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Electable and Stable Insiders' Coalition Governments*

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In this paper, we formulate a general equilibrium theory that explains the existence and stability of democratically elected governments that support certain groups of individuals in society (insiders) to the detriment of everybody else (outsiders), even if the latter constitute a majority. The vehicle is a dynamic general equilibrium model, where insiders get monopoly rents and outsiders get less than what they would have gotten under a common good regime. We construct such political economy equilibria and we identify the conditions under which such political regimes (coalitions of insiders): (a) can safeguard against opportunistic behavior (i.e., do not fall from within) and (b) may come to power in the first place (i.e., manage to get elected). To that end, we highlight the role of ideology or self-serving bias employed by populists' mode and tone of debate as a gluing device to garner an electable coalition.

Abstract

Keywords: insiders, coalition governments, stability, electability, politico-economic equilibrium, perceptions manipulation, self-serving bias, populism

JEL Classifications: P16, D72, E20

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1 Introduction

Economic and political outcomes are structurally intertwined. Various constituencies understand their accession to political power as a mean to affect in their favor the distribution of economic outcomes via the enaction of preferential economic policies. Clearly, though, this conflict for the "spoils of power" is not a zero-sum game. The identity and the scope of the governing coalition do not only affect the distribution of winners and losers, but also the efficiency of the economic outcome[1].

An ever-growing and inclusionary body of political economy literature[2] analyzes how different distributions of power and influence among different constituents shape institutions which ultimately lead to the enactment of economic policies of various degrees of democratic representation and economic efficiency. A dynamic process through which different groups compete, co-ordinate, or co-optate leads to the formation of various types of elites, depending on the predominant cleavages in different societies. In this paper, we set this discussion in a general equilibrium framework and by doing this we are able to provide microeconomic foundations for the politico-economic equilibrium, by explicitly forming and analyzing the strategic considerations and interactions of constituents.

Moreover, in accordance with current public discourse, also the mode and the tone of political argumentation and debate is being analyzed as a determining force of the final compromise of the governing coalitions of constituents. In particular, the phenomenon of the increasing significance of populism in political debate is being pinpointed as a facet that can help explain a swift change in policies on a global scale[3]. At first glance, the rise of populism in western democracies is being represented as inherently anti-elite[4]. Nonetheless, most populist movements, although masqueraded as representatives of the unassuming masses are intertwined with special interest groups which employ toxically polemic discourse to discredit opponents

[1] See the political economy literature, e.g., Persson and Tabellini (2000) and Acemoglu and Robinson (2006). Moreover, there is a plethora of such examples in economic history. An example that motivated the present paper, is the case of South Europe, from about 1975 to about 2015. Kollintzas et al. (2018b) cite several official reports and provide empirical evidence in support of the view that the economic underperformance of several Southern European countries over this period was due to their inefficient economic system that was in a symbiotic relationship with their political system. For, the major political parties, dominated by powerful unions, professional associations, and their strategic business allies succeeded in maintaining and promoting this relationship to the detriment to the rest of society. A similar view is expressed in the political science literature, see, e.g., Molina and Rhodes (2007).

[2] For example, see Acemoglu (2003, 2008), Acemoglu and Robinson (2008), Acemoglu, Ticchi and Vindigni (2011) and Mukand and Rodrik (2020).

[3] For example, see Guriev and Papaioannou (2022) and the CESifo EconPol Forum 02/2024 "Rise of Populism: Causes, Consequences and Policy Implications", and the articles therein (Nam, Guriev, Galasso, Morelli and others).

[4] Right wing populism portrays cultural elite as the main villain and leftish anti-globalization populism focuses on financial sector economic elite. In both cases though what is in stake is the obstruction of competition (of ideas, of movements of labor, goods and capital etc.) in favor of a particular coalition of established special interests.

in an intra-elite internal divisions[5]. Following this thread, we highlight the behavioral underpinnings of manipulating ideological perceptions in favor of a particular regime. This is done by employing mechanisms that use resources to discredit more efficient political outcomes and/or inflating the importance of particular constituents in the political power struggle.

In this paper we try to model the internal strife of a coalition of interest groups in its attempt to institute a corporatist society based on a self-perpetuating governing coalition and highlight the role of the mode and the tone of political argumentation. That is, how such a governance structure lasts in the face of the argument that, in principle, electoral competition in democracies restricts the incentives prospective coalitions have to gain at the expense of the rest of society. In democracies, elected governing coalitions are not institutionalized stable entities, but temporal groups that have to safeguard themselves against their members' opportunistic behaviors. In other words, they should be understood as self-enforcing arrangements whose sustainability over the electoral cycle requires a constant unanimous consensus over proposed economic policies[6].

Therefore, we present a dynamic general equilibrium model that highlights the interplay between ex ante electability and ex post stability constraints of a governing coalition and how they shape the efficiency characteristics of the set of the implementable economic policies. In particular, we model the corporatist society as an economy consisting of insiders and outsiders. Outsiders work in industries that make up the competitive sector. That is, a sector made up by industries with perfectly competitive product and labor markets. Insiders populate a cluster of industries, which operate as unionized monopolies. Membership to this cluster is being assigned by government regulation fiat. Insiders keep their status as long as they remain part of the governing coalition. The size of the governing coalition, i.e., the number of constituents that are employed in protected sectors, affects the efficiency of the resulting steady state market equilibrium. In particular, the resulting dead-weight loss is increasing in the number of insiders' industries. Nonetheless, electability issues and ex-post sustainability concerns about the governing coalition place restrictions on that number.

We consider an economy with a number of intermediate good industries, producing gross complement goods. The gross complementarity assumption allows us to link the outcomes in the various industries and to propagate the effects of the imposition of an inefficient regulation in one of them to the rest of the economy. Hence, the unionized monopolization of an industry gives rise to positive price mark-ups and wage premia within this industry (i.e., rents to insiders), but at the same time reduces sectoral output which in turn reduces the efficiency of the economy (homogeneous final good sector), resulting to smaller wages in the other in-

[5]See Jan Pakulski (2018) for a political sociology analysis of the Weberian approach on elite configuration and the accompanying political style.

[6]There is an active discussion in the political science literature on the nature of "corporatism" as a "government structure" based on centralized hierarchy, political coercion to promote concertation of special interests, and that of "corporatism" as a "process" employing a relatively fragmented democratic bargaining process based on persuasion and not on coercion to achieve a special interests representation system. See, e.g., Baccaro (2003) and the literature discussion therein. The institutional set up we envision here is in accordance with the second view of corporatism.

dustries, either they are protected by regulation or function competitively.[7] As the number of the protected industries increases the inefficiency problem exacerbates due to the decentralized (i.e., per protected industry) nature of the bargaining between every monopoly and its corresponding union[8]. The model is reminiscent of Cole and Ohanian (2004), which features a non-competitive sector coupled with a non-competitive labor market and a competitive sector coupled with a competitive labor market.[9]

Obviously, in each industry, insiders would prefer to reduce the number of other protected industries by killing other industries' protective regulation. This means that the governing coalition must safeguard itself against opportunistic behavior of its members who would like to kill other industries' protective regulations. The disciplining mechanism we envision is ostracism from the governing coalition. Since, as explained above, the insiders' rents decrease in the size of the coalition, stability considerations of the governing coalition place an upper bound on its size, and subsequently on the acceptable level of inefficiency for a corporatist state to be self-sustainable, i.e., not to fall from within. This analysis is reminiscent, in a dynamic framework, of the school of Chicago political economy themes put forth such as in Stigler (1971), Peltzman (1976) and Becker (1983, 1985).

The obvious next step is to examine the viability of such a corporatist state. In other words, to check the conditions under which such a coalition of insiders would ever be elected in the first place. Clearly, if the available counter platform in the electoral competition is that of a fully efficient competitive economy benchmark, then no insiders' coalition ever gets elected. This is essentially a result in the tradition of a Coasian – Williamsonian analysis of the evolution of governance structures, in which competition among alternative modes give rise to the efficient outcome[10]. Nonetheless, we explore the cohesive power ideology or self-serving biases have in making the institution of corporatist state an electable alternative, and the subsequent incentives of an insiders' coalition to affect them by spending resources. Ideology is presented as a mean to manipulate perceptions about the economic outcomes of hypothetical regimes (e.g., the competitive economy benchmark)[11]. Self-serving bias is presented as an inflated subjective probability constituents may have about their importance as members of the insiders' coalition[12]. As a result, these departures from the rational expectations benchmark give rise to the electability of some insiders' coalitions, and place both an upper bound as well

[7]This decentralized form of bargaining between the monopolist and the union that ignores the negative externalities for the rest of the economy, associated with complementarities, is thought to better capture the past behavior of firms and unions in South Europe, as opposed to North Europe were firms and unions are thought to internalize these negative externalities. See, e.g., Sections 3.5.2 and 3.9 in European Commission (2013), European Commission (2014), and Visser (2013, 2016).

[8]Clearly, a fully corporatist state (i.e., an economy in which all sectors are regulated) gives rise to an outcome where insiders are worse off compared to the competitive economy benchmark.

[9]This type of frictions have been shown to be better in accounting for the deep and prolonged drops in output observed in the real world than monetary and financial frictions (Chari, Kehoe, and Mc Grattan, 2007).

[10]See Coase (1937) and Williamson (1985, 1996).

[11]For example, see Piketty (1995), in which it is argued that perceptions about the unfairness of social and economic outcomes are significant determinants of voters' preferences over redistributive fiscal policies.

[12]This is reminiscent of Passarelli and Tabellini (2017).

as a lower bound on their size and their level of inefficiency, ensuring their long run persistence as it is also discussed in Acemoglu, Ticchi and Vindigni (2011) and in Mukand and Rodrik (2020).

Actually, one can see that both processes we consider in order to depart from rational formation of beliefs, either via ideology (aka, manipulated perceptions) or self-serving biases (aka, inflated perceptions), are at the core of the mode and tone of the populist debate. Populism is exclusionary in the sense of highlighting the stark difference between the "honest own-kind" and the "corrupt others". If the "others" are allowed to influence policies and outcomes they will use it to the detriment of the "own-kind" due to their secretive agenda (role of ideology) and if one is (self-)identified as "own-kind" then should be recognized as indispensable to form a governing coalition (role of inflated perceptions).

As a result, we characterize the set of stable coalition governments by constructing an upper bound on their size. This upper bound decreases with the degree of complementarity across intermediate good industries and the relative union bargaining power (because both exacerbate the efficiency losses associated with their protection) and increases with the discount factor and the probability of being ostracized (because both exacerbate the expected penalty of opportunistic behavior). Given the above, we establish the possibility of a minority stable coalition government enjoying their spoils of power, i.e., the insiders' wage rate is greater than the competitive one which in turn is greater than that of the outsiders'. On the other hand, it is also possible for insiders to sustain a coalition under which they end up worse off than the competitive benchmark due to rat-race like incentives.

Then, we move on to address the question of the electability of the stable insiders' coalition governments over the "perceived common good regime"[13]. Electability depends on the expected wage rate of the ex ante identical voter being higher than that in the perceived common good regime. For sufficiently effective perceptions' manipulation and/or inflated perceptions there are several possibilities depending on two factors. First, the degree of perceptions' manipulation, relative to the degree of inefficiency associated with the noncompetitive industries around the upper bound required for stability. Second, as the size of the governing coalition decreases, the probability of becoming an insider decreases at constant rate, while the deadweight loss to society decreases at an increasing rate. These two effects operate in such a way that their interaction implies that starting from the maximum size stable governing coalition, and reducing the number of noncompetitive industries, the expected wage rate of the insiders-outsiders society first decreases and then increases. Consequently, when the perceptions' manipulation technology is weak relative to the deadweight loss at the maximum permissible size of the stable coalition, so that the expected wage rate of the insiders-outsiders society is lower than the perceived common good regime for that maximum permissible size, there will eventually be a stable insiders' coalition governments with fewer noncompetitive industries, where the opposite is true. This defines an upper bound on the number of noncompetitive industries

[13] The term is used within the logic put forth by Jean Tirole in his book "Economics for the Common Good" (2017).

that correspond to electable stable insiders' coalition governments. However, when the perceptions' manipulation technology is strong relative to the deadweight loss at the maximum permissible size of the stable coalition there are two possibilities. Either all stable insiders' coalitions are electable or there is a possibility of both an upper bound and a lower bound on the size of the electable stable insiders' coalition. This is simply because in this case, the expected wage rate of the insiders-outsiders society is higher than the perceived common good regime at the maximum permissible size of stable coalitions. But as the number of insiders' industries decreases, it first decreases and then increases. Consequently, the above-mentioned lower bound occurs so long as there is a sufficiently big drop in the expected wage rate. This occurs most likely in the situation where intermediate goods are strong complements. On the other hand, when considering inflated perceptions, electability of stable insiders' coalitions requires only an upper bound on the number of noncompetitive industries. This is because inflated perceptions create an amplification effect on the insiders' expected wage rate as the latter increases more than proportionately with the fraction of insiders in the labor force. And this effect dominates the inefficiency effect of noncompetitive industries in the manipulated perceptions case.

The plan of the paper is as follows: In Section 2 we present the dynamic general equilibrium model for any number of noncompetitive industries. In Section 3 we define stable insiders' coalition governments and develop necessary and sufficient conditions for their existence. In Section 4 we characterize the electability of stable insiders' coalition governments in two ways. First, under the hypothesis of manipulated voter perceptions about the common good regime (Subsection 4.1). And second, under the hypothesis of inflated subjective probabilities of voters ending up as insiders, once the insiders – outsiders society is elected (Subsection 4.2). Also, we show that these results extend in the presence of voters' risk aversion and the distribution of dividends (i.e., non-wage benefits) to insiders. Further, in Section 5 we extend the validity of the ex post stability and ex ante electability conditions in the presence of voter heterogeneity (Subsection 5.1) and of an endogenous perceptions' manipulation technology (Subsection 5.2). In particular, in Subsection 5.1, we find that under single-peaked preferences these conditions hold exactly the same way with respect to the median voter preferences. In Subsection 5.2, we endogenize the perception manipulation technology by assuming that the degree of perceptions manipulation is proportional to the amount of resources per voter devoted to the manipulation and inversely proportional to the perceived common good regime wage. It is shown that a government that minimizes resources devoted to preference manipulation satisfying the electability condition will opt for the smallest degree of preference manipulation and hence the maximum size electable stable coalition. Section 6 concludes.

2 Model

2.1 Preliminaries

We consider an economy that is populated by a large number of identical individuals or voters, L . Individuals consume a homogeneous final good that is produced combining a number of intermediate goods, N. Each one of these intermediate goods is produced using labor supplied by individuals under CRS and each individual is endowed by one unit of labor, which is inelastically supplied. At the beginning of each period, individuals vote to elect a government. There are two regimes, individuals can vote for: (i) The "insiders-outsiders society," where some individuals, called insiders, work in noncompetitive industries while the remaining individuals, called outsiders, work in competitive industries, where they get a smaller wage rate than insiders. In this regime, the probability an individual ends up as an insider depends on the structure of the economy (e.g., the fraction of noncompetitive industries and the relative size of each noncompetitive industry), and (ii) The "perceived common good" regime where all individuals work in competitive industries and get the same wage rate. Individuals have a perception of this wage rate that depends on their idiosyncratic characteristics and/or other factors, such as ideology, propaganda and mass or social media manipulation, to be analyzed further below. If the insiders-outsiders society wins a majority, insiders form a coalition that controls the government. Government decides the number of noncompetitive intermediate good industries in the economy, $K_t \in \{0, 1, 2...N\}$. In each one of these noncompetitive industries there is a single intermediate good producer. These K_t industries comprise the noncompetitive sector of the economy, where insiders work. The remaining $N - K_t$ industries comprise the competitive sector of the economy, where outsiders work. In the noncompetitive industries, employees are organized in unions (or professional associations). Each one of these unions bargains in a decentralized fashion with the corresponding intermediate good monopolist[14]. Once insiders control the government, each group in the coalition has, in principle, an incentive to deviate ex post, by voting down proposals for operating in such a fashion any number of noncompetitive industries, except their own. This is because, if there are fewer noncompetitive industries, the benefit of each group of insiders in the noncompetitive sector is higher. If they behave opportunistically, by voting down proposals for the operation of other noncompetitive industries, there is a probability that they will be detected and expelled from government next period. This probability decreases, ceteris paribus, with the number of noncompetitive industries and increases with the number of proposals voted down. We are interested in characterizing two properties of the insiders-outsiders regime. First, we are interested in investigating under what conditions the coalition of insiders comprising the government is stable. That is, no group of insiders in the coalition has an incentive to deviate from the coalition, by voting down any

[14] A similar bargaining structure is employed in Kollintzas et al. (2018 a). In their model the homogeneous final good is produced using capital, outsiders' labor and a number of intermediate good inputs produced by state not-for-profit enterprises, using insiders' labor. The latter is supplied through independent labor unions that bargain with the corresponding state enterprises for wages and employment. Moreover, these insiders' unions influence government decisions, including those about the number of state enterprises.

number of proposals to limit the number of noncompetitive industries. We call this property of the insiders-outsiders society ex post stability. Second, we are interested in investigating under what conditions voters will choose an ex post stable insiders-outsiders society over the perceived common good regime. We call this property of the insiders-outsiders society, ex ante electability.

It is clear that if the perceived common good regime coincides with the competitive equilibrium, there will be no possibility to find a majority that will support the insiders – outsiders society, since the latter is associated with the inefficiency of the noncompetitive sector. So, in characterizing the electability property, we consider two possible deviations in shaping the perceptions of the common good regime. First, we consider the case where a stable insiders-outsiders regime devotes resources in manipulating these perceptions, as illustrated below in Figure1. These resources are part of the profits in the noncompetitive industries. Second, in a way similar to Passarelli and Tabellini (2017), we consider the case where individuals perceptions about themselves are inflated, in the sense that they think of themselves as been better than others, so that in an insiders-outsiders society they have a higher probability to be insiders than the one implied by rationality.[15]

2.2 Functioning of an economy with K non-competitive industries

We consider a simple general equilibrium model with risk neutral agents. Time is discrete and subscript t indicates magnitudes in period t.

(i) Final good producers:

The technology of the representative final good producer is expressed by the Dixit-Stiglitz aggregator function:

$$Y_t = A_t \left(\sum_{t=1}^{N} Y_{jt}^{\zeta} \right)^{\frac{1}{\zeta}} ; A_t > 0 \text{ and } \zeta \in (0,1) \tag{1}$$

where Y_t and $Y_{\zeta t}$ are the output and the input of the jth intermediate good, respectively, of the representative final good producer. Parameter A_t is the total factor productivity and expression $\frac{1}{1-\zeta}$ is the common elasticity of substitution, across all intermediate good inputs[16]. Profit maximization implies the following (inverse) input demand functions:

$$p_{jt} = \left(\frac{Y_t}{Y_{jt}} \right) ; \forall j \in \{1, ..., N\} \tag{2}$$

where p_{jt} is the relative price of the jth intermediate good; and the price of the final good product is the numeraire.

(ii) Intermediate good producers

[15]The coexistence of manipulated ideological perceptions and manipulated inflated individual perceptions although possible in our model is not investigated in this paper. More on this in the concluding section.

[16]Clearly, the elasticity of substitution increases with ζ, and as ζ goes to 1 the intermediate goods become perfect substitutes.

Production technology is common across all intermediate good industries and represented by the Ricardian factor requirements function:

$$H_{jt} = (\frac{1}{B_t})Y_{jt} \ ; \ B_t > 0, \forall j \in \{1, ..., N\} \tag{3}$$

where H_{jt} is labor input in the jth intermediate good industry and B_t is an efficiency parameter that is common across all intermediate good industries.

(iii) Intermediate good producers of the competitive sector

Let w_{jt} stand for the wage rate, in final good units, of the jth intermediate good industry. Since all workers are identical, workers in the competitive sector (i.e., outsiders) take their common wage rate, denoted by w_t^o , as given. That is,

$$w_{jt} = w_t^o; \ \forall j \in \{(K_t + 1), ..., N\} \tag{4}$$

Profit maximization in the competitive sector implies that output price is equal to marginal cost, i.e.:

$$p_{jt} = \left(\frac{w_t^o}{B_t}\right); \ \forall j \in \{(K_t + 1), ..., N\} \tag{5}$$

Clearly, in equilibrium outputs and output prices must be common across all competitive sector industries. Let the common values of output and output price in the competitive sector denoted by $Y_t^o$and p_t^o, respectively. Then,

$$w_t^o = B_t p_t^o = B_t \left(\frac{Y_t}{Y_t^o}\right)^{1-\zeta} \tag{6}$$

(iv) Intermediate good producers and labor unions of the non-competitive sector

In any non-competitive intermediate good industry$j$, the labor union and the monopolist producer bargain over wages and employment in a Nash fashion. Efficient bargaining outcomes are characterized by:

$$(w_{jt}^*, H_{jt}^*) = \underset{(w_{jt}, H_{jt}) \in \, [w_t^o, \infty) \times [0, \infty)}{argmax} (w_{jt} - w_t^o)^\lambda \pi_{jt}, \lambda > 0, \forall j \in \{1, ..., K_t\}$$

where: λ and w_t^o are the relative bargaining power and the reservation wage rate of the labor union, respectively; and

$$\pi_{jt} = p_{jt}Y_{jt} - w_{jt}H_{jt} = Y_t^{1-\zeta}(B_t H_{jt})^\zeta - w_{jt}H_{jt}; \forall j \in \{1, 2..., K_t\} \tag{7}$$

is the profit of the monopolist. Here, we assume that: (I) If there is no agreement, insiders can work in the competitive good sector of the economy; (II) The reservation profits of the intermediate good producers in the non-competitive sector are zero[17]; and (III) Producers and unions take aggregate output, Y_t, as given and beyond their control. That is, the bargaining process per sector is decentralized.[18]

It follows that insiders' wages, output, output prices, and employment across the insiders' industries are common. Let these common variables denoted by w_t^i,p_t^i, Y_t^i and H_t^i respectively. It is straightforward to show that given,

$$\textbf{[R.1.a]} \;\; \zeta > \frac{\lambda}{1+\lambda}$$

the unique efficient bargaining contract, across insiders' industries, is characterized by:[19]

$$w_t^i = \zeta B_t p_t^i = \nu w_t^o; \;\; \nu \equiv \frac{\zeta}{\zeta(1+\lambda)-\lambda} > 1 \tag{8}$$

(v) General economic equilibrium

Then, in addition to (6)-(8), the equations characterizing the general economic equilibrium of the model economy can be written as follows:

$$L = K_t H_t^i + (N - K_t) H_t^o \tag{9}$$

$$Y_t = K_t p_t^i Y_t^i + (N - K_t) p_t^o Y_t^o \tag{10}$$

Equations (9) and (10) are the market clearing conditions in the labor and output markets, respectively. The demand for output, in the RHS of (10), is consistent with several alternative specifications. To see this, first note that (equilibrium) profits in the insiders' sector, $K_t\pi_t^i$, are given by $K_t(p_t^i Y_t^i - w_t^i H_t^i)$. Thus, in view of (6) and (8), the demand for output can also be expressed as $K_t w_t^i H_t^i + (N - K_t) w_t^o H_t^o + K_t(p_t^i Y_t^i - w_t^i H_t^i)$. The first and second terms in this expression correspond to the consumption of workers in insiders' and outsiders' industries, respectively. Profits, i.e., the third term in this expression, can be distributed

[17]This is the standard monopoly-union efficient bargaining model of the labor economics literature. See, e.g., Oswald (1982).

[18]Empirical work taxonomizes industrial relation regimes according to a plethora of different aspects. As far as the decentralization aspect of the bargaining process two major aspects are i) bargaining process coordination among parties from different industries and ii) centralization of the bargaining process concurrently taking place (e.g., Visser 2013). In our framework these regimes can have considerably different implications on the internalization of the underline negative effects of the bargaining process. For expositional purposes, we have chosen to work with the Nash bargaining solution, although it should be clear that the analysis can be extended to more coordinated set ups.

[19]This is the well-known tangency condition between the union indifference curve and the demand for labor facing this union. Restriction **[R.1.a]** ensures that, except this point of tangency, the union indifference curve lies above the demand for labor curve, thereby making the necessary condition (8) to also be sufficient. This, in turn, ensures a positive wage premium for insiders over outsiders.

through a number of different channels: (i) taxes that are used to finance a pure public good, (ii) dividends to insiders that augment insiders' consumption, (iii) manipulation of perceptions about the common good regime. We will explicitly consider these channels and their combinations in Section 5, where we consider extensions of the basic model. For now, we will simply assume that all insiders' profits are taxed away, via lump sum taxes.

It should be stressed that a crucial and convenient property of this general equilibrium is that it can be expressed analytically in terms of the model's parameters and in particular the number of noncompetitive industries, K_t. For, as we show next, wages in the competitive and noncompetitive sectors can be expressed as functions of K_t.

(vi) Wage structure

First, note that if $K_t = 0$ the equilibrium is trivial, in the sense that there is only a competitive sector in the economy. The equilibrium in this case is Pareto Optimum and characterized by a common wage rate for all workers:

$$w_t^* = A_t^{(1-\zeta)} B_t N^{\frac{(1-\zeta)}{\zeta}} \tag{11}$$

Henceforth, we consider the case, where $K_t \in \{1, ..., N-1\}$. From (6) and (8),

$$\frac{p_t^i}{p_t^0} = \frac{\nu}{\zeta} = \frac{1}{\zeta(1+\lambda) - \lambda} > 1$$

where the last inequality is a direct consequence of **[R.1.a]**. Further, from (2): $\frac{p_t^i}{p_t^o} = \left[\left(\frac{Y_t^o}{Y_t^i}\right)^{\zeta}\right]^{\frac{1-\zeta}{\zeta}}$.

Therefore, $\left(\frac{Y_t^o}{Y_t^i}\right) = \frac{1}{\tau}$, where $\tau \equiv \left(\frac{\zeta}{\nu}\right)^{\frac{1-\zeta}{\zeta}} = [\zeta(1+\lambda) - \lambda]^{\frac{1-\zeta}{\zeta}} \in (0, 1)$.

Then, it is straightforward to show that for all, $K_t \in \{1, ..., N-1\}$.

$$w_t^o = A_t^{(1-\zeta)} B_t (N - \xi K_t)^{\frac{(1-\zeta)}{\zeta}} \equiv w_t^o(K_t) \tag{12}$$

$$w_t^i = \nu w(K_t) \equiv w_t^i(K_t), \tag{13}$$

where, $\xi = 1 - \tau^{\zeta} \in (0, 1)$. Clearly, the greater is ξ (i.e., the lower (higher) is $\zeta(\lambda)$), the faster the rate at which both insiders' and outsiders' wages decrease with K_t. In other words, the more complementary are the intermediate goods and the more relative bargaining power unions have, the greater the inefficiency associated with the size of the insiders' coalition.

It remains to characterize insiders' wages for $K_t = N$. In this case, there are no outsiders, and the wage rate of outsiders cannot be used as the reservation wage rate for insiders. Consequently, the efficient bargain contract is not well defined. Therefore, we assume that when $K_t = N$ the reservation wage rate of insiders is given by the limit of the wage rate of outsiders,

$w_t^o(K_t)$, as K_t approaches N. That is: $w_t^o(N) \equiv \lim_{K_t \to N} w_t^o(K_t) = A_t^{(1-\zeta)} B_t N^{\frac{(1-\zeta)}{\zeta}} \frac{\zeta}{\nu}$. [20] Then, it follows, as in the case of $K_t \in \{1, ...N-1\}$, that $w_t^i(N) = \nu w(N) = \zeta A_t^{(1-\zeta)} B_t N^{\frac{(1-\zeta)}{\zeta}}$. Collecting results leads to the following:

Proposition 1: Given, **[R.1.a]**, the equilibrium wage structure of insiders and outsiders is such that:

(a) $w_t^o(K_t) < w_t^o(K_t - 1); \forall K_t \in \{1, ..., N\}$

$w_t^i(K_t) < w_t^i(K_t - 1); \forall K_t \in \{1, ..., N\}$

(b) $w_t^o(K_t) < w_t^*; \forall K_t \in \{1, ..., N\}$

(c) Let $K^* = \theta^* N$, where $\theta^* \equiv \frac{1-\nu^{-\frac{\zeta}{1-\zeta}}}{\xi}$ Then, $w_t^i(K_t) \left\{ \begin{array}{l} > w_t^*, \ K_t < K^* \\ = w_t^*, \ K_t = K^* \\ < w_t^*, \ K_t > K^* \end{array} \right\}$

Proof: See Appendix.

Part (a) establishes that wages in both the insiders' and outsiders' sectors decrease with the number of insiders' industries. This is due to the fact that inefficiency increases as the number of insiders' industries increases. Part (b) establishes that the wage rate of outsiders is always less than the wage rate of workers in the competitive equilibrium, for any number of insiders' industries. Lastly, Part (c) establishes that there is an upper bound in the number of insiders' industries such that the equilibrium of the insiders – outsiders regime is in a certain sense beneficial to insiders. That is, the wage rate of insiders is greater than the wage rate of workers in the competitive equilibrium regime, for any number of insiders' industries less than this upper bound, K^*. Clearly, $\theta^* \in (0, 1)$ increases with the relative bargaining power of unions across insiders' industries, and the input elasticity of substitution across intermediate good industries, $(\frac{1}{1-\zeta})$. Moreover, as ζ approaches one, also θ^* approaches one. Thus, when intermediate goods are perfect substitutes there are no insiders' coalitions where the insiders' wage rate is less than the competitive equilibrium wage rate, as there is no inefficiency involved with the number of insiders' industries.

3 Ex Post Stability

Individual preferences are characterized by the expected discounted future stream of the agent's consumption, $U_t = \mathbb{E} \sum_{\tau=0}^{\infty} \beta^\tau w_{t+\tau}$, where $\beta \in (0, 1)$ is the discount factor and $\mathbb{E}(\cdot)$

[20] In fact, it can be shown that this is the only reservation wage rate for which the efficient bargaining contract is well defined.

denotes the expectations operator, as the individual is uncertain about i) the regime that will prevail in the elections and ii) if the insiders-outsiders regime is elected whether she will end up as an insider or an outsider. Suppose, now, that the insiders-outsiders regime has been elected. Then, the value function of the agent is defined by:

$$V_t^{i-o} \equiv \pi_t V_t^i + (1-\pi_t)V_t^o,$$

where π_t is the probability of being an insider if the insiders – outsiders regime is elected in period t and V_t^i , V_t^o are the value functions of the insider and the outsider, in period t, respectively. Since we will consider two alternative specifications for these probabilities (π_t), it will be convenient to define them later. Given that the insiders-outsiders regime has been elected, the representative of any group of insiders in government, can decide whether she will behave "loyally" according to the wishes of her peers and vote to sustain the protection of all the insiders' industries or to act "opportunistically" and kill the protection in some of her peers' industries. This happens when she votes against a number of proposals, to run noncompetitive industries in the economy. The ex-post value of the insider is: $\underline{V_t^i}{=}max\{\widetilde{V}_t(K_t), \widetilde{V}_t(K_t,\kappa)\}$, where$\widetilde{V_t}(K_t)$ is the value of the insider if she acts loyally and$\widetilde{V_t}(K_t,\kappa)$ is the insider's value if she deviates and votes against κ proposals for noncompetitive industries. Depending on how many proposals she votes against, the representative has a different probability of being identified and expelled from the government coalition. Let $q(K,\kappa)$ stand for the probability of being identified, if the representative votes against κ such proposals. We assume that, given K, ...$>$ $q(K,\kappa+1)$ $>$$q(K,\kappa)$ $>$$q(K,\kappa-1) >$ ... and that $q(K,0)=0$ and $q(K,K-1)=1$. Then, in any given period t, the value function of a representative of any group of insiders if she votes for κ deviations is given by:

$$\widetilde{V}_t(K_t,\kappa) = w_t^i(K_t-\kappa) + \beta\{[1-q(K_t,\kappa)]\widetilde{V}_t(K_{t+1}) + q(K_t,\kappa)V_{t+1}^o\}$$

We are interested in a steady state, where:[21]$....K_{t-1} = K_t = K_{t+1} = ...K$. In this case, $\widetilde{V_t}(K_t) = \widetilde{V_t}(K) = \frac{w^i(K)}{1-\beta}$and $V_{t+1}^o = \frac{w^o(K)}{1-\beta}$, for all t. Hence, the steady state value function of an insider that votes against κ proposals is:

$$\widetilde{V}(K,\kappa) = \frac{(1-\beta)w^i(K-\kappa) + \beta\{[1-q(K,\kappa)]w^i(K) + q(K,\kappa)w^o(K)\}}{1-\beta}$$

Definition: Given (K,κ) the insiders' coalition government is locally stable in the steady state for deviations that reduce the number of noncompetitive industries by κ if and only if, $\widetilde{V}(K) \geq \widetilde{V}(K,\kappa)$.

Proposition 2 Given $K \in \{1,...N-1\}$ and $\kappa \in \{0,...K-1\}$, an insiders' coalition government is locally stable in the steady state for deviations that reduce the number of non-competitive industries by κ if and only if:

[21]Variables without time subscripts denote the value of the corresponding variable along the steady state. Thus,$w^o(K) = A^{(1-\zeta)}B(N-\xi K)^{\frac{1-\zeta}{\zeta}}$, $w^i = \nu w^o(K)$, and $w^* = w^o(0)$.

$$\left(1+\frac{\xi\kappa}{N-\xi\kappa}\right)^{\frac{1-\zeta}{\zeta}} \leq 1+\frac{\beta(\nu-1)q(K,\kappa)}{(1-\beta)\nu} \tag{14}$$

Proof: See Appendix.

Rearranging terms in (14), this inequality can be rewritten in two alternative forms. The first of these forms is more suitable for interpretation purposes and the second form is more useful for understanding the factors that are crucial for its satisfaction and for performing comparative statics'. First, note that $\widetilde{V}(K) \geq \widetilde{V}(K,\kappa)$ is equivalent to:

$$\nu A^{1-\zeta}B\left\{[N-\xi(K-\kappa)]^{\frac{1-\zeta}{\zeta}}-(N-\xi\kappa)^{\frac{1-\zeta}{\zeta}}\right\} \leq q(K,\kappa)\frac{\beta(\nu-1)}{(1-\beta)}A^{1-\zeta}B(N-\xi\kappa)^{\frac{1-\zeta}{\zeta}} \tag{14.a}$$

Then, it follows from the wage structure equations (12) and (13), that the left hand side of (14a) is the current period benefit of the coalition member of an insiders' government with K non-competitive industries that votes to reduce this number by κ, i.e., $w^i(K-\kappa)-w^i(K)$. And, correspondingly, the right hand side of (14a) is the expected present value of the cost of this vote, $\frac{\beta}{1-\beta}q(K,\kappa)[w^i(K)-w^o(K)]$, i.e., the expected cost of an ostracism. Hence, one way to interpret (14) is that for an insiders' coalition to remain stable in the steady state against its members voting to reduce their membership by any given number is that the current period benefit from a coalition with fewer members is no greater than the expected present value of the cost associated with being detected and expelled from the coalition. Second, (14) can be rewritten as:

$$\frac{(1-\beta)\nu}{\beta(\nu-1)}\left[\left(1+\frac{\xi\kappa}{N-\xi\kappa}\right)^{\frac{1-\zeta}{\zeta}}-1\right] \leq q(K,\kappa) \tag{14.b}$$

Thus, another way to interpret (14) is that it places a lower bound in the probability of being detected and expelled from the coalition government. In particular, an insiders' coalition government is locally stable in the steady state for deviations that reduce the number of non-competitive industries by κ if the corresponding probability of being detected and expelled from the government coalition is not smaller than a lower bound that depends on the model's parameters. In fact, it is straightforward to show that this bound (i.e., the left hand side of (14b)) is: (a) strictly decreasing in the discount rate, β ; (b) strictly increasing in the steady state number of non-competitive industries, K ; and (c) strictly increasing in the number of proposals for non-competitive industries voted down, κ.

Moreover, since, $q(K,\kappa)$ is also strictly increasing in κ this last result is important in the design of appropriate restrictions for the satisfaction of (14) for all $\kappa \in \{0,...,K-1\}$. We now turn our attention to this issue exactly. For, we are obviously interested in coalition governments such that the local stability condition (14) holds for all $\kappa \in \{0,...,K-1\}$.

Definition: The insiders' coalition government is globally stable in the steady state if and only if, given, K it is locally stable in the steady state for all possible deviations that reduce the number of non-competitive industries by $\kappa \in \{0, ...K-1\}$. For brevity, henceforth, we shall refer to the insiders' coalition government that is globally stable in the steady state as "globally stable insiders' coalition government (GSICG).

The following establishes a necessary condition for an insiders' coalition government to be GSICG.

Lemma 1: **(a)** The GSICG with $K_t \in \{1, ..., N-1\}$ non-competitive industries satisfies (14), in particular, for $\kappa = K-1$. **(b)** There exists a natural number M such that if there is a GSICG with K noncompetitive industries, then $K \leq M$. **(c)** For sufficiently large N, $M \leq \theta N$, where, $\theta \equiv min\left\{ \ 1, \ \ \frac{\eta-1}{\xi\eta} \ \right\}$ and $\eta \equiv \left[\frac{\nu-\beta}{\nu(1-\beta)}\right]^{\frac{\zeta}{1-\zeta}} > 1$. **(d)** Let $\breve{\beta} \equiv \frac{\nu}{\nu+1}$, $\tilde{\beta} \equiv \frac{\nu-\zeta}{\nu-\frac{\zeta}{\nu}}$. Then, when

$$\beta \in \begin{cases} (0, \breve{\beta}], & \theta \leq \theta^* < 1 \\ (\breve{\beta}, \tilde{\beta}), & \theta^* < \theta < 1 \\ [\widetilde{\beta}, 1), & \theta^* < \theta = 1 \end{cases}$$

Proof: See Appendix.

The usefulness of this result is that, without loss of generality, we can limit our investigation for GSICG in the set $\{1, ..., M\}$. Moreover, Part (c) establishes an upper bound on M (i.e., θN) for sufficiently large N. Finally, Part (d) characterizes the size of this bound with respect to the discount factor, β. This characterization has a profound implication for the kind of the insiders' coalition governments that are GSICG. Using the proof of Lemma 1, it is straightforward to show the following.

Remark 1: Suppose that $M \leq \theta N$, as in Lemma 1; and that there is a GSICG with $K \in \{1, ...M\}$ noncompetitive industries, Then: (a) If $\beta < \tilde{\beta}$, this government is a minority government (i.e., $\left(\frac{KH^i}{L}\right) < \frac{1}{2}$). (b) If $\beta < \breve{\beta}$, this government also runs an insiders - outsiders economy that is beneficial to insiders and detrimental to outsiders (i.e., $w^i(K) > w^*(K) > w^o(K)$).

Thus, when the upper bound on the size of an insiders' coalition government to be a GSICG is binding (i.e. $\beta < \tilde{\beta}$, or $\theta < 1$), this government is a minority government. Furthermore, for a sufficiently low discount factor (i.e., $\beta < \breve{\beta} < \tilde{\beta}$ or $\theta < \theta^*$), global stability in the steady state implies that the government runs an insiders – outsiders economy that is beneficial to insiders and detrimental to outsiders. In essence, a relatively small discount rate implies that the incentive to defect becomes relatively strong and the government safeguards against such threat by forming a smaller insiders' coalition. This smaller size of the insiders' coalition contains the magnitude of the implied inefficiency and the subsequent benefit from defecting. If, on the other hand, $\beta \in (\breve{\beta}, \tilde{\beta})$ or equivalently $1 > \theta > \theta^*$ the larger globally stable coalition government results to a situation in which the insiders – outsiders economy is detrimental also to the insiders. Nonetheless, the insiders enter into a rat-race-like situation in which they would prefer to abolish it, but they cannot vote for it individually, because of the fear that they might just be left out.

Now, given the result of Proposition 2 it is not surprising that the existence of insiders' coalition governments that are GSICG necessitates monotonicity - type restrictions on the probability distribution characterizing the identification of the representative of a group of insiders that does not vote to grant economic power to other insiders' groups, $q(K,\kappa)$. In what follows, we will adopt the conventional assumption that:

[R.2] $q(K,\cdot)$ increases at a non-increasing rate with κ

An example of a probability distribution function that satisfies **[R.2]** is the linear specification $q(K,\kappa)=\frac{K-\kappa}{K-1}$[22].

We are now ready to state the main result of this section.

Proposition3: Suppose that assumptions **[R.1.a]** and **[R.2]** hold and that $M\leq \theta N$ as in Lemma 1. Then, all insiders' coalition governments with $K\in\{1,...,M\}$ noncompetitive industries are GSICG.

Proof: See Appendix

Essentially, this result highlights that if the deviation does not pay for a particular K-member coalition it will not be profitable for all smaller coalitions. This is because the deviation benefits, i.e., the benefits from turning a fraction of the non-competitive industries into competitive ones, are smaller, the smaller is the insiders' coalition. Formally, given the concavity restriction we impose on $q(K,\kappa)$, necessary condition (14) is easier to be satisfied the smaller K is, for each $\kappa\in\{0,...,K-1\}$ Moreover, it should be clear that competition among ex ante identical interest groups will drive its size to the maximal GSICG[23].

As already mentioned, we have chosen to present the main results of this paper in a simple model in order to emphasize the fundamental economic and political forces that characterize the formation of insiders' coalitions that are both ex post stable and ex ante electable. We conclude this section by discussing the extension of Proposition 3 in the case of risk averse voters and the case where insiders, in addition to receiving higher wages than outsiders, they receive a fraction of the dividends in insiders' industries.

[22] In this case: $[q(K,\kappa+1)-q(K,\kappa)]-[q(K,\kappa)-q(K,\kappa-1)]=\frac{-1}{K-1}-\frac{-1}{K-1}=0$

[23] In addition, in Subsection 5.2 it can be seen that when introducing a costly perceptions manipulation process, we bring about a "supply-side" reason for maximizing the size of the insiders' coalition subject to being stable.

Suppose first, that voters' preferences are characterized by risk aversion. In particular, we assume that the representative voter's preferences are characterized by the expected utility, $\mathbb{E}_t \sum_{\tau=0}^{\infty} \beta^{\tau} \frac{C_{t+\tau}^{1-\gamma}}{1-\gamma}$, where $\gamma > 0$ is the coefficient of relative risk aversion. In this case, the ex post value function for the non - deviating insider and outsider, in the steady state, are given by $V^i(K) = \frac{[w^i(K))]^{1-\gamma}}{(1-\beta)(1-\gamma)}$ and $V^o(K) = \frac{[w^o(K))]^{1-\gamma}}{(1-\beta)(1-\gamma)}$, respectively. Similarly, the steady state value function of an insider that deviates in κ proposals is:

$$\widetilde{V}(K,\kappa) = \frac{(1-\beta)w^i(K-\kappa)^{1-\gamma} + \beta\{[1-q(K,\kappa)][w^i(K)^{1-\gamma} + q(K,\kappa)][w^o(K)^{1-\gamma}\}}{(1-\beta)(1-\gamma)}.$$

Then, it follows as in the proof of Lemma 1 that for sufficiently large N, if there is a GSICG with K non-competitive industries, $K \leq M$, where $M \leq \theta N$, $\theta = min\left\{\ 1,\ \ \frac{\eta-1}{\xi\eta}\ \right\}$ but, with risk averse voters $\eta = \left[\frac{\nu^{1-\gamma}-\beta}{\nu^{1-\gamma}(1-\beta)}\right]^{\frac{\zeta}{(1-\gamma)(1-\zeta)}}$. It is straightforward to show that if the stability constraint is binding (i.e., $\theta < 1$), an increase in the coefficient of relative risk aversion will increase θ and therefore will relax the bound on the size of the GSICGs. Intuitively the condition for global stability is now less restrictive than under risk neutrality, as the benefit taking the gamble associated with deviating from any given size coalition is less under risk aversion.

Second, we turn to the case of insiders earning dividends[24]. Recall that, in equilibrium, profits in the insiders' sector are given by: $(1-\zeta)K_t p_t^i Y_t^i$. Suppose, now, that a fraction, $\sigma \in (0,1)$, of these profits is distributed to all insiders as dividends. Since, in equilibrium, $p_t^i = \frac{w_t^i}{\zeta B_t}$ and , $Y_t^i = B_t H_t^i$ insiders' total income (i.e., wages and dividends) is given by $\mu w_t^i K_t H_t^i$, where $\mu \equiv \left[1 + \sigma\left(\frac{1-\zeta}{\zeta}\right)\right] > 1$ In this case, the ex post value function for the non - deviating insider and outsider, in the steady state, are given by $V^i(K) = \frac{\mu w^i(K)}{(1-\beta)}$ and $V(K) = \frac{w^o(K)}{(1-\beta)}$, respectively. Similarly, the steady state value function of an insider that deviates in κ proposals is: $V^i(K,\kappa) = \frac{(1-\beta)\mu w^i(K-\kappa)+\beta\{[1-q(K,\kappa)]\mu w^i(K)+q(K,\kappa)]w^o(K)\}}{(1-\beta)}$

Then, again, it follows as in the proof of Lemma 1 that for sufficiently large N, if there is a GSICG with K non-competitive industries, $K \leq M$, where $M \leq \theta N$,$\theta = min\left\{\ 1,\ \ \frac{\eta-1}{\xi\eta}\ \right\}$ but, with insiders dividends $\eta = \left[\frac{\mu\nu-\beta}{\mu\nu(1-\beta)}\right]^{\frac{\zeta}{(1-\zeta)}}$. Clearly, θ is strictly increasing in $\mu\nu$. Thus, if the stability constraint is binding, an increase in insiders dividends will increase and therefore will relax the bound on the size of the GSICGs. The rationale for this result is that insiders dividends increase the gap between the incomes of insiders and outsiders. Thus, for any member of an insiders coalition government, insiders dividends increase more the benefit from not deviating from the coalition than the benefit from deviating, making even larger coalitions stable.

[24] These companies although de facto monopolies had zero or negative profits but their labor unions secured substantial wage premia and other pecuniary benefits for its members.

Finally, it should be emphasized that the characterization of coalitions that satisfy global stability (i.e., Propositions 3) in both of these two cases follows in exactly the same manner as under risk neutrality and no insiders dividends. Hence, the only consequence is a greater maximum number of noncompetitive industries

4 Ex ante Electability

4.1 Perceptions Manipulation

In this subsection we assume that voters have rational expectations on their probabilities of being an insider or outsider, if an insiders-outsiders regime is elected and the same perceptions on their benefits under a perceived common good regime. We take the latter to be represented by a value function that is a fraction, ρ_t, of the present value of the discounted future stream of wages in the competitive equilibrium (i.e., the common good regime in the absence of perceptions manipulation):

$$V_t^{pcg} = \rho_t \sum_{\tau=0}^{\infty} \beta^{\tau} w_{t+\tau}^{*}$$

However, we will assume that ρ_t can be manipulated so as to be less than 1. An example of such a perceptions manipulation technology will be specified in the next subsection. For now, we will simply consider cases where $\rho_t \in [0,1]$. The timeline of the model is illustrated in Figure 1.

Figure 1: Timline Of the Perceived Common Good Regime Case (See Appendix B)

With rational expectations, the value function of the voter, if the insiders-outsiders society is elected, is given by:

$$V_t^{i-o} = \frac{K_t H_t^i}{K_t H_t^i + (N-K_t) H_t^o} V_t^i + \frac{(N-K_t) H_t^o}{K_t H_t^i + (N-K_t) H_t^o} V_t^o$$

We will consider insiders' coalition governments that are GSICG. For that matter, we consider a situation where: $...K_{t-1} = K_t = K_{t+1} = ... = K$, and $...\rho_{t-1} = \rho_t = \rho_{t+1} = ... = \rho$. And, consequently:

$$...V_{t-1}^i = V_t^i = V_{t+1}^i = ... = V^i(K) = \frac{w^i(K)}{1-\beta}$$

$$...V_{t-1}^o = V_t^o = V_{t+1}^o = ... = V^o(K) = \frac{w^o(K)}{1-\beta}$$

$$...V^{pcg}_{t-1} = V^{pcg}_{t} = V^{pcg}_{t+1} = ... = \rho V^{o}(0) = \rho \frac{w^*}{1-\beta}$$

Definition: Let N sufficiently large and $M \leq \theta N$ is as in Lemma 1. The GSICG with $K \in \{1, ..., M\}$ noncompetitive industries is electable in the steady state if and only if, $V^{i-o}(K) \geq V^{pcg}$.

Clearly, the latter condition is equivalent to:

$$\frac{KH^i}{KH^i + (N-K)H^o} w^i(K) + \frac{(N-K)H^o}{KH^i + (N-K)H^o} w^o(K) \geq \rho w^* \tag{15}$$

Or, in view of the wage structure equations (i.e., (11)-(13)) and the fact that: $\left(\frac{H^o}{H^i}\right) = \left(\frac{Y^o}{Y^i}\right) = \left(\frac{\nu}{\zeta}\right)^{\frac{1}{1-\zeta}} = \frac{1}{\tau}$, (15) is equivalent to:

$$1 + \frac{(\nu-1)\tau}{\left(\frac{N}{K}\right) - (1-\tau)} \geq \rho \left[\frac{\left(\frac{N}{K}\right)}{\left(\frac{N}{K}\right) - \xi} \right]^{\frac{1}{1-\zeta}} \tag{15.a}$$

Consider the continuous variable $x = \left(\frac{N}{K}\right) \in \left[\frac{1}{\theta}, \infty\right)$.[25] Then, define the functions: $\hat{\varphi}, \hat{\chi}, \hat{\psi} : \left[\frac{1}{\theta}, \infty\right) \rightarrow \mathbb{R}_+$, such that $\hat{\varphi}(x) = 1 + \frac{(\nu-1)\tau}{x-(1-\tau)}$, $\hat{\chi}(x) = \rho \left(\frac{x}{x-\xi}\right)^{\frac{1}{1-\zeta}}$, and $\hat{\psi}(x) = \frac{\hat{\varphi}(x)}{\hat{\chi}(x)}$. Clearly, in view of (15a), for any given $K \in \{1, ...M\}$, the GSICG is electable in the steady state if and only if:

$$\hat{\psi}(x) = \frac{\hat{\varphi}(x)}{\hat{\chi}(x)} \geq 1 \tag{15.b}$$

Then, we can characterize the electability of GSICG as follows.

Proposition 4: Suppose that N is sufficiently large, restrictions **[R.1.a]** and

$$[\mathbf{R.1.b}] \qquad \zeta \leq \frac{2\lambda}{1+\lambda}$$

hold and that $M \leq \theta N$ is as in Lemma 1. Then:

[25] Which is inversely related to the size of the insiders' coalition relative to the size of the economy (N).

(a) If $\rho = 1$, the GSICG is not electable in the steady state for any $K \in \{1, ..., M\}$.

(b) If $\rho = 0$, the GSICG is electable in the steady state for all $K \in \{1, ..., M\}$.

Moreover, if $\rho \in (0,1)$,$\exists! \underline{x} \in [\frac{1}{\theta}, \infty) \ni \underline{x} = \underset{x \in [\frac{1}{\theta}, \infty)}{\boldsymbol{argmin}}\ \hat{\psi}(x)$ and $\hat{\psi}(\frac{1}{\theta}) \lesseqgtr 1$ if and only if

$$\rho \lesseqgtr \begin{cases} \zeta, & \frac{1}{\theta} = 1 \\ 1 + \frac{\nu\tau(\eta-1)}{1-\tau^{\zeta}\eta-\tau(\eta-1)} \frac{\nu(1-\beta)}{(\nu-\beta)} & \frac{1}{\theta} > 1 \end{cases} \text{ so that the following are true: k}$$

(c) If $\hat{\psi}(\frac{1}{\theta}) < 1$,there exists an integer $\hat{K}$, such that , $1 < \hat{K} < M$ where the GSICG is electable in the steady state only for $K \in \left\{1, ...\hat{K}\right\}$ noncompetitive industries.

(d) If $\hat{\psi}(\frac{1}{\theta}) \geq 1$, there are two possibilities:

- **(i)** If $\hat{\psi}(\underline{x}) < 1$, there exist two integers $\overline{K}^{'}$ and $\overline{K}^{''}$, such that $1 < \overline{K}^{''} < \overline{K}^{'} \leq M$, where the GSICG is electable in the steady state only for $K \in \{1, ..\overline{K}^{''}\} \cup \{\overline{K}^{'}, ..., M\}$ noncompetitive industries.
- **(ii)** If $\hat{\psi}(\underline{x}) \geq 1$, the GSICG is electable in the steady state for all $K \in \{1, ..., M\}$.

Proof: See Appendix.

First, note that **[R.1.b]** places an upper bound on ζ. This upper bound on ζ is restrictive only as long as the bargaining power of the monopolist is greater than the bargaining power of the union in insiders' industries (i.e.,$\lambda < 1$). Now, **[R.1.a]** and **[R.1.b]** , in tandem, imply both a lower bound and an upper bound on ζ (i.e., $\frac{\lambda}{1+\lambda} < \zeta < \frac{2\lambda}{1+\lambda}$). We shall denote this double restriction as **[R.1]**. Since, both the lower bound and the upper bound in **[R.1]** are strictly increasing with λ, this condition can be interpreted as requiring that the lower the monopolist's power is (i.e., the higher ζ is), the higher the relative bargaining power of the union (i.e., the higher λ) must be to keep insiders' wages sufficiently high, irrespectively of the size of the government coalition[26]. It follows from the proof of Proposition 4 that **[R.1]**, is a sufficient condition that ensures that $\hat{\psi}'(\frac{1}{\theta}) < 0$. It is straightforward that $\hat{\psi}(\cdot)$ represents the ratio of the expected wage rate in the insiders' coalition government to the wage rate in the perceived common good regime. Thus, since the wage rate in the perceived good regime

[26] As it turns out, although $\hat{\psi}(\underline{x})$ does depend on ρ, $\underline{x}$ does not. $\hat{\psi}(\underline{x})$ can be expressed analytically in terms of ζ, λ, and ρ. However, the interaction between **[R.1]** and the loci of points, where $\hat{\psi}(\underline{x}) \geq 1$ or $\hat{\psi}(\underline{x}) < 1$ cannot be characterized analytically. Numerical simulations indicate that, for example, low (high) values of both ζ and λ satisfy **[R.1]** and $\hat{\psi}(\underline{x}) < 1$. Finally, it should be noted that the reason we have ignored the interaction of **[R.2]** with the other conditions, is that the former involves the probability distribution function $q(K, \kappa)$, which does not appear in **[R.1].**

does not depend on K, $\hat{\psi}'(\frac{1}{\theta}) < 0$ implies that at the upper bound on K that is required for stability, any decrease in the size of the coalition should be associated with a lower expected wage rate. But this is the case, because had this been not, there would have been a larger coalition that would have been stable. The economic implications of this condition will be further discussed below.

Now, several comments are in order. First, cases **(a)** and **(b)** are trivial and have been included here in order to gain some perspective on the other parts of this proposition. In case **(a)**, there is no manipulation (i.e.,$\rho = 1$). In this case, the perceived common good regime is the competitive equilibrium allocation. Clearly, the result of case **(a)** is an implication of the Fundamental Theorems of Welfare Economics. A government that implements the competitive equilibrium allocation dominates all types of insiders' coalition governments. Case **(b)** addresses the opposite extreme (i.e.,$\rho = 0$), the perceived common good has absolutely no value and therefore it is dominated by all types of insiders' coalition governments. Cases **(c)** and **(d)** are more interesting. In these two cases there is limited manipulation (i.e.,$0 < \rho < 1$), that lowers the value of the perceived common good regime and allows for the electability of certain kinds of GSICG. However, to understand why this is happening, it is helpful to delve briefly into the underlying voting incentives.

As already mentioned $\hat{\psi}(\cdot)$ represents the ratio of the expected wage rate in the insiders' coalition government to the wage rate in the perceived good regime. If this ratio is greater than one, the rational voter votes for the insiders' coalition government. It is also straightforward to see that the expected wage in the insiders' coalition government depends on the size of the insiders' coalition or the number of insiders industries, K. This dependence can be decomposed into two effects: First, as the number of insiders' industries rises there is a higher probability to end up as an insider and get the insiders' benefits. This effect is manifested in the positive dependence of $\hat{\varphi}(\cdot)$ (and therefore of $\hat{\psi}(\cdot)$) on K and, henceforth, we shall refer to it as the "probability effect". Second, as the number of insiders' industries rises the wage rates of both insiders and outsiders fall. The reason for this is the lower aggregate output in the economy as the number of non-competitive sectors increases. This lower aggregate output effect is brought about also for two reasons. First, if one industry switches from competitive to non-competitive its output is reduced. Second, the lower output of this industry reduces aggregate output further, as the input of all other industries becomes less productive, due to the complementarity effect. This effect is manifested in the positive dependence of $\hat{\chi}(\cdot)$and, therefore, the negative dependence of $\hat{\psi}(\cdot)$ on K and, henceforth, we shall refer to it as the "inefficiency effect".

However, as the probability effect is linear (i.e., the probability of ending up as an insider rises at a constant rate with K, and the inefficiency effect increases at an increasing rate, while **[R.1]** ensures that the probability effect dominates the inefficiency at the upper bound on K that is required for stability. Consequently, $\hat{\psi}(x)$ first increases (decreases) and then decreases (increases) with $K(x)$. And, in general, these opposite effects (i.e, the probability and the inefficiency effects) create trade-offs that explain the shape of the $\psi(\cdot)$ function, but do not suffice to determine why a certain type of a GSISG is electable while another is not. The additional factor needed is the degree of preferences manipulation ρ, that characterizes the position of the $\hat{\psi}(x)$ function. Clearly, the shape and position of the $\hat{\psi}(x)$ completely characterizes, graphically, the electable GSISGs, as is illustrated in Figure 2, below. The four panels correspond to Parts (a) – (d) of the proposition. In all cases: in the horizontal axis we measure $x = \frac{N}{K}$, in the vertical axis we measure the values of $\hat{\psi}(\cdot)$, and in all panels we plot the graph of $\hat{\psi}(x)$.

Figure 2: An illustration of Proposition 4 (See Appendix B)

Now, trying to understand how these effects are affected by the parameter values that are associated with cases **(c)** and **(d)**, one can think of case **(c)** (i.e., $0 < \zeta < \rho < 1$) as a situation where there is relatively weak perceptions' manipulation (i.e., $\zeta < \rho$) and/or the intermediate goods are relatively strong complements, so that the benefits to insiders (i.e., the premium over the wage of outsiders as well as the premium over the wage rate of the perceived common good regime) are relatively large.[27]In contrast, in case **(d)** the situation is reversed; there is relatively strong perceptions' manipulation (i.e., $\zeta > \rho$) and/or the intermediate goods are relatively closer substitutes. As a result, the premium of the wage rate of the insiders over the wage rate of the perceived common good regime is particularly large. Therefore, even small coalitions get elected as a voter prefers to vote for the long odds gamble to end up becoming an insider. Moreover, because of the large ζ the premium of the insiders' wage rate over that of the outsiders is not substantial and consequently the magnitude of the output effect is relatively small, the down risk of the gamble is small.

We conclude this subsection by considering the electability of the GSICG in the cases of risk averse voters and insiders' dividends, introduced in the previous section. First, in the case of risk averse voters, the electability condition, (15) becomes[28]:

$$\frac{KH^i}{KH^i + (N-K)H^o} \frac{[w^i(K)]^{1-\gamma}}{1-\gamma} + \frac{(N-K)H^o}{KH^i + (N-K)H^o} \frac{[w^o(K)]^{1-\gamma}}{1-\gamma} > \rho \frac{(w^*)^{1-\gamma}}{1-\gamma}$$

[27]The same is true for insiders' profits. The gap between insiders' profits and the zero profits in outsiders' industries or the zero profits in the perceived good regime is inversely related to ζ or the elasticity of substitution across intermediate good industries $(1/1-\zeta)$

[28]Here in effect, we assume that the degree of perceptions manipulation, ρ, discounts the voter's utility in the perceived common good regime. An alternative specification is to assume that ρ discounts the voter's consumption or income. It is straightforward, that the above electability condition applies, if ρ is replaced by $\rho^{1-\gamma}$. Then, in the alternative specification, other than making the above electability condition tighter, the interaction of and the degree of risk aversion makes the conditions of Proposition 4 more complicated, without affecting the essence of the (qualitative) results. However, the choice of how risk aversion is taken into account in the model, can be consequential for the quantitative analysis of the electability condition.

And, it follows as above that the GSICG is electable in the steady state for any $K \in \{1,...,M\}$if and only if $\hat{\psi}(x) = \frac{\hat{\varphi}(x)}{\hat{\chi}(x)} \geq 1$, where: $x = \left(\frac{N}{K}\right) \in [\frac{1}{\theta}, \infty)$, $\hat{\varphi}, \hat{\chi}, \hat{\psi} : [\frac{1}{\theta}, \infty) \rightarrow \mathbb{R}_+$, such that , $\hat{\varphi}(x) = 1 + \frac{(\nu^{1-\gamma}-1)\tau}{x-(1-\tau)}$ $\hat{\chi}(x) = \rho \left(\frac{x}{x-\xi}\right)^{(1-\gamma)\frac{1-\zeta}{\zeta}}$, and $\hat{\psi}(x) = \frac{\hat{\varphi}(x)}{\hat{\chi}(x)}$. It is straightforward to show that the properties of $\hat{\psi}(x)$ are as in the case of risk neutral preferences, although $\hat{\psi}(x)$ is strictly decreasing in γ. Consequently, risk aversion limits the set of electable GSICGs, in general. The driving force behind this result is that greater size coalitions are needed to keep the "probability effect" dominant and smaller size coalitions are needed to ensure that the "inefficiency effect" is dominant, under risk aversion.

In the case of insiders' dividends, the electability condition, (15), takes the form:

$$\frac{KH^i}{KH^i + (N-K)H^o}\mu w^i(K) + \frac{(N-K)H^o}{KH^i + (N-K)H^o} w^o(K) \geq \rho w^* ,$$

or, $\hat{\psi}(x) = \frac{\hat{\varphi}(x)}{\hat{\chi}(x)} \geq 1$, where: $\hat{\varphi}(x) = 1 + \frac{(\mu\nu-1)\tau}{x-(1-\tau)}$ and $\hat{\chi}(x) = \rho \left(\frac{x}{x-\xi}\right)^{\frac{1-\zeta}{\zeta}}$.

Clearly, $\hat{\psi}(x)$ is strictly increasing in $\mu = 1 + \sigma \left(\frac{1-\zeta}{\zeta}\right)$or σ (i.e., the fraction of profits in insiders' industries that are distributed as dividends to employees). Thus, insiders' dividends enlarge the set of electable GSICG. However, in the absence of perceptions manipulation do not suffice for electability.[29]

4.2 Inflated Perceptions

Suppose, now, that there is no perceptions manipulation, so that the alternative to the insiders-outsiders society is the common good regime, which in our model is the government that supports the competitive equilibrium allocation. However, now, we assume that individuals have a subjective probability to be insiders, if the insiders-outsiders society is elected, as they think of themselves as been better, or more important, than others. In particular, we assume that the probability of ending up as an insider, if the insiders-outsiders society is elected, is a multiple, $(1 + a_t)$, of the corresponding objective probability, $\frac{K_t H_t^i}{K_t H_t^i + (N-K_t) H_t^o}$. That is, $\pi_t = (1 + a_t) \frac{K_t H_t^i}{K_t H_t^i + (N-K_t) H_t^o} \in [0, 1)$, in order to satisfy the properties of probability. Note that inflated perceptions could also be interpreted case an alternative form of perceptions manipulation, in the sense that the probability of ending up as an insider, if the insiders-outsiders regime is elected, $(1+a_t) \frac{K_t H_t^i}{K_t H_t^i + (N-K_t) H_t^o}$, is the target of the manipulation. Moreover, for convenience we continue to assume that profits in insiders' industries are taxed away and are used to finance pure public goods. Clearly, the ex post global stability results of the previous section are not affected by the inflated perceptions assumption. That is, given **[R.1.a]** and for

[29] This follows as in the proof of Part a of Proposition 4.

sufficiently large N, the necessary condition for the GSICG with $K \in \{1, ..., M\}$ and M as in Lemma 1, is that $\frac{N}{K} \geq \frac{1}{\theta}$ where $\theta \equiv min\left\{ \ 1, \quad \frac{\eta-1}{\xi\eta} \ \right\}$ and $\eta \equiv \left[\frac{\nu-\beta}{(1-\beta)\nu}\right]^{\frac{\zeta}{1-\zeta}} > 1$ Moreover, given **[R.2]**, this condition is also sufficient. However, the probability bound $(1+a)\frac{K_t H_t^i}{KH_t^i+(N-K)H_t^o} < 1$ implies that $\frac{N}{K} \geq 1+\alpha\tau$. For that matter, here, we shall consider coalition governments with $K \in \left\{1, ..., \tilde{M}\right\}$ noncompetitive industries, where for sufficiently large N, $\tilde{M}$ is the largest integer smaller than or equal to ϑN , where. $\frac{1}{\vartheta} = max\left\{ \ 1+\alpha\tau, \quad \frac{1}{\theta} \ \right\} \geq 1$. In this respect, we will find useful the following:

<u>**Lemma 2:**</u> For any degree of inflated perceptions $\alpha > 0$, there exists a unique discount factor

$$\widetilde{\beta}(\alpha) \in \left(0, \frac{\nu-\zeta}{\nu-\frac{\zeta}{\nu}}\right) \subset (0,1) \ni \frac{1}{\vartheta} = \left\{ \begin{array}{c} 1+\alpha\tau, if \ \beta \in (\widetilde{\beta}(\alpha), 1) \\ \frac{1}{\theta}, if \ \beta \in (0, \widetilde{\beta}(\alpha)] \end{array} \right.$$

Proof: See Appendix.

Lemma 2 implies that, ceteris paribus, for any degree of inflated perceptions, it depends on the discount factor β, whether the upper bound on the size of the GSICG is due to the coalition stability restriction or the probability bound. With relatively low discount factors making, again, the stability bound the dominant one.

Now, the condition for ex ante electability is given by: $V^{i-\text{o}}(K) \geq V^{cg}$, where:

$$V^{i-\text{o}} = (1+\alpha_t)\frac{KH^i}{KH^i+(N-K)H^o}V^i + \left[1-(1+a_t)\frac{KH_t^o}{KH^i+(N-K)H^o}\right]V^o,$$

$V^i = \frac{w^i(K)}{1-\beta}$, $V^o = \frac{w^o(K)}{1-\beta}$ and $V^{cg} = \frac{w^*}{1-\beta}$. Clearly, the electability condition is equivalent to:

$$(1+\alpha)\frac{KH^i}{KH^i+(N-K)H^o}w^i(K) + \left[1-(1+a)\frac{(N-K)H^o}{KH^i+(N-K)H^o}\right]w^o(K) \geq w^* \qquad (16)$$

Or, in view of the wage structure equations (i.e., (11)-(13)), (16) is equivalent to:

$$1+\frac{(1+a)(\nu-1)\tau}{\left(\frac{N}{K}\right)-(1-\tau)} \geq \left[\frac{\left(\frac{N}{K}\right)}{\left(\frac{N}{K}\right)-\xi}\right]^{\frac{1}{1-\zeta}} \qquad (16.a)$$

Let: $x = \frac{N}{K} \in [\frac{1}{\vartheta}, \infty)$. Then, define the functions $\widetilde{\varphi}, \widetilde{\chi}, \tilde{\psi} : [\frac{1}{\vartheta}, \infty) \rightarrow \mathbb{R}_+$, such that $\widetilde{\varphi}(x) = 1+\frac{(1+a)(\nu-1)\tau}{(x)-(1-\tau)}$, $\widetilde{\chi}(x) = \left(\frac{x}{x-\xi}\right)^{\left(\frac{1-\zeta}{\zeta}\right)}$, and $\widetilde{\psi}(x) = \frac{\tilde{\varphi}(x)}{\tilde{\chi}(x)}$. Clearly, in view of (15a), for any given

$K \in \left\{1, ..., \tilde{M}\right\}$, where $\tilde{M}$ is as defined in the previous paragraph, the GSICG is electable in the steady state if and only if :

$$\widetilde{\psi}(x) = \frac{\tilde{\varphi}(x)}{\tilde{\chi}(x)} \geq 1 \tag{16.b}$$

where $x = \frac{N}{K} \in [\frac{1}{\vartheta}, \infty)$.

Then, the following proposition characterizes the conditions for the electability of GSICG, in the steady state, for appropriately restricted self-serving bias.

<u>**Proposition 5:**</u> Let, for sufficiently large N , $\tilde{M}$ stand for the largest integer smaller than or equal to ϑN where $\frac{1}{\vartheta} = max\{\ 1 + \alpha\tau,\ \ \frac{1}{\theta}\ \} \geq 1$. Then, given restriction **[R.1]**:

(a) If $a = 0$, the GSICG is not electable in the steady state for any $K \in \left\{1, ...\tilde{M}\right\}$.

If $a > 0$ and $\widetilde{\beta}(\alpha)$ is as in Lemma 2,$\widetilde{\psi}(\frac{1}{\vartheta}) \geq\ (<)$ 1 if and only if:

$$1 + \alpha \geq\ (<)\ \begin{cases} \frac{1-\tau-(\tau^{\zeta}-\tau)\nu^{\frac{\zeta}{1-\zeta}}}{\tau(\nu^{\frac{\zeta}{1-\zeta}}-1)}, & \beta \in (\widetilde{\beta}(\alpha), 1) \\ \frac{\beta[1-\tau-(\tau^{\zeta}-\tau)\eta]}{(1-\beta)\nu\tau(\eta-1)}, & \beta \in (0, \widetilde{\beta}(\alpha)) \end{cases}$$

Moreover, there exist constants $\underset{\sim}{\alpha}$ and $\widetilde{\alpha}$, such that if $\alpha \in (\underset{\sim}{\alpha}, \widetilde{\alpha}] \subset (0, \infty)$, there exists a unique $\underset{\sim}{x} \in (\frac{1}{\vartheta}, \infty)$, such that $\underset{\sim}{x} = arg \min\limits_{x \in [\frac{1}{\vartheta}, \infty)} \widetilde{\psi}(x)$, so that:

(b) If $\widetilde{\psi}(\frac{1}{\vartheta}) < 1$, the GSICG is not electable in the steady state for any$K \in \left\{1, ..., \tilde{M}\right\}$.

(c) If $\widetilde{\psi}(\frac{1}{\vartheta}) \geq 1$, there exists an integer $\widetilde{K}$, such that $1 < \widetilde{K} \leq \widetilde{M}$, where the GSICG is electable in the steady state only for $K \in \left\{\widetilde{K}, ..., \tilde{M}\right\}$ noncompetitive industries.

Proof: See Appendix.

Case (a) of Proposition 5 is exactly the same with Case (a) of Proposition 4. Case (b) of Proposition 5 may be thought of as a situation where the self-serving bias is not sufficiently strong even for the largest of the GSICG. Finally, Case (c) of Proposition 5 is unlike any other case considered so far. The reason for this is that electability of a GSICG places only a lower bound on the number of noncompetitive industries. Not surprisingly, this is a consequence of the fact that the self serving bias is associated with an amplification of the probability effect, discussed in the previous sub-section, that tends to increase the expected benefit of been an insider. And this amplification effect is proportional to the number of insiders' industries, K.

Figure 3: An illustration of Proposition 5 (See Appendix B)

The following is an immediate implication of Proposition 5.

Remark 2: Suppose that $\tilde{M} \leq \vartheta N$ is as in Proposition 5 and $\vartheta = \theta$ and that there is an electable GSICG with $K \in \left\{1, ...\tilde{M}\right\}$ noncompetitive industries, Then, if $\breve{\beta} > \beta$, this government is a minority government (i.e.,$(\frac{KH^i}{L}) < \frac{1}{2}$) and implements an insiders - outsiders society that is profitable for insiders and unprofitable for outsiders (i.e., $w^i(K) > w^*(K) > w^o(K)$).

Thus, in view of Lemma 2, in the case where the necessary condition for the global stability of an insiders' coalition government imposes a tighter condition on the size of the coalition (i.e., $K \leq \theta N$) than the corresponding condition implied by the bound on the perceived probability of the voter been an insider, once the coalition government is elected (i.e., $K < [1/(1+\alpha\tau)]N$), electability requires that the insiders' coalition government is a minority government as well as that the implemented insiders – outsiders society is profitable to insiders and unprofitable for outsiders.

5 Extensions

5.1 Heterogeneous Voter Perceptions

Suppose that perceptions associated with the common good regime differ across voters and, in particular, that the degree of perceptions manipulation of the jth voter is $\rho_j \in [0,1]$, $j \in \{1, 2, ..., L\}$. First, note that the necessary and sufficient condition for GSICG is not affected by voter perceptions, heterogeneous or not. However, the electability condition is now different, as the jth voter will vote in favor of the GSICG with K noncompetitive industries if and only if $V_j^{i-o}(K) \geq V_j^{cg}$, where: $V_j^{i-o}(K) = \frac{KH^i}{KH^i+(N-K)H^o} V_j^i(K) + \left[1 - \frac{KH_t^o}{KH^i+(N-K)H^o}\right] V_j^o(K)andV_j^{pcg}$ are the steady state ex ante values of the voter if she votes for the insiders-outsiders or her perceived common good regime, respectively. And, $V_j^i(K)$ and $V_j^o(K)$ are the values of the voter if she ends up been an insider or an outsider, respectively, if the insiders-outsiders regime is elected. Since, the economic equilibrium is symmetric, it follows that: $V_j^i = \frac{w^i(K)}{1-\beta}$, $V_j^o = \frac{w^o(K)}{1-\beta}$ and $V_j^{pcg} = \frac{\rho_j w^*}{1-\beta}$, for all $j \in \{1, 2, ..., L\}$. It follows therefore that jth voter will vote in favor of the GSICG with K noncompetitive industries if and only if:

$$\frac{KH^i}{KH^i + (N-K)H^o} w^i(K) + \frac{(N-K)H^o}{KH^i + (N-K)H^o} w^o(K) > \rho_j w^* \tag{17}$$

Or, again, in view of the wage structure equations (i.e., (11)-(13)), (17) is equivalent to:

$$1 + \frac{(\nu - 1)\tau}{\left(\frac{N}{K}\right) - (1-\tau)} \geq \rho_j \left[\frac{\left(\frac{N}{K}\right)}{\left(\frac{N}{K}\right) - \xi}\right]^{\frac{1}{1-\zeta}} \tag{17.a}$$

As in the case of a common degree of perceptions manipulation (Subsection 4.1), we let: $x = \frac{N}{K} \in [\frac{1}{\theta}, \infty)$ and we define: $\hat{\varphi}(x), \hat{\chi}(x, \rho_j), \hat{\psi}(x, \rho_j) : [\frac{1}{\theta}, \infty) \times \{1, ...L\} \to \mathbb{R}_+$, such that $\hat{\varphi}(x) = 1 + \frac{(\nu-1)\tau}{x-(1-\tau)}$ $\hat{\chi}(x, \rho_j) = \rho_j \left(\frac{x}{x-\xi}\right)^{\frac{1-\zeta}{\zeta}}$, and $\hat{\psi}(x, \rho_j) = \frac{\hat{\varphi}(x)}{\hat{\chi}(x,\rho_j)}$, for any given $K \in \left\{1, ..., \hat{M}\right\}$, where $\hat{M}$ is as defined in Lemma 1. Clearly, in view of (17a), the jth voter will vote in favor of the GSICG with K noncompetitive industries if and only if:

$$\hat{\psi}(x, \rho_j) = \frac{\hat{\varphi}(x)}{\hat{\chi}(x, \rho_j)} \geq 1 \tag{17.b}$$

Then, the following is a straightforward implication of the Median Voter Theorem.

Remark 3: Suppose that the distribution of $\rho_j \in [0, 1]$ over $\{1, \ldots, L\}$ is singled peaked with median ρ_m and that the government is elected by majority, then for any given $K \in \left\{1, ...\hat{M}\right\}$, where $\hat{M} \leq \theta N$ is as defined in Lemma 1, the GSICG is electable in the steady state if and only if $\hat{\psi}(x, \rho_m) \geq 1$, where $x = \frac{N}{K} \in [\frac{1}{\theta}, \infty)$.

In essence, Remark 3 indicates that under the assumption of a single peaked distribution of the degree of perceptions manipulation, the stability and electability results of Section 3 and Subsection 4.1, respectively, hold intact for the degree of perceptions manipulation of the median voter.

5.2 Endogenous Perceptions Manipulation

In this subsection we endogenize the use of resources to manipulate the perceptions of voters about the common good regime (i.e., the competitive general equilibrium allocation). In particular, we model explicitly the use of resources to manipulate perceptions about the common good regime within the confines of our general equilibrium model (i.e., satisfaction of the economy's resource constraint). As is typical in economic analysis, the hypothesis that resources are needed for the production of a good or service is associated with an economic problem. In this case, insiders must choose how much to spend to manipulate resources, so that the insiders- outsiders society is elected. Consequently this, in turn, introduces the need for the specification of the perceptions manipulation technology and, also, introduces the need for the specification of a criterion to decide the "optimal" degree of perceptions manipulation. In what is undoubtedly a first approach to the issues involved, we assume a perceptions manipulation technology that characterizes the degree of perceptions manipulation, $\rho \in [0, 1]$ as a function of the amount of resources per capita used to manipulate perceptions and the income per capita in the common good regime. The latter is used as a measure of the difficulty involved in manipulating perceptions. And we take the minimization of the amount of resources per capita used to manipulate perceptions subject to the electability of a GSICG as the criterion to decide the optimal degree of perceptions manipulation. As it might have been suspected, given appropriate concavity restrictions in the perceptions manipulation technology, this results in choosing a unique electable GSICG.

First, recall that for any given number of noncompetitive industries, $K_t \in \{1, ..., N-1\}$, undistributed profits in all insiders' industries are given by $(1-\zeta)K_t p_t^i Y_t^i$. In the previous subsection we assumed that a fraction $\sigma \in (0,1)$ of these profits were distributed to insiders as dividends. Here, we assume that the remainder of these profits are used to manipulate perceptions about the common good regime. That is, $\Gamma_t = (1-\sigma)(1-\zeta)K_t p_t^i Y_t^i$.[30] In particular, we assume that the perceptions manipulation technology is characterized by:

$$\rho = \widetilde{\rho}\left[\ \left(\frac{\Gamma_t}{L}\right),\quad w_t^*\ \right] = \frac{\left(\frac{w_t^*}{\delta}\right)}{\left(\frac{\Gamma_t}{L}\right) + \left(\frac{w_t^*}{\delta}\right)}; \delta \geq 0 \tag{18}$$

The properties of the $\widetilde{\rho}((\frac{\Gamma_t}{L}), w_t^*)$ function are the following: (i) $\widetilde{\rho}(0, w_t^*) = 1$; (ii) $\widetilde{\rho}((\frac{\Gamma_t}{L}), 0) = 0$; (iii) $\widetilde{\rho}(\infty, w^*) = 0$; (iv) $\widetilde{\rho}((\frac{\Gamma_t}{L}), w^*) \in (0,1)$ for all $((\frac{\Gamma_t}{L}), w^*) \in (0,\infty) \times (0,\infty)$; (v) $\widetilde{\rho}_1(\cdot\,, w^*) < 0$; (vi) $\widetilde{\rho}_{11}(\cdot\,, w^*) > 0$; (vii) $\widetilde{\rho}_t((\frac{\Gamma_t}{L}, \cdot) > 0$. It follows that $\widetilde{\rho}(\cdot,\cdot) \in [0,\infty) \times [0,1] \rightarrow [0,1]$ is strictly decreasing and strictly convex in per capita government spending, $\left(\frac{\Gamma_t}{L}\right)$; and strictly increasing in per capita income of the common good regime, fraction of insiders' income, w_t^*. This is in line with the literature's view that perceptions about the unfairness of social and economic outcomes are significant determinents of voters' preferences (Picketty (1995) as well as the notion that some (left-wing) populists seek to manipulate voters preferences promising economic benefits including income redistribution (Guriev and Papaioannou (2022)). The last two assumptions incorporate the hypotheses of diminishing returns to scale in the perceptions manipulation technology and that the greater is the opportunity cost of the common good regime, the more difficult it becomes to manipulate perceptions against the common good society, respectively (i.e., reduce ρ). Clearly then, parameter δ characterizes the efficiency of the perceptions manipulation technology.

Proposition 6: Suppose that is N is sufficiently large and that $M \leq \theta N$ is as in Lemma 1. Further, suppose that the perceptions manipulation technology is characterized by (18). Then, the following are true:

(a) A $K \in \{1, ..., M\}$ member GSICG is electable if and only if $\hat{\psi}(x; \rho\hat{(x)}) \geq 1$ where: $x = \frac{N}{K} \in [\frac{1}{\theta}, \infty)$, $\hat{\psi}(x; \hat{\rho}(x)) = \frac{\hat{\varphi}(x)}{\hat{\rho}(\chi)\hat{\chi}(x)}$, $\hat{\varphi}(x) = 1 + \frac{(\nu-1)\tau}{x-(1-\tau)}$, $\hat{\chi}(x) = \left(\frac{x}{x-\xi}\right)^{\frac{1-\zeta}{\zeta}}$ and $\hat{\rho}(x) = \frac{1}{\frac{1}{2} + \sqrt{\left(\frac{1}{2}\right)^2 + \frac{\delta(1-\sigma)\left(\frac{1-\zeta}{\zeta}\right)\nu\tau}{\chi-(1-\nu\tau)}}}$

[30] For simplicity, in Sections 2, 3, and 4, these profits were not allocated, other than to reduce the total amount of output devoted to consumption, presumably due to lump sum income taxes. Also, for simplicity here, we assume no taxes.

(b) Let $\hat{\psi}[x;1]=\frac{\hat{\varphi}(x)}{\hat{\chi}(x)}$. Then, the set $\left\{x \in [\frac{1}{\theta},\infty) : \hat{\psi}[x;\hat{\rho(x)}] \geq 1\right\}$ is nonempty, if and only if $\hat{\psi}[(\frac{1}{\theta})\,;1]=\frac{\hat{\varphi}(\frac{1}{\theta})}{\hat{\chi}(\frac{1}{\theta})}\geq \hat{\rho}(\frac{1}{\theta})$.

(c) Suppose that , $\hat{\psi}[(\frac{1}{\theta})\,;1]>\hat{\rho}(\frac{1}{\theta})$, then $\exists!\; x^{\rho} \in [\frac{1}{\theta},\infty) \ni \hat{\psi}[x^{\rho};\hat{\rho}] = 1$ and $x^{\rho}=\underset{x\in[\frac{1}{\theta},\infty)}{\boldsymbol{argmax}}\{\hat{\rho}(x) : \hat{\psi}[x;\hat{\rho(x)}]\geq 1\}$.

Proof: See Appendix

Part (a) extends the fundamental result of ex-ante electability of Section 4, that the size of the electable GSICGs is completely characterized by the ratio of the expected wage rate in the insiders – outsiders regime to the wage rate in the perceived common good regime in the case of endogenous perceptions manipulation. In particular, function $\hat{\psi}[x;\hat{\rho}(x)]$, that represents this ratio, given the assumed perceptions manipulation technology, fully characterizes the existence and properties of the electable GSICGs. What is interesting and convenient here is that, in view of the general economic equilibrium properties and electability condition (15), the assumed perceptions manipulation technology in (18) can be expressed exclusively in terms of x or equivalently the size of the insiders' coalition government, K: $\hat{\rho}(x) = \tilde{\rho}[(\frac{\Gamma}{L}), w^{*}]$. Furthermore, we will find convenient that $\hat{\rho}(\cdot)$:$[\frac{1}{\theta},\infty) \rightarrow (0,1)$ is a strictly increasing and strictly concave function of x, such that $\lim_{x\rightarrow\infty}\hat{\rho}(x) = 1$.

Figure 4: Electability under Endogenous Perception Manipulation - An illustration of Proposition 6 (See Appendix B)

The economic rationale for this behavior is a straightforward implication of the fact that an increase in x (i.e., a decrease in the number of noncompetitive industries, K) increases profits and wages in each one of the insiders' industries, but it decreases profits and wages in the insiders' sector as a whole. Therefore, it decreases the amount of available resources devoted to perceptions manipulation. Hence, by virtue of our technological assumption on the process of perceptions manipulation, it lowers the degree of perceptions manipulation (i.e., it increases $\hat{\rho}(x)$).[31] The rest of Proposition 6 can be illustrated graphically as in Figure 5, below, where in the horizontal axis we measure $x = \frac{N}{K}$ and in the vertical axis we measure the values of $\hat{\psi}[x;\hat{\rho}(x)]$, $\hat{\psi}[x;1]$, and $\hat{\rho}(x)$. Recall that $\hat{\psi}(x;\hat{\rho}(x))$ represents the ratio of the expected wage rate in the insiders' coalition government to the wage rate in the perceived good regime, given the perceptions manipulation technology, $\hat{\rho}(x)$ .To understand the shape of the graph of this function, note that $\hat{\psi}(x;\hat{\rho}(x)) = \frac{\hat{\varphi}(x)}{\hat{\rho}(\chi)\hat{\chi}(x)}=\frac{\hat{\psi}[x,1]}{\hat{\rho}(\chi)}$. Moreover, note that $\hat{\psi}[x,1]$,

[31] In this example the joint condition does not involve the bargaining process parameter, λ . However, when $\theta = \frac{\eta-1}{\xi\eta}$ as η and ξ depend on λ, the joint restriction involves all three factors discussed above.

also graphed in Figure 4 corresponds to the ratio of the expected wage rate if the insiders – outsiders regime is elected relative to the wage rate in the common good regime. The shape of this graph, which was explained in detail in Part (a) of Proposition 4, depends exclusively on the interaction of the probability and inefficiency effects. In particular, given the stability restriction, the probability effect that increases the expected wage rate in the insiders-outsiders regime first dominates and then is dominated by the inefficiency effect that decreases this wage rate, giving rise to the U-shape of the graph of $\hat{\psi}[x,1]$. Now, since $\hat{\rho}(x)$ is strictly positive and strictly increasing, starting from some positive value at the stability bound and approaching one as x approaches infinity, it follows that $\hat{\psi}[x;\hat{\rho}(x)]$ lies above $\hat{\psi}[x,1]$ uniformly with the gap between the two graphs approaching zero as x approaches infinity. Hence, $\hat{\psi}[x;\hat{\rho}(x)]$ is strictly decreasing up to a certain point and then is strictly increasing, approaching 1 as x approaches infinity. Thus, whether there exist electable GSICGs, it depends on whether $\hat{\psi}[\left(\frac{1}{\theta}\right);\hat{\rho}(x)] \geq 1$ or if $\hat{\psi}[\left(\frac{1}{\theta}\right);1]{\geq}\hat{\rho}(\frac{1}{\theta})$, which is exactly what Part (b) requires. In a way this condition is similar to Proposition 4 in that it establishes a necessary and sufficient condition for the existence of electable CGISGs. This condition places a joint restriction on the production technology, the bargaining process and the perceptions manipulation technology. For example when $\theta = 1$, this condition can be expressed as $\hat{\psi}[1,1]{=}\zeta{\geq}\hat{\rho}(1) = \frac{1}{\frac{1}{2}+\sqrt{\left(\frac{1}{2}\right)^2+\delta(1-\sigma)\left(\frac{1-\zeta}{\zeta}\right)}}$, which after some algebra implies $\zeta \geq \frac{1}{\delta(1-\sigma)}$. So that, for any given level of complementarity (i.e., ζ), electability places a lower bound on the efficiency of the perceptions manipulation process or a lower bound on the fraction of resources devoted to perceptions manipulation. Interestingly, the joint restriction of Part (b) corresponds to an endogenous manipulation technology version of the conditions for electability in Case dii of Proposition 4 and Case c of Proposition 5. In both occasions, electability places a lower bound on the size of the GSICG.

Finally, Part (c) establishes that for a slightly stronger version of the joint restriction discussed above, a GSICG that seeks to minimize the amount of resources per capita that are devoted to the manipulation of perceptions about the common good regime, subject to been electable, will choose the smallest degree of manipulated perceptions (i.e., the largest value of the degree of perceptions manipulation, $\hat{\rho}$) that ensures its electability and that this coalition corresponds to the smallest size electable GSICG, $K^{\rho} = N/x^{\rho}$. This of course, given the properties of $\hat{\psi}(x;\hat{\rho}(x))$, occurs at the point where $\hat{\psi}(x;\hat{\rho}(x)) = 1$, which is also characterized by the intersection of the graphs of $\hat{\psi}[x;1]$ and $\hat{\rho}(x)$. Thus, in line with intuition, under the hypotheses that perceptions manipulation is costly and that GSICGs seek to minimize the underlying costs, if an electable GSICG exists, will manipulate resources to the point where the degree of perceptions manipulation is such that the expected wage rate in the insiders-outsiders regime is equal to the wage in the perceived common good regime. This implies that this electable GSICG will have the smallest size in the class of electable GSICGs. In essence, this is due to the fact that smaller GSICGs are less costly in terms of inefficiency, and hence they can achieve the equality between the expected wage rates in the insiders-outsiders and the perceived common good regimes with the least preference manipulation (i.e., largest ρ).

This could be interpreted as a second best result.

6 Conclusion

In many cases throughout the modern history of democratic societies, economists, political scientists, and other social scientists have wondered: How is it ever possible for a government that serves the interests of relatively few individuals in society against the interests of the rest of society to get elected and re-elected? There have been many answers to such questions in the political economy and the political science literatures, i.e., why competition among alternative modes of government does not give rise to the institution of an efficient governance structure, according to the Coasian – Williamsonian analysis of the evolution of governance structures[32].

In this paper, we use general equilibrium theory to model the corporatist society as an economy consisting of insiders and outsiders. Outsiders work in industries that make up the competitive sector. That is, a sector comprised industries with perfectly competitive product and labor markets. Insiders populate a cluster of industries, which operate as unionized monopolies. Insiders have higher wages than outsiders, and insiders' industries have profits while outsiders' industries do not. The number of industries in the insiders' sector is decided by government regulation fiat. Voters can choose between the insiders-outsiders society and a perceived common good regime, where all individuals work in competitive industries and get the same wage rate. Individuals have a perception for this wage rate. This perceived wage rate is a fraction of the competitive wage rate and this fraction declines with resources that insiders use to affect the underlying perceptions. The logic is that an elected insiders-outsiders society coalition government will spend resources (i.e., monopoly rents) to manipulate voters' ideology, i.e., their perceptions about the common good regime. However, as the underlying dead-weight loss is increasing in the number of insiders' industries in the economy, the representative in government of any group of insiders has an incentive to limit the implied inefficiency by voting for a proposal that limits the size of the governing coalition. This opportunistic incentive places a constraint on the size of a stable coalition government, i.e., a government that does not fall from within.

We showed that given reasonable restrictions: (i) on the production technology and the union-firm bargaining arrangement for a well-defined market equilibrium in the insiders-outsiders society and (ii) on the probability of being detected and expelled from the insiders' coalition government once the representative of an insiders' industry votes for limiting the size of the coalition, there exists an upper bound on the size of stable insiders' coalition governments. The rationale for this result being that if it is not profitable to vote for limiting the size of the coalition for a coalition of a given size, it will not be profitable to do so in coalitions of a smaller size. This is due to the fact that the benefits from turning a non-competitive industry

[32] For example, see Acemoglu (2003, 2008), Acemoglu and Robinson (2008), Acemoglu, Ticchi and Vindigni (2011) and Mukand and Rodrik (2020).

into a competitive one are smaller, the smaller the size of the insiders' coalition. Two interesting implications of our global stability result are that for sufficiently low discount factors, an insiders' coalition government that is globally stable in the steady state is: (i) a minority government and (ii) runs an insiders – outsiders society that is profitable for insiders and unprofitable for outsiders. This emanates from the fact that, a relatively small discount rate implies that the incentive to defect becomes relatively strong and the government safeguards against such threat by forming a smaller insiders' coalition. This smaller size of the insiders' coalition contains the magnitude of the implied inefficiency and the subsequent benefit form defecting.

Then, we address the question of the electability of the stable insiders' coalition governments over the perceived good regime. Electability depends on the expected wage rate of the ex ante identical voter been higher than that in the perceived common good regime. In a manifestation of the First Fundamental Theorem of Welfare Economics, if the perceptions' manipulation is completely ineffective, the stable insiders' coalition government is never elected, i.e., we get the Coasian-Williamsonian benchmark. To the degree that perceptions' manipulation is sufficiently effective, there always exist electable stable insiders' coalition governments. In this case, there are several possibilities for the number of insiders industries depending on two factors. First, the degree of manipulation, relative to the degree of inefficiency associated with the noncompetitive industries around the upper bound required for stability. That is, when the deadweight loss to society is at its minimum level. Second, note that the probability of ending up as an insider if the insiders-outsiders society is elected decreases at constant rate, while the deadweight loss to society decreases at an increasing rate, as the number of insider industries decreases. The interaction of these two effects implies that starting from the maximum level permissible for stability, and reducing the number of noncompetitive industries, the expected wage rate of the insiders-outsiders society first decreases and then increases. Consequently, when the perceptions' manipulation technology is weak relative to the deadweight loss at the maximum permissible number of insider industries, so that the expected wage rate of the insiders-outsiders society is lower than the perceived common good regime at the maximum permissible number of industries, there will eventually be a stable insiders' coalition government with fewer noncompetitive industries, where the opposite is true. This defines an upper bound on the number of noncompetitive industries that correspond to electable stable insiders' coalition governments. However, when the perceptions' manipulation technology is strong relative to the deadweight loss at the maximum permissible number of insiders industries there are two possibilities. Either all stable insiders' coalition governments are electable or there is a possibility of both an upper bound and a lower bound on the size of the stable insiders' coalition government. This is simply because in this case, the expected wage rate of the insiders-outsiders society is higher than the perceived common good regime at the maximum permissible number of industries and as the number of insiders industries decreases it first decreases and then increases. Consequently, the lower bound occurs as long as there is a sufficiently big drop in the expected wage rate. This, of course, depends on the particular values of the model's parameters.

We also considered the electability of stable insiders' coalition governments over the common good regime (i.e., the competitive general equilibrium), when voters perceptions about themselves are strategically inflated by insiders' coalitions (i.e., populist politicians), in the sense that they think of themselves as being better than others, in a way similar to Passarelli and Tabellini (2017). We model this as a voter self-serving bias that results in a higher subjective probability to end up as an insider, once the insiders – outsiders society is elected, than rationality would have implied. We found that electability of stable insiders' coalition governments is possible, but now requires only an upper bound on the number of noncompetitive industries. This is because inflated perceptions create an amplification effect on the insiders' expected wage rate as the latter increases more than in direct proportion with the fraction of insiders in the labor force. And this effect dominates the inefficiency effect of noncompetitive industries in the manipulated perceptions case.

We extended the above stability and electability results in a number of ways, by introducing a number of extensions of the basic model. First, we introduced risk aversion in voters' preferences. Second, we introduced insiders' dividends, motivated by a variety of non-wage benefits that have been enjoyed by workers in protected industries in the real world. In these cases we found that the conditions for stability and electability are extended in exactly the same manner. However, risk aversion enlarges the set of GSICGs and limits the set of electable GSICGs, while insiders dividends enlarge both the set of GSICGs and the set of electable GSICGs.

Then we moved on to introduce ex ante voter heterogeneity. We showed that under a single peaked distribution of the degree of perceptions manipulation the stability and electability results hold intact for the degree of perceptions manipulation of the median voter.

Finally, we introduced an (endogenous) perceptions manipulation technology that depends on the resources devoted to perceptions manipulation and the per capita income of the common good regime, as a measure of the difficulty involved in manipulating perceptions. Thus, in line with intuition, under the hypotheses that perceptions manipulation is costly and that GSICGs seek to minimize the underlying costs, the unique GSICG that emerges will manipulate resources to the point where the degree of perceptions manipulation is such that the expected wage rate in the insiders-outsiders regime is equal to the wage rate in the perceived common good regime. This implies that the elected GSICG will have the smallest size in the class of electable GSICGs. In essence, this is due to the fact that smaller GSICGs are less costly in terms of inefficiency, and hence they can achieve the equality between the expected wage rates in the insiders-outsiders and perceived common good regimes with the least preference manipulation. Which is somewhat surprising as it implies that the elected GSICG will minimize the inefficiency associated with the insiders-outsiders regime.

For tractability reasons we analyzed sequentially the different ingredients of the model. However, the model can be extended to incorporate the concurrent presence of manipulated and inflated perceptions together with all the above extensions simultaneously. As the analysis of the model will become too cumbersome, the use of numerical analysis is needed to carry out a sensitivity analysis to investigate the role of these ingredients for the stability, electability, and performance of the insiders - outsiders regime, especially in the endogenous perceptions manipulation case. We plan to work on this line of research next.

It is certainly interesting and no doubt quite challenging to extend this line of research to incorporate perceptions manipulation technology in a dynamic set up. In the steady state there should be no significant differences from the work presented in this paper. However, this extension may have important implications for accumulation effects, that may illustrate how easy or difficult it is to change perceptions for the perceived common good. Also, although we showed that our results can be easily extended to heterogeneous voters (e.g., the singled peaked voter distribution in Subsection 5.1), it would be interesting to consider cases in which ex ante voter heterogeneity helps or hinders perceived or inflated perceptions. Finally, given the plethora of different kinds of stable and electable insiders' coalition governments shown to exist at our level of abstraction, our work points to the need for applied work on perceptions manipulation technologies, i.e., the intricacies of the mode and tone of the populist debate.

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APPENDIX

Proof of Proposition 1: Recall that given **[R.1.a]**, $\nu = \frac{\zeta}{\zeta(1+\lambda)-\lambda} > 1$ and $\xi = 1 - \left(\frac{\zeta}{\nu}\right)^{\frac{\zeta}{1-\zeta}} \in (0,1)$.

Then:

(a) The inequalities involving the wage rate of outsiders, $w^o(K_t)$, and the inequalities involving the wage rate of insiders, $w^i(K_t)$, follow from (12) and (13), respectively.

(b) The inequality involving the wage rate in the common good regime, w^*, and the wage rate of outsiders, $w^o(K_t)$, follows from (11) and (12).

(c) From (11)-(13), $w^i(K_t)$ greater, equal, or less than , w^*, $\forall K_t \in \{1, ..., N\}$, as $\nu(N - \xi K_t)^{\frac{(1-\zeta)}{\zeta}}$ greater, equal, or less than $N^{\frac{(1-\zeta)}{\zeta}}$. Then, in view of the definition of ξ, it follows that $w^i(K_t)$ greater, equal, or less than w^*as K_t less, equal, or greater than $K^* = \theta^* N$, where $\theta^* = \frac{1-\left(\frac{1}{\nu}\right)^{\frac{\zeta}{1-\zeta}}}{\xi} = \frac{1-\left(\frac{1}{\nu}\right)^{\frac{\zeta}{1-\zeta}}}{1-\left(\frac{\zeta}{\nu}\right)^{\frac{\zeta}{1-\zeta}}}$. Finally, it follows from the assumption $\zeta \in (0,1)$ and **[R.1.a]** that $\theta^* \in (0,1)$. QED

Proof of Proposition 2: By definition, given $K \in \{1, ..., N-1\}$ and $\kappa \in \{1, ..., N-1\}$, an insiders' coalition government is locally stable in the steady state for deviations that reduce the number of non-competitive industries by κ if and only if: $\widetilde{V}(K) \geq \widetilde{V}(K, \kappa)$, where: $\widetilde{V}(K) = \frac{w^i(K)}{(1-\beta)}$ and $\widetilde{V}(K, \kappa) = \frac{(1-\beta)w^i(K-\kappa)+\beta\{[1-q(K,\kappa)]w^i(K)+q(K,\kappa)w^o(K)\}}{1-\beta}$. Therefore, an insiders' coalition government is locally stable in the steady state for deviations that reduce the number of non-competitive industries by κ if and only if:

$$w^i(K) \geq (1-\beta)w^i(K-\kappa) + \beta\{[1-q(K,\kappa)]w^i(K) + q(K,\kappa)w^o(K) \tag{A.1}$$

By dividing both hand sides of (A.1) by $w^o(K)$ and using the wage structure equations (12) and (13), it follows that, (A.1) holds if and only if (14) holds. QED

Proof of Lemma 1: Part (a): By definition, the GSICG with $K \in \{1, ..., N-1\}$ non-competitive industries is locally stable in the steady state for all possible deviations, that reduce the number of noncompetitive industries by $\kappa \in \{1, ..., N-1\}$. Also, from Proposition 2, an insiders' coalition government with K noncompetitive industries is locally stable in the steady for a deviation that reduces the number of noncompetitive industries by κ, if and only if (14) holds. Therefore, if there exists a GSICG with K noncompetitive industries, (14) must be satisfied for all $\kappa \in \{1, ..., K-1\}$. Hence, if there exists a GSICG with $K \in \{1, ..., N-1\}$ non-competitive industries (14) must, in particular, be satisfied for $\kappa = K-1$.

Part (b): Inequality (14) for $\kappa = K-1$ yields:

$$\left(1 + \frac{\xi(K-1)}{N-\xi K}\right)^{\frac{1-\zeta}{\zeta}} \leq 1 + \frac{\beta(\nu-1)q(K,K-1)}{\nu(1-\beta)} \tag{A.2}$$

Then, since, by assumption, $q(K, K-1) = 1$, (A.2) reduces to:

$$1+\frac{\xi(K-1)}{N-\xi K}^{\frac{1-\zeta}{\zeta}} \leq \left[1+\frac{\beta(\nu-1)}{\nu(1-\beta)}\right]^{\frac{\zeta}{1-\zeta}} \tag{A.3}$$

Further, in view of the definition of η $\left(i.e., \quad \eta = \left[\frac{\nu-\beta}{\nu(1-\beta)}\right]^{\frac{\zeta}{(1-\zeta)}}\right)$ and after some algebra, (A.3) transforms to:

$$K \leq \frac{1}{\eta} + \frac{\eta-1}{\xi\eta}N \tag{A.4}$$

where $\frac{\eta-1}{\xi\eta}$ is greater than zero. Therefore, it follows that if there exists a GSICG with $K \in \{1, ..., N-1\}$ noncompetitive industries, K must satisfy (A.4). Therefore, we must have:

$$K \leq \min\left\{N-1, \frac{1}{\eta} + \frac{\eta-1}{\xi\eta}N\right\} \tag{A.5}$$

Let M be the greatest natural number such that $M \leq \min\left\{N-1, \frac{1}{\eta} + \frac{\eta-1}{\xi\eta}N\right\}$. It follows from the definition of M, that if there exists a GSICG with K noncompetitive industries, $K \leq M$.

Part (c): From the definition of M in Part (b), it follows that: $\frac{M}{N} \leq \min\left\{\frac{N-1}{N}, \frac{\frac{1}{\eta}+\frac{\eta-1}{\xi\eta}N}{N}\right\}$ $=\min\left\{1-\frac{1}{N}, \frac{\eta-1}{\xi\eta}+\frac{1}{\eta N}\right\}$. Since, for sufficiently large N, $-\frac{1}{N}$ and $\frac{1}{\eta N}$ are arbitrarily small, it follows that, for sufficiently large N, we can ensure that $\frac{M}{N} \leq \theta \equiv \min\left\{1, \frac{\eta-1}{\xi\eta}\right\}$.

Part (d): Recall from Proposition 1 that, given **[R.1.a]**, $\theta^* = \frac{1-\left(\frac{1}{\nu}\right)^{\frac{\zeta}{1-\zeta}}}{\xi} = \frac{1-\left(\frac{1}{\nu}\right)^{\frac{\zeta}{1-\zeta}}}{1-\left(\frac{\zeta}{\nu}\right)^{\frac{\zeta}{1-\zeta}}} \in (0,1)$.

Then it follows, after some straightforward algebra, that, given **[R.1.a]**:

(i) $\frac{\eta-1}{\xi\eta}$greater, equal, or less than one, if and only if β, greater, equal, or less than $\tilde{\beta} \equiv \frac{v-\zeta}{\nu-\zeta/\nu} \in (0,1)$, respectively.

(ii) $\frac{\eta-1}{\xi\eta}$ greater, equal, or less than θ^*, if and only if β greater, equal, or less than $\breve{\beta} \equiv \frac{v}{1+\nu} < \tilde{\beta}$.

Thus, in view of the definition of θ, combining (i) and (ii), above, it follows that:

$$\beta \in \begin{cases} (0,\breve{\beta}], & \theta \leq \theta^* < 1 \\ (\breve{\beta},\tilde{\beta}) & \theta^* < \theta < 1 \\ [\tilde{\beta},1), & \theta^* < \theta = 1 \end{cases} \text{ QED}$$

<u>**Proof of Proposition 3:**</u> By definition, the GSICG with $K \in \{1, ..., M\}$ noncompetitive industries is locally stable for all possible deviations that reduce the number of noncompetitive industries by $\kappa \in \{0, ..., K-1\}$. Therefore, in view of Proposition 2, an insiders' coalition government with $K \in \{1, ..., M\}$ noncompetitive is GSICG if and only if (17)

is satisfied, for all $\kappa \in \{0, ..., K-1\}$. Clearly then, an insiders' coalition government with $K \in \{1, ..., M\}$noncompetitive industries is GSICG if and only if:

$$\varphi(K,\kappa) \leq \chi(K,\kappa),\ \forall \kappa \in \{0, ..., K-1\} \tag{A.6}$$

where: $\varphi(K,\kappa) \equiv \left(1 + \frac{\xi\kappa}{N-\xi\kappa}\right)^{\frac{1-\zeta}{\zeta}}$ and $\chi(K,\kappa) \equiv 1 + \frac{\beta(\nu-1)q(K,\kappa)}{(1-\beta)\nu}$. Then, consider the real numbers interval $[0, K-1]$ and define $\hat{\varphi_K}(x) \equiv \left(1 + \frac{\xi\kappa}{N-\xi K}\right)^{\frac{1-\zeta}{\zeta}}$, $\hat{\chi_K}(x) \equiv 1 + \frac{\beta(\nu-1)\psi_K(x)}{(1-\beta)\nu}$ where $\psi_K(\kappa) : [0, K-1] \rightarrow [0,1]$ is a probability distribution function, which is strictly increasing, concave, differentiable in $(0, K-1)$ such that $\psi_K(0) = 0, \psi_K(K-1) = 1$, and such that $\psi_K(\kappa) = q(K,\kappa)$ for all $\kappa \in \{0, ...K-1\}$. Also, note that the concavity restriction on $\psi_K(\kappa)$ implies that $q(K,\kappa)$ satisfies **[R.2]**. Clearly, since by construction, $\varphi(K,\kappa) = \hat{\varphi_K}(x)$ and $\chi(K,\kappa) = \hat{\chi_K}(x)$, $\forall x = \kappa \in \{0, ..., K-1\} \subset [0, ..., K-1]$, it follows from (A.6) that a sufficient condition for an insiders' coalition government with K noncompetitive industries to be GSICG is that:

$$\hat{\varphi}_K(x) \leq \chi_K(x),\ \forall x \in [0, K-1] \tag{A.7}$$

Now, note that for any given $K \in \{1, ..., M\}$, in view of the assumptions, $\beta, \zeta \in (0,1)$, restriction **[R.1.a]** (i.e., $\nu = \frac{\zeta}{\zeta(1+\lambda)-\lambda} \in (1,\infty)$ and $\xi = \frac{\nu^{\frac{\zeta}{1-\zeta}} - \zeta^{\frac{\zeta}{1-\zeta}}}{\nu^{\frac{\zeta}{1-\zeta}}} \in (0,1)$) and the properties of $\psi_K(\kappa)$, it follows that $\hat{\varphi_K}(x), \hat{\chi_K}(x) : [0, K-1] \rightarrow \Re_+$, are strictly increasing, differentiable in $(0, K-1)$ and such that $\hat{\varphi_K}(0) = \hat{\chi_K}(0) = 1$. Moreover, since $K \leq M$, it follows from the proof of Lemma1 (i.e., (A.3)), that:

$$\hat{\varphi_K}(K-1) = \left[1 + \frac{\xi(K-1)}{N-\xi K}\right]^{\frac{1-\zeta}{\zeta}} \leq 1 + \frac{\beta(\nu-1)}{\nu(1-\beta)} = \hat{\chi_K}(K-1)$$

Furthermore, it is straightforward that $\hat{\varphi_K}(x)$ is strictly concave, linear or strictly convex if and only if ζ is greater, equal, or less than $1/2$, respectively. Likewise, $\hat{\chi_K}(x)$ is strictly concave or linear as $\psi_K(x)$ is strictly concave or linear, respectively. Also note that the above curvature properties hold throughout the domain of $\hat{\varphi_K}(x)$ and $\hat{\chi_K}(x)$ in $[0, K-1]$.Therefore, we can conclude that we can have six possible global (i.e., in $[0, K-1]$) curvature combinations between $\hat{\varphi_K}(x)$ and $\hat{\chi_K}(x)$:

(i) $\hat{\varphi_K}(x)$ is strictly convex and $\hat{\chi_K}(x)$ is strictly concave
(ii)$\hat{\varphi_K}(x)$ is linear and $\hat{\chi_K}(x)$ is strictly concave
(iii)$\hat{\varphi_K}(x)$ and $\hat{\chi_K}(x)$ are strictly concave
(iv)$\hat{\varphi_K}(x)$ strictly convex and $\hat{\chi_K}(x)$ is linear
(v) $\hat{\varphi_K}(x)$ and $\hat{\chi_K}(x)$ are linear
(vi) $\hat{\varphi_K}(x)$ is strictly concave and $\hat{\chi_K}(x)$ is linear

Next, following standard arguments, we show that the properties of $\hat{\varphi_K}(x)$ and $\psi_K(x)$ established above imply that in all possible cases (i.e.,(i) to (vi)), (A.7) is satisfied.

In Case (i), where $\hat{\varphi_K}(x)$ is strictly convex and$\psi_K(\kappa)$ is strictly concave, it follows that the graph of $\hat{\varphi_K}(x)$ lies strictly above the chord that joints the end points $\hat{\varphi_K}(0)$ and $\hat{\varphi_K}(K-1)$ in $[0, K-1]$. Likewise, it follows that (the graph of) $\hat{\chi_K}(x)$ lies strictly below the chord that joints the end points $\hat{\chi_K}(0)$ and $\hat{\chi_K}(K-1)$ in $[0, K-1]$.However, since $\hat{\varphi_K}(0) = \hat{\chi_K}(0) = 1$ and $\hat{\varphi_K}(K-1) \leq \hat{\chi_K}(K-1)$, the chord $a\hat{\chi_K}(0) + (1-a)\hat{\chi_K}(K-1)$, lies strictly above the chord $a\hat{\varphi_K}(0) + (1-a)\hat{\varphi_K}(K-1), a] \in (0,1)$. Therefore $\hat{\varphi_K}(x) \leq \hat{\chi_K}(x)$, $\forall x \in [0, K-1]$. The proofs of all other cases except Case (iii) and Case (vi) are similar to Case (i). Now, in Case (vi) both $\hat{\chi_K}(x)$ and $\hat{\varphi_K}(x)$ are strictly increasing, while $\hat{\chi_K}(x)$ is linear and $\hat{\varphi_K}(x)$ is strictly concave, with $\hat{\varphi_K}(0) = \hat{\chi_K}(0) = 1$ and $\hat{\varphi_K}(K-1) \leq \hat{\chi_K}(K-1)$ Thus, it follows that$\hat{\chi_K}(x)$ is a straight line with slope: $\frac{\hat{\chi_K}(K-1) - \hat{\chi_K}(0)}{K-1-0} = 1 + \frac{\beta(\nu-1)}{\nu(1-\beta)} - 1 = \frac{\beta(\nu-1)}{\nu(1-\beta)(K-1)}$. And, since $\hat{\varphi_K}(x)$ is strictly concave, the tangent of $\hat{\varphi_K}(x)$ at 0 must lie strictly above (the graph of $\hat{\varphi_K}(x)$). Hence, for $\hat{\varphi_K}(x) \leq \hat{\chi_K}(x), \forall x \in [0, K-1]$ it suffices that:

$$\frac{\beta(\nu-1)}{\nu(1-\beta)(K-1)} \geq \lim_{x \to 0_+} \varphi'_K(x) = \lim_{x \to 0_+} \frac{(1-\hat{\zeta})\xi}{\zeta(N-\xi K)} \left(1 + \frac{\xi x}{N - \xi K}\right)^{\frac{1-\zeta}{\zeta}-1} = \frac{(1-\zeta)\xi}{\zeta(N-\xi K)},$$

or

$$\frac{\beta(\nu-1)}{\nu(1-\beta)} \geq \frac{(1-\zeta)\xi(K-1)}{\zeta(N-\xi K)} \tag{A.8}$$

However, note that since $\hat{\varphi_K}(x)$ is strictly concave if and only if $\zeta \in (1/2, 1)$, $\frac{(1-\zeta)}{\zeta} < 1$. Moreover, since $K \leq M$, $\frac{\beta(\nu-1)}{\nu(1-\beta)} \geq \frac{\xi(K-1)}{(N-\xi K)}$or $1 + \frac{\beta(\nu-1)}{\nu(1-\beta)} \geq 1 + \frac{\xi(K-1)}{(N-\xi K)}$is implied by (A.3). Hence, (A.8) is indeed valid. The proof of Case (iii) is similar to that of Case (vi). We, therefore, conclude that, given **[R.1.a]** and **[R.2]**, all insiders' coalition governments with $K \in \{1, ..., M\}$ noncompetitive industries are GSICG. QED

Proof of Proposition 4: Preliminaries: As shown in Subsection 4.1, for sufficiently large N , the GSICG with $K \in \{1, ...M\}$ noncompetitive industries is electable in the steady state, if and only if , $\hat{\psi}(x) \geq 1$ where $x = \left(\frac{K}{N}\right) \in \left[\frac{1}{\theta}, \infty\right)$, and $\frac{1}{\theta} = max\left\{ 1, \quad \frac{\xi\eta}{\eta-1} \right\}$, $\hat{\psi}(x) = \frac{\hat{\varphi}(x)}{\rho\hat{\chi}(x)}$,$\hat{\varphi}(x) = 1 + \frac{(\nu-1)\tau}{x-(1-\tau)}$ and $\hat{\chi}(x) = \left(\frac{x}{x-\xi}\right)^{\frac{1-\zeta}{\zeta}}$. Clearly, given **[R.1.a]** and in view of the definition of θ, $[\frac{1}{\theta}, \infty) \subset (1-\tau, \infty) \subseteq (\xi, \infty)$. Note, then that $\hat{\varphi}(\cdot)$, $\hat{\chi}(\cdot)$ and $\hat{\psi}(\cdot)$ are well defined functions in the interval (ξ, ∞). We will find this property helpful, despite the fact that we are effectively interested in the behavior of $\hat{\varphi}(\cdot), \hat{\chi}(\cdot)$ and $\hat{\psi}(\cdot)$, over the interval $\left[\frac{1}{\theta}, \infty\right)$, as we will need to characterize the curvature properties of these functions around the point $\frac{1}{\theta}$. Now, recall that, given **[R.1.a]**, $\zeta \in (0,1)$, $\lambda > 0$, $\nu = \frac{\zeta}{\zeta(1+\lambda)-\lambda} > 1$, $\xi = 1 - \left(\frac{\zeta}{\nu}\right)^{\frac{\zeta}{1-\zeta}} \in (0,1)$, $\tau = \left(\frac{\zeta}{\nu}\right)^{\frac{1}{1-\zeta}} < \left(\frac{\zeta}{\nu}\right)^{\frac{\zeta}{1-\zeta}}$. Then, it is straightforward that the following are true:

(i) $\hat{\varphi}(\frac{1}{\theta}) = 1 + \frac{(\nu-1)\tau}{\frac{1}{\theta}-(1-\tau)} = \begin{cases} \nu, \text{ if } \frac{1}{\theta} = 1 \\ 1 + \frac{(\nu-1)\tau(\eta-1)}{1-\tau^{\zeta}\eta+\tau(\eta-1)} \in (1, \nu), \text{if } \frac{1}{\theta} = \frac{\xi\eta}{\eta-1} > 1 \end{cases}$

(ii) $\lim_{x\to\infty} \hat{\varphi}(x) = 1 + \lim_{x\to\infty} \frac{(\nu-1)\tau}{x-(1-\tau)} = 1$

(iii) $\hat{\chi}(\frac{1}{\theta}) = \left(\frac{\frac{1}{\theta}}{\frac{1}{\theta}-\xi}\right)^{\frac{1-\zeta}{\zeta}} = \begin{cases} \frac{\nu}{\zeta}, \text{ if } \frac{1}{\theta} = 1 \\ \frac{\nu-\beta}{\nu(1-\beta)} > \frac{\nu}{\zeta}, \text{if } \frac{1}{\theta} = \frac{\xi\eta}{\eta-1} > 1 \end{cases}$, where

$\frac{\nu-\beta}{\nu(1-\beta)} > \frac{\nu}{\zeta}$ follows from the fact that $\frac{\nu-\beta}{\nu(1-\beta)}$ is strictly increasing in β and as established in Lemma 1, $\frac{\nu-\zeta}{\nu-\frac{\zeta}{\nu}}$ is a lower bound of β for $\frac{1}{\theta} = \frac{\xi\eta}{\eta-1} > 1$.

(iv) $\lim_{x\to\infty} \hat{\chi}(x) = \lim_{x\to\infty} \left(\frac{x}{x-\xi}\right) = 1$, by L' Hopital's rule.

Therefore, it follows from facts (i) – (iv), above, that:

(v) $\hat{\psi}(\frac{1}{\theta}) = \left(\frac{\hat{\varphi}(\frac{1}{\theta})}{\hat{\chi}(\frac{1}{\theta})}\right) = \begin{cases} \frac{\zeta}{\rho}, \text{ if } \frac{1}{\theta} = 1 \\ 1 + \frac{(\nu-1)\tau(\eta-1)}{1-\tau^{\zeta}\eta+\tau(\eta-1)}\} \frac{\nu(1-\beta)}{\rho(\nu-\beta)} < \frac{\zeta}{\rho}, \text{if } \frac{1}{\theta} = \frac{\xi\eta}{\eta-1} > 1 \end{cases}$

and, therefore:

$\hat{\psi}(\frac{1}{\theta}) < (\geq) 1 \iff \rho < (\geq) \begin{cases} \zeta, & \text{if } \frac{1}{\theta} = 1 \\ 1 + \frac{\nu\tau(\eta-1)}{1-\tau^{\zeta}\eta-\tau(\eta-1)} \frac{\nu(1-\beta)}{(\nu-\beta)} < \zeta, & \text{if } \frac{1}{\theta} > 1 \end{cases}$

(vi) $\lim_{x\to\infty} \hat{\psi}(x) = \frac{1}{\rho} \frac{\lim_{x\to\infty} \hat{\varphi}(x)}{\lim_{x\to\infty} \hat{\chi}(x)} = \frac{1}{\rho}$

Further, it is straightforward to show that:

(vii) For all $x \in (\xi, \infty)$:

$\hat{\psi}'(x) \begin{cases} \geq 0 \\ < 0 \end{cases} \iff \frac{\hat{\psi}'(x)}{\hat{\psi}(x)} \begin{cases} \geq 0 \\ < 0 \end{cases} \iff \frac{\hat{\varphi}'(x)}{\varphi(x)} - \frac{\hat{\chi}'(x)}{\chi(x)} \begin{cases} \geq 0 \\ < 0 \end{cases} \Leftrightarrow \hat{Z}x^2 + \hat{H}x + \hat{\Theta} \begin{cases} \geq 0 \\ < 0 \end{cases}$

where, given **[R.1]** (i.e., **[R.1.a]** and **[R.1.b]**): $\hat{Z} \equiv 1 - \frac{\lambda\nu\tau}{\xi} > 0$ and $\hat{H} \equiv -\{2-[1+\lambda)\nu+1]\tau\} < 0$ and $\hat{\Theta} \equiv (1-\nu\tau)(1-\tau) > 0$. Moreover, **[R.1]** implies, $\hat{Z} + \hat{H} + \hat{\Theta} < 0$. This, in turn, has two important implications. The first is that $\hat{H}^2 - 4\hat{Z}\hat{\Theta} > 0$ so that the roots the quadratic polynomial in (A.9) are two distinct positive real numbers. Let χ_1,χ_2 denote these roots and, without loss of generality, assume that $0 < x_1 < x_2 < \infty$. Then, it follows that, given **[R.1]** ,

$$\hat{\psi}'(x) \begin{cases} \geq 0, & \text{for } x \in (0, x_1] \\ < 0 & \text{for } x \in (x_1, x_2) \\ \geq 0 & \text{for } x \in (x_2, \infty) \end{cases} \qquad ()$$

Now, suppose that $\hat{\psi}'(\frac{1}{\theta}) < 0$. Then, it follows from (A.10) that: $0 < x_1 < \frac{1}{\theta} < x_2 < \infty$ and therefore:

$$\hat{\psi}'(x) \begin{cases} < 0, & \text{for } x \in [\frac{1}{\theta}, x_2) \\ \geq 0 & \text{for } x \in [x_2, \infty) \end{cases} \qquad ()$$

Further, let, $\underline{x} = x_2$. It follows from (A.11), that if the claim is true, we have established the fact that there exists a unique $\underline{x} \in [\frac{1}{\theta}, \infty)$ such that: $\underline{x} = \mathbf{arg} \min_{x \in [\frac{1}{\theta},, \infty)} \hat{\psi}(x)$

It remains, therefore, to prove the claim: $\hat{\psi}'(\frac{1}{\theta}) < 0$. To do this, recall from Lemma 1 that if: $\beta \in \begin{cases} (0, \hat{\beta}), & \theta < 1 \\ [\hat{\beta}, 1), & \theta = 1 \end{cases}$. Then, it follows from above, that when $\beta \in [\hat{\beta}, 1)$, so that $\theta = 1$, $\hat{\psi}'(\frac{1}{\theta}) = \hat{\psi}'(1) = \hat{Z} + \hat{H} + \hat{\Theta} < 0$ given **[R.1]**. Next, note that it also follows from (vii), when $\beta \in (0, \hat{\beta})$, so that $\theta = \frac{\eta-1}{\xi\eta} < 1, \hat{\psi}'(\frac{1}{\theta}) = \hat{\psi}'(\frac{\xi\eta}{\eta-1}) = (\hat{\xi^2} + \hat{\xi} + \hat{\Theta})\eta^2 - (\hat{\xi} + 2\hat{\Theta})\eta + \hat{\Theta}$, where, given **[R.1]**: $(\hat{\xi^2} + \hat{\xi} + \hat{\Theta})$, $(\hat{\xi} + 2\hat{\Theta})$, and $\hat{\Theta} > 0$. Therefore, given **[R.1]**, the roots of the equation: $(\hat{\xi^2} + \hat{\xi} + \hat{\Theta})\eta^2 - (\hat{\xi} + 2\hat{\Theta})\eta + \hat{\Theta} = 0$ are two distinct positive real numbers, say η_1, and η_2. WLOG, let: $0 < \eta_1 < \eta_2 < +\infty$. Clearly, $\hat{\psi}'(\frac{1}{\theta}) = \hat{\psi}'(\frac{\xi\eta}{\eta-1}) < 0, \forall\eta \in (\eta_1, \eta_2)$. Moreover, given **[R.1]**, it is straightforward to show that: $0 < \eta_1 < 1 < \tau^{-\zeta} = \left(\frac{\nu}{\varsigma}\right)^{\frac{\zeta}{1-\zeta}} < \eta_2 < +\infty$. However, since by definition, $\eta \equiv \left[\frac{\nu-\beta}{\nu(1-\beta)}\right]^{\frac{\zeta}{1-\zeta}}$, η is a strictly increasing function of β that takes the values 1 and $\left(\frac{\nu}{\zeta}\right)^{\frac{\zeta}{1-\zeta}}$ at $\beta = 0$ and $\hat{\beta} = \frac{\nu-\zeta}{\nu-\frac{\zeta}{\nu}}$, respectively. Hence, $\hat{\psi}'(\frac{1}{\theta}) = \hat{\psi}'(\frac{\xi\eta}{\eta-1}) < 0, \forall\eta \in (0, \tau^{-\zeta})$. Or, $\hat{\psi}'(\frac{1}{\theta}) = \hat{\psi}'(\frac{\xi\eta}{\eta-1}) < 0, \forall\beta \in (0, \hat{\beta})$. . This completes the proof of the claim, that, given **[R.1]**, $\hat{\psi}'(\frac{1}{\theta}) < 0, \forall\beta \in (0, 1)$; and therefore (A.11) is true.

Given the facts established above, we may conclude as follows:

Part (a): If $\rho = 0$, $\hat{\psi}(x) = +\infty, \forall x \in [\frac{1}{\theta}, \infty)$. Therefore, the GSICG is electable in the steady state for all $K \in \{1, ..., M\}$.

Part (b): If $\rho = 1, \hat{\psi}(x) < 1$, $\forall x \in [\frac{1}{\theta}, \infty)$, . Therefore, the GSICG is not electable in the steady for any $K \in \{1, ..., M\}$.

Part (c): Suppose that $\rho \in (0, 1)$ and $\hat{\psi}(\frac{1}{\theta}) < 1$. Recall that the latter is true if and only if, $\zeta < \rho$, if $\frac{1}{\theta} = 1$ ($\zeta < \left\{1 + \frac{(\nu-1)\tau(\eta-1)}{1-\tau^{\zeta}\eta+\tau(\eta-1)}\right\} \frac{\nu(1-\beta)}{(\nu-\beta)} \leq \rho$ if $\frac{1}{\theta} = \frac{\xi\eta}{\eta-1} > 1$). Then, given the properties of the $\hat{\psi}(x)$ function, established above, it follows that: (i) $\hat{\psi}(x)$ is a strictly decreasing function in $[\frac{1}{\theta}, \bar{x})$ and therefore $1 > \hat{\psi}(\frac{1}{\theta}) > \hat{\psi}(x) > \hat{\psi}(\underline{x}) > 0$. Further, it follows by standard arguments (i.e., the properties of monotone continuous functions) that there exists an $\bar{x}' \in (\bar{x}, \infty) \ni \hat{\psi}(\bar{x}') = 1$ and moreover $\hat{\psi}(x) \geq 1$, if and only if $x \in [\bar{x}', \infty)$. Thus, in this case, the globally stable insiders' coalition government is electable in the steady state for all $x \in [\bar{x}', \infty)$ or for all $K \in \{1, ..., \hat{K}\}$, where $\hat{K}$ is the largest integer smaller than or equal to $\frac{N}{\bar{x}'}$.

Part (d): If $\rho \in (0, 1)$ and $\hat{\psi}(\frac{1}{\theta}) \geq 1$. Recall that the latter is true if and only if, $\zeta \geq \rho$, if $\frac{1}{\theta} = 1$ (if $\zeta > \left\{1 + \frac{(\nu-1)\tau(\eta-1)}{1-\tau^{\zeta}\eta+\tau(\eta-1)}\right\} \frac{\nu(1-\beta)}{(\nu-\beta)} \geq \rho$, if $\frac{1}{\theta} = \frac{\xi\eta}{\eta-1} > 1$). Then, given the properties of the $\hat{\psi}(x)$ function, established above, it follows that $\hat{\psi}(x)$ is strictly decreasing over the interval $[\frac{1}{\theta}, \bar{x})$ from a value that is greater than 1 to the value $\hat{\psi}(\bar{x}) \in \left(0, \hat{\psi}(\frac{1}{\theta})\right)$ at $x = \bar{x}$ and then $\hat{\psi}(x)$ is strictly increasing over the interval $[\bar{x}, \infty)$ from the value $\hat{\psi}(\bar{x})$ at $x = \bar{x}$ to a value arbitrarily close to $\frac{1}{\rho} > 1$ In this case, however, there are two possibilities:

(i) First, if $\hat{\psi}(\bar{x}) = \min_{x \in [\frac{1}{\theta}, \infty)} \hat{\psi}(x) < 1$, it follows as in Part (c) that there exist positive real numbers $\bar{x}'$ and $\bar{x}''$ such that $\frac{1}{\theta} < \bar{x}' \leq \bar{x} \leq \bar{x}'' < +\infty$. And, moreover, $\hat{\psi}(x) \geq 1, \forall x \in [\frac{1}{\theta}, \bar{x}'] \cup [\bar{x}'', \infty)$. Therefore, in this case, the GSICG is electable in the steady state for all $K \in \{\bar{K}', ..., M\} \cup \{1, ..., \bar{K}''\}$, where $\bar{K}'$ is the smallest integer greater than or equal to $\frac{N}{\bar{x}'}$ and $\bar{K}''$ is the largest integer smaller than or equal to $\frac{N}{\bar{x}''}$.

(ii) Second, if $\hat{\psi}(\bar{x}) = \min_{x \in [\frac{1}{\theta},, \infty)} \hat{\psi}(x) \geq 1$, it follows that $\hat{\psi}(x) \geq 1, \forall x \in [\frac{1}{\theta}, \infty)$. Therefore, the GSICG is electable in the steady state for all $x \in [\frac{1}{\theta}, \infty)$ or for all $K \in \{1, ..., M\}$. QED

Proof of Lemma 2: It is an immediate implication of Lemma 1 that, if $\beta \in \left[\frac{\nu-\zeta}{\nu-\frac{\zeta}{\nu}}, 1\right)$,$\theta =$ 1 and, therefore, $\frac{1}{\vartheta} = \max\left\{1 + \alpha\tau, \frac{1}{\theta}\right\} = 1 + \alpha\tau, \forall a > 0$. Moreover, it also follows from Lemma 1 that if $\beta \in \left(0, \frac{\nu-\zeta}{\nu-\frac{\zeta}{\nu}}\right)$, $\theta < 1$, in which case $1 + \alpha\tau \geq (\leq)\ \frac{1}{\theta}$ if and only if

$$\eta \geq (\leq) \frac{1 + \alpha\tau}{1 + \alpha\tau - \xi} \tag{A.12}$$

But, recall that $\eta = \left(\frac{1-\frac{\beta}{\nu}}{1-\beta}\right)^{\frac{\zeta}{1-\zeta}}$ is a continuous and strictly increasing function of β, that takes the values 1 and $\left(\frac{\nu}{\zeta}\right)^{\frac{\zeta}{1-\zeta}}$ for β equal to 0 and β equal to $\frac{\nu-\zeta}{\nu-\frac{\zeta}{\nu}}$, respectively. Moreover, the RHS of (A.12) is a strictly decreasing function of a, that takes the value $\left(\frac{\nu}{\zeta}\right)^{\frac{\zeta}{1-\zeta}}$ for a equal to 0 and approaches 1 as a approaches infinity. It follows that, for any $a > 0$, there exists a $\tilde{\beta}(a) \in \left(0, \frac{\nu-\zeta}{\nu-\frac{\zeta}{\nu}}\right) \ni \frac{1}{\theta} = \begin{cases} 1 + \alpha\tau, & if\ \beta \in [\tilde{\beta}(\alpha), 1) \\ \frac{1}{\theta}, & if\ \beta \in [(0, \tilde{\beta}(\alpha)) \end{cases}$. Finally, combining the above results leads to:

$$1 + \alpha\tau \begin{cases} < \frac{1}{\theta}, & \text{when } \beta \in [0, \tilde{\beta}(\alpha)), \text{in which case } \frac{1}{\vartheta} = \frac{1}{\theta} > 1 \\ \geq \frac{1}{\theta}, & \text{when } \beta \in [\tilde{\beta}(\alpha), \frac{\nu-\zeta}{\nu-\frac{\zeta}{\nu}}), \text{in which case } \frac{1}{\vartheta} = 1 + \alpha\tau \end{cases} \quad \text{QED.}$$

Proof of Proposition 5: As shown in Subsection 4.2, for sufficiently large N, the GSICG with $K \in \left\{1, ..., \tilde{M}\right\}$ noncompetitive industries is electable in the steady state, if and only , $\hat{\psi}(x) \geq 1$ where $x = \frac{K}{N} \in [\frac{1}{\theta}, \infty)$, $\frac{1}{\theta} = max\left\{\frac{1}{\theta}, 1 + \alpha\tau\right\}$,$\tilde{\psi}(x) = \frac{\tilde{\varphi}(x)}{\tilde{\chi}(x)}$,$\tilde{\varphi}(x) = 1 + \frac{(1+a)(\nu-1)\tau}{x-(1-\tau)}$ and $\tilde{\chi}(x) = \left(\frac{x}{x-\xi}\right)^{\frac{1-\zeta}{\zeta}}$.

Part (a): Given **[R.1]**, the case where $a = 0$ is exactly the same with Part (b) of Proposition 4 (i.e., $\rho = 1$).

Preliminaries: Before turning into Cases (b) and (c), we need to establish certain properties of $\tilde{\varphi}(\cdot)$,$\tilde{\chi}(\cdot)$,and $\tilde{\psi}(\cdot)$ in the interval $[\frac{1}{\theta}, \infty)$, where $x = \frac{K}{N}$ corresponds to a GSICG with

$K \in \left\{1, ..., \tilde{M}\right\}$ noncompetitive industries. However, as in the proof of Proposition 4, we will consider these functions over the larger interval (ξ, ∞) where they are also well defined. Now, it follows as in the proof of Proposition 4, that the following facts are true:

(i) $\tilde{\varphi}(\frac{1}{\vartheta}) = 1 + \frac{(1+a)(\nu-1)\tau}{\frac{1}{\vartheta}-(1-\tau)} = \begin{cases} 1 + \frac{(1+a)(\nu-1)\tau(\eta-1)}{1-\tau-(\tau^{\zeta}-\tau)\eta}, & \text{if } \frac{1}{\vartheta} = \frac{1}{\theta} = \frac{(1-\tau^{\zeta})\eta}{\eta-1} \\ \nu, & \text{if } \frac{1}{\vartheta} = 1+\alpha\tau \end{cases}$

(ii) $\lim_{x\to\infty} \tilde{\varphi}(x) = 1 + \lim_{x\to\infty} \frac{(1+a)(\nu-1)\tau}{x-(1-\tau)} = 1$

(iii) $\tilde{\chi}(\frac{1}{\partial}) = \begin{cases} \frac{(\nu-\beta)}{\nu(1-\beta)}, & \text{if } \frac{1}{\vartheta} = \frac{1}{\theta}\frac{(1-\tau^{\zeta})\eta}{\eta-1} \\ \left(\frac{1+\alpha\tau}{\tau^{\zeta}+\alpha\tau}\right)^{\frac{1-\zeta}{\zeta}}, & \text{if } \frac{1}{\vartheta} = 1+\alpha\tau \end{cases}$

(iv) $\lim_{x\to\infty} \tilde{\chi}(x) = \lim_{x\to\infty} \left(\frac{x}{x-\xi}\right)^{\frac{1-\zeta}{\zeta}} = 1$

Therefore, it follows from facts (i) – (iv), above, that:

(v) $\tilde{\psi}(\frac{1}{\vartheta}) = \begin{cases} \left\{1 + \frac{(1+a)(\nu-1)\tau(\eta-1)}{1-\tau-(\tau^{\zeta}-\tau)\eta}\right\} \frac{\nu(1-\beta)}{\nu-\beta}, & \text{if } \frac{1}{\vartheta} = \frac{1}{\theta}\frac{(1-\tau^{\zeta})\eta}{\eta-1} \\ \frac{\nu}{\left(\frac{1+\alpha\tau}{\tau^{\zeta}+\alpha\tau}\right)^{\frac{1-\zeta}{\zeta}}}, & \text{if } \frac{1}{\theta} = 1+\alpha\tau \end{cases}$

(vi) $\lim_{x\to\infty} \tilde{\psi}(x) = 1$

Further, it follows as in the proof of Proposition 4 that:

(vii)

$$\hat{\psi}'(x) \geq (\leq) 0 \Leftrightarrow \tilde{Z}x^2 + \tilde{H}x + \tilde{\Theta} \geq (\leq) 0 \qquad \text{(A.13)}$$

where:

$\tilde{Z} \equiv 1 - (1+a)\frac{\lambda\nu\tau}{1-\tau^{\zeta}}$, $\tilde{H} \equiv -2(1-\tau) + (1+\alpha)\frac{\lambda\nu\tau}{\zeta}$,$\tilde{\Theta} \equiv (1-\tau)^2\left[1 - (1+a)\frac{(1-\zeta)\lambda\nu\tau}{\zeta(1-\tau)}\right]$

Now, let: $\underline{a}, \overline{a} \ni 1+\underline{a} = \frac{\zeta(\tau^{\zeta}-\tau)-\tau^{1+\zeta}}{\lambda\nu\tau}$, and $1+\overline{a} = \min\left\{\frac{1-\tau^{\zeta}}{\lambda\nu\tau}, \frac{\zeta(1-\tau)}{(1-\zeta)\lambda\nu\tau}\right\}$,and note that, given **[R.1]** : $0 < \underline{a} < \overline{a}$ and for any $a \in (\underline{a}, \overline{a})$ we have $\tilde{} > 0, \Theta > 0$ and $\tilde{Z} + \tilde{H} + \tilde{\Theta} < 0$. Then, it follows as in the proof of proposition 4 that, given **[R.1]** and $a \in (\underline{a}, \overline{a})$,the roots of the quadratic polynomial in (A.13) are two distinct positive real numbers, say $x_1$and x_2,such that:

$$\tilde{\psi}'(x) \begin{cases} \geq 0, & for\, x \in (0, x_1] \\ < 0, & for\, x \in (x_1, x_2) \\ \geq 0, & for\, x \in (x_2, \infty) \end{cases} \qquad ()$$

As in the proof of Proposition 4, we claim that $\tilde{\psi}'(\frac{1}{\theta}) < 0$.Then, it follows from (A.14) that:

$0 < x_1 \leq \frac{1}{\vartheta} \leq x_2 < \infty$ and therefore:

$$\tilde{\psi}'(x) \begin{cases} < 0, & \text{for } x \in [\frac{1}{\theta}, x_2) \\ \geq 0 & \text{for } x \in [x_2, \infty) \end{cases} \qquad \text{(A.15)}$$

Further, let, $\underline{x} = x_2$. It follows from (A.15), that if the claim is true, we have established the fact that there exists a unique $\underline{x} \in (\frac{1}{\partial}, \infty)$,such that $\underline{x} = \mathbf{arg} \min_{x \in [\frac{1}{\theta},, \infty)} \tilde{\psi}(x)$.

It remains, therefore, to prove the claim: $\tilde{\psi}'(\frac{1}{\theta}) < 0$.To do this, recall from Lemma 2 that $\frac{1}{\vartheta} = \begin{cases} 1 + \alpha\tau, & if\, \beta \in [\tilde{\beta}(\alpha), 1) \\ \frac{1}{\theta}, & if\, \beta \in [(0, \tilde{\beta}(\alpha)) \end{cases}$.If $\frac{1}{\vartheta} = \frac{1}{\theta} > 1 + \alpha\tau > 1$,it follows from Lemma 1 that $\frac{1}{\theta} = \frac{\xi\eta}{\eta - 1}$. Then in view of the properties of $\tilde{Z}, \tilde{H}, \tilde{\Theta}$,given **[R.1]** and $a \in (\underline{a}, \overline{a})$,it follows exactly as in the proof of Proposition 4, that: $\tilde{\psi}'(\frac{1}{\theta}) = \tilde{\psi}'(\frac{\xi\eta}{\eta-1}) = (\xi^2\tilde{Z} + \xi\tilde{H} + \tilde{\Theta})\eta^2 - (\xi\tilde{H} + 2\tilde{\Theta}) + \tilde{\Theta} < 0$. And, if $\frac{1}{\vartheta} = 1 + a\tau$,we have: $\tilde{\psi}'(\frac{1}{\theta}) = \tilde{\psi}'(1 + \alpha\tau) = \tilde{\psi}'[(1 - \tau) + (1 + \alpha)\tau] = \frac{\lambda\nu}{1 - \tau^{\zeta}} \left\{ [(1 + \alpha)\tau]^2 + \left[2(1 - \tau) - \frac{(1+\lambda)(1-\tau^{\zeta})}{\lambda} \right] [1 + \alpha)\tau] + (1 - \tau)^2 \left[1 - (1 - \tau)(1 - \tau^{\zeta)} \right] \right\} > 0$ where the last inequality follows from the fact that, given **[R.1],** both terms in the LHS of the above inequality are strictly positive, This completes the proof of the claim that, given **[R.1]** and $a \in (\underline{a}, \overline{a})$,$\tilde{\psi}'(\frac{1}{\theta}) < 0, \forall \beta \in (0, 1)$ and therefore (A.15) is indeed true.

Hence, given the facts (i)-(vii) imply that $\tilde{\psi}(\cdot)$ is a continuous and strictly decreasing function from $\frac{1}{\partial}$ to $\underline{x} \in (\frac{1}{\partial}, \infty)$,that falls from the value $\tilde{\psi}(\frac{1}{\partial})$ to the value $\tilde{\psi}(\underline{x}) = \min_{x \in [\frac{1}{\theta}, \infty)} \tilde{\psi}(x)$. And $\tilde{\psi}(\cdot)$ is a continuous and strictly increasing function over the interval and then $\tilde{\psi}(\cdot)$ is strictly increasing over the interval $[\underline{x}, \infty)$ from the value $\tilde{\psi}(\underline{x})$ at $x = \bar{x}$ to a value arbitrarily close to 1 for sufficiently large N. Note, also, that $\tilde{\psi}(\underline{x}) = \min_{x \in [\frac{1}{\theta}, \infty)} \tilde{\psi}(x) < 1$ for otherwise $\tilde{\psi}(\cdot)$ could not be a strictly increasing function over the interval $[\underline{x}, \infty)$. Hence, it follows that, given **[R.1]** and $a \in (\underline{a}, \overline{a})$ the following are true:

Part (b): If $\tilde{\psi}(\frac{1}{\vartheta}) < 1$,$\tilde{\psi}(x) < 1, \forall x \in [\frac{1}{\theta}, \infty)$ and therefore the GSICG is not electable in the steady state for all $K \in \left\{ 1, ..., \tilde{M} \right\}$.

Part (c): If $\tilde{\psi}(\frac{1}{\vartheta}) \geq 1, \tilde{\psi}(\cdot)$ is strictly decreasing from a value that is greater than or equal to 1 to a value less than 1 at $x = \underline{x}$and then $\tilde{\psi}(\cdot)$ is strictly increasing from the value $\tilde{\psi}(\underline{x})$ to a value arbitrarily close to 1. It follows that there exists a unique $\tilde{x} \in [\frac{1}{\theta}, \infty) \ni \tilde{\psi}(\tilde{x}) = 1$ and moreover, $\tilde{\psi}(x) > 1, \forall x \in \tilde{x} \in [\frac{1}{\theta}, \tilde{x}]$.Furthermore, follows that $\tilde{\psi}(x) < 1, \forall x \in (\tilde{x}, \infty)$.Thus, in this case, the GSICG is electable in the steady state only for $K \in \left\{ \tilde{K}, ..., \tilde{M} \right\}$ noncompetitive industries, where $\tilde{K}$is the smallest integer larger than or equal to $\frac{N}{\tilde{x}}$.QED

<u>Proof of Proposition 6:</u> Part (a): Given (18), let $K \in \{1, ..., M\}$, where $M \leq \theta N$ and θ and M are as in Lemma 1. It follows by definition that a GSICG with $K \in \{1, ..., M\}$ noncompetitive industries is electable in the steady state, if and only if: $\frac{KH^i}{KH^i + (N-K)H^o} w^i(K) + \frac{(N-K)H^o}{KH^i + (N-K)H^o} w^o(K) \geq \tilde{\rho}\left[(\Gamma/L), w^*\right] w^*$. In view of $\tilde{\rho}\left[(\Gamma/L), w^*\right] = \frac{(w^*/\delta)}{(\Gamma/L) + (w^*/\delta)}$, $\Gamma = (1 - \sigma)(1 - \zeta)Kp^iY^i$, and the general equilibrium formulae: $L = KH^i + (N - K)H^o$, $w^i(K) = \nu w^o(K)$, $w^o(K) = A^{1-\zeta}B(N - \xi K)^{\frac{1-\zeta}{\zeta}}$, $w^* = w^o(0)$, the electability condition reduces to:

$$\left[\frac{\hat{\varphi}(x)}{\hat{\chi}(x)}\right] \geq \tilde{\rho}\left[(\Gamma/L), w^*\right] = 1 + \frac{\delta(1-\sigma)\left(\frac{1-\zeta}{\zeta}\right)\nu\tau\hat{\chi}(x)}{x-(1-\tau)} \tag{A.16}$$

where:$\hat{\varphi}(x) = 1 + \frac{(\nu-1)\tau}{x-(1-\tau)} = \frac{x-(1-\nu\tau)}{x(1-\tau)}$ and $\hat{\chi}(x) = \left(\frac{x}{x-\xi}\right)^{\frac{1-\zeta}{\zeta}}$. Multiplying both hand sides of (A.16) by $\left[\frac{1}{\hat{\varphi}(x)\hat{\chi}(x)}\right] > 0$, it follows that the electability condition (A.16) holds if and only if:

$$\hat{\chi}(x)^2 - \hat{\varphi}(x)\hat{\chi}(x) - \hat{\varphi}(x)\frac{\delta(1-\sigma)\left(\frac{1-\zeta}{\zeta}\right)\nu\tau}{[x-(1-\tau)]} \leq 0 \tag{A.17}$$

Then, note that the LHS of (A.17) can be factored as:
$\left\{\hat{\chi}(x) - \hat{\varphi}(x)\left[\left(\frac{1}{2}\right) + \sqrt{\left(\frac{1}{2}\right)^2 + \frac{\delta(1-\sigma)\left(\frac{1-\zeta}{\zeta}\right)\nu\tau}{x-(1-\nu\tau)}}\right]\right\}\left\{\hat{\chi}(x) - \hat{\varphi}(x)\left[\left(\frac{1}{2}\right) - \sqrt{\left(\frac{1}{2}\right)^2 + \frac{\delta(1-\sigma)\left(\frac{1-\zeta}{\zeta}\right)\nu\tau}{x-(1-\nu\tau)}}\right]\right\}$.

But, since $\hat{\varphi}(x)\left[\left(\frac{1}{2}\right) - \sqrt{\left(\frac{1}{2}\right)^2 + \frac{\delta(1-\sigma)\left(\frac{1-\zeta}{\zeta}\right)\nu\tau}{x-(1-\nu\tau)}}\right] < 0$ for all $x > (1-\nu\tau)$ and therefore for all $x \geq \frac{1}{\theta}$, the expression in the second of the above two braces is always positive, so that the electability condition (A.17) holds if and only if: $\left\{\hat{\chi}(x) - \hat{\varphi}(x)\left[\left(\frac{1}{2}\right) + \sqrt{\left(\frac{1}{2}\right)^2 + \frac{\delta(1-\sigma)\left(\frac{1-\zeta}{\zeta}\right)\nu\tau}{x-(1-\nu\tau)}}\right]\right\} \leq 0$ or

$$\hat{\psi}(x;\,1) \equiv \frac{\hat{\varphi}(x)}{\hat{\chi}(x)} \geq \frac{1}{\left(\frac{1}{2}\right) + \sqrt{\left(\frac{1}{2}\right)^2 + \frac{\delta(1-\sigma)\left(\frac{1-\zeta}{\zeta}\right)\nu\tau}{x-(1-\nu\tau)}}} \equiv \hat{\rho}(x) \tag{A.18}$$

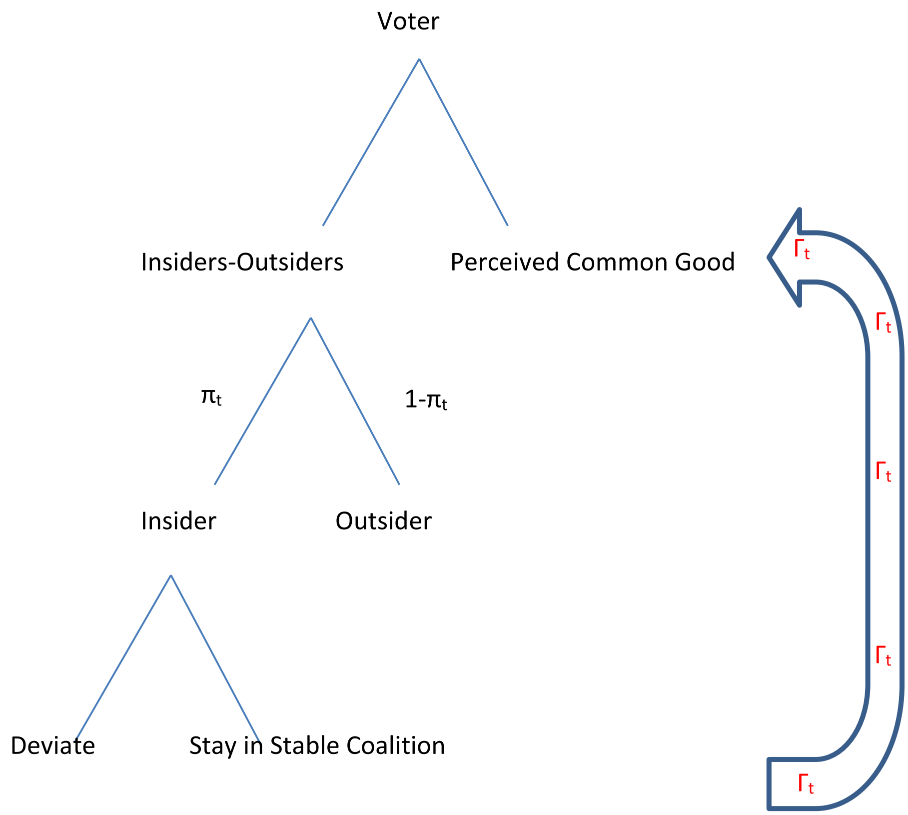
Hence, a $K \in \{1, ..., M\}$ member GSICG is electable if and only if $\hat{\psi}[\cdot; \hat{\rho(\cdot)}] \geq 1$,where: $x = \frac{N}{K} \in \left(\frac{1}{\theta}, \infty\right)$,$\hat{\psi}[x; \hat{\rho(\cdot)}] \equiv \frac{\hat{\psi}[x;1]}{\hat{\rho}(x)} = \frac{\hat{\varphi}(x)}{\hat{\rho}(x)\hat{\chi}(x)}$

Part (b): It follows from the proof of Proposition 4 that $\hat{\psi}(x;1)$:$[\frac{1}{\theta},\infty) \to (0,1), \hat{\psi}(\frac{1}{\theta};1) < 1$, $\hat{\psi}(x;1) \to 1$as $x \to \infty$, and $\exists!\underline{x} \in \left(\frac{1}{\theta}, \infty\right) \ni \hat{\psi}'(x;1)\begin{cases} \leq 0, & \frac{1}{\theta} < x \leq \underline{x} \\ > 0, & \underline{x} < x < \infty \end{cases}$. Also, it follows from Part (a), that $\hat{\rho}(\cdot) : [\frac{1}{\theta}, \infty) \to (0,1), \hat{\rho}(\frac{1}{\theta}) \in (0,1), \hat{\rho}(x) \to 1$as $x \to \infty, \hat{\rho}'(x) > 0, \hat{\rho}''(x) < 0$. The properties of $\hat{\psi}(;1)$ and $\hat{\rho}(\cdot)$, in view of the fact that $\hat{\psi}[x, \hat{\rho(\cdot)}] \equiv \frac{\hat{\psi}(x;1)}{\hat{\rho}(x)}$, imply that:$\hat{\psi}[x, \hat{\rho(\cdot)}][\frac{1}{\theta}, \infty) \to (0, \infty), \hat{\psi}[\frac{1}{\theta}; \hat{\rho}(\cdot)]\begin{cases} \geq 1, \hat{\psi}(\frac{1}{\theta};1) \geq \hat{\rho}(\frac{1}{\theta}) \\ < 1, \hat{\psi}(\frac{1}{\theta};1) < \hat{\rho}(\frac{1}{\theta}) \end{cases}, \hat{\psi}[x, \hat{\rho}(\cdot)] \to 1$,as $x \to \infty$, $\exists!\underline{x}^\rho \in (\underline{x}, \infty) \ni \hat{\psi}'[(x;\hat{\rho}(\cdot)] = \frac{\hat{\psi}'(x;1)\hat{\rho}(x) - \hat{\psi}(x;1)\hat{\rho}'(x)}{\hat{\rho}(x)^2}\begin{cases} \leq 0, & \frac{1}{\theta} < x \leq \underline{x}^\rho \\ > 0, & \underline{x}^\rho < x < \infty \end{cases}$. But, then, it follows by the fact that $\hat{\psi}[x;\hat{\rho}(\cdot)]$ is continuous and strictly decreasing in the interval $\left(\frac{1}{\theta},\underline{x}^{\rho}\right)$ but strictly increasing in the interval $(\underline{x}^{\rho},\infty)$ that if $\hat{\psi}[\frac{1}{\theta};1]\geq\ \hat{\rho}(\frac{1}{\theta})$ or $\hat{\psi}[\frac{1}{\theta};\hat{\rho}(\cdot)]\ \geq\ 1, \exists!$ interval $[\frac{1}{\theta},\hat{x})\ \ni\ \hat{\psi}[x;\hat{\rho}(\cdot)]\geq 1$. Moreover, if $\exists$ interval $[\frac{1}{\theta},\hat{x})\ni\hat{\psi}[x;\hat{\rho}(\cdot)]\geq 1$ and since $\hat{\psi}[\frac{1}{\theta};\hat{\rho}()]$is well defined, it also follows by the fact that $\hat{\psi}[x;\hat{\rho}(\cdot)]$ is continuous that we must have $\hat{\psi}[\frac{1}{\theta};\hat{\rho}(\cdot)]\geq 1$. Hence, the set $\left\{x\in(\frac{1}{\theta},\infty):\hat{\psi}[x;\hat{\rho}(\cdot)]{\geq}1\right\}$ is nonempty if and only if $\hat{\psi}[\left(\frac{1}{\theta}\right);1]=\frac{\hat{\varphi}(\frac{1}{\theta})}{\hat{\chi}(\frac{1}{\theta})}\geq\hat{\rho}(\frac{1}{\theta})$.

Part (c): Consider the problem of choosing the number of noncompetitive industries, K or the ratio $x=\frac{N}{K}$, so as to minimize the amount of expenses devoted to perceptions manipulation per capita, (Γ/L) , subject to the electability constraint $\hat{\psi}[x;\hat{\rho}(\cdot)]-1\geq 0$ or $\hat{\psi}[x;1]=\frac{\hat{\varphi}(x)}{\hat{\chi}(x)}\geq\hat{\rho}(x)$. Obviously, the unique solution to this problem must be such that $\frac{\hat{\varphi}(x)}{\hat{\chi}(x)}{=}\ \hat{\rho}(x)$or $\hat{\psi}[x;\hat{\rho}(\cdot)]=1$. Then, it follows from Part (b) that if $\hat{\psi}[\left(\frac{1}{\theta}\right);1]\geq\hat{\rho}(\frac{1}{\theta})$, then $\exists!\underline{x}^{\rho}\in\left(\frac{1}{\theta},\infty\right)\ni\hat{\psi}[(x^{\rho};\hat{\rho}()]=1\ x^{\rho}=\arg\max_{x\in\left(\frac{1}{\theta},\infty\right)}\left\{\hat{\rho}(x){:}\hat{\psi}[x;\hat{\rho}(\cdot)]{\geq}1\right\}$. QED

Appendix B

Figure 1: ***Timeline of the perceived common good regime subcase***



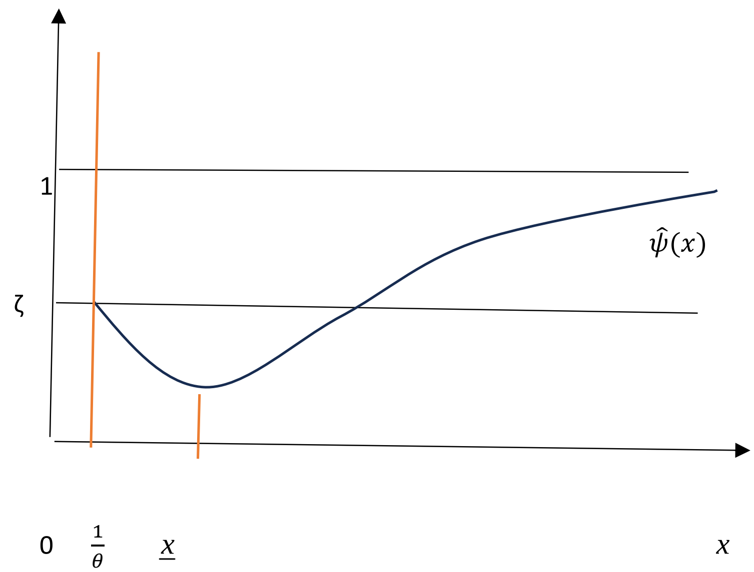
Key :

$\pi_{t:}$: probability of being an insider if the insiders coalition government is elected in period t

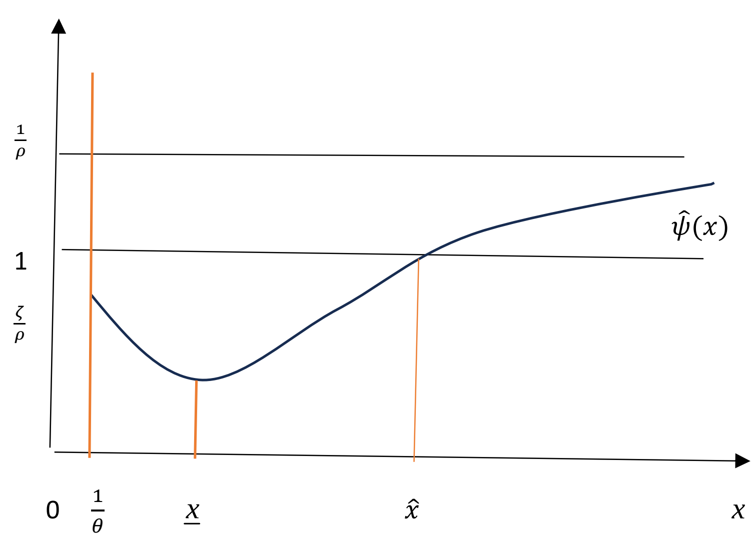
Γ_t : resources devoted to change perceptions of the common good regime in period t

Figure 2*: An illustration of Proposition 4*

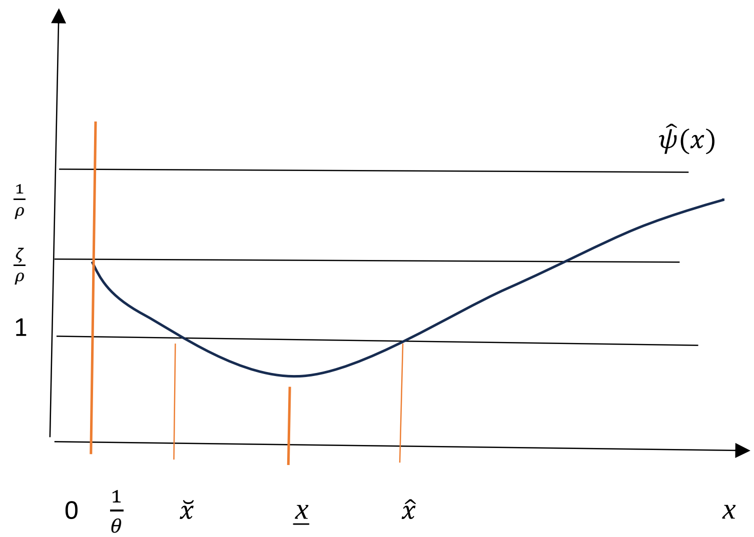
(a) No manipulation ρ=1



(c) Weak manipulation, strong complementarity: 0<ζ<ρ<1



(di) Strong manipulation, weak complementarity: 0<ρ<ζ<1 and $\hat{\psi}(\underline{x})<1$



(dii) Strong manipulation, weak complementarity: 0<ρ<ζ<1 and $\hat{\psi}(\underline{x})\geq 1$

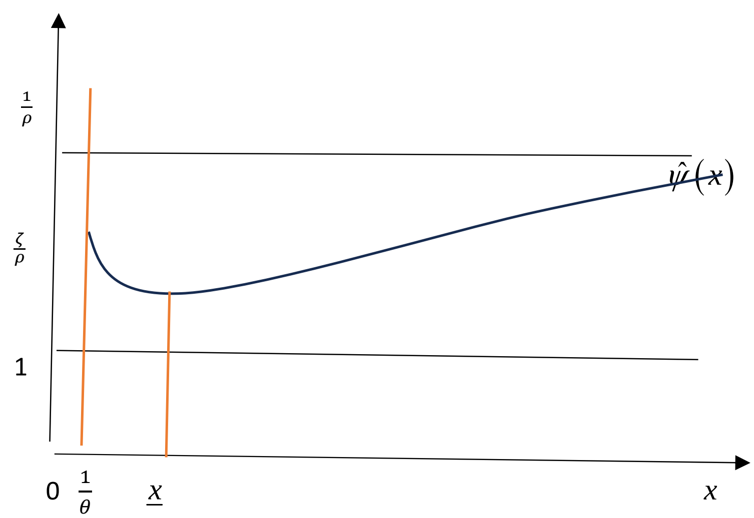


Figure 3*: An illustration of Proposition 5*

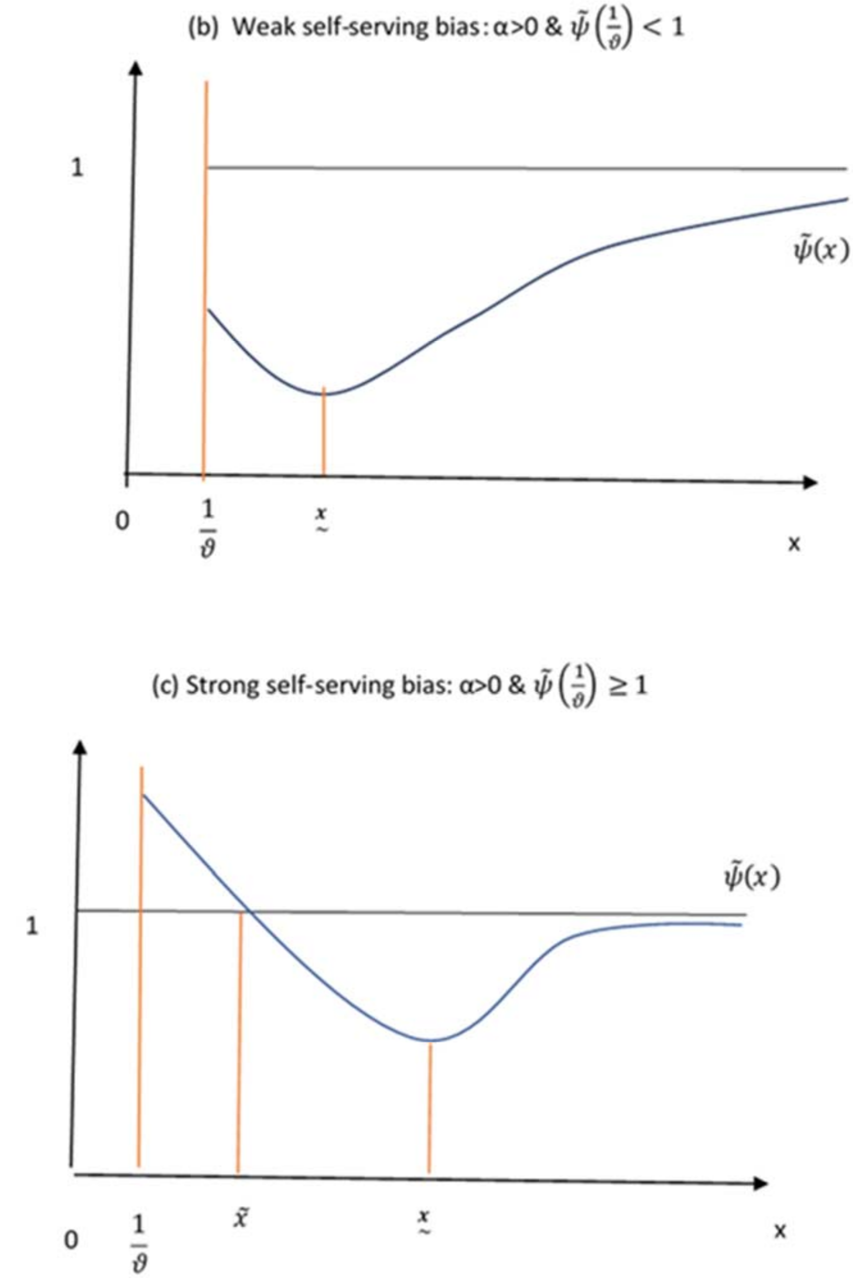
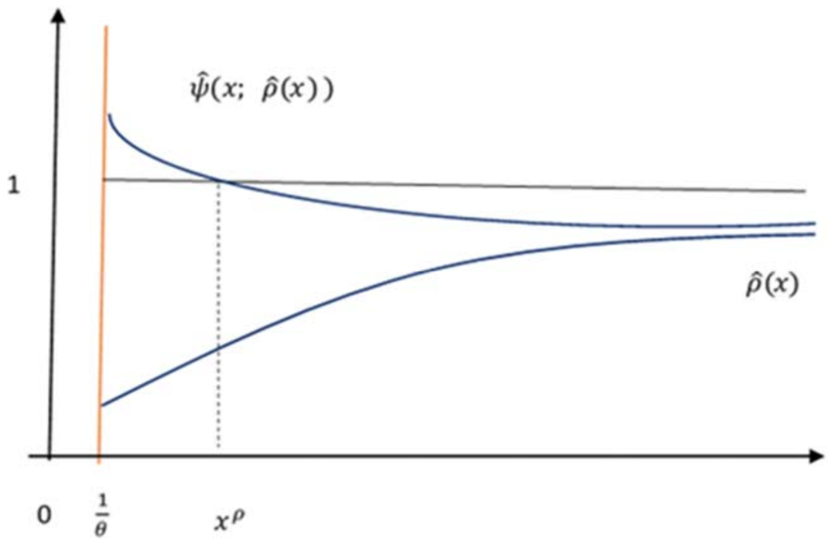


Figure 4*: An illustration of Proposition 6*
(Endogenous Perceptions Manipulation)



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