Understanding the Growth of the Nonprofit Sector in Korea:
A Time Series Regression Analysis of Political, Economic, and Social Factors

Seok Eun Kim
Associate Professor
Department of Public Administration
Hanyang University
222 Wangsimri-ro Seongdong-gu,
Seoul, 133-791, Korea
82-2-2220-0834 (W)
seokeun@hanyang.ac.kr

Yoo Hyun Kim
Doctoral Student
Department of Economy and Finance
Hanyang University
sergei2323@naver.com

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ABSTRACT
Understanding the effects of environmental contexts on the growth of the nonprofit sector is important to predict and comprehend the role of nonprofits in modern society. However, little research has been conducted with longitudinal data and thus few informed policy decisions have been made to make nonprofits more responsive to growing societal needs over time. Using social origins theory as a theoretical framework, we analyzed forty years of political, economic, and socio-demographic data to examine the extent to which these environmental contextual variables affect the growth of nonprofits in Korea. The results confirmed the usefulness of social origins theory. The nonprofit sector in Korea has been shaped by political, economic, and social processes that are uniquely and deeply embedded in society. The article concludes with theoretical and practical implications of the findings.

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INTRODUCTION
The nonprofit sector is deeply embedded in society where political, economic, and social factors influence and shape its size and role in response to increasing societal needs (De Vita, Fleming, and Twombly 2001; Grønbjerg and Paarlberg 2001; Salamon and Anheier 1990; Seibel 1990). Policy shifts, such as the implementation of the 1996 welfare reform in the United States, have immediate and substantial impacts on the exit and entry of nonprofit human services agencies (Twombly 2003). Social and economic factors affect the structural configurations of communities as well as the types of services offered to meet new societal needs (Grønbjerg and Paarlberg 2001). For example, the flow of incoming foreign labor not only alters population structure, but also results in a need for new services in the areas of language instruction, schooling and education, and cultural adjustment. These three environmental factors do not exist exclusively; instead, they are interrelated and mutually reinforcing (De Vita et al. 2001, 13). The growing participation of the female workforce in economy, for example, has important implications for child education and political representation. The convergence of these interrelated and reinforcing factors creates the
environmental contexts that push and pull the direction of the nonprofit sector in response to growing societal needs.

To better predict and prepare for what future nonprofits should look like, we must review past and current sector trends (Anheier 2013). Here the term growth refers to a positive change over forty years in the final consumption expenditures by nonprofit organizations to provide collective goods and services to individual households. Yearly financial data at the national level drawn from various databases represent the birth and growth of the nonprofit sector in Korean society where unique political, economic, and social conditions define the role of nonprofits over time. As the service industry has mushroomed in the market, the economic role of nonprofits as a major human service provider has dramatically enlarged (Grønbjerg and Paarlberg 2001). At the same time, the social and political roles of nonprofits have received renewed attention in the context of civil society, democracy building, and political participation (Anheier 2013). The push to privatize governments’ services tends to increase the market share of the nonprofit sector, but business intrusion into the social services realm combined with the greater burden of social responsibility have forced nonprofit organizations to run like businesses in order to survive (Young and Salamon 2002).

These environmental challenges drawn from both the market and government offer opportunity as well as challenges to the nonprofit sector. Nonprofit organizations, like their counterparts in business and government, need to reshape the direction and scope of services offered. If there is not a concerted effort to transform the existing system, the nonprofit sector runs the risk of losing its importance in the building of a civil society (Dighe 2002). But what specific factors in political, economic, and social contexts influence the growth of the nonprofit sector? Are these three factors equally important or do we have to put more weight on a particular factor over the other? And, can we find a better solution for emerging issues
and problems by identifying existing trends and emerging developments?

Many studies have been conducted in response to these questions (Ben-Ner and Van Hoomissen 1992; Burger and Veldheer 2001; Crobin 1999; Grønbjerg and Paarlberg 2001; Kim and Hwang 2002; Salamon, Sokolowski, and Anheier 2000; Saxton and Benson 2005; Twombly 2003). However, most of them used case studies (Burger and Veldheer 2001) or cross-sectional data (Ben-Ner and Van Hoomissen 1992; Bielefeld 2000; Grønbjerg and Paarlberg 2001) and different units of analysis. Some used the total number of nonprofit organizations at the county level (Grønbjerg and Paarlberg 2001), in metropolitan areas (Bielefeld 2000; Crobin 1999), country-wide (Ben-Ner and Van Hoomissen 1992), or worldwide (Salamon et al. 2000). The limited data sources and the different units of analysis often produce conflicting and inconclusive findings (Matsunaga, Yamauchi, and Okuyama 2012).

In the United States, many cross-sectional or limited forms of longitudinal data were in large measure drawn from the National Center for Charitable Statistics (NCCS)’s Business Master File (BMF) and Core Files. These data were built on the filings of Form 990s, which not only contained significant errors in reporting, but also excluded small nonprofits with less than $25,000 in annual growth receipts and many faith-based groups (Grønbjerg and Paarlberg 2001; Ott and Dicke 2011; Renz and Associates 2010). We argue that a time series analysis is more appropriate than cross-sectional studies in measuring the growth of the sector because environmental contexts are inherently dynamic such that autoregressive effects should be taken into account in the analysis (Pennings 1982, 140). Therefore, the purpose of the study is to use longitudinal data to examine the extent to which three environmental contexts—political, economic, and social factors—influence the growth of the nonprofit sector in Korea.

It should be noted that the concepts and theories developed by Western societies may
not be applicable to Asian countries like Korea, which has a strong tradition of state superiority over civil society (Choi and Yang 2011; James 1987; Kim and Hwang 2002; Salamon and Anheier 1997; Yoo 2004). While nonprofit organizations come in various shapes and sizes from one country to another (James 1987; Salamon et al. 2000), they do have many commonalities. Based on a compilation of the data from several Western and Asian countries, James (1987) found that although different countries make very different choices regarding the role of the nonprofit sector, those organizations provide very similar types of services to benefit both individuals and society at large (400). While we admit there are contextual differences between Western and Asian society, nonprofits on both continents seem to speak a neutral language about what determines the growth of the nonprofit sector, as their services are essentially labor-intensive and human-capital enhancing.

This study was organized as follows: First, the environmental contextual variables relevant to measuring nonprofit growth were examined using social origins theory as a theoretical framework. Next, the research design and a set of hypotheses were drawn from a body of empirical studies regarding nonprofit growth, along with the data and measures. The data was subsequently analyzed using time series regression analysis. The article concludes with a discussion of key findings and their theoretical and practical implications in nonprofit management.

ENVIRONMENTAL CONTEXTS OF NONPROFIT GROWTH

Traditional organizational theorists put little emphasis on the analysis of environmental influences; instead, they sought to find a set of management principles for individual workers to complete tasks efficiently. However, the internal focus of organizational analysis shows only part of the story because analyzing the environmental effects is critical to explaining organizational growth and change. This is also true of nonprofit organizations that are open to a series of environmental pressures and constraints. No nonprofit organizations
exist in a vacuum; instead, they are subject to many directions and interventions from government regulators, donors, vendors, communities, and society at large (Rainey 2009). In analyzing environmental effects, the following three theoretical perspectives have been used to explain and predict organizational growth and change.

*Organizational adaptation*, as the dominant paradigm in organizational growth and change, posits that organizations deliberately alter their internal structure or procedures to cope with environmental challenges such as staff turnover, competition, new societal needs or new regulations (Aldrich 1999; Aldrich and Pfeffer 1976). A body of literature accumulated in contingency theory, resource dependency theory, and strategic management has stressed effective management of internal structure, network relationships, and goals and missions that are conducive to environmental changes (Twombly 2003). In contrast, *population ecology theory* emphasizes inertial pressures that make an organization cease operation or continue its existence by being selected and retained in the environmental niche (Hannan and Freeman 1977, 1989; Pennings 1982; Singh and Lumsden 1990). In the ecological paradigm, there is not much room for an organizational manager to make strategic choices to maneuver within environmental contexts. Instead, he or she is rather passive and reactive to environmental challenges that compel the selection of an organization based on the Darwinian test of fitness (Aldrich 1999; Pennings 1982).

The population ecology paradigm could provide a theoretical framework for this article in that nonprofit organizations in Korea have traditionally been selected and nurtured by the government’s dominant party and operated in large measure by government funds. However, the population ecology theory does not effectively account for the burgeoning civil society in Korea where many newly emerged nonprofits have aggressively and deliberately supported civil rights and led grassroots movements since the 1987 Democratic Movement. *Social origins theory* finds its usefulness in predicting the formation and expansion of the
emerging trend in the nonprofit sector Korea, as the theory posits that nonprofit organizations are being shaped by political, economic, and social processes that are uniquely and deeply embedded in society (De Vita, Fleming, and Twombly 2001; Grønbjerg and Paarlberg 2001; Salamon and Anheier 1990; Seibel 1990).

Salamon et al. (2000) contended that two prevailing theories in nonprofits—heterogeneity theory and interdependence theory—focus primarily on the relationship between nonprofits and government/market and do not effectively predict “circumstances under which such a relationship is most likely to emerge” (15). The development of the nonprofit sector in Korea is associated with complex social and economic circumstances that influence and are influenced by deep historical development. The 17-year military dictatorship led by President Park in the early 1960s used brutal force to suppress civil rights and maintain its rule, but achieved economic miracles and provided social services (e.g., initiating social insurance programs in 1963) to gain and sustain legitimacy. This mixed governance “laid the groundwork for the transition to democracy by allowing a well-organized civil society to emerge” (Kim, Kwon, Lee, and Yi, 2011). The remarkable economic success significantly reduced poverty and brought about socio-demographic changes such as women’s participation in the labor market and an increasing foreign population. Indeed, the 1987 Democratic Movement was an expected consequence of these economic and socio-demographic changes. Social origins theory holds that Korean nonprofits are embedded in these social and economic structures that have unique and deep historical roots.

As Table 1 shows, the influences of environmental contexts driving the growth of nonprofits vary, although individual environmental contexts are discernible from a literature review. A number of studies used political factors such as political culture encompassing moralistic, individualistic, and traditionalistic cultures (Bielefeld 2000; Corbin 1999;
Twombly 2003), public policy shifts such as the 1996 welfare reform (Twombly 2003), and political party membership (Ben-Ner and Van Hoomissen 1992). Economic factors include per capita income (Bielefeld 2000; Ben-Ner and Van Hoomissen 1992; Corbin 1999; James 1987) or median household income (Saxton and Benson 2005), government spending (Bielefeld 2000; Grønbjerg and Paarlberg 2001; Lecy and Van Slyke 2012; Saxton and Benson 2005), and generosity measured by government and individual contributions (Bielefeld 2000; Lecy and Van Slyke 2012). Social factors include education level (Ben-Ner and Van Hoomissen 1992; Grønbjerg and Paarlberg 2001), poverty level (Corbin 1999; Grønbjerg and Paarlberg 2001), heterogeneity such as racial diversity (Bielefeld 2000; Ben-Ner and Van Hoomissen 1992) and religious diversity (Corbin 1999; Grønbjerg and Paarlberg 2001; James 1987), population (Lecy and Van Slyke 2012), urbanization (James 1987), crime level (Lecy and Van Slyke 2012), and social capital (Saxton and Benson 2005). A review of the literature suggests that political, economic, and social factors set the environmental parameters within which nonprofit organizations survive, die, or significantly reshape their role and scope of services (Twombly 2003).

[ Table 1 here ]

RESEARCH DESIGN AND DATA

Figure 1 shows the research model and the set of hypotheses considered in this article. To test the hypotheses, we have collected 40 years of time series data between 1971 and 2010. The Korean government has officially begun to collect economic and socio-demographic data since 1971. We decomposed the data into two separate batches with two different time frames—one contained 39 data points between 1971 and 2010 and the other 19 data points between 1991 and 2010—due to data availability during the time periods.

By using both datasets, we tried to increase both the degrees of freedom and the explanatory power in the regression analysis. Data were drawn from various sources, including the Korean Statistical
Information Service (KSIS), Organization for Economic Cooperation and Development (OECD) Revenue Statistics, OECD country statistical profiles, and the World Development Indicator (WDI) of the World Bank. The dependent and independent data have been collected in accordance with standards established by the System of National Accounts (SNA) recommended by the United Nations.\(^4\) Table 2 shows individual variables and data sources considered in this article.

[Figure 1 here]

[Table 2 here]

**Measures – Dependent Variable**

Nonprofit growth has often been measured by counting the total number of nonprofit organizations (Bielefeld 2000; Crobin 1999; Grønbjerg and Paarlberg 2001; Saxton and Benson 2005) or the total employment in the sector (Ben-Ner and Van Hoomissen 1992; Salamon et al. 2000). Rarely have scholars tried to measure size using monetary terms. Bielefeld (2000) used financial measures such as total revenue, the proportion of revenues coming from dues, and the ratio of net worth (assets minus liabilities). However, these measures were descriptively presented to compare the size of the nonprofit sector across nine metropolitan areas. This limited form of bivariate analysis did not permit rigorous statistical tests of what determines nonprofit growth.

Our dependent variable in this article is *the final consumption expenditures of Nonprofit Institutions Serving Households (NPISHs) as a percentage of GDP* in Korea.\(^5\) Here NPISHs are defined as private nonprofit organizations that provide various collective goods and social services—such as education, health, religion, and culture—to households free of charge or below market value. NPISHs can generate surplus revenues but, in principle, do not intend to make profits and distribute their incomes to shareholders. Their activities are typically supported by membership fees, government grants, and private donations. This
definition excludes many government-affiliated public nonprofit organizations—such as government-sponsored research institutions and public foundations—that are funded by government grants (The Bank of Korea 2010, 54). The final consumption expenditures of NPISHs had dramatically increased throughout the forty year period. As a percentage of GDP, the final consumption expenditures of NPISHs totaled $0.56 billion in 1971 and had reached $13.8 billion in 2010.

The dependent measure was chosen for three reasons. First, longitudinal data on the total number of nonprofit organizations or total employment in the sector were not available in Korea where research on the nonprofit sector is still in its infancy. Second, just like the business sector measures its size using market shares or total sales, measuring the total expenditures on nonprofit services over time mirrors changes in the proportion of the nation’s economy that is accounted for by the sector. Third, it is problematic if individual organizations are counted as one without taking their organization size (measured by annual budget or expenditures) into account (Matsunaga et al. 2012). The data for the dependent variable were drawn from KSIS.

**Environmental Contexts – Independent Variables**

**Political Factors** Nonprofit organizations, like their private and public counterparts, are being shaped by the political framework and public policies (Anheier 2013). In Korea, state superiority during the military regimes between the 1960s and 1980s controlled civic society (Kim 2000; Kim 2002; Jung and Sung 2002; Yoo 2004). A majority of nonprofits received government funds and had a voice in the development of government policies until 1993 when the first civilian government took office. These government-affiliated or pro-government nonprofits have dominated in the allocation of government funds by maintaining a close relationship with sponsoring government departments (Kim 2002; Kim et al. 2011).
The 1987 Democratic Movement was the real turning point for Korean nonprofit growth. A wave of citizen protests against the military regimes led to the emergence of the first civilian government in 1993, which was established by the first direct popular election in the 60-year constitutional history (Jung and Sung 2002; Kim and Hwang, 2002; Kim et al. 2011; Yoo 2004). The sweeping political change has tremendously increased the voices of those supporting human rights and civic participation (Choi and Yang 2011; Kim 2000; Kim 2002). Since then, the number of nonprofit organizations in Korea has grown exponentially. As political democracy grows, Korean civil society has increasingly demanded a new government-nonprofit relationship, in which the government should provide financial assistance to all nonprofit organizations, not just those that are government-affiliated or pro-government, for building their competence and encouraging greater citizen participation (Kim 2002; Kim and Hwang 2002).

It was not until January 2000 that the Korean National Assembly passed the Act of Assistance for Nonprofit Civil Organizations (AANCOs) after a series of meetings and discussions with representatives of nonprofits, governments, and the National Assembly. The 2000 AANCOs provided a legal outlet through which nonprofits receive financial and technical support from the government (Im 2012; Kim 2000; Kim 2002; Yoo 2004). The law specified that once a nonprofit organization is registered with a relevant government office, it has the right to receive financial assistance, postage reduction, and other administrative benefits (AANCOs 2000). We included the two dummy coded political variables—the 1987 Democratic Movement and the 2000 AANCOs—in the regression equations, predicting that they would have a positive effect on nonprofit growth. The former was coded as 1 after the political movement, and 0 before the movement took place, while the latter was coded 1 after the law was effective in 2000, and 0 before the law was enacted.

Ho1: Political factors would be positively related to nonprofit growth.
**Economic Factors** Economic factors driving nonprofit growth include total government expenditures, government grants, GDP growth rate, private philanthropy, and social security funds. Both total government expenditures and government grants for nonprofits are positively related to nonprofit growth (Bielefeld 2000; Foster and Fine 2007; Kim and Hwang 2002, 17; Nikolic and Koontz 2008, 443; Salamon 2002; Saxton and Benson 2005, 22; Weisbrod 1998). These variables were used as a proxy measure of the extent of government support for the nonprofit sector, although there is the potential for measurement error because they do not apply only to NPISHs. The positive relationship questions the government failure theory, which posits that government cannot meet heterogeneous social demands because government services tend to satisfy the concerns of the majority, while leaving the minority with more special needs unsatisfied (Weisbrod 1988, 1997). We expect that the nonprofit sector grows in proportion to the size of government (Lecy and Van Slyke 2012; Salamon et al. 2000). Many supporting theories such as resource dependence theory (Saidel 1991), interdependence theory (Salamon and Anheier 1990), or network theory (McGuire 2006) found the mutual benefits of sectoral collaborations. Salamon and Anheier (1997) even claimed that government has become the major philanthropist by providing a substantial portion of nonprofit revenues.

There is a close tie between government and the nonprofit sector in Korea due in large part to the state’s supremacy over civil society. Although the amount of government spending on Korean nonprofits is small (approximately $293 million in 2010), it still is a major revenue source for most nonprofits in Korea (Cho 2011). In this article, we included both the total government expenditures and government grants in our regression equations. Total government expenditures were drawn from KSIS, while the Ministry of Strategy and Finance provided data on annual government grants to nonprofit organizations.

Ho2.1: Government expenditures are positively related to nonprofit growth.
Ho2.2: Government grants are positively related to nonprofit growth.

While government expenditures are the dominant revenue source for nonprofit organizations, the importance of private philanthropy to nonprofit activities is not trivial (Bielefeld 2000; Van Slyke and Brooks 2005). In the U.S., charitable donations by individuals, bequest, foundations, and corporations totaled $290.89 billion and volunteering was valued at $283.84 billion in 2010 (Roeger, Blackwood, and Pettijohn 2012). Private philanthropy flows into individual service areas to provide collective goods and services, which prompt nonprofit growth. Bielefeld (2000), for example, found that not only government financial support, but also private contributions measured by individual dollar and gifts donations and United Way contributions per employee positively affect the growth of the nonprofit sector.

Compared with western countries, private philanthropy has not been a major player in Korea. A 2009 Korean Welfare Panel Study found that 41% of respondents declined a request for a donation and 28% believed that they do not have to donate because they pay taxes (Korean Institute for Health and Social Welfare 2010). Nonetheless, giving and volunteering has exhibited an upward trend for the last two decades, as civil society has matured in Korea. Here, we predict that private philanthropy is an important source of nonprofit growth, especially because government financial support as a proportion of the total government budget in Korea is only 0.13% at best (Cho 2011). By including private philanthropy in the regression equation, we attempted to determine whether government failure theory is supported by the result of private donations (Lecy and Van Slyke 2012). The information regarding private philanthropy was drawn from KSIS.

Ho3: Private philanthropy is positively related to nonprofit growth.

We expect that GDP growth rate is positively related to nonprofit growth. The GDP growth rate indicates how fast the economy is growing by comparing one year’s economic
output to the last. This is the measure of economic health. If the economy does well, this will be reflected in business success, personal income, and government tax revenues. The growing stream of financial capital would channel into the nonprofit sector as a form of government grants and individual and corporate contributions (Ben-Ner and Van Hoomissen 1992; Booth, Higgins, and Cornelius 1989; Corbin 1999). In a somewhat different respect, economic prosperity would stimulate networking of individuals and the development of social capital, which can facilitate nonprofit activities by increasing citizen participation (Coleman 1990; Fukuyama 2001; Putnam 2000; Saxton and Benson 2005). Here, we included a lagged GDP growth rate using the data drawn from KSIS.

Ho4: GDP growth rate is positively related to nonprofit growth.

We expect that nonprofit growth is negatively affected by various types of social security funds such as industrial accident compensation insurance, the national pension fund, and national health insurance. Established and operated by the government or government-affiliated corporations, social security funds provide security support for a worker’s injury on the job or illness, livelihood stabilization during old age, disability, or death, and health care costs. Government and government-affiliated corporations collect mandated monthly insurance premiums from employers or individual workers as a *quasi-tax* and use the funds to provide and maintain welfare services. These mandated premiums could potentially reduce private donations to nonprofits because social security funds work as an alternative mechanism to provide welfare services that are otherwise provided by nonprofit organizations. The data for social security funds were drawn from OECD Revenue Statistics.

Ho5: Social security funds are negatively related to nonprofit growth.

**Social Factors** Social factors include the size of the female workforce, the percentage of urbanization, income inequality, and population heterogeneity. The growing participation of the female workforce in the Korean labor market is a notable trend in recent
years due in large part to the increasing divorce rate and number of dual income families (The Korean Statistical Information Service 2013). Entry of the female workforce into the labor market has increased the need for social services such as day care, elder care, and after-school programs, as working females have less time to care for family members. Here, we measured the size of the female workforce in the labor market as a percentage of the total female population ages 15 and above using data from KSIS.8

Ho6: The increasing female workforce in the labor market is positively related to nonprofit growth.

The effects of urbanization on nonprofit growth are not straightforward. Saxton and Benson (2005, 25) found a positive relationship between urbanization and nonprofit growth because urban environments should find it easier to make a concerted effort to develop a nonprofit community. However, other scholars contend that large metropolitan cities create environments unfavorable to the development of social capital, which is a key determinant of nonprofit development (Galper 1999; Gamm and Putnam 1999; Lincoln 1977; Skocpol et al. 2000). While both perspectives hold true in predicting nonprofit development, urbanization would prompt nonprofit growth in Korea because there have been major economic upswings in a few metropolitan areas. However, if the size of the urban population exceeds a certain threshold, additional increases in population result in diminished marginal returns. That is, nonprofits can continue to grow to a certain point of urbanization, and then after that point, they decline because of increasing anonymity, loss of social capital, and growing political and social apathy. Thus, we included a quadratic term representing the non-linear relationship between urbanization and nonprofit growth. We measured urbanization by the population size in urban areas as a percentage of the total population. The urbanization data were drawn from WDI of the World Bank.

Ho7: Urbanization has an inverted U-shaped relationship with nonprofit
growth.

The greater the income inequality in a society is, the higher the demand for social services to reduce that income inequality. Using data from KSIS, we measured income inequality based on the GINI index, a standard economic measure of income inequality using the Lorenz Curve, among urban households with more than two residents. A GINI index of 0 indicates perfect income equality, whereas a score of 1 expresses maximum income inequality. Income inequality would likely increase nonprofit growth in response to social demand for collective goods and services for the poor and disadvantaged, although increasing income inequality could reduce the size of the middle class, which is the primary social class that contributes to nonprofit development (Salamon and Anheier 1995).

Ho8: Income inequality in a society is positively related to nonprofit growth.

We predict a positive relationship between population heterogeneity and nonprofit growth (DiMaggio and Anheier 1990; James 1987; Weisbrod 1997). Korean society is rather homogeneous with regard to race and language. However, the flow of incoming foreign labor and their families in recent years has made Korea increasingly heterogeneous and has increased demand for new social services such as language instruction, multicultural education, and vocational training. As Weisbrod (1997) predicted, the more heterogeneous a society is, the more differentiated are the demands for collective goods and services (542). We measured population heterogeneity by the number of registered foreigners as a percentage of the total population in Korea using data drawn from the OECD country statistical profiles.

Ho9: Population heterogeneity is positively related to nonprofit growth.

RESULTS

We performed linear regression analysis using time series data. Time series regression has two advantages. First, we can obtain the best linear unbiased estimation (BLUE) from the ordinary least square (OLS) regression model as long as it meets traditional
assumptions (Green 2008, 49). Second, we can not only estimate parameters in the regression equation, but also forecast the future of nonprofits from past data (Ostrom 1978). A common problem encountered in time series analysis is that data is non-stationary, indicating that a correlation between adjacent terms is different across all time periods (Wooldridge 2013). For all variables used in the analysis, we conducted the Dickey–Fuller test to identify whether a unit root is present in an autoregressive model.9

Table 3 shows the results of the Dickey-Fuller test for all variables considered in this article. The test of stochastic trends (unit root) is critical because the time series variables could be non-stationary in the first order autoregressive model due to the possibility of more than one trend in the series and may result in a spurious regression problem. In other words, an unobserved trending factor might be correlated with the explanatory variables, which dilutes the proposed hypothesized relationships. All but two independent variables—GDP growth rate and urbanization—had a unit root and were non-stationary. We transformed them by taking the first difference and made them stationary (white noise) for further analysis.10 The first difference of both dependent and independent variables significantly reduced the problems of multicollinearity and spurious regression.11

Table 4 shows the descriptive statistics for the dependent and independent variables considered in this article. The final consumption expenditures of NPISHs were small, comprising a mean of 1.05% of the GDP with a standard deviation of 0.23%. The Korean economy seems to have been robust and resilient. For the last 40 years, Korea has recorded an average of 7.4% GDP growth with a standard deviation of 4.12%. The government has spent almost 22% of the GDP providing public services, and a small amount of government grant funds (2.15% of the GDP) have been spent on the nonprofit sector.12 The rapid economic growth led to noticeable socio-demographic changes such as the increasing
participation of females in the workforce and the rapid urbanization process. On average, 45.8% of the total female population ages 15 and above participated in the labor market.

About 68% of the country’s population lives in urban areas, but the urban population reached almost 82% of the total population in 2010. Private philanthropy was not significant, comprising an average of 1.6% of the GDP. This may be due to the almost 4% of the GDP attributed to social security funds paid by individuals for various insurance programs. Income inequality in Korea measured by the GINI index is lower than that in many other western countries, but it has been an increasing in part because of the incoming flow of foreigners into the labor market.\(^ {13} \)

\[ \text{Table 4 here} \]

Tables 5 and 6 show zero-order correlations for two different time frames among dependent and independent variables, many of which required a first difference transformation to achieve stationarity. A close look at the correlation tables reveals that multicollinearity is not a major concern. The largest VIF value is 6.24 for urbanization and tolerance is 0.16, which are within the acceptable range (Wooldridge 2013, 94). Table 5 indicates that economic (government expenditures), social (urbanization), and political (the 1987 Democratic Movement) factors were related to the total expenditures of NPISHs. However, the correlations among variables in Table 6 seem weak with the exception of a few significant relationships between economic factors and nonprofit growth.

\[ \text{Tables 5 and 6 here} \]

Table 7 presents the results of the time series regression analysis along with four different models in two different time frames: Time 1 (1971-2010) and Time 2 (1991-2010).\(^ {14} \) A first difference transformation for some variables shown in Table 3 reduced the data points by one. Thus, the regression analyses in Time 1 and Time 2 contained 39 and 19 data points, respectively. The regression equations in Time 1 with two separate models are
shown below. Model I indicates that the final consumption expenditures of NPISHs are predicted by the combination of government expenditures, GDP growth rate of the previous year, size of the female workforce, urbanization, and the 1987 Democratic Movement. Model II includes a quadratic term for urbanization in order to assess the presence of an inverted-U relationship in addition to a cross-term of government expenditures and the 1987 Democratic Movement to examine if the political shift reduced nonprofits’ reliance on government support.

\[
\begin{align*}
\text{Model I : } & \quad D(NP \exp_t) = \beta_1 D(GOV \exp_t) + \beta_2 GDP_{growth_{t-1}} + \beta_3 D(FemWork_t) + \beta_4 Urban_t + \beta_5 Dum1987_t \\
\text{Model II : } & \quad D(NP \exp_t) = \beta_1 D(GOV \exp_t) + \beta_2 GDP_{growth_{t-1}} + \beta_3 D(FemWork_t) + \beta_4 Urban_t + \beta_5 Dum1987_t + \beta_6 (D(GOV \exp_t) \times Dum1987_t) \\
\end{align*}
\]

where \(D\) denotes a first difference transformation.

During the Time 1 period, we found that nonprofit growth in Korea was related to total government expenditures, urbanization, and the 1987 Democratic Movement. In Model II, for example, a $1 increase in the difference of the total government expenditures corresponded to a $0.038 increase in the difference of the final consumption expenditures of NPISHs. The negative effect of the 1987 Democratic Movement shown in Model I indicates that the political shift did not seem to have increased the growth rate of the final consumption expenditures of NPISHs. Although there is a possibility of a level effect on the increasing overall expenditures of the nonprofit sector since 1987, a remarkable economic success in Korea exceeded the growth rate of the nonprofit sector during the same period (no growth effect). However, the negative cross-term in Model II shows that the 1987 Democratic Movement significantly reduced nonprofits’ reliance on government from $0.038 to $0.011 per $1 increase in government expenditures.

Model II also indicates that an increase of one individual in the urban population
would increase the growth of the final consumption expenditures of nonprofits by $43 when
the GDP per capita is equal to $10,000. However, as we predicted in hypothesis 7, when the
urban population exceeds a certain threshold, an additional increase tended to reduce the
growth rate of the nonprofit sector. This inverted-U relationship with urbanization was
confirmed in Models III and IV. Figure 2 shows the relationship between urbanization and the
residuals of nonprofit growth measured by the final consumption expenditures. The effect of
urbanization on nonprofit growth was maximized when the urban population reached 71.7%
of the total population, which is approximately in 1989.

Figure 2 here]

In Time 2, Model III included new variables—private philanthropy, social security
funds, income inequality, population heterogeneity, and the 2000AANCOs—and we added a
cross-term representing government expenditures and the 2000 AANCOs to Model IV in
order to determine whether passage of the law reduces nonprofits’ reliance on government
support. The regression equations for in Models III and IV are shown below.

\[
\text{Model III : } D(NP_{\text{exp},t}) = \beta_1 D(GOV_{\text{exp},t}) + \beta_2 D(GOV_{\text{grants},t}) + \beta_3 GDP_{\text{growth},t-1} + \beta_4 D(\text{FemWork},t) \\
+ \beta_5 Urban,t + \beta_6 D(Private,t) + \beta_7 D(SocialFund,t) + \beta_8 D(GINI_t) \\
+ \beta_9 D(\text{ForeignPOP},t) + \beta_{10} D(\text{2000}),
\]

\[
\text{Model IV : } D(NP_{\text{exp},t}) = \beta_1 D(GOV_{\text{exp},t}) + \beta_2 D(GOV_{\text{grants},t}) + \beta_3 GDP_{\text{growth},t-1} + \beta_4 D(\text{FemWork},t) \\
+ \beta_5 Urban,t + \beta_6 D(Private,t) + \beta_7 D(SocialFund,t) + \beta_8 D(GINI_t) \\
+ \beta_9 D(\text{ForeignPOP},t) + \beta_{10} D(\text{2000})_t + \delta (D(GOV_{\text{exp},t}) \times D(\text{2000}),
\]

where \( D \) denotes a first difference transformation.

The regression analyses in Time 2 confirmed the findings of our Time 1 analysis.

Since 1991, the influence of government on the nonprofit sector has remained strong as
shown in Models III and IV. These positive effects were due in part to the passage of the 2000
Act, a legal outlet to support the nonprofit sector. The significant positive effect of the 2000
Act indicates that official government support has led to both a level and growth effect in the
The development of the nonprofit sector in Korea. However, nonprofits’ reliance on government support did seem to slow down in Time 2 as shown by the negative cross term representing government expenditures and the 2000 Act, though it was not statistically significant.

The negative coefficients for urbanization in Models III and IV confirmed the inverted-U relationship found in Model II. The regression analyses in Time 2 also showed that private contributions to social security funds appeared to reduce the difference in final consumption expenditures of NPISHs. That is, when the difference in private contributions to social security funds increased by 1%, the difference in the final consumption expenditures of NPISHs was reduced by approximately 0.15%. Consistent with hypothesis 8, the Korean nonprofit sector appeared to be responsive to community needs. As the difference in the GINI index increased by 0.01%, the difference in the final consumption expenditures of NPIHSs increased approximately 0.016% from the previous year.

DISCUSSIONS AND CONCLUSION

This article explored key political, economic, and social factors driving the growth of the nonprofit sector in Korea between 1971 and 2010. The key environmental factors discussed here are by no means comprehensive; rather they illustrate major components of past and current trends associated with Korean nonprofits. The findings reported here are meant to serve as a starting point for a constructive conversation about what future nonprofits might hold. Nonetheless, lessons learned from assessing these major trends help us better prepare for whatever future Korean nonprofits may face (Anheier 2013; Dighe 2002). The data analyses suggest the following theoretical and practical implications in terms of nonprofit growth.

First, we found that all three political, economic, and social factors appeared to influence nonprofit growth over time in one way or another. This finding implies that nonprofit growth needs suitable environmental conditions, which are far from manageable.
and vary within and between countries (James 1987; Salamon and Anheier 1997). Nonetheless, we believe that environmental contextual variables used in studies of both western countries and Korea have similar utility in explaining and predicting the growth of the nonprofit sector. As James (1987) mentioned, “the nonprofit sector varies greatly in absolute and relative size from one country to another. However….the organizations …behave in strikingly similar ways (397).” Our dependent and independent variables are internationally comparable indicators, which allows for a uniform assessment of nonprofit growth beyond geographical boundaries. Although the interpretation of our findings must take country-specific circumstances into account, using internationally comparable indicators enables us to develop a generally applicable theory of nonprofit growth.

Second, although case studies and cross-sectional analysis provide in-depth information about the sector size at one point in time, they offer little information with regard to the extent to which the nonprofit sector is being influenced and developed by individual exogenous variables over time. Environmental contexts are dynamically changing from time to time and period to period and these environmental dynamics affect nonprofit growth differently over time. Thus, it is important to use a longitudinal analysis in order to take autoregressive effects into account in measuring time-varying sector size. Adding certain time-varying processes is critical to prevent spurious effects and strengthen causal inference (Pennings 1982). It may be that both government expenditures and sector size are attributable to a third variable such as global economic crisis or natural catastrophe because each variable grows over time (Wooldridge 2013).

Third, the positive impact of government expenditures confirmed that the government-nonprofit relationship is not in conflict but more mutually interdependent and reciprocal. Consistent with Lecy and Van Slyke (2012), we also included both government and private funding streams and found that government support was responsible for nonprofit
growth in Korea while private donations did not seem to make a significant contribution. Nonetheless, the consequences of the interdependence in Korea seem different from those in western countries. Although there has been mounting concern about mission creep, government support in the U.S. and other western countries make a significant contribution to the growth of charities and community development in part by building social capital.

Although civil society is indeed emerging in Korea, many nonprofits have been shaped to represent and support the preferences of a dominant government party (Skocpol et al. 2000). This finding suggests that the interdependence between sectors may be the norm, but the consequences of such interdependence may result in a very different developmental process across countries depending on the maturity level of democracy.

In practice, the findings of this article point to a few recommendations for nonprofit managers. First, this article moved beyond a population ecology paradigm and used social origins theory as a theoretical framework for analyzing environmental contexts. Social origins theory implicitly suggests that although being in the right political, economic, and social conditions is critical to be selected and retained, nonprofit managers must be proactive in scanning environmental constraints embedded in society and obtain necessary resources that are critical for organizational management. The results of environmental scanning could provide the information essential for organizational location decisions (Penning 1982), strategic planning (Bryson 2011), capacity building (De Vita et al. 2001), and partnership and collaboration decisions (Wei-Skillern and Marciano 2008).

Second, the non-significant impact of the GDP growth rate implies that sufficiently diverse social demands, which can push further development of the nonprofit sector, are not yet present in Korea. It may also be that economic development could relieve the problem of contract failure, as a market economy may find a mechanism to reduce information asymmetry and moral hazard such that consumers are increasingly able to discriminate
between products or services on their own. Irrespective of the reason, the non-significant effect of the GDP growth rate sends a strong signal to nonprofit managers that nonprofits can thrive beyond the GDP growth rate when a sufficient level of demand heterogeneity is nurtured in society (Weisbrod 1997).

Third, our analysis confirmed an inverted-U relationship between urbanization and nonprofit growth in Korea. This finding implies that too much urbanization may be harmful to the development of the nonprofit sector in the course of frequent dislocations, increasing anonymity among urban citizens, and political and social apathy to social problems. In 2010, almost 82% of the Korean population lived in urban areas and this urban concentration will continue in the near future, although the national government has tried to disburse the population by implementing urban decentralization policies such as the relocation of national government offices to provincial areas. Public and nonprofit managers should be aware of the potential effects of urbanization on nonprofit development and establish more feasible policies to decentralize community structures.

This article has a few limitations and thus our findings should be interpreted with care. First, we used data collected at the national level. Therefore, there was no way of taking county/city or provincial level differences into account in the analysis. We predict that there are likely to be substantial community or provincial level variations in the activities of nonprofit organizations due to social and economic disparities (Grønbjerg and Paarlberg 2001; Twombly 2003). However, the national level data used in this article did not permit us to explore such differences across the geographically delimited areas, and this type of analysis is critical to enhance our understanding of the roles nonprofits play in Korean society.

Second, although we used time series regression, the small number of data points (39 years maximum) enlarged the sample variances of the OLS slope estimates and increased multicollinearity problems. Multicollinearity does not bias parameter estimates, but it inflates
their variances and make estimates unreliable (Wooldridge 2013). Although we could control multicollinearity by taking the first difference and performing a collinearity test, we had no choice but to remove several important variables, such as unemployment rate, from the final data analysis. Third, because we utilized only one dependent measure, estimating other commonly used measures of nonprofit growth such as the total number of nonprofit organizations and total employment in the nonprofit sector would be useful to cross-validate our findings.

Finally, our findings are culture-specific and thus are not generalizable to other countries that have different environmental contexts and measures of the nonprofit sector. In this regard, the Johns Hopkins Comparative Nonprofit Sector Project has made significant headway in addressing the need for comparative analysis, but the project has its own limitations such as problems associated with model specifications and small sample size (for further details, see Matsunaga et al. 2012). This article is the first step in addressing this knowledge gap. Measuring nonprofit growth is difficult, robust research findings are possible with a well-established research model, a sufficient number of longitudinal data points, and an eye keen to different cultural contexts in the interpretation of findings.

NOTES

1. For example, Crobin (1999) found a significant relationship between poverty level and the number of nonprofit organizations in 285 major metropolitan areas, suggesting that nonprofits are responsive to local demands. However, Grønbjerg and Paarlberg (2001) found a contradictory relationship in Indiana, concluding that the state nonprofit sector was not responsive to the community demands measured by poverty level.

2. According to Salamon, Sokolowski, and Anheier (2000), heterogeneity theory provides a rationale for a nonprofit’s existence based on market and government failures. According to classical economic theory, the market must provide public goods because it cannot exclude someone who does not pay for them. This market failure is justification for the presence of government, but government can also fail because its services focus only on a majority of voters while not fulfilling the heterogeneous needs of society. This government failure justifies the presence of nonprofit organizations to secure the diverse unmet needs in society. While heterogeneity theory views the relationship between sectors as one of competition (Salamon et al. 2000), interdependence theory emphasizes a partnership between the sectors because (1) the nonprofit sector can also fail and (2) there are tangible benefits to
both government and nonprofit organizations from such an interdependent relationship.

3. There were 40 and 20 observed data points in Time 1 (1971-2010) and Time 2 (1991-2010), respectively. However, there was one less data point in each time period after the first difference transformation to make the data stationary.

4. The United Nations’ System of National Accounts (SNA) is “the internationally agreed standard set of recommendations on how to compile measures of economic activity (The United Nations Statistic Division 2013).” Following the SNA, the Korean government has begun to collect data on national accounts to measure the economic activity of the nation since 1970. Although there is uncertainty regarding the uniformity of the data and there are potential data errors across countries, many countries follow the SNA in compiling data on their economic activity.

5. The Final Consumption Expenditures of Nonprofit Institutions Serving Households (NPISHs) is “the portion of Personal Consumption Expenditures (PCE) that represents the services that are provided to households by NPISHs without explicit charge. It is equal to their gross output less their sales to households” (The Bureau of Economic Analysis of the U.S. Department of Commerce 2013). PCE refers to goods and services purchased by persons, which are households, and by nonprofit organizations to serve households who are residents of Korea. Our dependent measure in this article does not include goods and services purchased by persons and include only those purchased by nonprofit institutes. PCE also includes the expenditures of NPISHs in providing services to individuals such as education and health care, and the expenditures financed by government programs (The Bureau of Economic Analysis of the U.S. Department of Commerce 2013). In this article, we measured the final consumption expenditures as a percentage of GDP to remove the effects of natural economic growth. It is noted that consumption expenditures alone cannot represent the size of either business or government because these two sectors also have large proportions of investment (gross fixed capital formation) and transfer payments, while consumption expenditures represent the major economic activities of nonprofit organizations. Thus, the present dependent variable is a good, if not the best, approximation of nonprofit size.

6. To illustrate, 41% of the US $7 million government subsidies that were spent on nonprofits through open-competition went to pro-government nonprofits (Kim 2000). The Saemaeul-Undong Association, for example, a gigantic pro-government nonprofit in Korea, received over 80% of its total revenues from the national government until 1999 when it began to provide its funds on an open and competitive basis (Kim 2000).

7. The Act was passed during the Kim Dae-Jung Administration, known as the Government of the People. President Kim, a longtime civil rights activist, aggressively and deliberately supported grassroots groups and civil movement organizations once he took office as a way to strengthen his domestic political position against the existing political power. His pro-civil society orientation significantly contributed to the growth of the nonprofit sector in Korea (Im 2012; Kim and Hwang 2002; Yoo 2004).

8. However, the increasing female workforce could also adversely affect the size of the nonprofit sector because females, the major participants in this sector, must balance work and their charitable activities. In fact, many nonprofits had disappeared or lost a significant number of their members (e.g., National Organization for Women) since the 1970s in the United States when a large number of women flowed into the labor market (Ott and Dicke 2011; Salamon 2002).

9. The Dickey–Fuller test is a procedure for testing whether a variable has a unit root or follows a random walk. The null hypothesis is that the time series has a unit root ($H_0: \phi = 1$), and the alternative is that the variable is generated by a stationary process ($H_1: | \phi | < 1$). A simple way to test for a unit root begins with an autoregressive [AR(1)] model: $y_t = \alpha + \phi y_{t-1} + \epsilon_t, t = 1,2,....,$. When $\phi = 1$, the variable $y$ follows a random walk, which is a non-stationary data generating process. Thus, it tests $H_0: \phi = 1$ against $H_1: | \phi | < 1$ (Wooldridge 2013).

10. We initially included “population aged 65 or above.” However, the variable remained non-stationary even after taking the first difference, thus we removed it from the final regression equation.

11. Multicollinearity is a common problem in a time series analysis. One way to deal with
multicollinearity is to run the regression by taking differences, which subtract the immediate prior observation’s value from the current observation. The change in data from one period to the next virtually removes multicollinearity by taking the trend component of the series away from the regression equation.

12. According to the Bank of Korea’s Korean System of National Accounts, nonprofit organizations in Korea are classified largely into two entities: private NPISHs and government-affiliated public nonprofit organizations. Government grants here include total government financial assistance to both entities, in which more than three-fourths of government grants have been awarded to government-affiliated public nonprofit organizations.

13. The GINI index measures income inequality among urban households with more than two residents using the Lorenz Curve. A GINI index of 0 indicates perfect income equality, whereas a score closer to 1 represents maximum income inequality. In this article, however, the GINI index was multiplied by 100 and transformed into a scale of 0-100 since other variables were transformed into percentage values. That is, GINI index=A/(A+B) × 100.

14. The time series regressions models achieved the best linear unbiased estimation (BLUE) as they met traditional assumptions, Gauss-Markov Theorem (Green 2008, 49). Scatterplots and partial-regression plots were linear and had no influential data points. A kernel density plot, P-P plot, and Q-Q plot showed a slight deviation (non-significant) of residuals from a normal distribution. The Shapiro-Wilk W test confirmed it with no significant p-value (0.333). Thus, the residuals were close to a normal distribution. Heteroscedasticity was not a concern, as a rvfplot (residuals plotted against the fitted values) had no discernible pattern and the Breusch-Pagan test showed non-significant p-value (0.585). Finally, a regression specification error test (RESET) for omitted variables was not significant, which indicated that the model contained relevant variables at least in a statistical sense and no irrelevant variables were included, although those variables may not have been perfectly drawn from the statistical and theoretical perspectives we examined (Wooldridge 2013). A Durbin-Watson test for autocorrelations (2.6) found that there were no serious autocorrelations in the regression equation.

15. If, for example, the difference between the final consumption expenditures of the current year and the previous year is $100,000, a $1 additional increase in total government expenditures would increase the final consumption expenditures of NPISHs by $100,037 when the GDP per capita is equal to $10,000. This is shown by the following formula:

\[ D(NP \exp_t) = \beta \times D(\text{GOV exp}_t) \]

\[ \rightarrow \left( \frac{NP \exp_t}{GDP_t} - \frac{NP \exp_{t-1}}{GDP_{t-1}} \right) = \beta \times \left( \frac{GOV \exp_t}{GDP_t} - \frac{GOV \exp_{t-1}}{GDP_{t-1}} \right) \]

\[ \rightarrow NP \exp_t - NP \exp_{t-1} \times \frac{GDP_t}{GDP_{t-1}} = \beta \times \left( GOV \exp_t - GOV \exp_{t-1} \times \frac{GDP_t}{GDP_{t-1}} \right) \]

when \( \frac{GDP_t}{GDP_{t-1}} = \text{GDP deflator} \)

16. If, for example, the difference between the final consumption expenditures of the current year and the previous year is $100,000, a $1 additional increase in total government expenditures would increase the final consumption expenditures of NPISHs by $100,037 when the GDP per capita is equal to $10,000. This is shown by the following formula:

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\[ \rightarrow NP \exp_t - NP \exp_{t-1} \times \frac{GDP_t}{GDP_{t-1}} = \beta \times \left( GOV \exp_t - GOV \exp_{t-1} \times \frac{GDP_t}{GDP_{t-1}} \right) \]

when \( \frac{GDP_t}{GDP_{t-1}} = \text{GDP deflator} \)
the previous year is $100,000, one additional increase in the urban population size would increase the final consumption expenditures of NPISHs by $100,043. This is shown by the following formula:

\[ D(\text{NP exp}_t) = \beta \text{Urban}, \]

\[
\rightarrow \left( \frac{\text{NP exp}_t}{\text{GDP}_t} - \frac{\text{NP exp}_{t-1}}{\text{GDP}_{t-1}} \right) = \beta \times \left( \frac{\text{UrbanPOP}_t}{\text{TotalPOP}_t} \right)
\]

\[
\rightarrow \text{NP exp}_t - \text{NP exp}_{t-1} \times \frac{\text{GDP}_t}{\text{GDP}_{t-1}} = \left( \beta \times \frac{\text{GDP}_t}{\text{TotalPOP}_t} \right) \times \text{UrbanPOP}_t,
\]

when \( \left( \frac{\text{GDP}_t}{\text{TotalPOP}_t} = \text{GDP}_{pc} \right) \)

17. The following equation was used to arrive at 71.7%:

\[ D(\text{NPexp}) = -0.0003\text{Urban}^2 + 0.04299\text{Urban} \]

\[
\frac{d(D(\text{NPexp}))}{d(\text{Urban})} = -0.0006\text{Urban} + 0.04299 = 0
\]

Urban = 71.7%

18. Skocpol et al. (2000) demonstrated that U.S. voluntary associations have also been developed by imitating the structure of the U.S. federal political system in a way that local voluntary units are loosely linked in state branches, which in turn send representatives to a national body. The American political system encourages the establishment of government-like volunteer associations because association leaders have learned the advantage of multi-level organizations in having voices in both state and federal governments. The U.S. individual voluntary associations are not small and, if they are, most of them are federated. In this regard, the authors claimed that social capital theory downplays the role of government in shaping civil society in the U.S.

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<th>Environmental Contexts</th>
<th>Variables</th>
<th>Literature</th>
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<tr>
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<td>Policy shift</td>
<td>Twombly (2003)</td>
</tr>
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<td></td>
<td>Political party membership</td>
<td>Ben-Ner and Van Hoomissen (1992)</td>
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<tr>
<td></td>
<td>Median household income</td>
<td>Saxton and Benson (2005)</td>
</tr>
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<td>Generosity (government and private)</td>
<td>Bielefeld (2000), Lecy and Van Slyke (2012)</td>
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<td>Social Factors</td>
<td>Education level</td>
<td>Ben-Ner and Van Hoomissen (1992), Grønbjerg and Paarlberg (2001)</td>
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<td>Racial diversity</td>
<td>Bielefeld (2000), Ben-Ner and Van Hoomissen (1992)</td>
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<td>Population</td>
<td>Lecy and Van Slyke (2012)</td>
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<td></td>
<td>Urbanization</td>
<td>James (1987)</td>
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<td>Crime level</td>
<td>Lecy and Van Slyke (2012)</td>
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<td></td>
<td>Social capital</td>
<td>Saxton and Benson (2005)</td>
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Figure 1. Research Model and Hypotheses

Table 2. Definitions of Study Variables and Data Sources

<table>
<thead>
<tr>
<th>Variables</th>
<th>Definitions</th>
<th>Data Sources</th>
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<tr>
<td>NPISHs</td>
<td>Final consumption expenditures of nonprofit institutions serving households as a percentage of GDP</td>
<td>KSIS(^a)</td>
</tr>
<tr>
<td>Gov_expenditures</td>
<td>Total government expenditures as a percentage of GDP</td>
<td>KSIS</td>
</tr>
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<td>Gov_grants</td>
<td>Grants given through government directly to nonprofit organizations</td>
<td>Ministry of Strategy and Finance</td>
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<td>GDP growth rate(_{t-1})</td>
<td>GDP growth rate (annual, percent) of the previous year</td>
<td>KSIS</td>
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<td>Female workforce</td>
<td>Number of females in the labor market as a percentage of the total female population ages 15 and above</td>
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</tr>
<tr>
<td>Urbanization</td>
<td>Number of people living in urban areas as a percentage of the total population</td>
<td>World Bank, WDI(^b)</td>
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<td>Private philanthropy</td>
<td>Private donations as a percentage of GDP</td>
<td>KSIS</td>
</tr>
<tr>
<td>Social security funds</td>
<td>Social security contributions, such as pensions, as a percentage of GDP</td>
<td>OECD Revenue Statistics</td>
</tr>
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<td>Income inequality</td>
<td>GINI index among urban households with more than two residents</td>
<td>KSIS</td>
</tr>
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<td>Population heterogeneity</td>
<td>Size of the registered foreign population as a percentage of the total population</td>
<td>OECD Country Statistical Profiles</td>
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<td>dum1987</td>
<td>The 1987 Democratic Movement</td>
<td>Korean National Assembly</td>
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a. Korean Statistical Information Service (original source: the Bank of Korea)  
b. World Development Indicator of the World Bank
Table 3. Results of the Dickey-Fuller Test for Stationarity

<table>
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<tr>
<th>Variable</th>
<th>Before Difference</th>
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<th>After Difference</th>
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<td>P-value</td>
<td>Z(t)</td>
<td>P-value</td>
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<td>Urbanization</td>
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Table 4. Descriptive Statistics of the Dependent and Independent Variables

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<th>Mean</th>
<th>Std. Dev.</th>
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<th>Max</th>
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<tr>
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* The GINI index was multiplied by 100 and transformed into a 0-100 scale.
### Table 5. Zero-order Correlations: Time 1 (1971-2010)

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<tr>
<td>2. d_Gov_expenditures</td>
<td>0.299*</td>
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<tr>
<td>3. GDP growth rate(_{(t-1)})</td>
<td>-0.210</td>
<td>0.177</td>
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<tr>
<td>4. d_Female workforce</td>
<td>-0.176</td>
<td>-0.436*</td>
<td>0.034</td>
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</tr>
<tr>
<td>5. Urbanization</td>
<td>0.545*</td>
<td>0.125</td>
<td>-0.439*</td>
<td>-0.084</td>
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<tr>
<td>6. dum1987</td>
<td>0.380*</td>
<td>0.188</td>
<td>-0.368*</td>
<td>-0.074</td>
<td>0.897*</td>
<td>1</td>
</tr>
</tbody>
</table>

† d\_ denotes a first difference transformation
* p>0.1


<table>
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<tr>
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<td>3. d_Gov_grants</td>
<td>0.138</td>
<td>0.688*</td>
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<tr>
<td>4. GDP growth rate(_{(t-1)})</td>
<td>0.557*</td>
<td>0.320</td>
<td>0.168</td>
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<tr>
<td>5. d_Female workforce</td>
<td>-0.122</td>
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<td>-0.337</td>
<td>0.064</td>
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<tr>
<td>6. Urbanization</td>
<td>-0.378</td>
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<td>-0.136</td>
<td>-0.421*</td>
<td>-0.111</td>
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<td>7. d_Private philanthropy</td>
<td>0.204</td>
<td>0.040</td>
<td>0.202</td>
<td>0.159</td>
<td>0.176</td>
<td>-0.231</td>
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<tr>
<td>8. d_Social security funds</td>
<td>-0.080</td>
<td>0.468*</td>
<td>0.278</td>
<td>0.211</td>
<td>-0.397*</td>
<td>-0.085</td>
<td>-0.275</td>
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<td>9. d_Income inequality</td>
<td>0.057</td>
<td>0.134</td>
<td>-0.099</td>
<td>-0.167</td>
<td>-0.521*</td>
<td>0.003</td>
<td>-0.066</td>
<td>0.427*</td>
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<td>10. d_Population heterogeneity</td>
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<td>0.522*</td>
<td>0.235</td>
<td>0.045</td>
<td>-0.125</td>
<td>0.374</td>
<td>0.065</td>
<td>0.221</td>
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<tr>
<td>11. dum2000</td>
<td>-0.185</td>
<td>0.077</td>
<td>-0.089</td>
<td>-0.114</td>
<td>0.049</td>
<td>0.824*</td>
<td>-0.326</td>
<td>0.006</td>
<td>-0.245</td>
<td>0.437*</td>
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</table>

† d\_ denotes a first difference transformation
* p>0.1

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Table 7. Results of Time Series Regression Analysis

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<td>Model II</td>
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<td>d_Gov_expenditures†</td>
<td>0.01453*</td>
<td>0.03755**</td>
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<td>(0.01371)</td>
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<td>d_Female workforce</td>
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<td>0.04299***</td>
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<td>(0.04753)</td>
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<td>dum2000</td>
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<td>Gov_exp × dum1987</td>
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<td>-0.02627*</td>
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<tr>
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<td>(0.01445)</td>
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<td>Gov_exp × dum2000</td>
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<td>(Urbanization)$^2$</td>
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<td>R-squared</td>
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† d_ denotes a first difference transformation
Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Figure 2. The Relationship between Urbanization and the Residuals of Nonprofit Growth