Chapter 2
A New Institutionalist Approach of Healthcare Reform

Institutions matter in the determination of social and political outcomes. When we investigate the relationship between SHI participation and OOPS, we are actually probing into the effect of welfare institutions, and participation in them, on social outcomes. If welfare participation is to be effective in providing benefits, we shall require effective political institutions (Twine 1994). Specialized mediating institutional arrangements could be enacted to maintain a sound process from policy inputs to policy outputs.

In addition, the optimal functioning of institutional arrangements is realized through the actions of individuals. According to the new institutionalism, on the one hand, institutions structure and shape the behavior of individuals by providing a calculus or cultural arena. On the other hand, human beings acting collectively can, in principle, change and mold the frameworks of a number of economic, political, and social constraints within which we make our choices. The relationship between institutions and the actions of individuals have to be construed when elucidating the effects of institutions on social and political outcomes.

The importance of institutions in determining social outcomes was neglected half a century ago. In postwar Western society, the social sciences have been gradually dominated by a behavioral and a rational revolution (Peters 1999). Both movements have fundamentally transformed the discipline of political science by portraying politics as a reflection of society, political phenomena as the aggregate consequences of individual behavior, and human action as the result of choices based on calculated self-interest, and so on (March and Olsen 1984). However, since the 1970s, the new institutionalism has emerged through the rediscovery of the autonomy of institutions and the importance of symbolic action to an understanding of politics. The role that institutions play in the determination of social outcomes is emphasized by understanding the relationship between institutions and behavior and the process whereby institutions originate and change.

However, the new institutionalism does not constitute a unified body of thought. Instead, at least three diverse theoretical approaches have been identified; that is, historical institutionalism, rational choice institutionalism, and sociological

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institutionalism (Hall and Taylor 1996). They provide quite different accounts of the nature of institutions as well as the relationship between institutions and behaviors.

First, rational choice institutionalists still employ the assumptions of behaviorism. The actors are said to have fixed preferences and to behave in a way that maximizes the attainment of these preferences (Elster and Hylland 1986; Shepsle and Weingast 1987). Institutions serve to structure the interactions among actors by affecting the range and sequence of the choices made by the actors or by formulating mechanisms in reducing uncertainty of the reacting behaviors of others.

Second, sociological institutionalists take a broad view of institutions by involving not only formal rules, procedures, or norms, but the symbol systems, cognitive scripts, and moral templates that formulate the "frames of meaning" affecting the nature and choices of human action (Campbell 1998; Scott 1994). Institutions, then, do not just influence the strategic calculations of individuals, as rational choice institutionalists claim, but also their underlying preferences or identities as well as the cognitive scripts, categories, and models that are indispensable for action (Berger and Luckmann 1966; DiMaggio and Powell 1983; Wendt 1987).

Third, historical institutionalists associate institutions with organizations and the rules or conventions promulgated by formal organization. They are quite eclectic toward the relationship between institutions and action in that they may accept the opinions of both rational choice institutionalists and sociological institutionalists. In addition, they focus on the role of historical development and the path dependence of social causation. Institutions are deemed persistent features of the historical landscape (Hall and Taylor 1996).

This study embraces the new institutionalism to understand the relationship between SHI participation and OOPS. In theory, we focus on two fundamental issues: (1) how to examine the effects of welfare institutions on social outcomes; and (2) how to construe the relationship between institutions and behavior. The two issues are the two different perspectives for answering the same question about the relationship between institutions and outcomes: the first is a perspective of determination, while the second is of strategic interaction.

The first perspective is related to the linear relationship between welfare institutions and social outcomes. We also try to find the mechanisms of the relationship between institutions and social outcomes by considering the mediating role of the institutional arrangement. By and large, we try to find a determinative model of the effects of welfare institutions on social outcomes. Correspondingly, we first devise a hypothesized model by proposing the relationships between SHI participation, the institutional arrangement, and OOPS.

The second perspective focuses on the strategic interaction between welfare institutions and actors, and among different actors. The dimension is necessary in that it reveals the specific actions of key stakeholders and their interactions and, therefore, facilitates explanation of the determinative relationship investigated in the first dimension. As a result, we formulate a framework of the relationship between welfare institutions and the behaviors of actors to explain the determinative hypothesized model.

In addition, the two different perspectives shed light on what kind of methodology we should use to explore the three research questions proposed in Chap. 1. The perspective of determination and that of strategic determination are just two sides of a coin, with the former focusing on the observable attributes of the truth, and the latter on the complicated attributes of the truth. The dual theoretical perspectives used in the study guide us to adopt a paradigm of postpositivism and a mixed-methods design.

2.1 Effects of Welfare Institutions on Social Outcomes: The Perspective of Determination

Welfare institutions are designed to achieve social outcomes through the redistribution of resources, both horizontally across a life course and vertically across income hierarchies. As economic growth is questioned as the route to improve well-being, issues of distribution and redistribution become central to political debate, and social rights to obtain resources for human development evolves to be the focus of policy priority (Twine 1994).

However, due to the various risks that exist in the attributes of welfare institutions and the corresponding institutional arrangement, the function of social rights is debated in terms of being an effect on social outcomes.

From the perspective of social democrats, the provision of welfare benefits is seen as effective and necessary to enhance individuals' well-being (Marshall, 1963; Titmuss, 1963). Turner (1993) suggests that citizenship—mainly social rights, once inscribed in the institutions of the welfare state—is a buffer against the vagaries of the marketplace and the inequalities of the class system. Welfare institutions are thus seen as effective and necessary to manage social problems and to meet individuals' basic needs.

However, scholars from the New Right argue that social rights may not increase people's well-being, but rather reduce it in the long run (Mead 1986; Murray 1996). New Right scholars devote their attention to outlining why a proliferation of welfare provision may be damaging to individuals and the wider society. In Western society, the state provision of welfare services and the gradual expansion of the state's role from the 1950s onward are argued to have driven up public expenditure to a point where the costs of state welfare have interfered with the successful operation of a free market economy. Allied to this is the belief that permissive welfare provision undermines individual/familial responsibility and nurtures the development of a welfare-dependent "underclass" (Alcock 1989; Mead 1986; Murray 1996).

New communitarian writers, emphasizing the importance of community over individual, are also opposed to unconditional universal benefit provision (Etzioni 1997). They believe universal provision ruins the establishment of a good society. Access to collectively provided welfare benefits should be conditional on individuals accepting communally defined obligations. Social policy should seek to

promote a particular moral framework and judge the actions of individual citizens (Deacon 2002). Etzioni (1997) approves that the state should provide only a minimal safety net of welfare via the provision of the "social basics," which is targeted selectively at those unemployed, disabled, and so on.

Correspondingly, we are unable to identify the effects of welfare institutions on social outcomes if we only evaluate the direct effects of welfare participation on outcomes. To be specific, the focus from the outset on welfare provision, the extent of welfare spending, the nature of social rights, and so on, provides little information for investigating the mechanisms of the effects of welfare institutions. Welfare reform is more a process of pragmatic choices than ideological debates in many countries. Policy makers always consider "how to provide welfare benefits" after deciding "whether or not to provide." An increasing number of scholars deemphasize the nature of welfare rights per se, focusing instead on the rationality and efficiency of the mediating institutional arrangement of social policies (Gilbert and Terrell 2013; Le Grand 1993).

Institutional arrangements denote the mechanisms in the policy process from welfare input to outcomes. The conceptual framework of social policy has evolved through a process that flows from welfare input to institutional arrangement, then to policy output, and ultimately to outcomes (Wong and Walker 1998). This study formulates an analytical framework of the institutional arrangement to elaborate on the relationship between welfare participation and outcomes. Meanwhile, it is aware of various ideological debates on the attributes of social rights and the appropriateness of the corresponding institutional arrangement.

This study, taking SHI reform in China as an example, sets out to combine the theoretical studies of institutional arrangements, from social policy and empirical studies of SHI, to develop a systematic insight into the effects of SHI participation (welfare participation) on patients' OOPS (outcome). This initiative is in response to the debates raised by different theories of institutional arrangement and to the design of SHI schemes.

2.1.1 A Conceptual Framework of Institutional Arrangements

From the outset, we employ actual participation in SHI schemes (SHI participation) to represent welfare participation in the domain of SHI. In theory, welfare participation is regarded by many as a centrally important aspect of "effective citizenship" and helps to define the extent and quality of a citizen's substantive welfare entitlement (Dwyer 2010). Harrison (1995, p. 20–21) argues that "effective citizenship certainly means being included in the systems of rights and welfare provisions that are mediated or managed by state agencies, and having one's needs met through mainstream political intermediation." Meanwhile, the welfare system of most nations embraces a combination of "means-tested" and "as of right" benefits. The latter may be further divided into those depending on a contribution record and

those that are tax-financed (Twine 1994). SHI is a sort of welfare institution by which benefits are payable "as of right" in contingent situations of unemployment, sickness, or retirement when the necessary contribution conditions have been met. Thus, SHI enrolls those who make contributions to it and then spreads the income risks of those enrollees with illness or diseases. The term "social" means SHI is established and implemented by the state rather than by private or voluntary organizations.

Furthermore, this study employs a resource allocation perspective proposed by Dwyer (2000) and Gilbert and Terrell (2013) to explore the mechanisms of institutional arrangement under the discourse of social rights. In this perspective, a critical question for the institutional arrangement is: how are resources going to be allocated in order to best meet people's various needs that occur? Questions of "who gets what, how they get it, and why they are seen as being entitled to it" are very much part and parcel of institutional arrangement debates (Dwyer 2000). Just as Dean (2001) points out, the reason and appropriateness for taking this perspective are that the essential character of social rights is "distributional in the sense that they relate to the social redistribution of resources." Similarly, Gilbert and Terrell (2013) use a benefit-allocation framework to interpret social welfare policies as choices among principles determining "what benefits are offered, to whom they are offered, how they are delivered, and how they are financed."

Following these insights, five institutional components of a welfare institution can be detected: the target of welfare benefits (who gets welfare benefits), benefits provision (what benefits are offered), provision rationale (why beneficiaries are seen as being entitled), provision mode (how benefits are delivered), and financing (how benefits are financed). This study considers the target of benefits to be in itself an institutional component, reflecting welfare participation, and SHI as an approach to health financing. Therefore, the study excludes the components of target and financing, and constructs a conceptual framework of institutional arrangements that involves benefits provision, provision rationale, and provision mode to explore the vehicles for the delivery of SHI.

First, benefits provision and the reimbursement mechanism of SHI. Social democrats see welfare institutions as necessary to realize social solidarity (Titmuss 1963). From the state planning perspective of the traditional welfare state period, uniform, mass-produced, and centrally distributed benefits were seen as efficient in eliminating many of the wasteful and duplicative aspects of competition in the open marketplace (Gilbert and Terrell 2002). However, the New Right sees human nature as individualistic, self-interested and rational. Individuals, as actors within a market economy, should decide on how to meet their welfare needs. Therefore, the New Right is hostile towards the intervention of government into the free market to provide welfare benefits (Burch 1999; Gilbert and Terrell 2002). At the same time, Marxists, ignoring the discussion of the forms of welfare benefits, argue that the substantial and increasing welfare expenditure is ineffective and inefficient. It merely acts to compensate certain individuals for some of the negative consequences of capitalism but fails to address the causes of their problems and/or adequately meet the needs of many citizens (Offe 1982). Despite these debates, the

universal social rights to participate in welfare institutions, as with any kind of benefit, will inevitably increase such benefits in the total related societal expenditure.

With regard to SHI, the reimbursement mechanism is the initial and most important institutional arrangement of SHI to provide welfare benefits and to generate a risk-spreading function. SHI agencies, established by the state, collect premiums and pool them. Enrollees are reimbursed benefits from the pooling account when they spend in the designated health facilities. Speaking from the macro level, as not all enrollees are ill and thus spend at one fixed period, those with medical spending transfer their income risk horizontally across the population, potentially avoiding the risk of poverty due to catastrophic illness spending (Ron et al. 1990). The form of welfare benefits of SHI is actually a kind of reimbursement where its immediate result is the acquirement of the reimbursement fee obtained. The increase of the reimbursement fee level is indicative of the reimbursement mechanism, and it is expected to reduce patients' OOPS.

Second, provision rationale and the behavior management mechanism of SHI. Social democrats see inequality and poverty as being caused by structural dysfunctions such as unemployment and industrialization. Thus, they advocate that the state should confer social rights unconditionally to its members since these are their rights based on prior agreement and social contract. However, the issue of why individuals are seen as entitled to welfare benefits is argued to be redefined considering the conditionality of social rights and the balance between rights and duties (Lister 2003). Therefore, individuals must take greater responsibility for their well-being by working, exercising more, and reducing consumption of tobacco and alcohol (Redden 2002). Furthermore, many critiques of the welfare state are to do with welfare dependency and the behavioral dysfunctions of the underclass, caused by the dutiless rights to welfare benefits. The New Right regards universal entitlement to welfare benefits as socially damaging. It believes that it is not structural dysfunction but the unconditional social rights conferred by the state that create the underclass and their welfare dependency (George and Wilding 1994; Mead 1986; Murray 1996). As a result, the systems of welfare are concerned with not only making welfare services available to citizens or other individuals, but utilizing welfare policy in an instrumental way to advance particular outcomes or to promote certain attitudes or types of behavior (Deacon 2002). The associated duties, therefore, refer to either the contribution to welfare participation or management of problematic behaviors. Sustaining welfare systems necessitates personal responsibility, without which dysfunctional behaviors and welfare dependency would result.

In the SHI realm, the behavior management mechanism of SHI corresponds to the provision rationale of welfare benefits. The behavior management mechanism actually includes two more detailed processes. First, the SHI agency formally cooperates with designated providers. Individuals must seek treatment from these providers if they want to obtain reimbursement; otherwise, they will not be reimbursed. Second, the SHI agency sets a higher rate of reimbursement for treatments in primary health facilities, and a lower rate for those in tertiary hospitals. The aim

of the various payment levels is to encourage individuals to seek treatment in primary health facilities and thus, to improve the allocation of medical resources. The efficient running of this mechanism could mitigate the unaffordable access to healthcare and major financial risks related to OOPS expenses (Li 2009).

Third, provision mode and the purchasing mechanism of SHI. Social democrats see direct government provision as efficient and necessary to embrace social solidarity. This state-centered model is criticized seriously by scholars from the New Right, who advocate the power of the free market in providing services. However, a free market without state intervention has little public accountability and is therefore vulnerable to risks. Moreover, the free market is accompanied by some devastating externalities to bring social costs (Baldock et al. 2003). As a result, a free market is also not a perfect solution to provide welfare benefits.

In the public welfare realm, a balance between state intervention and the market has been gradually reached. Since the 1980s, new managerialism, a reform including privatization, contracting out, setting precise targets, and rewarding the achievement in public services, has dominated the social policy of governments, resulting in a greater mixed economy of welfare (Baldock et al. 2003). More and more countries have replaced direct provision by the state with indirect provision under the "contract model." In this model, the role of government changes from provider to purchaser of welfare services with the aim of enhancing the efficiency and effectiveness of provision.

With regard to SHI, the purchasing mechanism emerges in accordance with the transforming role of government from benefits provider to purchaser. SHI reimbursement flows not only between SHI agencies and enrollees, but between SHI agencies and health facilities. The reimbursement mechanism alone cannot dissolve the risks of enrollees' expenses as it is the healthcare providers that charge fees to enrollees. It can only try to reduce the income risks of enrollees due to catastrophic spending, but cannot stop providers from charging unreasonable fees and patients from abusing medical services. So, the purchasing mechanism emerges to monitor the efficiency and quality of healthcare delivery (Yip and Hanson 2009; Yip et al. 2012). With the aim of ensuring the affordability of health services, the SHI agency actually acts not only as payer for the enrollee, but also as purchaser of health services collectively from healthcare providers. Individuals who do not participate in SHI must deal with healthcare providers independently, while those who participate transfer their purchasing power to the SHI agency, which represents their interests and thus has collective bargaining power with healthcare providers. With the expansion of SHI coverage and the increase of SHI funds, the SHI agency would have a strong bargaining power to restrict the improper fee-charging behaviors of healthcare providers, as well as to reduce the moral hazard of patients. The effective working of the purchasing mechanism is expected to moderate the behaviors of healthcare providers and patients, which would inevitably reduce healthcare fee-charging levels, enrollees' medical expenditures, as well as OOPS (Gu 2010).

2.1.2 Developing a Hypothesized Model

According to the propositions derived from our analytical framework, we develop a hypothesized model and formulate three major hypotheses. We also generate several key variables for measurement. The hypothetical model of the study is presented in Fig. 2.1.

First, the reimbursement mechanism. Social democracy theory sees welfare benefits as necessary to realize social solidarity. Structural inequality is seen as a major threat to freedom, and the provision of welfare benefits by government as an effective means of creating and increasing individual freedom (Titmuss 1963). Thus, the logic of social democracy theory seems to be straightforward: one obtains welfare benefits through enrolling in welfare programs, and as a result, enhances one's well-being. That is, the performance of benefits provision mediates the effect of participation in welfare programs on beneficiaries' well-being.

The reimbursement mechanism is the first and most important institutional arrangement of SHI to generate a risk-spreading function and to provide benefits. An SHI agency collects premiums and pools them into a shared account. Enrollees can have the lion's share of their medical expenses reimbursed by the pooled funds when they spend with the designated health facilities (Hsiao and Shaw 2007). The increase in the reimbursed fee indicates the improved performance of the reimbursement mechanism. Therefore, this study uses the variable *reimbursement rate* to represent such performance.

We thus develop the first hypothesis, namely, that individuals enrolled in SHI schemes, whether GMI, UEBMI, URBMI, or NCMS, will enjoy a higher reimbursement rate than those who are uninsured, and further, that the reimbursement rate has a negative association with OOPS (**Hypothesis 1**).

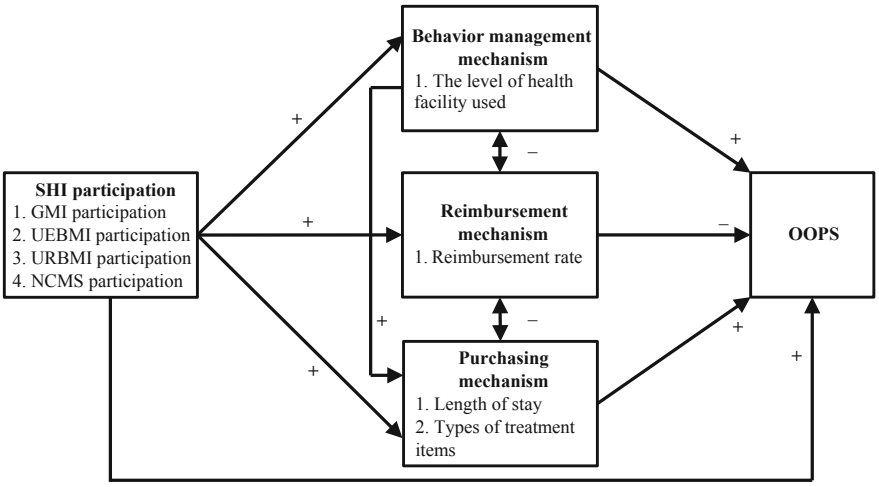

Fig. 2.1 Hypothetical model

Second, the behavior management mechanism. Many neo-liberal and New Right scholars critique social democracy theory as focusing too much on the extent but not the nature of social policy (George and Wilding 1994; Mead 1986; Taylor 2007). Universal welfare rights are regarded as socially damaging and the cause of many social problems such as welfare dependency and the behavioral dysfunction of the underclass. Mead (1986) argues that the fundamental cause of these problems is the permissiveness of welfare programs rather than their size. If social programs are unavoidable, beneficiaries must take on some responsibilities, such as enrollment contribution and behavior management, before or after they enjoy the welfare rights offered. Welfare systems should therefore be concerned, not only with making services available, but utilizing welfare policy in an instrumental way to promote certain types of behavior (Deacon 2002). The performance of a behavior management mechanism may thus have a mediating effect on the relationship between participation in welfare programs and beneficiaries' well-being. The behavior management mechanism of SHI lies with the agency trying to guide patients to be admitted to lower-level rather than higher-level hospitals. In this study, we use the variable *level of health facility* used by patients to denote the performance of the behavior management mechanism.

However, things are different in China where there is extreme inequity in health resource allocation. Personnel in rural health facilities are less qualified, small health facilities and hospitals have limited kinds of equipment and drugs, and some township health centers (THCs) and community health centers (CHCs) are poorly managed (Zhang and Kanbur 2005). Despite resources being limited overall, they are overallocated to tertiary hospitals in cities due to the special political and economic priorities that emphasize urban development. Furthermore, consumer information about either health insurance or the restricted choice of healthcare providers in China is limited (Xu and Van de Ven 2012). The amount of equipment and drugs, and the scale of health facilities, are among the most important factors that attract the attention of patients (Xiong et al. 2012). Against this backdrop, insured patients may be more willing than the uninsured to choose secondary or tertiary hospitals with good-quality resources but higher fees and copayments. This is because the reimbursements provided by SHI may encourage insured patients to use higher-level facilities.

We thus develop the second hypothesis, that patients who participate in SHI (that is, GMI, UEBMI, URBMI, or NCMS) are more likely to go to higher-level health facilities for treatment than the uninsured, and that such facilities will require patients to pay higher OOPS (**Hypothesis 2**).

Third, the purchasing mechanism. Social democracy, neo-liberalism, and New Right theories propose two different approaches to providing welfare: social democracy, which advocates for direct government provision, and neo-liberalism and the New Right, which emphasize the role of the free market (Dwyer 2010; George and Wilding 1994; Taylor 2007). However, both approaches have been criticized as being too extreme to deliver welfare efficiently (Baldock et al. 2003). Since the 1970s, the new managerialism movement, a reform supporting the

privatization and contracting out of public services, has dominated the social policy of many governments, resulting in a mixed economy of welfare. The introduction of a third-party purchaser changes the nature of power and politics in the welfare system, transforming the role of government from direct provider to monitor or regulator (Baldock et al. 2003). The performance of the purchasing mechanism is expected to play a salient mediating role in the relationship between welfare rights and individuals' well-being.

A purchasing mechanism was first introduced into health insurance reforms in the United States in the 1970s to restrict the cost inflation of healthcare and to enhance the efficiency and quality of delivery (Enthoven 1988). In terms of SHI, the agency acts not only as a payer for enrollees, but also a purchaser in terms of purchasing health services collectively from providers. Such an SHI agency must be able to control fraudulent claims and supplier-induced demand for unnecessary services through developing and implementing adequate inspection and auditing mechanisms (Figueras et al. 2005; Hsiao 2007). An active purchasing mechanism is expected to play a cost-containment function in terms of payments. This study thus uses the variable *cost-containment level* to represent the performance of the purchasing mechanism in terms of medical costs. Specifically, we use two indicators, length of stay in hospital and type of treatment items (medication, tests involving high-tech equipment, surgery, and so on), to represent the cost-containment level of the purchasing mechanism.

Studies indicate that the purchasing mechanism in China is generally dysfunctional due to inefficient fee-for-service payment schemes and the lack of bargaining and contracting skills of SHI agencies (Gu 2010; Meng 2008; Xu and Van de Ven 2009; Yip and Hanson 2009). Therefore, the passive purchasing of SHI agencies may not deliver the cost-containment function, but rather stimulate perverse incentives for healthcare providers to take advantage of the reimbursement and risk-pooling of the arrangements of SHI schemes to charge more for insured patients. Additionally, we also test for the association between health facility level and the performance of the purchasing mechanism. Higher-level health facilities are even harder to inspect and monitor than their lower-level counterparts, because the former have advanced status in terms of either information asymmetry or bargaining power. If, as we hypothesize, SHI participation makes patients move up the provider ladder from lower- to higher-level health facilities, this may accentuate the informational asymmetry between healthcare provider and patient and cause healthcare providers to prescribe more high-tech and expensive care (Wagstaff and Lindelow 2008).

Therefore, we develop the third hypothesis, that patients participating in SHI schemes (that is, GMI, UEBMI, URBMI, or NCMS) will have longer hospital stays and receive more types of treatment items than the uninsured, a longer stay will increase the number of types of treatment items, a longer stay and more types of treatment items will raise patients' OOPS, and the level of health facilities that patients use will have a positive relationship with the length of stay and type of treatment item (**Hypothesis 3**).

2.2 The Relationship Between Institutions and Actors: The Perspective of Strategic Interaction

Institutions generate their effects on social outcomes through the actions of individuals. Investigating the mechanisms of the institutional arrangement may help to answer the second question of this study, that is: through which kinds of institutional arrangement does SHI participation have an effect on OOPS? In order to answer the third question, that is, how the institutional arrangement takes effect, we have to explore the interaction among actors, and between actors and welfare institutions.

By and large, new institutionalists use two approaches to respond to the question about the effects of institutions on the behavior of individuals; that is, a calculus approach and a cultural approach (Hall and Taylor 1996). Basically, the rational choice institutionalists may advocate the calculus approach, and the sociological institutionalists the cultural approach. Historical institutionalists are eclectic as they may use both calculus and cultural approach. The question of how institutions affect the behavior of individuals can be further dismantled into three subquestions: how do actors behave, what do institutions do, and why do institutions persist over time? The two approaches provide different answers to the three questions.

First, the behavior of actors. The calculus approach assumes that human behavior is instrumental and based on strategic calculation. It takes further the actor's preferences as being given exogenously to institutions. However, the cultural approach deems human behavior not fully strategic but bounded by an individual's value system. Established routines, cognitive scripts, and fixed patterns of behavior influence individuals to attain their preferences. Individual preferences are therefore endogenous to institutions. Human actions depend on the interpretation of a situation rather than purely on calculation (Hall and Taylor 1996).

Second, the role of institutions. The advocators of the calculus approach argue that institutions provide actors with certain degrees of certainty about the behavior of other actors. Institutions also provide enforcement mechanisms for agreements, penalties for defection, and so on. They affect the actions of individuals by changing the expectations of individuals about the actions that others may take in response to their own actions. Differing from these opinions, the cultural approach sees that institutions affect individual behavior by providing moral or cognitive templates for interpretation and action. It deems the individual deeply embedded in a world of institutions. Institutions are composed of symbols, scripts, and routines, and provide the filters for individual interpretation (Hall and Taylor 1996).

Third, the persistence of institutions. Those who adopt the calculus approach explain the persistence of institutions over time in terms of the benefits provided by institutions. Through providing benefits, institutions embody an equilibrium. Individuals behave in certain patterns because behavior deviation will make the individual worse off than they would follow these patterns. The more gains an institution brings to individuals, the more robust it will be. The cultural approach uses the existence of the conventions related with institutions to explain the

persistence of the latter. The conventions cannot readily be the explicit objects of individual choice. Instead, the routines, symbols, and cognitive templates of some institutions are so conventional or taken for granted that they escape direct scrutiny. Moreover, they are constructed collectively by individuals and cannot, therefore, be readily transformed by the actions of any one individual (Hall and Taylor 1996).

This study uses the calculus approach to structure the relationship between welfare institutions and individual behavior. We appreciate the role that human intentionality plays in the determination of social outcomes in the form of strategic calculation. We try to integrate the role of strategic calculation with the role of structural variables associated primarily with the determinative dimension of institutions, with the purpose of casting a full map of the relationship between institutions and outcomes. The reason we do not use a cultural approach is because of our distinctive focus on formal institutions and the postpositivism research paradigm we hold. We study the formal functions, procedures, and institutional arrangement of SHI schemes and investigate the role they play in the determination of OOPS. Our focus is not on the cognitive and normative dimension of institutional impact. In addition, there is an apparent influence of social constructivism on sociological institutionalism. Institutions are seen to provide the very terms through which meaning is assigned in social life and the self-images and identities of actors are constructed (Berger and Luckmann 1966; Wendt 1987). However, we hold firmly a postpositivism paradigm and focus on the discovery of objective truth rather than the construction of meaning.

Accordingly, we have three primary assumptions. First, the behavior of an actor in SHI reform is likely to be driven by a strategic calculus. Second, the calculus is deeply affected by the expectations of the actor on how others in the healthcare sector may behave. Third, institutions including SHI and other healthcare institutions structure the strategic interaction among actors through affecting the range of alternative choices of actors, altering the expectations of an actor toward the corresponding behaviors of others, and guiding actors toward particular calculations.

We focus on the interaction of different stakeholders and the way in which institutions structure the interaction. The operation of the institutional arrangement of SHI involves many kinds of stakeholders. These stakeholders play quite different roles in the three mechanisms of the institutional arrangement, that is, the reimbursement, the behavior management, and the purchasing. From the aspect of the reimbursement mechanism of SHI, SHI collects premiums contributed by individuals, employers, and the government into a pooling account to spread enrollees' income risk due to illness or disease. When individuals pay for medical expenses, they could obtain some reimbursements from the pooling account of SHI. In addition, SHI provides not only financial reimbursement to enrollees, but also manages their healthcare-seeking behaviors; that is, their choices of healthcare providers. Moreover, unlike other social insurance such as a pension, SHI refers not only to money, but also in-kind health services. As the executive organization of SHI schemes, the SHI agency plays a major role in cost containment. It represents enrollees to purchase medical services from providers. Except for SHI agencies,

healthcare providers, and patients, the operation of the institutional arrangement also involves the government in policy making, implementing, monitoring, and financial processing, as well as the pharmaceutical manufacturer and representatives in the production and logistics process of medicine and medical devices.

Therefore, SHI involves the interaction of multiple stakeholders, including the government, SHI agencies, health facilities, pharmaceutical manufacturers and representatives, and enrollees. If the quantitative analysis in this study reveals poor performance on the part of SHI schemes in behavior management and cost containment, it does not mean that SHI agencies alone are responsible. Rather, poor performance might be a result of complicated interactions among different stakeholders. Therefore, we must involve multiple participants to reveal these interactions.

In this study, we focus mainly on the interactions between SHI agencies, health facilities, and enrollees, as these stakeholders are directly associated with the flow of medical expenditures and reimbursements of SHI. We devote our attention to interpreting the operation of the three mechanisms of the institutional arrangement of SHI, portraying the strategic interaction between different stakeholders in the operation process, and understanding the institutional surroundings where the interaction between these stakeholders was structured and shaped.

2.3 Methodology: Postpositivism and a Mixed-Methods Design

Scientific research is conducted within a certain paradigm framework, under the guidance of certain ontology, epistemology, and axiology, and with the assistance of methodology and specific methods. It is not just a process of using some strategies of datacollection and analysis to probe into certain questions, but is a recurrent inquiry based on the researchers' world values and cognition of social facts, knowledge, their own social and academic positions, and so on.

Based on such a reflection, this study chooses an appropriate methodology that is suitable to elaborate on the dual theoretical perspectives of both determination and strategic interaction. The dual perspectives follow the deterministic laws of probability and uncertainty (Cook and Campbell 1979). To be specific, the determinative relationship between welfare institutions and social outcomes sees social fact or truth as observable and measurable, while the interactive relationship between institutions and actors sees social fact or truth as complicated and hard to discover with one-time observation.

Accordingly, this study holds a postpositivist paradigm by recognizing the objective existence of truth that can be hardly knowable and is theory-laden. It tries to use multiple strategies to assist in finding evidence of truth. Correspondingly, it uses a mixed-methods design by combining both quantitative and qualitative methods to explore the institutional arrangement of SHI in China.

2.3.1 Paradigm Shift and Postpositivism

Scientific research, especially in natural science, had been governed by a positivism philosophy of science before the introduction of the conception of paradigm. Naïve realism was held to deem truth to exist objectively and to be knowable for human beings. In social science, the mathematical and statistical methods used commonly in the natural science field were introduced to explain and predict complicated social facts that were often seen as a series of statistical relationships between variables (Clark 1998; Schumacher and Gortner 1992).

The dominance of positivism in scientific research has been challenged with the emergence of the conception of paradigm. Tomas Kuhn (1962) argues that scientific researchers work not value-free, but within the context of a paradigm—a conceptual framework that is shared by inquirers in a science community, determines the concepts used, and models inquiries through previous exemplars. Paradigms may guide scientific research through regulating key topics and formulating research hypotheses, as well as introducing the most suitable empirical methods to explore these topics. The paradigm shared in a science community often divides problems into essential and trivial issues, by which researchers being trapped within the paradigm would devote themselves to the investigation of the valuable issues while neglecting others. Researchers in one paradigm may judge certain issues as being true, while those in other paradigms may judge them as false. Furthermore, a certain paradigm will be confronted with anomalies. Correspondingly, some researchers may abandon this paradigm and adopt some alternative challenging paradigms. These competing paradigms coexist until the challenging paradigms are consolidated and replace the traditional paradigm. A paradigm shift will then happen.

The postpositivist paradigm emerged with such a paradigm shift. It was proposed by reflecting on the problems of the dominating positivism. It is devoted to replacing naïve realism with a critical realism, the justificationist account of knowledge with a critical rationalism, and the deterministic laws with laws of probability and uncertainty (Cook and Campbell 1979; Guba and Lincoln 2005; Phillips 1990). Most postpositivists draw their standpoints from the philosophy of science of Karl Popper, especially his two well-known monographs *The Logic of Scientific Discovery* (1959) and *Conjectures and Refutations* (1962).

Popper (1962) considers truth as an essential regulative ideal. He suggests abandoning the assurance that researchers are able to know when they reach the truth, although they do not have to abandon the notion of objective truth. He uses a metaphor of climbing mountains to illustrate his view of truth:

> The status of truth in the objective sense, as correspondence to the facts, and its role as a regulative principle, may be compared to that of a mountain peak which is permanently, or almost permanently, wrapped in clouds. The climber may not merely have difficulties in getting there—he may not know when he gets there, because he may be unable to distinguish, in the clouds, between the main summit and some subsidiary peak. Yet this does not affect the objective existence of the summit … The very idea of error, or of doubt … implies the idea of an objective truth which we may fail to reach. (Popper 1962, p. 226)

Furthermore, Popper argues that there is neither confirmative knowledge (Popper 1959) nor solid foundation for knowledge (Popper 1962). On the one hand, Popper is hostile to the empiricist monism of the positivists who usually use induction to generalize from particular observations to general scientific propositions. On the other hand, he is also prudent to deduction from a scientific proposition. Although the data may fit the deducted pattern being tested, Popper deems such corroboration to be supporting the theory to the provisional extent but never proving it to be true. The corroboration only achieves the status of "not yet disconfirmed" but is far from the status of "being true" (Popper 1959). Furthermore, traditional rationalists (like Descartes) and empiricists (such as Locke, Berkeley, and Hume) regard knowledge as being built upon some solid and unchallengeable foundation and therefore, a starting point for knowledge should be sought (Phillips 1990). However, Popper denies the existence of such ideal sources of knowledge. He deems all such "sources" liable to lead us into errors at times. He uses an entirely different question to replace the question about the sources of knowledge: "How can we hope to detect and eliminate error?" (Popper 1962, p. 25)

Except for the complicated nature of truth and knowledge, observation is believed to be theory-laden rather than theoretically neutral to discover truth and knowledge. In his well-known work *Patterns of Discovery*, Hanson (1958) argues that there is a distinction between "seeing as" and "seeing that," which means that all observations are presumptive and are impregnated with a "thematic framework" of our existing preconceptions. Observation is, therefore, theory-laden. In the field of scientific research, in the same way, all data are theory-, method-, and measurement-dependent (Ratcliffe 1983). Therefore, the values, experiences, and subjectivity of researchers have to be taken into consideration in the process of scientific research.

Because truth, knowledge, and observation are all full of uncertainty, Popper (1959, 1962) argues that scientific theory cannot be tested directly. He holds that scientific theory is irreducibly conjectural and falsifiable and cannot be proved. He further develops a perspective of falsification and a trail-and-error method by arguing that scientific theories cannot be verified, but can only be falsified by scientific testing. A scientific theory has to be falsifiable; that is, if it is false, it could be shown by observation or experiment. Besides, a scientific theory has to be devoted to error elimination before it advances toward future problems. This interplay between tentative theories (conjectures) and error elimination (refutation) determines whether the theories can or cannot withstand falsification.

2.3.2 A Mixed-Methods Design

The paradigm shift from positivism to postpositivism makes it possible to conduct mixed-methods research. Popper emphasizes tests with multiple validation criteria that renders a theory to be preferred over another. Therefore, postpositivists might collect data from multiple sources and conduct a variety of strong tests to generate

multiple disconfirmations. The disconfirmation from any one refutation test is not objective in the sense of being free of all theoretical assumptions. Multiple disconfirmations would render theory under test convincing (Cook and Campbell 1979). As a result, postpositivists might use a modified experimental/manipulative method and include qualitative methods to falsify hypotheses (Guba and Lincoln 2005). The multiple methods might be used to consolidate the "not yet disproven" status of theory and to eliminate plausible rival hypotheses.

Among these multiple methods, mixed-methods research has become increasingly popular as it breaks through the conventional methodological boundaries between quantitative and qualitative methods to avoid methodological biases. It is argued to be one of the three major methodological paradigms, which include quantitative research, qualitative research, and mixed-methods research (Johnson et al. 2007). Its emergence was also derived from the shift from the so-called paradigm wars of the 1980s to the paradigm dialogue of the 1990s (Denzin and Lincoln 2011; Guba 1990). It is used to avoid the apparent drawbacks of using only a quantitative or qualitative research method. On the one hand, quantitative research is used to test hypotheses and to generalize results obtained from sampling the population through measurement and statistical inference. However, it could direct attention to the results rather than process through the presentation of statistical relationships between variables. On the other hand, qualitative research intends to represent the meaning constructed by informants, to interpret the process of social problems, and to establish a complicated and holistic scene in a natural setting. However, it lacks the capability to generalize results to a more representative scope (Guba and Lincoln 2005). Mixed-methods research emphasizes the corroboration of both quantitative and qualitative elements, such as viewpoints, data collection and analysis, inference techniques, and so on (Johnson et al. 2007). It owns multiple purposes including triangulation, complementarity, development, initiation, and expansion (Greene et al. 1989). It has become increasingly popular in the studies of health systems (Ozawa and Pongpirul 2014).

This study adopts a sequential mixed-methods design, which exploits the ability to understand the mechanisms behind newly discovered associations or to test emergent hypotheses (Creswell 1994; Small 2011). The quantitative study serves as the primary and main design to test the theoretical model, while the qualitative study is used to confirm and explain in further depth the quantitative findings through illustrations generated by qualitative data (Morse 2010).

2.4 Summary

This study embraces a new institutionalist perspective to investigate the effects of welfare institutions on social outcomes. It uses both a determinative and an interactive perspective to construe the relationship.

It first summarizes the theoretical arguments of the relationship between welfare institutions and outcomes. It further argues that the mediating role of the

institutional arrangement must be taken into consideration to elaborate on the concrete mechanisms of the process from welfare participation to outcomes. Based on these efforts, this study formulates an analytical framework of the institutional arrangement. Meanwhile, considering the policy design of SHI schemes, it combines the theoretical studies of the institutional arrangement and the empirical studies of SHI to adapt the framework to the study of SHI schemes. We also formulate three major hypotheses according to the propositions derived from the newly established analytical framework. The hypothetical model establishes a pathway from welfare entitlement, to the mediating institutional arrangement, and then to outcomes.

Apart from the perspective of determination, we also adopt a perspective of strategic interaction to explore the relationship between welfare institutions and the behavior of actors. We adopt a calculus approach to probe into the role SHI and its institutional arrangement play in structuring the interaction of stakeholders in the healthcare sector. We focus on the interaction of three kinds of stakeholders, that is, SHI agencies, healthcare providers, and patients.

In addition, the dual theoretical perspectives of determination and strategic interaction determine the methodology used in this study. We adopt a postpositivist paradigm and a sequential mixed-methods design to facilitate the statistical tests and the explanation of the relationship between welfare institutions, the behavior of actors, and social outcomes. We use a quantitative study to examine the role of the institutional arrangement of SHI operating on the relationship between SHI participation and individuals' OOPS in China. Furthermore, we use a qualitative study to explain the mechanisms of the institutional arrangement tested in the quantitative study.

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