

Theory and Empirics of the Institutional Evolution of Economic Development: An Application to Korean Economy

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This study empirically applies the theory of institutional requirement for economic development to explain Korea's modern history of economic development. The study theoretically derives the argument that the economic discrimination (ED) policy regime "rewarding high performance relative to low performance" is the necessary condition for economic development, whereas the economic egalitarianism (EE) policy regime "disregarding the differences of performances" is the sufficient condition for economic stagnation. The paper then describes some details of the institutional evolution of Korean economy for the last 60 years and presents three testable hypotheses for Korea's development history. 1) *Institution-led growth hypothesis*: The rise and fall of Korea's economic growth was respectively led by the ED and EE policy regimes. 2) *Corporate-led growth hypothesis*: The rise and fall of Korea's economic growth was led by the rise and fall of the corporate sector growth instigated by the ED and EE policy regimes, respectively; and 3) *Political cycle of economic growth*: The rise and fall of Korea's economic growth was led by the political cycle of economization of politics and politicization of economy, respectively. These hypotheses are empirically verified by utilizing a new model of *corporate production function*. Policy implication is that Korea's current economic difficulties can only be cured by reversing the current anti-corporate *EE policy regime* to the corporate-friendly *ED policy regime*.

Keywords: Economic discrimination (ED), Economic egalitarianism (EE), ED policy regime, EE policy regime, Institution-led growth, Corporate-led growth, Corporate production function

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I. Introduction

The 60-year history of Korea's economic development has many intriguing aspects which cannot be easily explained by mainstream economics and any other existing political economy perspectives. Korea's economic development during the first 30 years (1960s–1980s) is often described as the “Han River Miracle” or the highest shared growth experience in the world with approximately 10% per annum growth and fairly shared income distribution by various studies on economic growth and development.¹ However, these impressive economic performances are often discredited due to the non-orthodox, government-led economic policy regime that is regarded as unfaithful to mainstream economic advice and due to the so-called authoritarian political regime during Korea's developmental era. Accordingly, in the post-Park era of the last 30 years, Korea has turned into the anti-Park policy regime, emphasizing the “economic liberalization” in the name of correcting such legacies as government-led growth and becoming the fully developed and democratized economy, faithfully following the neoclassical economic advice of World Bank, IMF, OECD, and Washington consensus. In contrast to the expectation of becoming

¹ World Bank (1993; Figure 1.3, p. 31) shows that Korea achieved the fastest shared growth with one of the lowest income inequalities in the world during 1965–1989, which is the so-called Korea's developmental era extended from Park's era of 1961–1979. The record for the *fastest-growing economy* was recently broken by China from the 1980s to the recent years; nevertheless, Koreans remember the honor of being the *fastest shared growth economy* during that time.

a balanced and prosperous developed economy, Korea's economy is currently facing disappointing results; approximately 2% growth stagnation, worsening income distribution and sectoral imbalance with the rising GINI coefficient², and an incomplete populist democracy; all of which have never been sought or hoped for, although the per-capita income has recently reached US\$30,000 after the long waiting in the middle income trap.

The following is a sample critic on Korea's development from the 1960s to the 1970s. This critic is from the formal study conducted by the government-think tank, Korea Development Institute in collaboration with the Korean government:

*"The government-led growth strategy, as exemplified by the HCI drive, produced many problems, such as serious resource misallocation, chronic inflation, and great income inequality. In the early 1980s, the government made a radical departure from the past by emphasizing price stability over economic growth... Financial repression since the 1960s held back the financial sector from developing into a fully competitive service industry. Several large business conglomerates, namely the chaebol, increased their influence on the back of government support, and the concentration of economic power emerged as an important economic and social issue. In addition, Korea failed to establish sound worker-management relations until disruptive labor movements occurred in the mid-1980s. Most importantly, the repeated interventions by the government to salvage troubled firms from bankruptcy strengthened the so-called "too big to fail" principle. Combined with very low interest rates maintained since the 1960s, the risk partnership between the government and private sectors encouraged excessive borrowing by the latter.....The non-performing loans of banks grew in size, and financial sectors became increasingly vulnerable to external shocks...."*³

This critic sounds puzzling, if all these problems, especially *serious resource misallocation, chronic inflation, and great income inequality*, are true during Park Chung Hee's era (1960s and 1970s). Where did the

² The current GINI coefficient, a little higher than 3 is not bad at all, stands at the average of OECD nations but has been rising since the 1990s.

³ Sakong and Koh (2010) p. 4. Whether the first statement of serious resource misallocation and great income inequality is a fact is unclear, given that Korea was the fastest shared growth example, as shown by World Bank (1993), at that time.

fastest shared growth in the history come from? Why did the sincere efforts to reverse all these presumed economic problems end up with so much disappointment? What did go wrong with Korea's economic development history for the last 30 years? Or what is the good or bad part of Korea's development history for the last 60 years?

In the meantime, the economic success during Korea's developmental era is attracting a growing interest internationally: many developing economies have been busy attempting to understand and learn about Korea's Han River Miracle. In response, the Korean government and domestic government think tanks (mainly Korea Development Institute) have jointly begun making an effort to propagate the knowhow of Korea's successful economic policies under the name of Knowledge Sharing Project. However, the reality is that the true nature of Korea's success policy paradigm, if any, is not well understood as vividly revealed by the above quotation.

Thus, the history of Korea's economic development and policy experiments not only provides an interesting research topic on its own but also poses a serious research question because Korea is known as a catch-up model for late-coming developing economies. However, the "*Korean model*" is yet to be defined. We do not really know or have a consensus yet about the nature of Korea's development with the reasons for its rise and fall.

The key question is how to analyze the effect of the institutional change on economic development from Park's policy regime to the post-Park policy regime. However, institution-free neoclassical growth theory cannot easily deal with the policy regime change in analyzing Korea's miraculous and thereafter stagnant growth episode. In general, the neoclassical growth analysis does not concern much about the effect of the policy regime change as far as Korea's growth is quantitatively consistent with the accounting framework, such that the GDP growth should be identical to the sum of capital, labor, and technology growths (or total factor productivity [TFP]). Most studies on Korea's economic growth so far belong to such a category.⁴

⁴ One of the most recent, typical cases of the same kind can be found in Jeong (2018), which is the output of the research collaboration between the World Bank and the Korea Development Institute, especially based on the long-term growth model initiated by the World Bank with the perspective of neoclassical growth model.

This study takes a different theoretical and empirical approach from neoclassical growth literature. The theory of institutional requirement for economic development is empirically applied to explain Korea's modern history of economic development. The policy issue, that is, the required institution for development, has been largely neglected by new institutional economics, which simply emphasizes the importance of private property rights and economic freedom only for the well-functioning market and thereby lacks policy perspectives. This study directly deals with this institutional policy issue and applies the new theory to the empirical analysis on the Korean economy where a new empirical model of the corporate production function is adopted for hypothesis testing, instead of the neoclassical production function. We expect that the new approach can provide a useful alternative perspective on the model of Korea's modern development.

Section II briefly presents a new theory of institutional requirement for economic development. Section III reviews the institutional evolution of Korea's development in the last 60 years by the documentation of the institutional policy regime change. Section IV presents an empirical analysis to statistically verify the institutional interpretation of Korea's economic growth. Section V concludes the paper by summarizing the empirical findings with implications for future research.

II. New Theory of Institutional Requirement for Economic Development

This section briefly introduces the general theory of economic development (GTED) as an analytical framework on economic institutions required for development (Jwa 2017; 2017a). The theory extends the new institutional economics perspective and overcomes mainstream market-centric, institution-free economics by systematically incorporating the roles of corporate organizations and governments as essential players for economic development. This theory also provides important propositions that can be utilized for empirical analysis.

A. Essences of GTED

a) Nature of Development, a New Interpretation

GTED states that economic development is an evolutionary process in which individuals and corporations become economically successful by

replicating the know-hows of their neighbors' success via *an intentional and conscious process of free-riding on others' success*.⁵ In this way, societies that support and encourage successful neighbors can develop, whereas societies that discourage successful neighbors cannot avoid economic stagnation. Thus, the prosperity of capitalist economic system mainly owes to the fact that "having prosperous neighbors can be good for our development," whereas socialism, as envisioned by Karl Marx, sees "having prosperous neighbors can be bad for our development." Socialist economic system, which attempts to destroy prosperous neighbors, is inevitable to collapse.

Furthermore, GTED sees development as a non-linear complex order transformation process inclusive of qualitative and quantitative changes, such as an emergence of an economy from a wagon economy, to a railway, to an automobile, to an airplane, and to a spaceship economy that involves a qualitative change quite different from the linear, quantitative transformation of the 10-wagon economy to 100-wagon economy, given the order of quality fixed, as stated in neoclassical growth theory.

What incentive system (or economic institution) can induce such an order-transforming development process? GTED argues that economic discrimination (ED) is the necessary condition for economic development, and ED institution is pro-developmental, whereas economic egalitarianism (EE) is the sufficient condition for economic stagnation, and EE institution is anti-developmental.⁶ Here, ED means treating economic differences differently, or favoring high performance relative to low performance via helping those who help themselves, which is a different expression of Dispensation of Justice. By contrast, EE indicates treating differences indifferently or disregarding performance differences. Note that economic discrimination neither indicates political nor social discrimination.

⁵ This process is different from the usual biological evolutionary process, which assumes that evolutionary replication is an unintentional process.

⁶ This proposition concurs with the main finding of behavioral economics, implying the importance of rewarding high performance and punishing low performance to affect human behavior and the parable of three servants, Matthew 25 of the Bible suggesting "God helps those who help themselves" and the Chinese legalist argument of "never fail to reward a merit nor let a fault go unpunished" from 2,300 years ago.

The ED incentive system or institution is the key driver for the order-transformative economic development. This perspective is quite a new extension beyond and inclusive of the standard new institutional economic argument that private property right cum economic freedom is the precondition for the well-functioning market, which however is insufficient for economic development due to the positive transaction cost in the real world.

b) Market is Indispensable but Insufficient for Development

GTED interprets that the market in the real world works as the economically motivating discriminator by exercising ED, which rewards economic agents according to their economic achievements, thereby motivating all others to follow suit and inducing economic development. Without the market's selection of good performing individuals and companies and the resulting concentration of economic power on them, economic development cannot occur. Thus, the market is the source of economic inequality, and such market's discriminatory function is the impetus for economic development. As a result, economic inequality, economic power concentration, and regional and sectoral imbalances are naturally bound to happen during economic development to varying degrees. After all, *development is fundamentally a lopsided affair*.

However, a market economy is destined to be trapped in the developmental failure due to the fundamental nature of development—free riding on others' *success knowhow*—which is difficult to be internalized by the market as high transaction cost must be incurred from the public trading of *success knowhow*. Note that market transactions for goods and services are based on mutual and horizontal consensus on the terms of transaction. The commodity of *knowhow* is too elusive to be transparently delineated. Therefore, its terms of transaction cannot easily be agreed upon among traders, resulting in high positive transaction costs. Therefore, free riding becomes so rampant that *success knowhow providers* eventually disappear from the market. Similar to a bus company going out of business, if every passenger free rides on the bus, then growth incentive is inevitably undermined, and economic development is inhibited by depleting the stock of prosperous neighbors under the lack of ED institution.⁷ This

⁷ Or alternatively one can imagine the situation where the locomotive

case can be called a *market's ED failure leading to development failure*.

c) Corporate Organization, the Key to Capitalist Economic Development

What rescued the failing market and led the economy to the new era of economic prosperity? GTED argues that the corporation (limited-liability joint-stock company) is the rescuer of the failing market and economy. Note that the corporation and the market work as the resource creation as well as allocation mechanism, *i.e.*, development mechanism via ED. However, in terms of operating principle, the former is under the horizontal negotiation system, whereas the latter is under the vertical command system. Therefore, the corporate organization can save transaction costs because it can avoid the costly negotiation procedure with internal resource allocation thanks to its governing structure of the vertical command system in spite of additional organizational costs, relative to the market mechanism; therefore, the organization can help solve the market failure by internalizing free-riding activities (*i.e.*, knowhow-sharing or -exchange activities within the corporate firm) and eventually help expand the extent of the market network, rather than substitute for the market as portrayed by the mainstream theory of the firm.⁸ That is, the corporate firm is the natural resort to solve the market failure—a social technology to correct the market's ED failure, whereas the textbook assumes that government intervention is the remedy.

The limited-liability joint-stock company was invented in the early stages of industrial revolution at the turn of the 19th century.⁹ Since then, the company has been working as the key locomotive for capitalist economic development and leading the innovative shared growth by providing the home base for middle income class via substituting the land in the agrarian economy. In this sense, capitalist economy should

eventually stop as many trains are added without injecting electric power to the locomotive.

⁸ The mainstream theory of the firm defines the firm as a substitute for the market at the margin. See Coase (1937) for example.

⁹ The private joint-stock company was formally legalized in 1825 in England after a century-long banning under the Bubble Act in 1720, whereas similar ventures without legal underpinning already appeared from the mid-17th century. See Micklethwait and Wooldridge (2003) for the history of corporate evolution.

be called a *corporate economy*, rather than a market economy, which can be reserved for the agrarian economy. Note that both economies share the market exchange system but joint-stock corporate system has been featuring and flourishing only in the capitalist economy. One may understand why the agrarian market economy devoid of corporate system must suffer from poverty under the market failure for long.

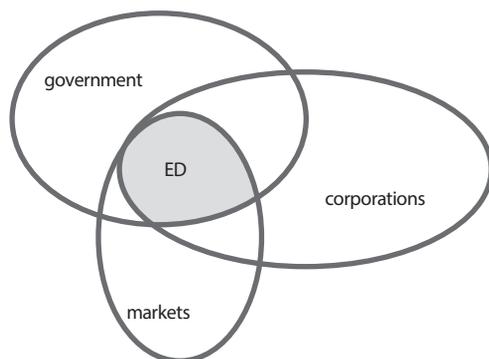
However, corporations alone cannot completely overcome the free-riding issue because they themselves may fall victim to free riding by latecomers and fail to receive appropriate compensation from the market due to its ED failure. This reason explains why many successful startups fail to survive and only a few thrive.

d) Role of Government to Provide ED Institutions for Economic Development

To correct such free-riding problems, the government can be an important supplement to the market because it can promote the growth of corporations and individuals by allowing these economic players, who supply *success knowhow*, to be sufficiently compensated by introducing various economic institutions and policies. For economic development to regularly take place, the government should perform as an economically motivating discriminator similar to the market, thereby nurturing modern corporations and creative individuals who help expand the extent of the market. The growth and development of capitalist economy has been led by growing corporations and individuals supported or at least not interrupted by the government.

e) Holy Trinity of Sustainable Economic Development

Sustainable economic development can only be possible when markets, corporations, and government (inclusive of politics)—the so-called holy trinity of economic development—are faithful to the ED principle and institution to compensate for free-riding problems (see Figure 1). Providing enough reward for an economically good deed, that is, ED is a key precondition for economic growth and development. Therefore, only countries with economic institutions and policies in place to appropriately reward their economic agents, who supply *success knowhow* on the basis of the ED principle, can spur economic development.



Source: Jwa (2017)

FIGURE 1
ED AND THE HOLY TRINITY OF ECONOMIC DEVELOPMENT

B. Propositions on the Institutional Requirement for Development

Several important propositions implied by GTED, especially with respect to the institutional requirement for economic development, are summarized.

a) Institution-led growth and development

ED vs. EE policy regime: ED policy regime is a necessary condition for economic development, whereas EE policy regime is a sufficient condition for economic stagnation. ED policy regime works for indigenous, inclusive, shared, and sustainable growth and development by motivating all to grow but to varying degrees. By contrast, EE policy regime works against it by demotivating growth incentives.

b) Corporate-led growth and development

Modern corporations play the key role for, and corporate-led shared growth is a salient feature of, the capitalist economic development. Any economy devoid of the modern corporate system is destined to move back to the polarized low-growth economy similar to the agrarian society. This proposition is already historically confirmed by the collapse of socialist economies devoid of the thriving private corporate sector. The stagnant corporate sector necessarily leads to economic stagnation.

c) Political cycle of economic growth and development

Political ideology or politics can be a promoter or a stumbling block to economic development depending on the nature of political regime. Two different political regimes can be defined: one is the *economization of politics* which refers to keeping the ED policy regime, and another is the *politicization of economy* which refers to giving up the ED policy regime for the sake of the EE regime. GTED implies that the *economization of politics* is a necessary condition for economic development, whereas the *politicization of economy* is a sufficient condition for economic stagnation. This proposition is a corollary of the previously mentioned propositions because the formal socio-economic institutions in the modern democratic society are made mostly by the legislature run by political parties one way or the other

d) Lopsided nature of development

Capitalist economic development is destined to be lopsided, accompanying economic inequality and concentration toward high economic performers to varying degrees, resulting in unbalanced development, which however is in comparison to non-developmental agrarian economy. However, the capitalist development is intrinsically a shared growth thanks to corporate system as stated in proposition (a) above.

III. Institutional Interpretation of Korea's Economic Development¹⁰

In this section, Korea's economic development history from the new perspective of GTED is interpreted by documenting the history of economic institutional reforms for the last 60 years. Korea's economic development history from the 1960s to the present can be categorized as three different periods from the perspective of institutional characteristics, 1) Park Chung Hee era from 1960s to the 1970s under the ED policy regime, 2) the subsequent decade, the 1980s when Park's policy regime began to subside and the new EE policy regime slowly emerged, and 3) the so-called "political democratization" era from the

¹⁰ Further details of the discussions in this section can be found in Jwa (2017a).

late 1980s to the present when the EE policy regime eventually overtook the ED regime and prevailed in the whole society.

A. Review of Institutional Evolution of Korean Economy for the past 60 years

a) Park Chung Hee era from the 1960s to the 1970s: Strict ED policy regime

Park's era was an economically dynamic period in which the ED policy regime was established and strictly pursued and thus the motivation for growth was maximized. During this era, the ED policy regime, which embodied the principle of helping high performers more than low performers, was introduced. The ED policy regime led to a mass creation of not only successful people and corporations but also "free riders", who eventually joined successful neighbors and became successful. During this process, spillover or trickle-down effects were maximized, resulting in shared growth. The origin of the ED policy regime and the key policy examples are presented as follows:

Park declared his ED policy regime as early as in 1962, "As I have always emphasized, God helps those who help themselves. The government cannot help as well those peasants who do not help themselves. From now on, the government will always help prosper only those peasants and villages who work harder and perform better, thereby becoming a role model, by supporting them in priority."¹¹ He continued to emphasize the Western dictum, "God helps those who help themselves" and the Oriental dictum, "Dispensation of Justice; Never fail to reward a merit nor let a fault go unpunished" and to translate such philosophies into policies not only for rural development but also for export promotion and industrial development, which became the main tenet of his *ED policy regime*.¹²

In the export promotion policy, high-performing exporters were always favored and given additional credit. "Export contest" was held for 15 years until the end of Park's regime. This contest annually ranked all exporters on the basis of their yearly export values. The government and banks also economically discriminated them in terms

¹¹ Quoted from the speech given to rural community leaders on August 30, 1962, which is contained in Park (1965).

¹² One can find many statements on the same theme in Park (1979).

of tax subsidies, bank credits, other financial supports, and even national recognition medals on the basis of their performances. This selective and discriminatory export contest became a special feature of Korea's export promotion policy on top of the usual textbook policies for export.

In the industrial policy for the so-called "heavy and chemical industry (HCI) drive" that officially started in 1973, only corporations that can provide seed money, 30% of the required investment, were allowed to enter HCI with the remaining 70% provided on credit by the government fund. The HCI drive policy aimed to build factories sized up to international standard to enjoy the economies of scale, which implies that ordinary Korean corporations at that time could not easily achieve the enormous size of the required investment. Under this circumstance, the 30% self-financing rule worked as a prohibitively high entry barrier that can only be met by top-ranking corporations. At the same time, the 70% government credit was regarded as an extra ordinary incentive for potential entrants. Therefore, only the proven competitive exporters who already accumulated quite a large sum of capital were allowed to enter the HCI sector and were given extra ordinary government incentives. This *economically discriminatory treatment to high-performing corporations based on the proven actual market performances* seems the necessary condition for the success of the industrial policy if insufficient.

In the S&ME promotion policy, high-export-performing S&MEs were given further support and the chance to takeover low-performing S&MEs and this helped promote the growth of able S&MEs to world-class large corporations within two decades. The ED-based S&ME promotion policy provided the excellent environment for well-performing corporations to grow as fast as possible.

Saemaul Undong (SMU, New Village Movement) was officially launched in 1970 mainly as a social reform policy to change people's dependent and development-unfriendly mindset of the time in farming and fishery sectors to the spirits of "diligence, self-help, and cooperation," thereby intending to promote their economic development.¹³ In the SMU, all village performances were ranked every round on the basis of the achievements of specific projects, and support

¹³ See Jwa (2018) for further details on the ED principle applied to the SMU.

was only given to high performers. Low performers were left out without government support. Nevertheless, left-out villages were given a chance to be reselected for government support once they made improvements on their own efforts. All villages continued to be subject to such ED-based game rules led by the government for every round with the open possibility of being left out due to poor performance. SMU is the culmination of President Park's ED policy. SMU worked well not only as a social reform policy by transforming Korean people's mindset to the 'diligent, self-help, and cooperative' spirit within a decade but also as a development policy by significantly contributing to income growth in farming and fishery sectors. An important implication may be that even social policy can be transformed into development policy and thus become sustainable if it adopts the ED policy regime, thereby creating an incentive for growth on the part of the policy beneficiary.

Park's era is characterized as *the corporate-led, fastest shared growth* in history (World Bank 1993). The success factor is that the government persistently applied the ED policies of selecting, rewarding, and recognizing the best or good performers strictly on the basis of their economic performances and thus created a nationwide atmosphere of rivalry for economic excellence, which eventually brought a remarkable growth and transformed people's ideology from that of buck passing to self-help and can-do spirit. Specifically, Park's corporate promotion policies under the ED policy regime helped S&MEs in the 1950s and 1960s become internationally competitive large chaebols within less than 20 years. Moreover, SMU under the ED rule helped bring the shared growth over the whole country.

b) Transition to the EE policy regime during the 1980s

The 1980s was an interesting transitional era from the ED to EE policy regime where most root causes of the current EE policy regime were introduced, but economic performance was a continuation of the high growth trend of Park's era. Therefore, the era from the 1960s to the 1980s is now called Korea's developmental era. A short review of new institutional reforms in this era is provided.

SMU began to lose its driving force in the early 1980s after the death of its originator due to the restructuring of the movement into a semi-government organization and to the deemphasizing of the ED-based rules of the game, and its positive effects on growth, disappeared in the 1980s and thereafter, as shown by Jwa (2018).

The balanced national development policy was introduced in 1982, which concurred with egalitarianism and the EE policy regime. “Balanced regional development law” was adopted in 1982. The law forbade large corporations and four-year universities from investing and expanding in Korea’s growth pole, the Seoul-Gyeonggi metropolitan region, and favored an egalitarian resource allocation to the locals, thereby leveling down regional development. This metropolitan regulation policy is still strictly in effect even after forerunners such as France, England, and Japan already turned to the major city growth-pole policy toward the end of the last century.

In general, the 1980s opened an era of “reversing Park Chung Hee’s ED policy regime” by blaming Park’s regime for all economic imbalances, as quoted in the Introduction section, and turning to the neoclassical economics paradigm in the name of economic liberalization by emphasizing the price stability over the so-called Park’s government-led economic growth paradigm. Korea gradually dismantled the corporate promotion-industrial policy and turned to the balanced corporate growth policy. The country also adopted a gradual liberalization and deregulation policy for private sectors. New policies were framed under the theme of economic liberalization, but the actual policy regime eventually turned out to be the government-led EE policy regime due to the conflicting ideology of balanced development being simultaneously pursued.

In particular, the corporate policy seeking a balanced growth turned into the EE policy regime by regulating large corporations but supporting S&MEs by two steps.¹⁴ First, in the early 1980s, the Korean government declared that Park’s HCI promotion policy failed and began to disfavor the industrial policy and large corporations. Second, in 1985, the Korean government formally introduced a comprehensive regulatory regime on the 30 largest corporations with the Korea Fair Trade Act (KFTA). Corporate policy regime consists of two pillars, one is to regulate the growth of large corporations and the other is to promote S&MEs. Top 30 companies based on asset size were subject

¹⁴ Korea’s corporate regulation system, especially for the large corporate sector, has been the longstanding research agenda for this author. This section is a short summary of the key essence of such research findings. See Jwa (2000, 2002, and 2003) and Jwa and Lee (2004) for further detailed information regarding Korea’s regulations on the large corporate sector.

to numerous regulations on investment activities and corporate governance in the name of de-concentrating economic power, whereas small- and medium-sized firms were given countless menus of supports regardless of their economic performances. Large and small business firms lack incentives to grow under such corporate policies. KFTA singularly emphasizes the regulations on the corporate sector economic concentration, rather than promote competition. This policy regime perfectly concurs with the EE policy regime, which has been reinforced, rather than weakened from the 1990s to the present.

Thereafter, Korea gradually turned to the EE policy regime, introducing egalitarian institutions and policies through new laws and regulations: the pinnacle of the policy regime reversal was *the Amendment to Article 119 of the Constitution in 1987*, which introduced the ideology of *economic democracy*, which can be read as a slogan of pseudo-socialism. With the political democratization pursuant to the new constitution since the 1988, Korean economy rapidly turned to the EE policy regime by reinforcing the already built-in EE institutions.

Interestingly, however, Korea experienced a remarkable boom during 1986–1988 due to favorable global economic conditions dubbed as “three lows,” that is, low interest rates, low oil prices, and low dollar (with weak won and strong yen). However, this event turned out to be a “curse in disguise” because it misled policymakers to believe as if the EE policy regime adopted after the Park’s era was producing a handsome pay-off to reinforce the new EE policy regime. Therefore, entering into the 1990s together with active political democratization, the EE policy regime with the balanced development and the large corporate regulation became prevalent, ending up with the continuously weakened corporate sector competitiveness eventually leading to Korea’s financial crisis in 1997.¹⁵

c) Full swing to the EE policy regime since 1988 with political democratization

With economic democracy and political democratization institutionalized in the 1987 Constitution, the EE policy regime was reinforced in the 1990s and then became the most popular and dominant policy regime. Certain critical examples of new policies added on top of the existing stock of the EE policy are as follows:

¹⁵ See Jwa (2000, 2001, 2002, 2003, and 2017a) regarding this point.

The industrial policy, which had once nurtured corporation growth, was almost abandoned.¹⁶ Instead, the chaebol regulation regime was continuously reinforced, especially during the post-1997 financial crisis, following the then popular “global standard” reform of corporate governance, under the presumption that the over expansion of the chaebol was the main reason for the break of the crisis. However, this author argues that the chaebol is the victim, rather than the cause of the crisis and that the post-crisis reform weakened every merit of the Korean corporate system and furthermore the growth incentive of corporations.¹⁷ Interestingly, the EE policy regime for the corporate sector created an interesting pattern of corporate sector behavior. The corporate sector ecosystem of Korea can be described as the one with a continuously rising number of size-declining or non-growing SMEs but with never-growing number of large business establishments, ending up with a stagnant growth of the corporate sector as a whole. This description is surprisingly the opposite to the growth miracle of the Korean corporate sector during the developmental era when SMEs rapidly grew into large corporations.¹⁸

New emphasis on social policy, including welfare system, has been an important development in public policy for the recent 30 years. However, policies lack the ED incentive system, resulting in various moral hazard problems. The spirit of diligence and self-help continuously eroded under the EE policy regime.

Agricultural sector restructuring policies also turned into the EE policy regime, in which only poor or less performing farmers were given special favors and supports, thereby reverse-discriminating well-performing farmers and de-motivating all farmers from growing. These conditions are exactly opposite to Park’s SMU policy.

Strong pro-union policy was led by the EE policy regime. Ideology for corporate management democracy along with economic democracy became prevalent. Under this trend, a labor union has become the most influential social veto power in political and economic arenas, becoming a stumbling block to the national efficiency improvement.

¹⁶ See Jwa (2017a) and Jwa and Lee (2019) for the new perspective on industrial policy and critical point on Korea’s EE policy regime to abandon the industrial policy.

¹⁷ See Jwa (2017a) for the elaboration on this point.

¹⁸ See Jwa (2006, and 2017a) on these observations.

Education policy for secondary school has been led by the egalitarian education ideology since 1989, relatively de-emphasizing excellent performance. However, this policy is inevitable to relatively disfavor good schools and students, resulting in downgraded academic performances. Furthermore, policies to support universities and R&D turned into the EE policy regime, belittling superior scholars, researchers, schools, and institutions and reducing research and R&D power.

In sum, since the mid- and late-1980s, the public policy of Korea has gradually sought to equalize economic outcomes in the name of economic fairness and justice at the expense of economic excellence. Social, economic, and industrial policies that should follow the ED function of the market turned to the egalitarian support policy under the influence of the EE policy regime. The recent 30 years under the banner of political democratization and economic democracy has seen the increasing encroachment of the EE policy regime not only into the economic and social policy arenas but also into every corner of the Korean society.

B. Long-term Trend of Korea's Economic Growth and Testable Hypothesis

Having briefly reviewed the history of policy regime change, Figure 2 exhibits the long-term trend of Korea's economic growth for the last 60 years. Korea achieved the fastest shared economic growth in the world during the development era (1961–1987) with an annual economic growth of approximately 10% for three decades. This period roughly matches with that of Park's ED policy regime and an extended Park's regime of the subsequent period of 1980–1987 (when Park's regime was still influential due to its path dependence during the 1980s in spite of the early phase of the EE policy regime, which usually has lagged effects). However, after three decades of miraculous economic growth, Korea began observing its potential growth rate steadily decreasing since the late 1980s to as low as approximately 2% range today. This period matches with that of the full-blown EE policy regime in the recent 30 years.

What can be the cause of the rise and decline in long-term growth potential? This study argues that the strong growth of the first 30 years is because of the effect of the ED policy regime, but the declining growth of the second 30 years is due to the effect of the EE policy regime. Economic logic for this argument is already elaborated with certain

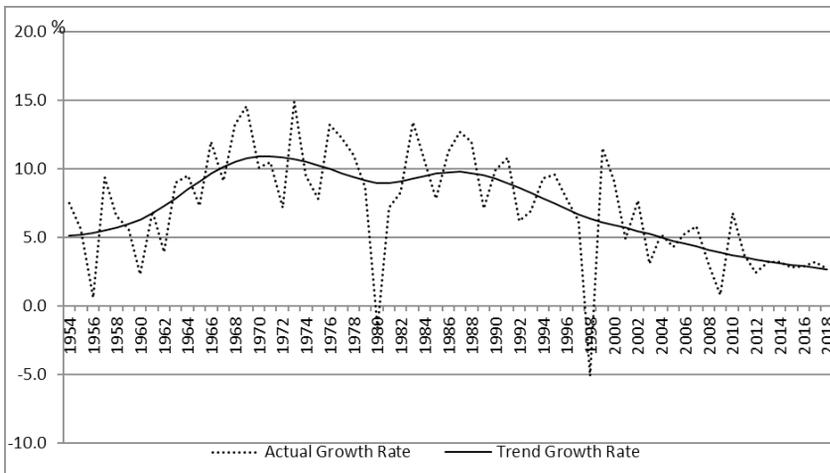
details in Section II. We instead present this argument as a testable hypothesis for empirical verification and see whether the data support them in the next section.

We understand that economic development can generally mean the increase of the quality and quantity of economic growth. GTED and the implied propositions above are meant to be applicable to development and growth issues. However, due to the lack of long data on Korea’s income distribution, the empirical study focuses on economic growth as shown in Figure 2, as follows.

Hypothesis 1 (Institution-led growth): The first 30 years of the shared growth miracle is led by the ED policy regime, whereas the second 30 years of low growth with worsening distribution is led by the EE policy regime.

Hypothesis 2 (Corporate-led growth): The pattern of the rise and fall of Korea’s growth can be explained by the similar underlying pattern of the rise and fall of the corporate sector growth instigated by the ED and EE policy regimes, respectively.

Hypothesis 3 (Political cycle of economic growth): The pattern of the



Note: Trend is calculated by the Hodrick-Prescott filter.

Data source: Bank of Korea

FIGURE 2
 TREND OF KOREA’S LONG-TERM ECONOMIC GROWTH
 (REAL GDP GROWTH RATE; % PER ANNUM)

rise and fall of Korea's growth can be explained by the political cycle of Korea's economization of politics and politicization of economy, which drives the ED and EE policy regimes, respectively. Hypothesis 3 is a corollary of Hypotheses 1 and 2.

IV. Empirical Analysis on the History of Korea's Economic Development

A. New Corporate Production Function Model

For the empirical testing of our hypotheses, a new corporate production function model must be constructed in substitute for the traditional production function model. This new model should be consistent with the concept of capitalist corporate economy and also be able to deal with the effect of the institutional regime change. Jwa (2017) proposes a new corporate production function as a model of macroeconomic productivity analysis to overcome various weaknesses of the most popular neoclassical production function model.

The traditional production function can be called "market production function" because it implicitly assumes that the market is the grand aggregator of national resources, including production factors, by not explicitly identifying the role of the corporation, whereas corporate production function explicitly assumes the corporation as the grand aggregator.

Suppose we specify the traditional production function as usual as follows:

$$y = A \cdot f(K, L), \quad (1)$$

where y is the aggregate output, A is the efficiency factor, K is the total capital stock, and L is the labor stock. In Equation (1), factors that are not captured by K and L , including the effects of technological changes usually known as the sources of total factor productivity (TFP) and the effects of institutional reform, are assumed to be represented by A . Here, Equation (1) has the measurement problem of capital, labor, and technology and the theoretical definitional problem of capital, as already revealed by the Cambridge capital controversies on the concept of capital. Furthermore, even if TFP is now conventionally claimed to be estimated as the residuals, the formulation of Equation (1) makes the

attribution of residual estimates into the effects of TFP and economic institutional reforms impossible.

The concept of corporate production function can overcome these problems and can be expressed as follows:

$$y = A \cdot g(CA, L), \tag{2}$$

where CA is the economy’s total corporate assets that aggregate its total productive assets, which are actively utilized by the corporate sector, such as capital and any other types of non-human productive resources, including technology-related and any other tangible and intangible assets. Other variables are the same as before. Now, the aggregate output is a function of aggregate corporate asset and labor. TFP and the effect of capital K can be captured by CA because technology and capital are now internalized by CA. In addition, if L in Equation (1) is interpreted as representing the human capital, then HK (as in the endogenous growth literature) can be written as $HK = L \cdot Q$, where L is the quantity of labor, and Q is the quality of labor in terms of knowledge embodied. CA in Equation (2) can also be assumed to internalize Q, which can be realized in corporate intangible intellectual assets. Therefore, A can now be interpreted as the effect of institutional change that can be estimated without being compounded by the effects of TFP and human capital. Assuming that function g is linearly homogeneous of degree one with respect to CA and L, then Equation (2) can be rewritten as a regression model in per capita variables as follows:

$$y/L = A \cdot g(CA/L), \tag{3}$$

where per capita income (y/L) is a function of per capita corporate assets (CA/L). For the actual regression analysis, Equation (3) can be further specified into a log linear form as follows:

$$\ln(y/L) = \alpha + \beta \ln(CA/L) + \gamma X + \varepsilon, \tag{4}$$

where α is a constant term, β can be interpreted as a macro marginal productivity of corporate asset in an elasticity form, X is a set of institutional variables affecting income growth with γ as coefficient, and

ε is residual not compounded by technology.¹⁹

Interestingly, Equation (4) can be theoretically interpreted as the relationship between the stock and flow as follows: the stock of national productive assets (CA/L) can be seen as the sum of the present values of a permanent annuity income flows (y/L) deflated by the discount rate of β , such as $(CA/L) = (y/L)/\beta$. That is, the stock of national productive assets (CA/L) creates the permanent income flows (y/L) at the rate of β , the nation's marginal productivity.²⁰

In the actual regression, data on CA can be measured by the aggregate sum of all the total assets in the balance sheets of all companies or listed companies in the economy depending on data availability.²¹ The per capita variables of y/L and CA/L are measured as per total population consistently with the usual convention in macro analysis, rather than per employees.

B. Corporate Regulation and Growth

To test the stated hypotheses, we must identify the effects on the income growth of the policy regime change, from the ED to EE policy regime. Equation (4) is useful for this purpose as it provides information on the effects on the income growth of the corporate sector and certain important institutional changes, which, however, are insufficient. We should seek further information on the effects on the corporate growth of the policy regime change. However, delicate econometric issues arise in Equation (4) because CA and X must be orthogonal. Thus, CA and the variables representing policy regime, such as corporate regulation, are not advised to be used simultaneously because doing so may lead

¹⁹ Constant term a can be interpreted as per capita income of the purely agrarian economy void of any corporate production.

²⁰ The stock of corporate assets, CA/L as the present value of permanent flows of incomes, y/L can be expressed as follows: $(CA/L) = (y/L)[(1/(1 + \beta)) + (1/(1 + \beta))^2 + (1/(1 + \beta))^3 + \dots + (1/(1 + \beta))^n] = (y/L)[(1/(1 + \beta))/[1 - (1/(1 + \beta))]] = (y/L)[(1/(1 + \beta))/[\beta/(1 + \beta)]] = (y/L)/\beta$. See Jwa (Appendix, 2017) for further details on this model.

²¹ Data on Korea's total corporate assets are calculated by the author on the basis of the series of "Corporate Financial Statement Analysis" by the Bank of Korea. Such data are derived from the corporate database of the National Tax Service that includes all Korean firms broader than the database of listed companies. The total available data points are 47 from 1968 to 2015.

to multicollinearity problem.²² Therefore, we develop an additional model to identify the impacts of corporate regulation policy on corporate growth. A simple linear model is utilized to decompose the corporate sector growth into the natural trend growth rate of corporate asset (NTGRCA), the regulation-driven impact, and others as follows:

$$\text{Growth rate of (CA/L)} = a + b(\text{corporate regulations}) + \varepsilon, \quad (5)$$

where “a” can be interpreted as the NTGRCA after considering the effects of various regulations and other noises (ε). NTGRCA is meant to represent the ED policy regime with corporate promotion policies during the developmental era, whereas two corporate regulation regimes are identified for the EE policy regime during the post-Park era; One is the regulatory regime adopted in 1985 via KFTA by the immediate post-Park government, and another is the additional regulation regime on the Chaebol sector after the 1997 financial crisis, as all discussed in the previous section.²³

For the regression analysis, the first regulation regime is represented by dummy variable Dum(85~2015), which takes the value 1 for the period 1985–2015 and zero otherwise, whereas the second regime is represented by dummy variable Dum(98~2015), which takes the value 1 from 1998 to 2015 and zero otherwise.

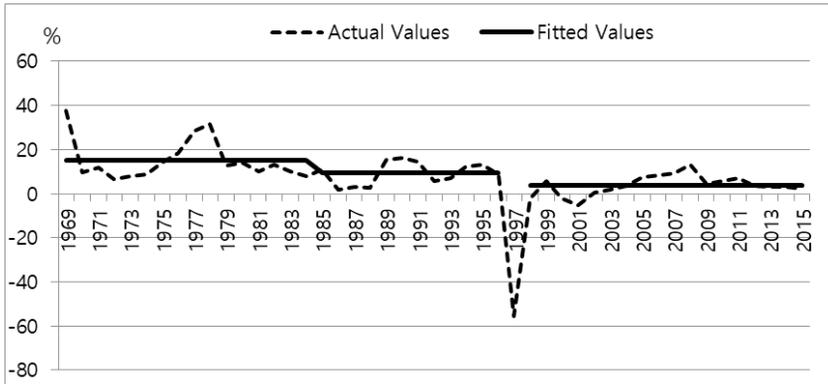
The regression result in real terms is as follows:²⁴

$$\begin{aligned} \text{Per capita real CA growth rate} = & \\ 15.199^{***} - 5.928^* \text{ Dum}(85\sim 2015) - 5.409^{**} \text{ Dum}(98\sim 2015) & \quad (6) \\ (2.670) \quad (2.993) \quad (2.208) & \end{aligned}$$

²² The issue is how strong the correlation must be to cause a multicollinearity problem, not its existence or non-existence. In actual estimation, a prudent judgment is necessary in choosing X.

²³ Equations (4) and (5) constitute a structural equation system in which one can drive a reduced form equation by substituting CA/L in Equation (4) by Equation (5). However, we prefer to estimate both structural equations to keep the information on the direct effect of CA/L on y/L.

²⁴ Here, data point 1997 is deleted because as the first year of financial crisis, 1997 turns out to be an extreme outlier, showing the larger than 50% drop of corporate asset growth due to the financial crisis, as illustrated in Figure 3.



Note: Data are only available until 1969. The solid lines denote the actual values of growth rates, whereas the dotted lines represent the fitted values by Equation (6).

Source: Author's calculation based on the "Financial Statement Analysis" by the Bank of Korea.

FIGURE 3

GROWTH RATE OF PER CAPITA REAL CORPORATE ASSETS:
ACTUAL AND FITTED VALUES BY EQUATION (6)

where $R^2 = 0.3626$, and $\text{obs} = 46$.²⁵ Standard errors in parentheses are calculated using EViews to be robust to serial correlation and heteroscedasticity, and *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.1$.

The dummy variables, although too simple, seem to reasonably work well in identifying NTGRCA and the effects of regulatory regimes. According to the regression result reported in Equation 6 and Figure 3, the NTGRCA of the Korean corporate sector is estimated as 15.2% per annum during the developmental era of the ED policy regime, whereas for the post-Park era of the EE policy regime, the Korean corporate sector lost its growth potential by 5.93% per annum from 1985 to 2015. An additional 5.41% per annum from 1998 to 2015 were lost, ending up with less than 3.86% growth per annum, which gives an absolute limit to Korea's per capita income growth. We utilize this information for testing the Korean model below.

²⁵ The number of observations utilized are 46 out of the total available sample, 47 from 1968–2015 by deleting the observation in the first year of the financial crisis (1997), which is the extreme outlier.

C. Korea’s Corporate Production Function

Having identified the impacts of corporate policies on corporate growth under the ED and EE policy regimes, we must now identify the effects of corporate growth on economic growth to verify the Korea’s growth model. Korea’s corporate production function is estimated based on Equation (4) in real term, as reported below. This model specification intends to verify that economic growth and development are led by corporate growth, although differently depending on policy regimes. Such a specification also aims to investigate the effect of Korea’s SMU on economic growth. The regression result in real terms is as follows with interpretation.²⁶

$$\ln(y/L) = 6.087^{***} + 0.557^{***}\ln(CA/L) + 0.017^{***}\ln(CA/L)(88\sim 2015) + 0.044^{***}\ln(CA/L)(98\sim 2015) + 0.103^{***}\text{Saemaul}(72\sim 79) + 0.110^{***}\text{D}(86\sim 88), \tag{7}$$

(0.379)
(0.024)
(0.003)
(0.002)
(0.029)
(0.035)

where R² = 0.995, obs = 47(1968~2015, deleting the outlier, 1997), () is the standard error calculated by EViews to be robust to serial correlation, and *** is significant at 99%.

a) Korea’s macro marginal productivity of the corporate sector under the ED policy regime

The elasticity of per capita real income with respect to per capita real corporate asset is estimated as 0.557 for the period 1968–1987. Such an elasticity can be interpreted as 1% increase of per capita real CA causing a 0.557% increase of per capita real income. Such an increase is the macro marginal productivity estimate of the corporate sector under the ED policy regime inclusive of Park’s and the extended Park’s ED policy regimes.²⁷

²⁶ This specification is similar to one of the estimation results reported in Jwa (2018). In this study, the deletion of data point, 1997 causes minor differences in the results.

²⁷ This is comparable to the 0.39% in the cross-country corporate production function analysis in the nominal terms with the fixed effect panel estimation for the period 2005–2013 and 71 countries reported by Jwa (Appendix in 2017) and to 0.78% for Korea with the same data set in the nominal terms reported by Jwa (2017a).

b) Effects of post-Park regimes on corporate productivity

- (a) Amid the gradual introduction of the EE policy regime in the early 1980s, including the balanced development policies (1982), anti-Chaebol regulation (1985), and political democratization with economic democracy (1987), corporate marginal productivity has increased by 0.017% point for the whole post-Park era until now. Variable $\ln(\text{CA}/\text{L})(88\sim 2015)$ is the same as $\ln(\text{CA}/\text{L})$ for 1988–2015 (era of the EE policy regime) and zero otherwise, intending to see the change in the slope parameter, that is, the coefficient of $\ln(\text{CA}/\text{L})$ due to the regime change;
- (b) Under the strengthened corporate regulation reform with the Asian financial crisis in 1997, marginal productivity has increased by 0.044% point from 1997 to the present. Variable $\ln(\text{CA}/\text{L})(98\sim 2015)$ is the same as $\ln(\text{CA}/\text{L})$ for 1998–2015 (post-financial crisis era) and zero otherwise, also intending to see the change in marginal productivity during the post-financial crisis period. Note that these results imply two structural breaks in 1988 and 1998 with Korea's growth trend.²⁸

c) Net effects of post-Park and EE policy regimes on per capita income

The effects of corporate regulations imply minor positive improvements in the marginal productivity of the corporate sector. However, the results of Equation (6) imply large negative impacts on the corporate growth trend (see Figure 3). The net effect on the per capita income growth turns out to be a large negative, which can be verified in the following growth accounting in Table 1.

d) Effect of SMU as an institution

SMU has a significant positive effect; the coefficient value of 0.103 for variable $\text{Saemaul}(72\sim 79)$ ²⁹ implies that per capita income increased

²⁸ Note that using variables $\ln(\text{CA}/\text{L})(88\sim 2015)$ and $\ln(\text{CA}/\text{L})(98\sim 2015)$ as additional explanatory variables is the same as the Chow test for the structural breaks in 1988 and 1998.

²⁹ SMU identified three classes of villages depending on their respective performances, the highest performing self-reliant village, the good performing self-help village, and the lowest performing basic village. The Saemaul (1972–1979) combines two groups of self-help and -reliant villages and takes on the weight of these villages out of the total number of villages. Data on SMU are 0.469, 0.693, 0.822, 0.885, 0.991, 1.0, 1.0, and 1.0 for 1972, 1973, 1974, 1975, 1976,

by 10.3% for the period 1972–1979, which amounts to an annual average of 1.23% growth over eight years at a compounded rate. However, no effect was identified during the post-Park era when the ED policy regime was no longer maintained. This result implies that SMU during the post-Park era only nominally survived without real impact. This analysis with SMU as an institution implies that the corporate production function model should be useful in identifying the macroeconomic impact of institutional change without being compounded by the TFP effect.

e) Three-low boom effect

Dummy variable $D(86\sim 88)$, which is 1 for 1986–1988 and zero otherwise and intends to capture the three-low boom effect, shows a significant positive effect. The 11% coefficient estimate during 1986–88 implies a 3.54% annual growth rate for three years at a compounded rate. This result suggests that three-low boom was a “*curse in disguise*” because it disguised the potentially low growth under the EE policy regime with an actual growth rate (10.8% per annum) higher than the potential growth rate by 3.54% point for three consecutive years (1986–1988). Therefore, Korea was misled to believe that the EE policy regime is good for its economic growth, and later governments followed suit.

f) Choice of the timing of policy regime change

The selection of 1985 and 1988 as the respective timings for the EE corporate regulation regime in Equation (6) and for the full-blown EE policy regime in Equation (7) is statistically supported. Here, the reason for the three-year difference between the two regimes may be partly because the regulatory regime has in general a time lag in affecting corporate behavior and thereafter the GDP due to the behavioral path-dependence in response to institutional change and partly because, specifically for Korea, three-low boom effects disguised the negative effects of the EE policy regime as mentioned above. These findings support our hypotheses. In addition, the findings of the additional structural break in 1998 to simultaneously reinforce the downward trend for corporate and GDP growth further strengthen the validity of

1977, 1978, and 1979, respectively; and zero otherwise by assuming that SMU had no effect from 1980.

our hypotheses.

TABLE 1
HISTORICAL GROWTH ACCOUNTING FOR THE KOREAN ECONOMY IN THE PERIOD
1969–2015

(Unit: Annual per capita Real GDP Growth, %)

	1969–1987 (19 years)	1988–1996 (9 years)	1998–2015 (18 years)
A) Trend Growth Rate of Corporate Assets	14.26*	9.27	3.86
(B) β (Marginal Productivity)**	0.56	0.58	0.62
(C) Predicted Trend GDP Growth Rate due to Corporate Growth (C = A · B)	7.99	5.38(2.61)***	2.39(5.60)***
(D) SMU Effect (Trend for Eight Years)	0.54****	NA	NA
(E) Predicted Trend GDP Growth Rate (E = C + D)	8.53	5.38	2.39
(F) Three-low Boom Effect (Transient External Effect for Three Years)	0.37 *****	0.39*****	NA
(G) Predicted GDP Growth Rate (G = C + D + F) *****	8.90(108.94)	5.77(75.52)	2.39(67.32)
(H) Actual GDP Growth Rate	8.17	7.64	3.55

Note: *Weighted average of the trend growth rates of corporate asset from Equation (6) for the overlapping periods [$\{15.20 \times 16 \text{ years (1969–1984)} + 9.27 \times 3 \text{ years (1985–1987)}\} / 19 \text{ years}$]. **Sum of the coefficients of $\ln(\text{CA}/L)$, $\ln(\text{CA}/L)$ (88~2015), and $\ln(\text{CA}/L)$ (98~2015) for the respective period. *** () is the loss of per capita GDP growth rate due to the corporate regulation compared with the first period of 19 years with the near absence of corporate regulation. ****SMU effect; 10.3% (SMU coefficient estimate) are evenly distributed for 19 years from 1969 to 1987. *****Three-low boom effect; 7.08% (= 3.54% per annum \times 2 years (1986–1987)) evenly distributed for 19 years (1969–1987). *****Three-low boom effect; 3.54% per annum for 1988 evenly distributed for nine years (1988–1996). ***** () is a measure of prediction performance, G/H(%)

All numbers are rounded to two decimal places.

Data source: Equations (6) and (7).

D. Historical Growth Accounting for the Korean Economy

Table 1 shows the growth accounting results for the Korean economy for the three consecutive periods in the last 60 years based on Equations (6) and (7). Note that this exercise is totally different from the neoclassical growth accounting analysis but useful for investigating the effects of institutional policy regime change on macro growth under the condition of corporate data availability. A few interesting implications on Korea's growth history can be drawn as follows:

First, the results imply that Korea's economic growth has experienced a rapid rise from the 1960s to 1987 and a gradual fall from 1988 to 1996, followed by a continued rapid fall in the present, which closely mimics the trend growth pattern of corporate asset. Therefore, Korea's growth and development can be argued to be fundamentally led by corporate growth. The key interesting feature of the corporate-led development history can be further noted as follows. Corporate sector policies regulating the growth of large corporations but promoting S&MEs under the EE policy regime drastically reduced the growth potential of the corporate sector during post-Park periods while only marginally increasing the macro marginal productivity of the corporate sector. Therefore, per capita income growth continuously slid down.

The third row (C) in <Table 1> presents the estimated size of the lost growth due to the corporate sector regulation in parenthesis, 2.61% and 5.6% for periods 1988–1996 and 1997–2015, respectively. The lost growth rate (5.6%) for the latter period was larger than the predicted trend growth rate (2.39%) and actual growth rate (3.55%). From such large negative effects of corporate regulation, one can argue that unless the existing corporate sector policies based on the EE policy regime remain intact, observing the near-zero percent growth of per capita income may be inevitable in the near future.

In addition, the growth accounting exercise here is not strictly for prediction purpose but for gauging the impact of the policy regime change on corporate growth and further on income growth. We can check its prediction power for the sake of research interest. Row (G) provides the predictive power of growth accounting on the basis of the corporate production function in parenthesis; 9.0% over-prediction for 1969–1987, 24.5% under-prediction for 1988–1996, and 32.7% under-prediction for 1998–2015, all of which may not be that disappointing because the prediction periods (10–20 years) is long.

V. Concluding Remarks

Our empirical evidence reasonably supports our hypotheses.

Hypothesis 1 is confirmed by econometrically showing that the high growth trend was sustained under the ED policy regime of Park's regime (1961–1979) and the extended Park's regime (1980–1987), peaking at 1987. Such a trend was taken over by the downward growth trend since 1988 when the full-blown EE policy regime took over.

Hypothesis 2 is also supported by econometrically presenting that the corporate growth trend broke in 1985, two years ahead of the GDP growth trend, which broke in 1987. Therefore, the underlying driving force behind the macroeconomic growth was corporate growth.

Hypothesis 3 is confirmed as a corollary of Hypotheses 1 and 2.

In sum, the 60-year economic growth of Korea can be argued as the corporate-led growth under the large cycles of institution-led growth with the ED policy regime for its rise and the EE policy regime for its decline which in turn were led by economization of politics and politicization of economy, respectively. Note that policy regime change cannot be independent from political influences. The timing of the critical regime change from the ED to EE policy regime can be dated as 1988 right after 1987 when the EE policy regime was finally constitutionalized. Meanwhile, the timing of the additional change to reinforce the EE regime is dated as 1998 with the financial crisis.

Policy implication: Concerning the future institutional reform of the Korean economy, the current economic difficulties can only be cured by reversing the present anti-corporate EE policy regime to the corporate-friendly ED policy regime, rather than reinforcing the current regime as argued by a certain policy circle led by economic egalitarianism. The reason is that difficulties stem from low corporate sector growth caused by the longstanding anti-corporate, EE policy regime. Accordingly, Korea should be warned to beware of politicization of economy that yields to EE policy regime, if she wants to return to the dynamic growth and development path.

Implications for future research: This study theoretically and empirically confirms the hypotheses of institution-led growth, corporate-led growth, and the political cycle of growth, implying that GTED can be a useful theoretical framework to deal with the important issue of what institutions can be pro-developmental. The corporate production function model can also be a useful alternative to the mainstream neoclassical production function to empirically analyze the institutional effect on economic development.

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