Why Adopting Seemingly Ineffective Policies?: The case of maternity subsidy

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Abstract

This study investigates why local governments are adopting the seemingly ineffective maternity subsidies policy (M.S.P) in South Korea. Although reflecting on the unified theory and the sociological institutionalism theory of policy adoption-diffusion, the study tries to construct an integrated model to explain the diffusion of the maternity subsidies policy in South Korea.

According to the test results, political factors are not associated with the policy adoption but the coercive isomorphism, mimetic isomorphism and environmental pressures are positively related to the M.S.P adoption. The policy package tends to be more generous when the environmental and the institutional pressures are stronger. Besides, the year of adoption of M.S.P also tends to be earlier in proportion to environmental and institutional pressures. In the real world, policies are not always adopted due to their effectiveness (expected effectiveness) on social problems as normally assumed. On the contrary, the policy adoption can be a function of motivation or intention to gain legitimacy from institutional circumstance or to evade environmental pressures indeed.

1. Introduction

What is policy problem and policy? A policy problem can be defined as a condition or situation that produces needs or dissatisfaction among people (Anderson,1983:8). In case of policy concept, lots of scholars links the concept of policy to the policy problem. For instance, Public policy is the study of government decisions and actions designed to deal with a matter of public concern (Cochran& Malone,1999). Policy is designed plan for social changes including goals, values and practices as conglomeration of values and actions (Lasswell, 1951). Policy is purposive goal-oriented action followed by government in dealing with some problem or matter of concern (Anderson,1983:3). There also exist various definitions on what

the policy is, however each definition includes the notion that policy should have the goals to achieve and the practices to reach the desirable status (No,2007). Although such definitions are normative ones, we can infer that the policies which are adopted and implemented by the governments connote the meaning; they are, are expected to be, the efficient means to solve social problem on the docket.

Recently, one of the most critical issues in South Korea is low fertility rate. The total fertility rates were 1.19 in Korea, 1.96 in the U.K, 1.99 in the France in 2008, and moreover the fertility rate of South Korea was recorded 1.15 in 2009, which is the lowest level in the world. Fertility rate is closely related with potential growth power in aging society; responding to such a low fertility rate, the Korean government has implemented various childbirth encouragement policies at the central and local level. One of the hot issues among these programs is the maternity subsidies program (hereafter M.S.P) at the local government. The maternity subsidies policy (M.S.P) is that local government issues money to the households which give birth to a child for just one time and each local government has full discretion about whether to adopt the M.S.P in its jurisdiction. But this policy has been criticized continuously in its effectiveness on fertility rate; many scholars and hands-on workers have strong skepticism about its effectiveness. Nevertheless an increasing number of Korean local governments have adopted M.S.P since 2005, despite the quite questionable effectiveness of M.S.P on the fertility rate.

For adopting and diffusing certain kind of policies, at least there should be common perceptions that these policies could be effective means to solve the problem considered, though their substantial effective might not be perceived. Despite pervasive skepticism of M.S.P effectiveness, the sharp increase of M.S.P adoption and diffusion rate leaves room for questions in the view of normative concept of policy discussed above. Thus a question can be asked why local governments have been adopting the M.S.P despite strong skepticism about

its effectiveness. Can government policies be adopted and diffused irrespective of their effectiveness? If so, why? What are some factors and mechanisms working behind such a phenomenon? That is the question which this study tries to answer.

2. Policy Innovation and Diffusion Factors

1) Unified Theory

The general way that explain policy diffusion is using unified theory based on the Berry & Berry's path-breaking works to unify internal and external determinant model; it posit that factors leading a state government to innovation are political, economic, and social characteristics internal to the state, and external factor which represents the influence of nearby states, which assumed that states emulate their neighbors when confronted with policy problems (Berry&Berry,1990; NamGung,1994; Lee,2004; Suk,2010; Bae et al.,2004; Mintrom,1997). A harbinger of the policy diffusion study is Worker's. He defined a state government innovation as a program or policy which is new to the state adopting it (Walker, 1969). In Walkers analysis, the explanatory variables for policy innovation are socio-demographic factors, political characteristics, regional reference groups and communications patterns among the state function. Walker created an innovation score for each state, based on the rate of adoption of 88 policies. He found that wealthy, large, industrial states tend to have the high scores and these states are faster in adopting new policies than smaller, poorer, and more rural states. Some states are found to be played a leading role; they were consistently the first to adopt policies and gave legitimacy to other governments in adopting those policies (Welch&Thompson, 1980: 716-717). Gray (1973) explored the diffusion rate of three Social Security programs. Her study made contribution to understand the pattern of policy diffusion as demonstrating that the diffusion rate is S-shaped in its cumulative form being equivalent to a learning trial by an individual and also pointed out that political and economic explanations

proved to be useful in determining which states are the first to adopt laws. Berry and Berry (1990) developed a unified model constructed by internal and regional factors and tested the dynamics of state lottery adoptions with using event history analysis firstly. NamGung (1994) studied the adoption of the public information ordinance in local government using external, and internal diffusion model as well and demonstrated that these two models are mutually supplemented to each other. In case of Suk (2010), he tried to explain the policy innovation-diffusion factors with the diffusion of regional festival in Gyunggy province in South Korea based on unified theory. This study suggested that emulation of nearby government is the most important factor influencing regional festival diffusion. Some studies focused on the other factors beside internal and regional factors. In case of Welch et al. (1980), as criticizing that the previous researches have not dealt with the federal government and its potentially powerful effect on the rate of state policy innovation and diffusion, they assessed the impact of federal incentives on the diffusion rate of 57 state public policies in U.S and concluded that policies with federal incentives do diffuse substantially faster. Mintrom (1997) underscored the role of policy entrepreneurs in policy innovation and diffusion. Pointing out that political scientists have paid little attention to how ideas for innovation gain prominence on government agenda, He identified that policy entrepreneurs can significantly raise the probability of legislative consideration and approval of policy innovations with the case study of 26 states' school choice. There also another study dwelling on the impact of time and knowledge factor on the policy innovations and diffusion in the local governments (Lee, 2004; Lee, 2000).

2) Institutional Theory

Sociological institutionalism has been initiated a part of organization theory, so it is often called as institutionalism in organization theory. Sociological institutionalism criticizes the

instrumentalism or functionalism perspective based on the notions such as utility maximized individual, seeking efficiency, organizational design as the vehicle to gain organizational goal more efficiently. Sociological institutionalism underscores the cultural or cognitive perspectives and legitimacy in the process of making decision and designing organization. The new institutionalism in organization theory and sociology comprises a rejection of rational-actor models and interested in institutions as independent variables, a turn toward cognitive and cultural explanations, and an interest in properties of supraindividual units of analysis that cannot be reduced to aggregations or direct consequences of individuals' attributions or motive (Dimaggio&Powell,1991:8). Accordingly, the concept of institution in the Sociological institutionalism is the result of human activity but not conscious design and includes not only the patterns; formal, informal, but cognition and symbol which confer human activity on certain meaning as well. Institution in the Sociological institutionalism is not physical entity but social patterns which exist in the cognitive, cultural, symbolic dimensions and only what are accepted by society as for granted can be institution (Ha,2004:110-112). Institutionalization is both a "phenomenological process by which certain social relationships and actions come to be taken for granted' and a state of affairs in which shared cognitions define "what has meaning and what actions are possible (Zucker,1983:2). Institutionalization means that organizations adopt the practices which are rationalized and legitimated in society (Meyer&Rowan,1977; Jung et.al.,1999). If the organizations are institutionalized, they can gain legitimacy in society and enhance satiability in environmental turbulence; organizations can be survived or at least take an advantageous position to survive (Meyer&Rowan,1977). Institutionalized products, service, techniques, policies, and programs function as powerful myths and organizations adopt them ceremonially (Meyer&Rowan,1977: 340). To put it another way, organizations select a kind of institution not to solve specific problem but to gain social legitimacy (Jung et al.,1999:172).

Namely, organizations are not always goal-oriented actor, and moreover they can deny the technical efficiency to gain organizational goals, thus Institution adopted remains as myth or ceremony. Institution theory presumes that the effect of environment is so strong, i.e. Iron cage. Under this circumstance it suggest that organizations have a tendency to mimic the most seemingly legitimate structure, so every organizations take similar form (Ha,2004:118). Dimaggio&Powell (1983) called this phenomenon isomorphism, and Meyer & Rowan (1977) named it myth and ceremony. Dimaggio and Powell(1983) identified three mechanism through which institutional isomorphic change occur. These are 1) coercive isomorphism steming from political influence and the problem of legitimacy, 2) mimetic isomorphism resulting from standard response to uncertainty, and 3) normative isomorphism associated with professionalization. Isomorphic process is happened not by the demanding of organization's technical efficiency but by gaining legitimacy and enhancing survival chance. The organization can take advantages by shaping the organizational form which is acknowledged as socially desirable. (Dimaggio&Powell,1983; Meyer&Rowan,1977). Based on this notion Tolbert&Zucker (1983) analyzed civil service reform of city governments in early 20th; they argued that early adoption of civil service reform by cities is related to internal organizational requirements, while late adoption is related to institutional definitions of legitimate structural form. As an increasing number of organizations adopt a program or policy, it becomes progressively institutionalized, or widely understood to be necessary component of rationalized organizational structure. The legitimacy of the procedures themselves serves as the impetus for the later adopters.

In the same vein, Meyer and Rowan (1977), Meyer, Boil and Thomas (1994), Scott and Meyer (1994) argued that the reason which formal structures such as bureaucracy have been widely diffused is not that they are not the useful means to solve problems but that the environment encompassing the formal structure acknowledge them as valuable and legitimate.

Rowan (1982) analyzed the institution building, diffusion, and stabilization of new education system in California public schools during 1930~1970. Based on this research he asserted the fact that administrative services supported by balanced institutional environments diffused more widely and were more stably retained. It means that new education system come into isomorphism with prevailing norms, values, and technical lore in the institutional environment.

Conclusively, Sociological institutionalism perspective can explain why the organizations adopt certain structure, policy, and program. In the same vein, it gives us the clue to identify why seemingly ineffective policy has been diffused.

Unified theory seems likely to the main stream of policy diffusion research. While it delineated the influential factors on policy adoption and diffusion, it cannot explain sufficiently enough the institutional factors and motivation which are critical in sociological institutional theory such as legitimacy, survival, and isomorphism, which are useful to identify the causes of seemingly ineffective policy diffusion. On the other hand, though Institutional theory gives good insight to articulate motivation of the policy diffusion, it doesn't show other various dynamics which can effect on policy diffusion and ,moreover, empirical studies in this vein have some limitation to suggest the dynamics of various factors which should be considered. In this point of view, integrated theoretical framework which includes both theories; unified and institutional theory, to explain the policy diffusion factors of M.S.P is required. This integrated theoretical framework seems likely to be useful to broaden the prospect in the field of policy diffusion research.

3. Constructing Integrated Framework and Hypotheses

To identify the influential factors on seemingly ineffective policy diffusion, three analysis models will be established. Model 1 is for testing policy adoption factors; unified and

institutional, and their relative power on policy adoption. Model 2 is for identifying the relationship between the policy package and environmental, institutional pressures. Model 3 is for specifying the relationship between the adoption year and environmental, institutional pressures. Each model is complementary relations and especially Model 2 and 3 are for explaining the degree of effort for gaining legitimacy in detail.

Model 1: Analysis Framework for Testing Policy Diffusion Factors

1) Dependent Variable

The thrust of this study articulate the factors to influence policy adoption (seemingly ineffective policy) and their degree of effects, thus the dependent variable should be whether local governments adopt the M.S.P or not during the observation periods. The dependent variable is constructed as dummy variable, scored 1 if the local government adopts M.S.P in the specific year, otherwise 0.

2) Independent Variables

Independent variables those expected to effect on the M.S.P adoption are grouped into the following three contexts: political, institutional factors and environmental pressures.

(1) Political factors

(1)-1 Election year: The major actors who constitute local governments are local government's head and local assembly legislators, who received legitimacy by the election. In the election year, the opportunity of participating in policy making and sensitivity to the public opinions increased (Eiginger: 1973). Furthermore, local governments' decision making has a tendency of maximizing voters' support (Lee: 2002:123), thus the local governments' decision makers may be hard to adopt unpopular policy to constituent in the near of election

year. On the other hand, the policy adoption beneficial to the constituent could increase. Politicians have strong incentives to adopt new policies at the most politically advantageous time within the election cycle (Tufte,1978; Berry&Berry,1990). M.S.P is beneficent to the constituents, so it is a useful commitment to the incumbent candidates to enhance his reelection possibility. So the election year can be important variable to influence on the policy adoption. Election year is constructed as follows; the previous year of election or election year scored 1, otherwise 0.

(1)-2 Local governments' institutional conflict: Nevertheless, the two entities; local government head and local assembly legislatures, have strong incentives to adopt M.S.P, whether they adopt it or not can be the function of the local government's power sharing status; divided or unified government[1]. Before the path breaking study of David Mayhew (1991), the general notion is that divided government tends to cause legislative gridlock because divided government will be associated with the president opposing more legislation and with more legislation the president opposes failing to pass. But Mayhew has challenged the general notion about gridlock. He tested for the consequences of divided party government by comparing the passage of legislation under unified government and conclusively argued that divided government does not contribute to gridlock (Mayhew,1991: 545-546). On the other hand, after Mayhew's challenging study, there are lots of researches contradicting his argument (Kernell,1991; Sundquist,1992; Coleman,1999; Housewell et al., 2000). They maintained that divided government leads to institutional conflicts which can cause delay and diluted policy change. On the other hand, unified government produces greater quantities of significant enactments and is more responsive to the public mood than divided government.

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[1] Unified government describes a situation in which one party controls the government head and the assembly.

In spite of continuing controversial, it is more likely to adopt new policy under the unified government. In case of divided government, two institutions have different partisanship which can cause political conflicts despite the common perception of the policy needed. Especially in Korea, the parties' influence on legislatures and local government head is very strong because each party actually has monopolistic power in nominating candidates, election campaign, and political funding in spite of many institutional devices to enhance the democracy inside the party. Under this circumstance, divided government has another more veto player[2] than unified government. As the number of players who are required to agree for a movement of the status quo increases, the winset of the status quo does not increase; the more veto players exist, the lower the new policy adoption are(Tsebelis,1999). To measure the Local governments' institutional conflict, conflict variable is constructed as follows; unified government scored 1, otherwise 0. Here, I suggest two hypotheses concerning political factors predicted to influence on M.S.P adoption.

Hypothesis 1-A: M.S.P is more likely to be adopted in an election or previous year of election than two years between election.

Hypothesis 1-B: M.S.P is more likely to be adopted under unified government than divided government.

(2) Institutional factors

Under the uncertainty of policy effectiveness, decision makers (organizations) are likely to adopt policies to gain institutional legitimacy and take advantageous position to survive. Dimaggio & Powell(1983) called this phenomenon isomorphism, and Meyer & Rowan(1977)

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[2] Veto player is an individual or collective actor whose agreement is necessary for a change of the status quo (Tsebelis,1999).

called it myth and ceremony, however named it, the obvious things is that these process are happened not for the demanding of organization's technical efficiency but for gaining legitimacy and enhancing survival chance; the organization can take advantages by adopting the policy which is acknowledged as socially desirable.

(2)-1 Coercive isomorphism: Policy adoption may be the function of pressure of other organizations on which local government has been dependent; upper-tier-governments. If the upper-tier-governments have resources or power over lower-tier-governments, they have to accommodate upper-level-governments' institutions or policies for sustaining their supports and gaining resources. It can expedite the policy isomorphism in the regional level, when the upper-level-governments intend to promote some policies that seemed to be desirable or legitimated. Dimaggio and Powell (1983) suggest "Coercive isomorphism" as one of the isomorphic mechanism, which results from both formal and informal pressures exerted on organizations by other organizations upon which they are dependent and by cultural expectations in the society within which organizations function. Similarly, Milofsky (1981) described the ways in which neighborhood organizations in urban communities, many of which are committed to participatory democracy, are driven to developing organizational hierarchies in order to gain support from more hierarchically organized donor organization. Organizations are increasingly homogenous within given domains and increasingly organized around rituals or conformity to wider institutions (Dimaggio&Powell,1983:150-151).

To address low-fertility rate problem of their jurisdiction some upper-tier-governments, metropolis and provincial level, have established apparatus that treats only low-fertility-rate problem, and have issued subsidy to support M.S.P policies of lower-tier-governments, moreover some have implemented M.S.P policy in their own name (hereafter apparatus, subsidy, upper M.S.P). Apparatus, subsidy and upper M.S.P represent the extent of the upper-tier-governments' effort to gain legitimacy from the regional constituency under technical

uncertainty. Korean upper-tier-governments have strong power on local governments in his jurisdiction. They provide financial aid to local governments for balanced development between regions and support lots of programs which local governments implement, so they have large scope of supervising and coordinating authority as well. Under the powerful influences of upper-tier-governments, it is reasonable to assume that lower-tier-governments are likely to follow upper-tier-governments' policy orientation. On the basis of notion, the three hypotheses can be induced in the view of Coercive isomorphism.

Hypothesis 2-A: M.S.P is more likely to be adopted, if upper-tier-government established apparatus to address only low-fertility-rate problem.

Hypothesis 2-B: M.S.P is more likely to be adopted, if upper-tier-government issues M.S.P subsidy.

Hypothesis 2-C: M.S.P is more likely to be adopted, if upper-tier-government adopts M.S.P policy.

Concerning the operationalization, the apparatus is constructed as dichotomous variable, which scored 1, if there is apparatus to treat only low-fertility-rate problem in the upper-tier-government, otherwise 0. M.S.P subsidy is also constructed as dichotomous variable, which scored 1, if upper-tier-government issued M.S.P subsidy, otherwise 0. M.S.P adoption in upper-tier-government is constructed as dichotomous variable as well, which scored 1, if upper-tier-government adopted M.S.P, otherwise 0.

(2)-2 Mimetic isomorphism: According to the Mohr's (1969) analysis of organization innovation, the probability of innovation is inversely related to the strength of obstacles to innovation and directly related to the motive of innovation and to the availability of resources for overcoming obstacles. Previous adoption by nearby local governments provides important

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resources for overcoming obstacles to innovate because it yields ample information on the policy considered (Berry&Berry,1990:403). In the same vein, Walker (1969), Berry&Berry (1990), NamGung (1994) and Lee (2004) etc, also consider the regional effect as one of the key variable to positively associated with policy diffusion.

Uncertainty is also powerful force that encourages imitation. When organizational technologies are poorly understood (March&Olsen,1976), when goals are ambiguous, or when the environment creates symbolic uncertainty, organizations may model themselves on other organizations. Organization faced a problem with ambiguous causes or unclear solutions, problemistic search may yield a viable solution with little expense (Cyert&March, 1963), thus the advantages of mimetic behavior in the cost saving are considerable (Dimaggio&Powell,1983:151). In the case of M.S.P, there is strong skepticism on in its effectiveness on fertility rate, and other effective alternatives to address the low-fertility problem haven't been identified. In this sense, it is more appropriate to take into account the institutional approach than information or resource approach (Meyer,1981; Knote,1982; Tolbert&Zucker,1983). To measure the degree of Mimetic isomorphism, this study suggests the number of nearby local governments newly adopting M.S.P in provincial jurisdiction as Mimetic variable.

Hypothesis 3: The likelihood that a local government will adopt M.S.P is positively related to the number of nearby governments that are newly adopted M.S.P in provincial jurisdiction.

(3) Environmental pressures

In the rural area, actually the effective way to increase population is not promoting fertility rate but reducing outflows of current population, because the outflows of population from

rural area to the urban area has been raised as one of the serious problem causing disproportionate development of local governments. Rural areas have been suffered by the sharp increase of aged population; moreover, the young aged populations that have fertility are much smaller than urban area. These circumstances force the local governments[3] in rural area to provide policies for enhancing fertility rate. Accordingly, it can be expected that governments in rural area will be faced much stronger environmental pressures than in urban area.

In other respect, Gu-governments' residents have relatively weaker solidarity than City and Gun governments' residents and City governments have more active civil movements than Gun governments, thus the pressures to adopt new policies in City governments can be more stronger than Gu or Gun government (NamGung,1994).

Fertility rate is an index to directly show the degree of seriousness of low fertility rate of each local government, so it can be induced that the governments that have recorded lower fertility rate may be faced with more pressures to address this problem than other governments. Conclusively, it is reasonable to assume that the environmental pressures are much stronger, if the local government is Gun or City, or the rate of aged person is higher, or if fertility rate is lower. In this perspective, the forth hypothesis can be induced.

Hypothesis 4: If the environmental pressure is high, the likelihood of adopting M.S.P increases.

4) Control Variables

The Local governments' socioeconomic capacity; such as size and fiscal condition, is

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[3] Korean local government is divided into three entities; Gu, City, Gun. Gu is located in the most urban area, City in the middle, and Cu is in the most rural area.

significant resources for policy adoption (Berry&Berry,1990; Lee,2004; Tolbert&Zucker, 1983; Meyer,1981). The size of local government is one of the important variable explaining policy innovations. The more the size of organization increases, the more resources can be utilized. Big organizations can have lots of chances of growth and innovation, and also can control the external environment much easier than small organizations (Kim,2006:88). Mohr (1969) argued that the size of organization is core factor of innovation and NamGung (1994) also highlighted the size as internal factor for policy diffusion as well. The size of local government will be operationalized as the population of local government in this study.

Local governments' fiscal capacity is a significant resource for policy innovations (Berry&Berry,1990; Gray,1973). Local governments need financial resources to perform programs, so local government having financial resources has high possibility of trying innovative actions. Based on this notion, the fiscal capacity of local government will be measured by Self-Reliance Ratio of Local Finance in this study. Self-Reliance Ratio of Local Finance means the degree of operating the revenue and expenditure independently in performing local governments' programs calculated by the ratio of local tax and additional revenue to the general account.

Model 2: Analysis Framework for Testing the Effort for Gaining Legitimacy From the Environmental Pressures.

Local governments faced higher environmental pressures are likely to make policy package more generous than other governments to gain legitimacy as giving residents the impression that they try to do something. If local governments faced environmental pressures to address certain kind of problems have their own discretion to make policy package, the policy package could be different according to the level of environmental pressures. Even

through each local government adopted same policy, if the area which the magnitude of problem or the degree of issue attention is relatively higher, it is hard to gain legitimacy from environment with the same level of other's policy package. Furthermore, under the technical uncertainty, one of the most useful strategies for certain organizations to survive is to gain environmental legitimacy. In this sense it can be assume that the measures to gain environmental legitimacy is the function of environmental pressures.

M.S.P has been adopted by local governments under the technical uncertainty and each local government has discretion of making policy package. Under this circumstance, each local government adopted M.S.P is likely to make policy package in proportion to environmental pressures to which they are faced.

On the other hand, the policy package can be the function of institutional variable. If upper-tier-government gives M.S.P subsidy, the policy package can be more generous with financial aid. Suppose upper-tier-government implemented its own M.S.P, local governments could make smaller basket than those that did not; because the environmental pressure can be weaken by upper-tier-government's M.S.P money. Conversely, upper-tier-government's M.S.P can facilitate generosity of policy package. Upper-tier-governments' M.S.P reflect their will to solve low fertility problem and also they have strong power on local governments in their jurisdiction, so local government are likely to make more generous policy package to take continuous support of upper-tier government and to gain legitimacy from them.

Furthermore, if we assume that the degree of legitimacy is dependent on comparison with others, local governments are likely to make the policy package more generous as the number of nearby governments adopting M.S.P increase.

1) Dependent Variables

In this study, the generosity of policy package can be estimated next two variables; the scope of recipients and the amount of M.S.P money issued. The scope of recipients[4] and the amount of money issued are quite different according to local governments. As the scope of recipients is wider and the amount of money is bigger, it can be said that the policy package is more generous. The scope of recipients will be constructed as dummy variable, if local governments issues money from third first child scored 0, otherwise 1 and the amount of money issued is constructed as cumulative payment from first child to third child.

2) Independent and Control Variables

Independent variables are the environmental pressures and institutional factors. Control variables are constructed as political and socio-economic factors as we delineated above.

Hypothesis 5-A: The more the environmental pressures increase, the more M.S.P policy
package is generous.

Hypothesis 5-B: Institutional factors are closely related to the generosity of
M.S.P policy package.

Model 3: Analysis Framework for Testing the Effect of Coercive Isomorphism and
Environmental Pressures on M.S.P Adoption Year.

Model 3 is for more explanation of the Coercive isomorphism, and environmental pressures on M.S.P. If the upper-tier-government issued subsidy to support M.S.P policy of

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[4] Some local governments start to issue M.S.P money from first child, some from second, or third. If a local government starts issue M.S.P subsidies from first child, it is the most generous government in the scope of recipients..

lower-tier-governments, or implemented M.S.P policy in ones' own name, it represent the extent of the upper-tier-governments' effort to gain legitimacy from the regional constituents under technical uncertainty. In the view of Coercive isomorphism, the lower-tier-governments will adopt M.S.P to gain resources from upper-tier government, so the policy diffusion can be promoted. In the same vein, the concern of upper-tier-government on M.S.P can have an effect on policy adoption year of lower-tier-government to secure sustaining supports from upper-tier-government. From this point of view, to identify the relationship between coercive isomorphism factors and policy adoption year can also suggest another aspect of Coercive isomorphism. On the other hand, the adoption year of M.S.P is likely to a function of environmental pressures. As the environmental pressures increase, there is a big need to cope with these pressures to gain legitimacy from the institutional environment, thus we can assume that the adoption year can be varied according to the degree of environmental pressures.

Hypothesis 6-A: The adoption year of M.S.P of lower-tier-governments is likely to be earlier, if upper-tier-governments established apparatus, or issued M.S.P subsidy, or implemented their own M.S.P

Hypothesis 6-B: The adoption year of M.S.P is likely to be earlier, if the environmental pressures are stronger.

4. Data and Method

1) Data

The data on M.S.P adoption, the scope of recipients, amount of M.S.P money, and subsidies were collected by requesting information to each 230 local government from 2001 (the first adoption year) to 2010. The election and conflict data to build political factors were

drawn from The Republic of Korea National Commission (NEC) and each local government assembly homepage. Apparatus, environmental pressures, and socioeconomic capacity data were collected from Korean Statistical information Service (KOSIS) and each local government homepage. Concerning fertility rate which are constructing a part of environment pressures, total fertility rate has been generally used to measure the degree of fertility. However the data on total fertility rate does not exist at local level; this data has been announced since 2005 at local level. For this reason, this study used crude birth rate instead of total fertility rate[5]. The analysis period is 10 years (2001-2010), the number of local government to analyze is 230, and total observation cases are 1651.

2) Analysis Model

To test each hypothesis, three analysis methods will be suggested; event history analysis, logit regression, and multiple regression analysis. The method utilized is contingent on the hypothesis to be tested. To test hypothesis 1, 2, 3 and 4 event history analysis will be employed. Event history analysis based on longitudinal data can explain why certain unit has more possibility to experience an event than other unit. By contrast, cross-sectional analysis has an assumption that explanatory variables are fixed over time, so it can't tell us the explanatory variables' effect on certain events which are changed over time(Yang,2008:140). The advantage of using event history analysis is that it takes into account of both the occurrence and timing of event while estimating the effects of exogenous factors (Yamaguchi, 1991; Ko,2004). This model can analyze the independent variables' effects on dependent variables' probability change under the assumption that the observed unit experiences only one event, so we can test the impact of each independent variable on the M.S.P adoption

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[5] Fortunately, these two indexes (total fertility rate, crude birth rate) are showing similar fluctuation.

probability of each local government. On the other hand, multiple regression analysis (payment, adoption year) and logit regression analysis (recipients) will be employed to test hypothesis 5, 6. Multiple (logit) regression is used to analyze the net effect of each variable on the condition that other explanatory variables are fixed. In case of multiple (logit) regression model, the unit of analysis is the local governments which already adopt M.S.P, so the analysis case is 196. Finally, in decision making process, there is time gap between the decision making and the information available. It is reasonable to assume that decision makers make his future decision with current data, thus some independent, and control variables need to be constructed as lagged variable; number of nearby government adopting M.S.P, aged population ratio, crude birth rate, self-reliance-ratio of local finance and population. The Tables below denote the model specification using each analysis method.

<Table 1> Model 1: Analysis Framework for Testing Policy Diffusion Factors

With the Event History Analysis

Type of variable			Explanation
Dependent variable	Y		M.S.P adoption dichotomous variable (adoption: 1, otherwise : 0)
Independent variables	Political factors	Election	Election year: dichotomous variable (previous or election year: 1 otherwise : 0)
		conflict	Local government institutional conflict dichotomous variable (unified government : 1 otherwise : 0)
	Institutional factors	Coercive	Coercive isomorphism Apparatus: 1, otherwise : 0 (dichotomous variable) Subsidy: 1, otherwise: 0 (dichotomous variable) Uppermsp: 1, otherwise: 0 (dichotomous variable)
		Mimetic	Mimetic isomorphism

Type of variable			Explanation
			Adoption Number of Nearby government (previous year)
	Environment pressures	Aged	Aged population ratio (previous year)
		Cbr	Crude birth rate (previous year)
		Location	The type of government Gu(1), City(2), Gun(3); dummy variable
Control variables	**Socio Economic factors**	Srr	self-reliance-ratio of local finance (previous year)
		Population (previous year)	

<Table 2> Analysis Framework for Testing the Effort for Gaining Legitimacy

From the Environmental Pressures; Policy Package

Type of variable			Explanation
Dependent variables	**Y**		Policy Package: 1) The scope of recipients (recipients)* 2) Cumulative payment from first child to third child. (payment)**
Independent variables	**Institutional factors**	Coercive	Coercive isomorphism Apparatus: 1, otherwise : 0 (dichotomous variable) Subsidy: 1, otherwise: 0 (dichotomous variable) Uppermsp: 1, otherwise: 0 (dichotomous variable)
		Mimetic	Mimetic isomorphism Adoption Number of Nearby government (previous year)
	Environment pressures	Aged	Aged population ratio (previous year)
		Cbr	Crude birth rate (previous year)
		Location	The type of government Gu(1), City(2), Gun(3); dummy variable
Control variables	**Political factors**	Election	Election year: dichotomous variable (previous or election year: 1 otherwise : 0)
		Conflict	Local government institution conflict dichotomous variable

		(Unified government : 1 otherwise : 0)
	Srr	Self-reliance-ratio of local finance (previous year)
Socio Economic factors	Population (previous year)	
Year	Adoption year	

Note: * logit regression model.   ** multiple regression model.

<Table 3> Analysis Framework for Testing Adoption Year

With the Multiple Regression Model

Type of variable			Explanation
Dependent variable	Y		Adoption year
Independent variables	Institutional factors	Coercive	Coercive isomorphism Apparatus: 1, otherwise : 0 (dichotomous variable) Subsidy: 1, otherwise: 0 (dichotomous variable) Uppermsp: 1, otherwise: 0 (dichotomous variable)
		Mimetic	Mimetic isomorphism Adoption Number of Nearby government (previous year)
	Environment pressures	Aged	Aged population ratio (previous year)
		Cbr	Crude birth rate (previous year)
		Location	The type of government Gu(1), City(2), Gun(3); dummy variable
Control variables	Political factors	Election	Election year: dichotomous variable (previous or election year: 1 otherwise : 0)
		Conflict	Local government institution conflict dichotomous variable (Unified government : 1 otherwise : 0)
	Socio Economic	Srr	Self-reliance-ratio of local finance (previous year)
		Population (previous year)	

	factors	

5. Results

\<Table 4\> Testing Results

Variables	Model 1		Model 2-1: recipients		Model 2-2: Payment	Model 3 Adoption year
	Coef	Haz. Ratio	Coef.	Odds Ratio	Coef	Coef
Election	1.7624132	5.826481	-.41473218	.6605172	9.009696	_
conflict[1]	.05585296	1.057442	-.27541627	.759256	49.719111	_
apparatus	-.26233757	.7692513	.86702323	2.37981	-40.660816	1.7587626***
Subsidy	2.3891335***	10.90404	-.10436794	.9008938	-21.397766	-2.909337***
uppermsp	.29861886	1.347996	.46871493	1.597939	49.481376**	.113311
Mimetic	.18213745***	1.199779	.17866223*	1.195617*	-1.2427796	.03365666
Aged	-.02473094	.9755724	.13006106	1.138898	8.8711438**	.04763988
Cbr	-.08784725	.9159008	-.1224921	.8847129	-6.7519117	.00850506
Location						
2	.41685342*	1.51718	-1.014926	.3624293	-11.48663	-.90544581**
3	.44832678	1.56569	-.1019478	.9030767	-60.82359	-1.2725766**
Srr	.00789903	1.00793	.0134047	1.013495	1.8746477**	-.00331141
Pop	-2.959e-07	.9999997	-2.32e-06*	.9999977*	-.00007063	1.024e-06
Year	-	-	-.6042736***	.5464712***	-.81176993	-
Cons	_	_	1213.8687***	_	1672.5978	2006.5041***

Note:

Model 1: survival analysis for testing policy diffusion factors; LR chi2(10)= 125.51, Prob > chi2= 0.000

Model 2-1: logit regression for testing policy package (recipients); LR chi2(12)= 60.82, Prob > chi2= 0.000

Model 2-2: multiple regression for testing policy package (payment); Prob > F= 0.000, R-squared= 0.4817

Model 3: multiple regression for testing adoption year; Prob > F= 0.000, R-squared= 0.4323

legend: *p<.1; **p<.05; ***p<.01

1) Model 1: Analysis Framework for Testing Policy Diffusion Factors

(1) Political factors (Hypothesis 1-A, 1-B)

We established two hypotheses; hypothesis 1-A: M.S.P is more likely to be adopted in an election or previous election year than two years between elections, hypothesis 1-B: M.S.P is more likely to be adopted under unified government than divided government. The coefficient of election year is positive and the hazard ratio is 5.82. It means that in case of previous year of election and election year, the likelihood of adopting M.S.P is 5.82 times higher than otherwise. The coefficient of conflict is also positive effects on M.S.P adoption, thus under the unified government, the probability of adopting M.S.P increases. But these variables are not statistically significant, so we cannot accept these hypotheses.

(2) Coercive isomorphism (Hypothesis 2-A, 2-B, 2-C)

We suggest the hypotheses on Coercive isomorphism as three factors;

Hypothesis 2-A: M.S.P is more likely to be adopted, if upper-tier-government established apparatus (2-A) or issued M.S.P subsides (2-B) or adopted its own M.S.P (2-C). According to the testing results, apparatus, and uppermsp are not statistically significant. Only the subsidy is positively associated the M.S.P adoption. When other things being equal, if the upper-tier government issued M.S.P subsidy, the likelihood of adopting M.S.P of lower-tier governments is 2.4 times higher than otherwise, thus we can accept only the 2-B hypothesis.

(3) Mimetic isomorphism (Hypothesis 3)

We expected the likelihood that a local government will adopt M.S.P is positively related to the number of nearby governments that are newly adopted M.S.P in provincial jurisdiction during previous year. The coefficient is positive, thus hazard ratio is more than 1 (1.19). It

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means that in provincial jurisdiction increasing one nearby government that newly adopted M.S.P in previous year raises the M.S.P adoption probability by 1.19 times when other things being equal. The coefficient is statistically significant, so the hypothesis 3 can be accepted.

(4) Environmental pressures (Hypothesis 4)

Environmental pressures consist of aged, crude fertility ratio and location (Gu, City, Gun), We established the hypothesis 4; If the environmental pressure is high, the likelihood of adopting M.S.P increases. But these variables are statistically insignificant except location 2; Location 1 is Gu government; 2 is City and 3 is Gun government. Gu government is the base line for comparison, so this dummy variable are omitted. The coefficient 2 means that City government has 1.5 times higher possibility of adopting M.S.P than Gu government when other things being equal. The coefficient 3 also shows Gu government has higher possibility of adopting M.S.P than Gu government but it is not statistically significant. According to the result, only City government is more likely to adopt M.S.P than Gu government.

2) Model 2: Analysis Framework for Testing the Effort for Gaining Legitimacy from the Environmental Pressures; Policy Package

(1) Policy package (Hypothesis 5)

We predicted that the more the environmental pressures increase, the more M.S.P policy package is generous (5-A) and institutional factors are closely related to M.S.P policy package (5-B). In case of recipients, the variables representing environmental pressures and institutional factors are not statistically significant but the mimetic. It means that if the nearby government which newly adopts M.S.P increases, the scope of recipients is more generous. Additionally, year variable is statistically significant and has a negative sign. It suggests that the scope of recipients is more generous when M.S.P is adopted earlier. Population is also statistically significant but the odds ratio is almost 1, thus population practically can not

affect the scope of recipient.

The sixth column of Table 4 shows the testing results of the relationship between M.S.P payment and environmental pressures. The coefficient of "aged" is statistically significant and its sign is correspondent with our expectation. Other things being equal, 10 % increases of the ratio of aged person leads 887 thousands won increase of payment. Among the institutional factors only uppermsp variable is statistically significant. The coefficient suggests that other things being equal, the M.S.P money increases 494 thousands won if upper-tier-government implements its own M.S.P. The srr variable is also statistically significant and its coefficient shows that other things being equal, 10 % increases of the self-reliance-ratio of local finance leads 187 thousands won increase of payment. To sum up, according to the testing results, uppermsp, mimetic and aged variable are positively related to the generosity of policy package, thus we could partly accept hypothesis 5.

3) Model 3: Analysis Framework for Testing the Effect of Coercive Isomorphism, and Environmental Pressures on M.S.P Adoption Year. (Hypothesis 6)

(1) The relationship between Coercive isomorphism factors and adoption year

We expected that the adoption year of M.S.P of lower-tier-governments is likely to be earlier, if upper-tier-government established apparatus, or issued M.S.P subsidy, or implemented M.S.P (hypothesis 6-A), because these measures present upper-tier-governments' effort to gain legitimacy from environment. Under the powerful influences of upper-tier-governments, lower-tier-governments are likely to follow their policy orientation. The last column of Table 4 suggests the testing results. Coercive isomorphism factors are subsidy, uppermsp, and apparatus. The negative coefficients denote that M.S.P adoption year is earlier. In case that upper-tier-governments issue subsidy, the adoption year is earlier than otherwise about three years; however upper-tier-governments have apparatus, then the

adoption year of lower-level-governments is delayed about 1.7 years, which is not correspondent with our prediction. Accordingly, overall effects of Coercive isomorphism factors on adoption year are not clear.

(2) The relationship between environmental pressures factors and adoption year

This study also hypothesized that the adoption year of M.S.P is likely to be earlier, if the environmental pressures are stronger (hypothesis 6-B). As we explained, the negative coefficients denote that M.S.P adoption year is earlier. This relationship is distinct concerning location. The base line is Gu government as we noted. In case of city governments, the M.S.P adoption year is earlier than Gu governments about 1 year, and Gun governments are about 1.3 years. But the other factors representing environmental pressures are statistically insignificant; the hypothesis 6-B can be partly accepted.

6. Discussion and Conclusion

According to the test results, political factors are not associated with policy adoption probability but M.S.P subsidy of upper-tier-government (coercive isomorphism), the number of nearby government adopting M.S.P (mimetic isomorphism) and location (environmental pressure) are positively related to the M.S.P adoption.

In 2005, the total fertility rate of Korea was recorded 1.08, which is the lowest in the Korean history. Local governments have been under pressure from the institutional circumstance to come up with any measures to address low fertility rate according to the rise of low fertility issue salience, so local governments have been adopted M.S.P competitively since 2005. The descriptive statistics of table 6 shows this trend.

<Table 6> M.S.P Adoption Year and Percentage

	2001	2002	2003	2004	2005	2006*	2007	2008	2009	2010*	total

Adoption	5	8	2	8	32	25	43	29	30	14	196
percentage	2.55	4.08	1.02	4.081	16.32	12.75	21.93	14.79	15.30	7.14	100
cumulative	2.55	6.63	7.65	11.73	28.06	40.81	62.75	77.55	92.85	100	100

* Local election year. For more information see appendix.

Of 230 local governments of Korea, 196 local governments adopted M.S.P as of 2010, and nearly 90% local governments which adopted M.S.P are after 2005. The effective ways to address low fertility rate problem were in the dark under which the M.S.P has been big fashion since 2005. In this situation, the plausible explanation of the test results is that election year, institutional conflicts do not matter because the institutional pressures were already prevailed all over the country, thus local governments have adopted M.S.P irrespective of these factors. In contrast, local governments faced serious low fertility problem have strong incentives to adopt childbirth encouraging program. Under the technical uncertainty, imitation can be reasonable choice comparing with taking risk from adopting other policy.

Generally, local governments' financial situation in Korea is so crude that they cannot adopt new policy easily. Based on this fact, M.S.P subsidies of upper-tier-governments can have positive effect on M.S.P diffusion as it lightened local governments' financial burden.

Korean local governments are divided into 3 kinds; Gu, City, Gun. City and Gun governments are faced higher environmental pressures than Gu governments because of high ageing population ratio and depopulation for outflows. High environmental pressures forced local governments to do something, thus M.S.P can be one of the best and easy choice to evade environmental pressures under technical uncertainty.

On the other hand, the relationship between policy package and institutional pressures, and adoption year are another matter. It is about the M.S.P contents and the adoption time to cope with environmental pressures on the condition that M.S.P is already adopted as policy tool,

thus there is no technical uncertainty. The test results suggest, though not all factors, that the policy package tends to be more generous, when the environmental (aged), and the institutional (uppermsp) pressures are stronger; moreover, the adoption year of M.S.P also tends to be earlier in proportion to environmental pressures (location), and in case of existence of upper-tier-government's M.S.P subsidies.

Conclusively, M.S.P has been widely diffused irrespective of its untested effectiveness on enhancing fertility rate. The technical uncertainty and environmental pressures forced local governments to adopt M.S.P. Behind this phenomenon, coercive isomorphism, mimetic behavior of local governments and motivation for gaining legitimacy facilitate M.S.P adoption and diffusion.

To explain the policy diffusion, two theories have been generally used; unified theory and institutional theory. Unified theory delineated the influential factors to policy adoption and diffusion, but it cannot explain enough the institutional factors and motivation which are critical in sociological institutional theory such as legitimacy, survival, and isomorphism. On the other hand, though Institutional theory gives good insight to articulate motivation of the policy diffusion, it doesn't show other various dynamics which can effect on policy diffusion. This study tries to construct integrated framework to explain the policy diffusion. I hope that integrated framework provides little help to broaden the perspective in the field of policy diffusion research.

This study suggests proxy variables to measure political and institutional and environmental pressures factors. Although the problem of measuring concepts is inevitable in social science, there could be another proxy variable that can measure these concepts more correctly. I think that it is very important to find out more appropriate proxy variables to measure these concepts for future research. Also the generalization problem can be raised. This study analyzed only one case, thus more comparative case study are needed to identify

the impact of these variables.

This study focused on the political, institutional, and environmental factors to identify the behind story on why adopting seemingly ineffective policy. In the real world, policies are not always adopted due to their effectiveness (expected effectiveness) on social problems as normatively suggested. On the contrary, the policy adoption can be the function of political motivation or legitimacy under the technical uncertainty. In most cases, policy makers have to adopt certain policies under numerous constraints such as restricted time, information, political, environmental pressures, and technical uncertainty, which says that policy adoption does not always depend on the effectiveness (expected effectiveness) of such policies. Political motivation or intention to gain legitimacy from institutional circumstance or to evade environmental pressures can be much more plausible reasons that are able to explain adopting certain policies. To understand the dynamics encompassing policy adoption more precisely, these factors behind the policy adoption need considering.

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