Business at Simon Fraser University, and Dong Keun Cho at Myongji University (Seoul). The author also appreciates Dr. Taekyu Lee, a Senior Fellow at the Korea Economic Research Institute, and Mr. Sung Jong Cho, the former General Director of Statistics Department at the Bank of Korea, for their assistance in the study's empirical work. Any remaining errors are solely the responsibility of the author.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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ENDNOTES

- ¹ Smith's hostility toward large corporations seems somewhat subjective and one-sided. It is well-known that Adam Smith was critical of the joint-stock company for possessing monopoly power and being subject to the "agency problem" but praised the owner-managed small company as inherently more efficient than the former. See Smith (1976, Part III, Chapter I, Book V, pp. 244–282). *The Wealth of Nations* was first published in 1776 in the middle of the Bubble Act (1720–1824), which required every joint-stock company to possess a

charter from parliament and produced state-chartered monopolists. His charge on the former's inefficiency, in general, is incorrect in an imperfect information world, whereas he correctly pointed to the possibility of the agency problem. Also, see Mickelthwait and Wooldridge (2003) for similar points. It seems difficult to deny that Smith unwittingly contributed to the economic tradition that large joint-stock companies are burdensome to the competitive market and even to the unwarranted criticism of the capitalist economy.

- ² In this context, one may attempt to differentiate development, including quantitative and qualitative economic changes, from growth, focusing primarily on quantitative transformations. However, practical application, such as in empirical studies, challenges this distinction. Given the economics profession's convention of mixed usage of development and growth, this study uses these terms interchangeably but reflects their distinct nuances when necessary.
- ³ See West (2017) for an exciting endeavor to develop a science of companies from the complexity perspective and to draw a picture of dynamic and innovative city economies run by companies. The physicist's perspective on the corporate economy does not seem inconsistent with its economist's version, GTED.
- ⁴ Here, the phrase "corporate firms led by entrepreneurs" intends to emphasize the role of corporate organizations, which have been ignored by the scholars from Austrian schools who follow the tradition of Schumpeterian entrepreneurship, such as Israel Kirzner's highlighting the entrepreneur as an omnipotent individual agent without duly mentioning the role of corporate firms (Douhan et al., 2006; Kirzner, 2017).
- ⁵ The per capita stock of corporate assets, CA/L as the present value of permanent flows of annuity incomes, y discounted by a discount rate, β can be expressed as follows: $CA/L = y \cdot [(1/(1 + \beta)) + (1/(1 + \beta))^2 + (1/(1 + \beta))^3 + \dots + (1/(1 + \beta))^\infty] = y \cdot [(1/(1 + \beta)) / [1 - (1/(1 + \beta))]] = y \cdot [(1/(1 + \beta)) / [\beta/(1 + \beta)]] = y/\beta$. This equation can be rewritten into the simplified form, $y = \beta \cdot (CA/L)$, as in the text.
- ⁶ Classifying ideological tendencies into "left and right" here is necessary, because the terms, "progressive and conservative" have already been labeled with biased value judgments of likes and dislikes, so we want to use more neutral terms.

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How to cite this article: Jwa, S.-H. (2024). What causes polarized stagnation, corporate economy, or welfare state?: Insights from new development economics. *Economics & Politics*, 1–33. <https://doi.org/10.1111/ecpo.12316>