

# GOVERNING ECONOMIC OPENNESS: PROVINCIAL LEVEL EVIDENCE FROM CHINA (1977-2002)

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## ABSTRACT

Prevailing economic theories and preliminary empirical evidence suggest that growing world market integration unleashes centrifugal forces among subnational territorial units and undermines domestic central political authority. Reversing the conventional demand-side bottom-up approach, this paper turns to the supply side by examining the incentives of and resources available for national-level political actors. Through a cross-section time-series dataset on China's top provincial leadership, combined with annual economic data from provincial statistical sources for 1977-2002, it shows that the Chinese political Center has manipulated its personnel monopoly power to strengthen control over provincial Party Secretaries in provinces that engage in more foreign trade, especially export. Political control, however, seems to have weakened over Governors overseeing provinces more exposed to the world market, perhaps for good reasons in a system where the ruling Party still dominates. Our findings have implications for the broader political economy literature on economic openness, political institutions and intergovernmental conflicts.

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## I. INTRODUCTION

Examination of the evolving relationship between economic market integration and domestic politics constitutes a central component of the recent social sciences literature (Berger 2000; Guillén 2001; Keohane and Milner 1996).<sup>1</sup> Three major themes stand out. First, a predominant focus has been upon political cleavages resulting from sector- or factor-based differences in an open international market (Frieden and Rogowski 1996; Frieden 1991; Hiscox 2001; Rogowski 1987, 1989; Scheve and Slaughter 2000). Second, possible economic policy constraints imposed by a world of greater trade flows, capital mobility and multinationalized production, under different institutional (but mostly democratic) contexts and among both the developed and developing countries, have similarly inspired enduring debates within a long pedigree of distinguished scholarship (Adserà and Boix 2002; Cameron 1978; Garrett 1998; Iversen and Cusack 2000; Katzenstein 1985; Kaufman and Segura-Ubiergo 2001; Rodrik 1998; Rosenbluth 1996; Rudra 2002; Wibbels and Arce 2003).

A third school, meanwhile, has probed the intriguing dynamics between international market integration and national political disintegration (Alesina and Spolaore 1997; Bolton and Roland 1997; Bolton, Roland, and Spolaore 1996). Despite their varied research foci, all three scholarly genres are unified by a single demand-side, bottom-up approach privileging individual voters, interest groups or lower-level government actors in a democratic setting. While powerful, such an emphasis is not always warranted. Concentrating upon the intergovernmental dimension within a domestic polity, this article turns to a supply-side, top-down perspective through studying issues of political conflicts and control in the age of economic openness in a non-

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<sup>1</sup> In this study, terms such as “economic openness,” “global market integration,” and “globalization” are treated as synonymous and used interchangeably.

democratic state. It investigates whether the political Center in China has strengthened or loosened its grip of personnel monopoly power over the provinces during the country's opening to the outside world.

Prevailing region-centric theories generally predict that a growing link to the external marketplace could reduce the benefits of staying in a union for subnational-units more exposed to the global market. Little surprise that separatist movements and centrifugal political forces are often aided by increasing global market integration (Hiscox 2003; Sorens 2002). In the Chinese context, the dual forces of economic opening and decentralization would be seen as fostering growth of provincial bargaining power and autonomy vis-à-vis a Center with "waning" state capacity (Jia Hao and Lin Zhimin 1994; Shirk 1993, 1994; Wang 1995). A perspective from the political Center, however, would suggest that in order to deal with the growing regional disparity and other potentially destabilizing issues abetted by increasing global market integration, the Center would have strong incentives to enhance political control over the subnational units.

This research aims to examine systematically the relationship between economic openness and central political control over the provinces in China. Specifically it tests how foreign trade exposure of the provinces affects the degree of political control they receive from Beijing, as measured by Yasheng Huang's "bureaucratic integration" of the top provincial officials – Governors and Communist Party Secretaries (Huang 1996a). We have found that while overall trade seems to have reduced the bureaucratic integration of provincial Governors, Party Secretaries tend to be more integrated with the Center politically, i.e. more tightly controlled by the Center in provinces that export more. Given the Communist Party dominance at each level of government in contemporary China (Lieberthal 1995), these results, on balance,

imply that the political Center has resorted to greater political control over provinces with greater economic openness.

Results from analyses presented here are expected to make three major contributions, one in the broader study of the politics of market integration and two in the literature on the political economy of China's central-provincial relations. First, findings here are relevant to students of broader comparative political economy of globalization. Indeed, under growing market integration, institutions not only matter in contouring policy outcomes (Hall 1986; North 1990), the case of China analyzed here shows that political institutions themselves are endogenous and subject to manipulation by politicians (the Center in our case here) to achieve ex ante political control. Second, they will shed new light on the existing scholarship on central-provincial relations focusing upon political succession cycles or economic decentralization by highlighting the role of foreign trade and economic openness that, despite their salience in the broader social sciences, have so far received scant attention in studying Chinese political economy. Finally, they will advance institutional studies of central political control in reform-era China (Huang 1996a, 1996b, 2001a) through examining the very determinants of such control.

The paper is outlined as follows. The second section briefly reviews the existing arguments regarding the political dynamics of economic openness and intergovernmental relations within the domestic polity, and considers their relevance to the case of China. Section Three puts forth the hypotheses of this study and introduces the independent and dependent variables. The fourth section tests the relationship between trade exposure and bureaucratic integration of top provincial cadres through ordered-logit analyses, further complemented with logit robustness estimation. The fifth section summarizes and concludes through discussing the potential implications of the study.

## II. OPENNESS, DOMESTIC CONFLICT AND POLITICAL CONTROL

### *International Integration and Domestic Intergovernmental Conflict*

As mentioned above, the most institutionally rich studies of domestic political conflicts under increasing global market integration in recent years have focused on the role of partisan and labor market institutional configurations, especially in, though not limited to, the industrialized nations of the OECD. This literature debates over the relevance of government in compensation and redistribution, and over whether and how political or labor institutions could cushion or refract the constraints of economic openness upon government autonomy in taxation and welfare policy-making (Adserà and Boix 2002; Garrett 1998; Kaufman and Segura-Ubierno 2001; Rodrik 1998; Wibbels and Arce 2003). Ensuing domestic political and interest cleavages, and political conflicts, however, have been conceptualized more along factoral or sectoral lines than through an intergovernmental perspective within the domestic polity (Hiscox 2001; Rogowski 1989).

Recent developments in economic theorizing, in the meantime, have begun to grapple with the new frictions between different levels of government faced with conflicting incentives in a world of an increasingly internationalized market (Alesina and Spolaore 1997; Bolton and Roland 1997; Bolton, Roland, and Spolaore 1996). Often modeling for a democratic political setting with simple majority rules, scholars of this genre puzzle over the interrelationship between rising world market integration on the one hand, and the growing probability for territorial disintegration of nation-states, induced by lower-level governments that demand greater subnational autonomy on the other.

Central to arguments along these lines have been the thorny tradeoffs pitting the benefits of a unified national domestic market with more efficient provision of public goods (gains from

“economies of scale”) against the rising costs of acquiescing to policies made by a distant central government less cognizant and thus accommodating of local preferences (costs of “heterogeneity”). Under conditions of expanding market contacts abroad, theoretical equilibrium results seem to be increasingly tipping the balance in favor of national disintegration. Thus, against the backdrop of recent real-world developments, Alesina and Spolaore conclude that disintegration of nation-states becomes more likely under increasing economic openness:

[P]olitical separatism should go hand in hand with economic integration. We feel that the current European experience, the idea of a Europe of regions, and the separatism of Quebec in the context of NAFTA yield some support for this implication. Furthermore, the incentives for the states of the former Soviet Union, Yugoslavia, and Czechoslovakia to break away would have been much lower if they had expected to be economically isolated instead of integrated with the rest of the world, in particular, with Western Europe. ... [T]he benefit of country size on economic performance should decrease with the increase of international economic integration and removal of trade barriers (Alesina and Spolaore 1997, 1042).

One primary source of intergovernmental contentions conducive to fissiparous subnational tendencies revolves around fiscal issues (Bolton and Roland 1997).<sup>2</sup> Growing market integration often breeds schisms in wealth levels among subnational regions differentially endowed for survival in a more volatile global market. Those benefiting from exploitation of their comparative advantage in international commerce tend to become more reluctant to transfer more resources to the Center or other localities. Finding decreasing appeal in the gains of a unified domestic market, they would therefore prefer and often clamor for greater autonomy in how to dispose of resources and revenues from their own jurisdictions. This seems to be taking place at a time of growing needs for interregional redistribution, usually via the Center, to compensate those less well-endowed but growingly discontented regions for agreeing to open up the Union to outside market competition. Conflicts thus seem most likely to flare up:

When the preferences of political majorities across regions differ substantially over the content of these [fiscal and redistributive] policies, breakup may be inevitable, even if it leads to efficiency losses because of the political benefits of breakup to local majorities. This framework is relevant

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<sup>2</sup> For an earlier discussion of the relationship between regional income disparity and the potential for political secession, but also in the context of ethnic tension, see (Gourevitch 1979).

in cases where conflicts over fiscal and redistributive policies play an important role such as Belgium, Czechoslovakia, Italy, Scotland, and to a certain extent Quebec (Bolton and Roland 1997, 1084).

There is no gainsaying that economic theories on market integration and national disintegration have provided powerful insights revealing some of the most important dynamics driving politics of many parts of the world in recent decades. Although systematic empirical support has not been as forthcoming, there is indeed some evidence lending credence to these often dire theoretical predictions from two existing systematic though preliminary empirical studies on the topic. Looking at available data on vote gains for pro-separatist political parties from a sample of 15 provincial units in various countries during 1980-2000, Sorens has found that although increase in the overall degree of market integration around the world does not immediately translate into secessionist movements, it seems conducive to long-term separatist tendencies (Sorens 2002). Similarly, Hiscox, in one cross-sectional analysis with alternative measures of openness that use shares of different sectors in total export for about 60 nations, finds that market integration could induce some form of political decentralization (Hiscox 2003).

Nevertheless, predictions of these theories have not squared particularly well with overwhelming real-world facts. Aside from the breakups of a few countries in the former Soviet bloc with the end of the Cold War and the agitation for autonomy and secession elsewhere, the vast majority of nation-states seem to have survived the current phase of world market integration largely intact in terms of territorial integrity. In fact, the number of states in the post-WWII international system has been quite stable (Fazal 2001). While it would be beyond the scope of this study to engage in a full discussion, I suggest here two major limitations of these economic theories.

First, these theories have been too institutionally sparse. In fact, the rich institutional variety even among the industrialized democracies, attested to in the wealth of scholarship on

openness, policy autonomy and political cleavages cited above, has been largely assumed away in the economic formal modeling that often accommodates no more than the bare-bone assumptions of the simple majority rule. This could be woefully inadequate. Indeed, even in democracies, intergovernmental conflicts engendered under growing market integration could purportedly be remedied very differently under different institutional setups – depending on whether the country at issue is, say, federal or unitary, and what kind of political party systems (nationally integrated or with strong regional parties loosely grouped under a common national umbrella). It seems reasonable to expect that separatist electoral inclinations are, *ceteris paribus*, much less likely to develop into full-blown secessionist movements with a realistic chance of success in unitary states and/or when there are strong, cohesive nationally-based political parties.

Second, these theories could be too one-sided via its bottom-up focus. By highlighting the demands from subnational units confronting divergent preferences over fiscal or redistributive policies, this approach ignores the role of the other major player in the market integration-national disintegration game, namely the central political actors. It is not clear from this literature what options are available for the political Center that might forestall potential centrifugal moves unleashed by a linkage to the global market. This is unnecessary. For instance, in a different context, Treisman has forcefully shown how the Russian Center tried to use strategic fiscal transfers to pacify the vociferous and discontented in the regions (Treisman 1999b). Therefore, this body of scholarship sheds little light over whether central-level actors have resorted to similar strategic preemption.

Neither do we know, furthermore, whether existing institutional tools have been taken advantage of by the Center that could align better the burgeoning preference divergence foretold in these economic theories. While political institutions matter in structuring incentives and



constraining actor behavior (Hall 1986; North 1990), they could be endogenous to the players' manipulation for political goals, of preventing national disintegration for our purposes here. With greater economic openness fanning intergovernmental conflicts, it would be interesting to explore whether these institutions have been strengthened or emaciated, by which actors to what ends. Clearly, both control to strengthen these institutions by the Center and anti-control to undermine them by the motivated subnational actors would be expected. Because the existing scholarship seems to have paid inordinate amount of attention to the demand side perspective, in this study I focus upon the supply side story emphasizing the central actors.

In the meantime, such preemptive control by the Center seems especially forthcoming in countries where such institutional tools are expected to be able to exert the greatest leverage, such as in politically unitary states or where effective and powerful nationally-integrated political parties exist. In the case of China, a unitary state under one party control in the period under study, as I argue below and demonstrate later, the Center has been trying to strengthen its tools of political control over top provincial leadership, via its *nomenklatura* personnel monopoly, possibly to alleviate the same fiscal and redistributive conflicts that accompany the country's opening to the international market in the past two decades or so.

### ***Central-Provincial Conflict and Central Political Control in China***

Overall, at least half of the story on China's growing linkage to the world market has been largely consistent with the predictions of economic theories reviewed above. China's embracing of economic opening, hand in hand with economic reform in the late 1970s, has been characterized by a rapid rise in the role of export and foreign trade in the economy and massive inflows of foreign capital (Lardy 1992, 1995). While integrating with the outside market has brought phenomenal economic growth for the country as a whole, such growth benefits have not

been shared equally across the provinces. Interprovincial disparity measured in the Gini coefficients of the provincial per capita GDP has witnessed a gradual climb back in the 1990s after an initial drop since the start of the opening policy (Kanbur and Zhang 2001).

Further complicating the situation has been the mounting need for interregional distribution at a time when the overall central redistributive capacity slipped (Wang Shaoguang and Hu Angang 1993). Even at the beginning of China's reform and opening, the tension among the country's different regions over the need for interregional redistribution by the Center was already palpable. The remarks of Xue Muqiao, one of China's leading economists at the time, when speaking of the difficulties of reforming the centralized system of economic planning and management more oriented to central redistribution, are quite telling:

... [S]ince industrial development is extremely uneven among China's provinces, municipalities, and autonomous regions, the industrially backward ones urgently need support from the advanced ones for economic construction. Thus, there are contradictions not only between the central ministries and the localities but also among the localities themselves. In general, the industrially developed areas wish to acquire greater independence and the underdeveloped ones prefer unified management and unified allocation of products by the central government. ... (Xue Muqiao 1982, 33)

Meanwhile, as the central government increasingly found itself in fiscal straits with its diminishing share of total government revenue, things could not be improved much due to tax evasion/hiding and competitive tax reduction by local governments in pursuit of local developmental goals and local officials' personal career imperatives (Fu 2000; Yang 1997). The problem, of course, was also partly the Center's own doing; fiscal decentralization as part of the reform package to promote economic growth incentives among the provinces, successful to some extent (Oi 1999), might have worsened central fiscal standing. Nevertheless, as the provinces being left behind in economic performance cried for greater central assistance amidst

deterioration of the Center's fiscal capacity, the predicted scenario of central-provincial fiscal conflicts naturally ensued.<sup>3</sup>

As leaders in richer, economically more open provinces grow more defiant towards central macroeconomic policy directives (Delfs 1991), there is also anecdotal evidence of growing demand for interregional redistribution from the poorer places. Indeed, provincial leaders of the Western inland provinces (often faring less well in the age of opening and reform, but with substantial numbers of ethnic minorities and bordering several former Soviet Republics) reportedly sounded alarms over the link between increasing economic disparity (*vis-à-vis* the more prosperous coastal provinces) and the possibility for instability and separatist movements in these areas. Then Party Secretary of Xinjiang, Song Hanliang pointed to the urgency for the province's rapid economic development in the early 1990s in order to preserve "[social and political] stability and [territorial] integrity." In the meantime, top officials of five Western provinces, at a 1994 meeting with top leaders of the Center, kept stressing the importance of "economic development and *common* prosperity [emphasis my own]," most probably through greater central redistributive policies, as the basis for ethnic peace in those areas.<sup>4</sup>

The other half of China's globalization story, however, has not been presaged in these economic theories. Central political primacy over the provinces in China and the dominance of the Communist Party over the government have made the party Center, the "principal" protagonist of our story here, particularly well positioned to exert political control over the provinces, our "agent" thespian, in a classic principal-agent relationship (Eggertsson 1990, Chapter 2). The most serious problems, of course, boil down to information asymmetry and

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<sup>3</sup> While systematic evidence on this appears sketchy, the two surveys conducted in the mid 1990s and reported by Wang and Hu (Wang and Hu 1999, 69-75), whose subjects are mostly prefecture/county officials from the inland provinces, indicate regional disparity was perceived to be "excessive" and likely to endanger social stability. Despite the potential sample selection bias inherent in such surveys, grievances from inland provinces seem obvious.

<sup>4</sup> Quoted in (Ouyang 2002, 159-160).

incentive divergence. While the Center is inclined to extract more resources from richer provinces for interregional redistribution, it has imperfect information about exactly what could be extracted. In the meantime, leaders of the provinces know better what they are capable of contributing to the central coffer, but seem predisposed to keep as much in their own hands.<sup>5</sup> Information acquisition through more strenuous monitoring of agent performance and designing of reward systems to better align incentive structures of the actors are the common solutions (Alchian and Demsetz 1972; Eggertsson 1990, Chapter 2; Jensen and Meckling 1976).

In China, Huang has called central monopolistic appointment control over the top-notch provincial leadership a form of “ex ante monitoring.”<sup>6</sup> For him, “instead of monitoring the specific tasks that local officials perform, the central government carefully monitors political and professional credentials when they make personnel selections” (Huang 1996a, 185). Choosing the “right type” of officials in the first place could reduce monitoring costs later on. Furthermore, according to Huang, there is little sign that such control has diminished in the post-1978 era. Thus, despite his reputedly well-entrenched informal connections in the political system,<sup>7</sup> Ye Xuanping, Governor of Guangdong, China’s most globalized and showcase province for the reform and opening agenda, was promptly removed from his provincial post in 1991, a year of centrally-imposed economic austerity, for trying to defy the Center by insisting upon “continued financial autonomy” for the provinces (Delfs 1991; Shirk 1993, 194). Thus, for all the decline of the revenue share of the central coffer up to the early 1990s, Huang sees little need for “fiscal alarmism” by suggesting that “strong political control by the Center reduces, to some extent, the

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<sup>5</sup> Of course, it could be argued that provincial leaders are locked in similar principal-agent relationships (with their own problems of information asymmetry and shirking) with governments further below, because of the multiple layers of administration in the Chinese polity (Wedeman 2001). Still, compared with the Center, the provinces seem to have greater information about themselves.

<sup>6</sup> For classic discussions on China’s *nomenklatura* system, see (Burns 1989, 1994; Manion 1985).

<sup>7</sup> Ye is a native of Guangdong and son of the late Marshal Ye Jianying, a crucial figure in helping engineer the downfall of the “Gang of Four” that ended the Cultural Revolution and brought China’s paramount leader in the reform era Deng Xiaoping back to power (Baum 1994).

Center's demand for strong fiscal control because the economic weakness is partly offset by political strength" (Huang 2001a, 22-23).

In addition to being capable of engaging in "forced borrowings" from rich provinces, the Center could also introduce changes into the terms of fiscal contracts before the expiration of their normal 5-year period (Wang 2002). It could even simply launch a brand-new round of tax reform designed to boost the central share of fiscal revenues as it did in 1993/1994 when it saw the need. In spite of the initial uncertainty over the prospect of the latter reform, the Center has indeed largely been able to recover some fiscal ground in recent years (Wang 1997). Clearly, it would be impossible to achieve this without effective instruments of central political control, as provinces (especially rich ones) would be reluctant to give up what they had gained earlier in the reform era.

While Huang has pioneered one of the first rigorous and systematic studies on central political control in China in the era of reform and economic decentralization, his emphasis has been upon the effects of such control in checking local investment urges and combating inflationary pressures in the provinces (Huang 1996a, 1996b). Missing from his path-breaking analyses has been any effort to explore the determinants of such political control. That is, while he has demonstrated convincingly the effects of central political control upon curbing economic inflation, his study reveals little about what provincial factors (characteristics of officials or of the provinces they serve) are most likely to provoke central control in the first place.

For one thing, we are not sure whether inflationary potentials in period one would cause the Center to act upon those provinces in period two. In a similar vein, we have scant knowledge over whether the degree of political control exerted upon the provinces is determined by the degree of economic decentralization of the provinces or just personal characteristics of the

individual leaders occupying the top positions in the provinces. Neither do we have much inkling about the role of economic openness in affecting central political control. Indeed, any possible globalization connection has been surprisingly absent from a number of other recent studies of China's personnel dynamics on the provincial level (Bo 2002; Tao 2001).<sup>8</sup> The remainder of this article aims just to fill this undeserved empirical lacuna.

### **III. ECONOMIC OPENNESS AND CENTRAL CONTROL: HYPOTHESES**

In this section, I discuss the independent and dependent variables employed for our testing, and the hypotheses linking the degree of provincial economic openness and the extent of political control exerted by the Center over the provinces. Degree of global market integration is operationalized as the shares (in percentage) of provincial foreign trade (including import and export) in provincial GDP, and shares of provincial export in GDP. Bureaucratic integration for the top provincial party (Party Secretaries) and government officials (Governors), measured through standards first designed by Huang (Huang 1996a) and to be discussed in greater detail below, is used as our dependent variable.

#### ***The Independent Variable: Foreign Trade and Export***

As noted above, China has witnessed gradual integration with the world market since the onset of the government's opening. As shown in Figure 1 with data from national-level sources, China's export plus import over GDP share, a standard measure of trade openness, climbed from about 8.51% in 1977, on the eve of its reform and opening, to almost 44% in 2001 while its Export/GDP share rose from 4.36% to about 23% in the same period.<sup>9</sup> In the meantime, there has been great variation among the provinces in terms of the degree of integration with the global

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<sup>8</sup> One exception is (Landry 2002), which, however, finds no relationship between FDI levels and the chances for mayoral promotion during 1990-2000.

<sup>9</sup> According to (World Bank 2002), China's average foreign trade/GDP ratio is 30.56% for 1978-2001. For comparison, the figure for India is 19.6% (1978-2001) and for the USA is 20.4% (1978-1999).

market. In Figure 2, I have presented summary data from provincial-level statistical sources for all the provinces from 1977 to 2001, the latest year when data are available for all provinces as of this writing. Indeed, the coastal provinces no doubt have been more integrated with the international market than are their inland counterparts. For instance, the average trade/GDP ratio for Guangdong, the most globalized province, is 66.5% while that of Guizhou, also the country's poorest province, is 3.79%.

**[Figure 1 about here]**

For the cross-section time-series analyses here, we will not use the provincial FDI data because systematic provincial level data only became available in the mid to late 1980s. Their inclusion would result in significant loss in the number of observations for our purposes. Moreover, because of the important role of FDI in promoting China's foreign trade in this period (Fu 2000), it might be difficult to clearly disentangle the effects of foreign trade from those of FDI. Therefore, we believe indicators of the importance of total foreign trade and export in the provincial economy will capture much of the underlying degree of economic openness.<sup>10</sup> In the meantime, as we discussed earlier, differential exposure to the international market has been linked to the disparity for the localities and other consequences such as the rising need for redistribution. What then will be the relationship between a province's degree of integration with the global market and the extent of political control exerted upon its top leadership by the Center?

**[Figure 2 about here]**

### ***The Dependent Variable: Bureaucratic Integration***

As mentioned earlier, the notion of bureaucratic integration was first used by Huang to measure the propensity of provincial officials to comply with central policy directives based

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<sup>10</sup> Nevertheless, results from robustness checks that include FDI/GDP as a control variable, shown in the appendix, remain largely consistent with those from the baseline estimations.

upon the current position and prior career trajectories of the provincial top official (Huang 1996a). He argues that officials holding a concurrent position at the Center (such as a sitting membership of the Politburo at the Communist Party Central Committee), dubbed “concurrent centralists,” would be more likely to stay in line with central policy preferences.<sup>11</sup> He thus conjectures:

Highly integrated officials, for example, may calculate that their long-term career prospects lie with the Center rather than with the provinces they are assigned to govern. The real principals are not the industrial bureaus or factory heads in the provinces but the central policy makers in Beijing. Thus more highly integrated officials tend to maximize central interests more than less integrated officials (Huang 1996a, 197).

Indeed, a great majority of provincial leaders who were Politburo members ended up moving to the Center; only 5 out of about 21 provincial Party Secretaries during 1977-2002 who were concurrent Politburo members ended their political careers in the provinces (Sheng 2003). This hypothesized greater sympathy with the policy stance of the Center is extremely important for carrying out its policies such as revenue collection in the localities as it can considerably reduce the “transaction costs” involved for the Center (Levi 1988). Most likely, other more costly and coercive means can be spared if the top provincial officials are more politically integrated (controlled) in the first place. “Concurrent centralists” are coded as “4” in the dataset used here.

Provincial officials less integrated than the above “concurrent centralists” in terms of likelihood to obey central policies are those with significant work experience (at least three years) at the Center at the ministerial or vice-ministerial level. It would be more difficult for these “centralists” to be easily swayed by influences from local interests because of a pro-Center perspective they had presumably imbibed while working in Beijing. This group of officials is coded as “3.” Then are the “outsiders” who spent significant amount (again, at least three years)

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<sup>11</sup> For discussions of Central Committee memberships for provincial officials as either possible tools of central political control or symbols of provincial bargaining power with the Center, see (Sheng 2003; Shirk 1993).



of their prior careers (at the provincial level) in other localities before moving to the current province, and could be more sympathetic to local interests and perspectives than the previous two categories of officials. They are coded as “2.” The category least likely to favor central policy preferences are made up of officials who worked their way up in the very provinces which they are overseeing now. They often have their power base in the localities and are more likely to be identified with entrenched local interests whenever there is a conflict with what the Center desires, for instance, over revenue division and redistribution. This last group is coded as “1.”<sup>12</sup>

**[Figure 3 about here]**

For purposes of central political control, therefore, it is plausible to assume that top officials serving at the provinces of the greatest interest to the Center will be more likely to be appointed concurrent positions at the Center or are chosen from officials with significant earlier career experience at the Center. Average bureaucratic integration scores for all provinces across the years of 1978-2002 are presented in Figure 3. While there are no clear trends from such aggregated data, there is little evidence, for the period as a whole, that central political control has been declining in that more “locally-oriented” officials are appointed to top provincial leadership positions. Indeed, political control measured by bureaucratic integration might have increased in the second half of the period, especially for Party Secretaries whose national average increased from 1.87 in 1990 to 2.39 in 2002.

**[Figure 4 about here]**

A glimpse of the cross-sectional variation of the bureaucratic integration scores for the provinces since the start of opening could be caught in Figure 4. During 1978-2002, while the national average BIT scores were 2.1 for Party Secretaries and 1.7 for Governors, those for

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<sup>12</sup> All the political data have been collected from the biographical information published in official Chinese sources. For a more thorough and detailed discussion of the sources and coding methods for the political data used here, see Appendix to Chapter 3 in (Sheng 2004 [forthcoming, December]).

Beijing (the national capital city with a provincial status) were about 3.6 and 2.4 respectively. The averages for Shanghai (China's most important industrial city also with a provincial status) in the same period were around 3.4 and 2.1, respectively. By contrast, Hunan had only an average of 1.2 for Secretaries and 1.04 for Governors. Indeed, during this period, *all but one* Governors in Hunan were "insiders" who climbed their way up to be the top government administrator from lower-level posts within the province. Clearly, the Center has been exercising political control by assigning different types of officials to different localities.

### ***Greater Economic Openness, Tightened Central Political Control***

This first hypothesis of "central control" suggests openness has led to strengthening of political control by the Center. A most important motive why the Center would want to control more tightly the provinces that engage in more foreign trade and export could involve revenue collection by the Center for interprovincial redistribution. A growing number of econometric studies found a positive relationship between global market integration, especially through foreign trade, and economic growth in China (Dacosta and Carroll 2001; Chen and Feng 2000). That is, provinces that are more exposed to the international market tend to grow faster, earn more foreign exchanges, collect more revenues and often enjoy higher levels of wealth, measured by per capita GDP (Fan 1992b; Zhang and Kristensen 2001; Sun and Parikh 2001). Moreover, with economic openness, regional disparity within China seems to have also worsened as distance grew between the better-off coastal provinces and other provinces faring less well (Fujita and Hu 2001; Dayal-Gulati and Husain 2002).

In the meantime, if theoretical predictions on fiscal conflicts in the age of opening are correct, we can expect that provinces more integrated with the world market are more likely to resist potential redistributive demands from the Center. After all, if provincial politicians are

revenue-maximizers themselves who also confront increasing spending needs in their own jurisdictions, remission of more revenue to the Center for redistribution to other provinces can mean fewer resources at the disposal of the provincial leaders themselves. Greater political control is thus expected to reduce provincial resistance and ensure greater compliance from these provinces with revenue demands and redistributive goals of the Center.

Thus, extraction of more revenues for potential redistribution is more likely to be targeted toward provinces with more resources to spare, in this case, those provinces more exposed to the international market with faster-growing economies and higher levels of economic wealth. At this point, however, it is important to ask why the Center is more interested in controlling the richer, more globalized provinces than poorer provinces less exposed to international trade. Apparently, both groups could be disaffected with the Center in the age of economic openness, though for different reasons as we have discussed. On the one hand, the more open provinces would like to demand first greater fiscal autonomy in retaining and disposing of locally generated revenues. On the other, those provinces faring less well start to cry for greater central redistribution.<sup>13</sup> The hypothesis of increased control suggests the Center opts for greater control over the more globalized provinces for the following reasons.

First, greater control over provinces more integrated with the global market justifies the *raison d'être* of the Center. Indeed, demands for greater autonomy by the more globalized provinces could only be pacified at the expense of power and authority wielded by the Center. Even worse, at the limit, these demands would possibly lead to the regional secession and breakup of the country, directly imperiling the very rationale for the central government to exist.

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<sup>13</sup> Given these mutually conflicting demands, one weakness of the schools focusing upon the demand-side story might be the failure to ascertain why it is more likely that certain demands would carry the day.

In the meantime, greater extraction and redistribution of resources would expand the role of the central government and enhance its legitimacy.

Second, greater control over provinces more exposed to foreign trade would also yield more resources in the hands of the Center. Indeed, although some of the revenues extracted from these “cash cow” provinces will be later redistributed to those poorer, inland provinces as part of the regional balance transfers, undoubtedly much will remain at the Center, post-redistribution. These resources will then be available for central-level political actors to be used for a variety of purposes. In contrast, greater political control over the less globalized provinces will not bring extra revenues for central discretionary use later on. Since coercion is costly and central resources are limited, we thus expect that the Center will be focusing its wherewithal upon controlling the more globalized provinces.

In a word, to remedy yawning interprovincial economic disparity and maintain social stability, the Center could have incentives to exert tighter political control over more globalized provinces. Therefore, under the hypothesis of increasing control, officials with higher bureaucratic integration scores will be more likely to be assigned by the Center to provinces more exposed to foreign trade, *ceteris paribus*.

### ***Greater Economic Openness, Diminished Central Political Control***

Postulating weaker central control under greater market integration, advocates of this second hypothesis of “local autonomy” are in more consonance with the prevailing economic theories of economic openness reviewed above. On the demand side, increased economic benefits accruing to provinces more integrated with the global market not only induce them to demand more local autonomy in disposing of their own revenues, but could also empower them to bargain more effectively with the Center over vital issues such as the proper schemes to divide

tax revenues. In the context of China, the most powerful argument has been put forth by Susan Shirk. Through the notion of “reciprocal accountability,” Shirk contends that during the reform era the Center tends to cater to provincial interests due to the special role played by provincial leaders, as part of the “Selectorate,”<sup>14</sup> in deciding upon the fate of political succession at the Center (Shirk 1993, 1994, 1996).

Thus, if provincial leaders are really so powerful in the Chinese political system, greater market integration and more economic resources would make them clamor for more autonomy in handling and protecting their newly generated wealth. Such demands would be especially strong from those more globalized provinces, as they would have more to lose if central redistributive policy goals were to be fully implemented.<sup>15</sup> If their resistance is successful, we will find less central control with greater economic openness. That is, the Center would be less able to control those provinces more exposed to foreign trade by assigning pro-Center agents to govern these places.

On the supply side, the pursuit of economic growth as a policy goal of the Chinese Center during the era of reform and opening might have forced it to sacrifice some political control for greater economic efficiency. A long tradition in the social sciences privileges the vital importance of local fiscal autonomy that could more efficiently accommodate local preference heterogeneity and promote economic growth (Tiebout 1956; Weingast 1995); after all, who knows the needs of the local populace better than themselves?<sup>16</sup> Together with fiscal decentralization that has been lauded as promoting economic growth in the period at least before

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<sup>14</sup> Shirk is also perhaps one of the first scholars to use the term “Selectorate,” a coinage only recently popularized in political science by others (Bueno de Mesquita et al. 1999).

<sup>15</sup> For a sample of sources, both academic and journalistic, reporting growing local defiance toward the Center in the post-1978 era, see Footnote 3 in (Solinger 1996, 1).

<sup>16</sup> For a critique of this literature, see (Rodden and Rose-Ackerman 1997)

the new fiscal reform in 1994 (Montinola, Qian, and Weingast 1995; Oi 1992; Whiting 2001), the Center might have also intentionally ceded some political control over these provinces.

Thus, realizing the possible link between economic growth and revenue potential of a province and its success in foreign trade, the Center might also want to apply less central political control especially to those provinces more integrated with the international market. There is another possible reason for the Center to give up some political control to achieve economic gains. In exchange for their willingness to submit enough revenues to Beijing so that minimal central redistribution could still be maintained, the Center might want to make concessions in the realm of political autonomy to economically more open provinces. Indeed, theorizing along such lines, Malesky has argued that autonomy has grown in Vietnamese provinces receiving greater inflows of foreign direct investment (Malesky 2004). It is conceivable that the Chinese Center could pursue similar strategies.

**[Table 1 about here]**

To sum up, under this hypothesis of declining control, which I call the “local autonomy” hypothesis in this study, more foreign trade exposure in the province is first expected to reduce the degree of bureaucratic integration as the Center finds it more difficult to control the provinces by appointing people it considers more sympathetic to pro-Center positions. This could happen for two reasons. First, local demands for having an “insider” (more likely to succumb to local influence) to preside over their provinces are harder to resist if the provinces have become more powerful as a result of increased wealth and bargaining power vis-à-vis the Center. Second, the Center might be trading off political control for goals of economic growth by opting to appoint officials with better and greater “local knowledge.” The expected effects under the different hypotheses are summarized in Table 1.

### ***Career Mobility and Central Political Control***

It might be argued that political control can also be measured by examining the promotion and demotion patterns of provincial officials. It sounds plausible that promotion could be used as a reward for previous compliance with central policy directives. While it might be more practical to code lower-level officials as Landry's recent work on Chinese mayors has shown (Landry 2002), two difficulties arise for classifying provincial-level officials. First, it is extremely difficult to distinguish promotion from a lateral move or even demotion in Chinese politics (Shih 2003 [forthcoming]). For instance, Ye Xuanping's removal from the gubernatorial post in Guangdong as mentioned earlier was followed by his move to a titular position at the Center, a nominally higher office than governorship but of course far less powerful in reality.

Second, even if there was a clear and tangible distinction, opportunities for upward mobility for provincial officials in the Chinese political system seem extremely limited. According to one estimate (Bo 2002, 77), only around 3 percent of all provincial officials (also including deputy Governors and vice Party Secretaries) were ever promoted during 1949-1998. One reason is that provincial officials are already quite high along China's ladder of bureaucratic hierarchy. If this is so, not much variation will be expected in our dependent variable for top provincial leaders, a dreadful sin to be shunned in empirical social sciences (King, Keohane, and Verba 1994). Thus, while useful for other purposes, patterns of career mobility are not used as an indicator of central political control in this study.

## **IV. ECONOMIC OPENNESS AND BUREAUCRATIC INTEGRATION**

### ***Model Specifications***

A two-way fixed-effects model is used to estimate the bureaucratic integration of the top provincial leadership (Party Secretaries and Governors). In equation (1),  $BIT_{i,t}$  refers to the score

of bureaucratic integration for the leading provincial official in province  $i$  for year  $t$ . The coding methods adopted for our purposes ensure that there is one unique observation for the top government or party official in a certain province for each year. In order to see whether the dynamics differ for Governors and Party Secretaries, tests are run separately for these two groups of officials. Meanwhile,  $\alpha_i$  is a province-specific intercept designed to capture those unobservable effects “fixed,” that is, invariant, to each provincial level unit, which is equivalent to adding a dummy variable for each individual province (Green, Kim, and Yoon 2001).<sup>17</sup>

$$\mathbf{BIT}_{i,t} = \alpha_i + \lambda_t + \mathbf{Personal}_{i,t} \beta_1 + \mathbf{Openness}_{i,t-1} \beta_2 + \mathbf{Economic}_{i,t-1} \beta_3 + u_{i,t} \quad (1).$$

Similarly,  $\lambda_t$  is an annual dummy variable to account for year-specific effects not included in the model. There is another important reason for including the year dummies in our model. More specifically, we have to control for temporal autocorrelation due to the time-series cross-section nature of our data. That is, bureaucratic integration of the official in a province for a year could be related to that of the earlier (or next) year. I am not aware of any methodological consensus on exactly how to remedy problems arising from potential serial correlation in ordered logit or probit models with more than 2 outcomes (see below). Beck et al. have recommended the use of year dummies in probit or logit models with binary outcomes as a solution to potential temporal autocorrelation (Beck, Katz, and Tucker 1998), advice I decide to adopt for our purposes here even though our dependent variable is of 4 outcomes.

$\mathbf{Personal}_{i,t}$  is a matrix of control variables for the leading official in province  $i$  during year  $t$ . Specifically included here are a dummy variable on the native province (*Native Province*) of the official (with a value of 1 if the official’s native province coincides with the one he or she

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<sup>17</sup> A simple Hausman specification test warrants the use of provincial dummies here, but there is some controversy over the merit of using regional dummies for models with discrete dependent variables, as is the case here (Beck and Katz 2001). We also drop the regional dummy variables for our robustness checks, and the results remain largely unchanged. See below.



is presiding over, 0 otherwise), the age of the official (*Age*, in years), and a dummy variable over whether the official belongs to an ethnic minority nationality (*Nationality*) in China (with a value of 1 if the official has a minority nationality, and 0 otherwise). We also use a dummy variable (*Overlap*) indicating whether the official serves concurrently as both Governor and Party Secretary in the province (with a value of 1 for those assuming both posts and 0 otherwise). Finally, we add a dummy variable on the official's educational status (*Education*, with a value of 1 indicating attainment of higher education, and 0 otherwise).

These five variables are intended to control for the effects of an official's personal characteristics upon his/her career trajectories and degree of bureaucratic integration used here as a proxy of central political control over the province where the official is serving. For our purposes, it is crucial to disentangle the effects of these individual characteristics from those exerted by the provincial-level traits such as the degree of world market integration that are of more interest here. Of course,  $\beta_1$  is a matrix of coefficients for these five control variables. Since we run the test for Governors and Party Secretaries separately, these variables only refer to the official at issue in a specific model. For instance, in a model for Governors, *Nationality* only refers to the nationality of the Governor in a province for a certain year.

$Openness_{i,t-1}$  is our main independent variable measuring the degree of integration of province  $i$  with the international market in the previous year ( $t-1$ ). A one-year lag is adopted to control for mutual causality. As discussed here, we use the share of total foreign trade of the province in its provincial GDP (*Trade Openness*, %) as an indicator of the province's degree of trade exposure to the international market. As an alternative measure, we also use the shares of export (*Export/GDP*, %).  $\beta_2$  is a vector of coefficients for our openness variables.

$Economic_{i,t-1}$  is a matrix of control variables measuring the socio-economic traits of the province  $i$  in year  $t-1$ . In particular, we want first to control for the possible effects of the size of provincial population (*Population*), measured through provincial population as a share of national total for a year, in percentage, on the Center's interests in applying political control. We also add a variable on provincial government investment (*Government Investment*), measured through provincial government budgetary investment in capital construction as a share of total provincial investment in capital construction, in percentage. Following up on Huang's argument that central political control has been an effective tool of curbing local investment urges (Huang 1996a) during much of the era under study here, we want to test whether greater central control has been applied toward provinces with higher government investment in the first place.  $\beta_3$  is a matrix of coefficients for these two socio-economic variables.

Ideally, we might also want to control for the level of economic development using *per capita GDP*, measured in 1977 constant 1000 RMB Yuan and logged.<sup>18</sup> Presumably, the Center would be interested in controlling those more economically developed regions, all else equal. I, however, choose not to include it in our baseline estimation because of its high collinearity with our openness variables.<sup>19</sup> Too much collinearity might conceal true relationship between the variables and make results of estimation uncertain (Gujarati 1995, Chapter 10). Still, we show in our robustness analyses in the appendix that results from our baseline estimation remain unchanged with inclusion of this variable on level of economic development although it does seem to make the interpretation of the Models on Governors a little uncertain. Finally, Data on

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<sup>18</sup> Due to data limitations, provincial general retail price indices from (Guojia Tonji Ju [State Statistical Bureau] 1999, 2002b), NOT provincial general consumer price indices are used as GDP deflators. Available data for both series are correlated positively at about 0.964.

<sup>19</sup> Pearson correlation (2-tailed,  $p=0.000$ ) is 0.62 between per capita GDP and trade/GDP, and 0.61 between per capita GDP and export/GDP.

all the economic variables are collected from the various national and provincial level official statistical yearbooks.<sup>20</sup> Of course,  $u_{i,t}$  is the disturbance term.

### ***Estimation Issues***

Although we are interested in how central political control over the provinces is affected by the degree of trade exposure, we regard it as a latent variable to be manifested in several ways in our observable data. In this paper, I use bureaucratic integration scores of provincial Governors and Party Secretaries as the observable indicators of central political control. While the latent variable could be continuous, our measure on bureaucratic integration is discrete, taking on the four values of 1 to 4, with 1 indicating the least amount of control and 4 the most. Even though we have theorized about the direction of control, unfortunately we do not know whether the value of 4 carries exactly four times as much of control as the value of 1; that is, the distance among the different categories of bureaucratic integration could differ.

In such cases, ordinary least squares estimation could be misleading; an *ordered logit* or *ordered probit* model seems more fit (Greene 2000, Chapter 19; Long 1997, Chapter 5). We use an ordered logit model to estimate the bureaucratic integration of Governors and Secretaries, separately, in this section. To test the robustness of our results, however, I also recode our dependent variable on bureaucratic integration into a binary variable equaling a value of 1 indicating that the official is either a concurrent centralist or a centralist, and a value of 0 otherwise.

In the meantime, it might be objected that not including the bureaucratic integration of the Governors in a model for the Party Secretaries could lead to the problem of the missing variable bias since the degree of integration for the top Party and government officials in the

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<sup>20</sup> See the appendix for a fuller discussion of the sources of provincial economic data used here.

province could often be correlated. While this could be true and ideally could be remedied through a system of equations setup to control for possible endogeneity, we avoid such an approach of including the bureaucratic integration of the other top official in the model here. Our interest has been in examining the effects of economic openness on political control and the BIT values of Governors and Secretaries could be regarded in a sense as two alternative measures of political control here. Although we also tried the approach of “seemingly unrelated estimation” that does not simply assume away possible contemporary covariance between the two models for Governors and Party Secretaries (Judge et al. 1985, Chapters 12, 13; King 1989, 201), the standard errors obtained from the SUEST approach are nearly identical with those from estimating the two models separately.<sup>21</sup>

Therefore, we use the latter in reporting and interpreting the results because they are easier to be transformed into values for more straightforward interpretation (see below). In addition, the standard errors to be reported below have been obtained through “clustering” upon individual IDs of the officials. Although I have sought to control for the individual characteristics of the provincial officials, we are concerned that observations on the dependent variable are not independent if the same individual official is moved from the top post in one province to that of another and thus observed in more than one locality. Failure to cluster on individual IDs might artificially deflate the standard errors of the coefficients.

Furthermore, the conventional “rule of thumb” (Beck 2001, 274) requires that the number of time units observed for a unit be at least 10 ( $T > 10$ ) for reasonable application of time-series cross-section statistical methods. This creates a problem for Chongqing that became a provincial-level municipality in 1997, thus providing only 5 years of observations. In the

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<sup>21</sup> I thank Professor Kenneth Scheve for reminding me of the defense on not using simultaneous equations here and the need to use SUEST, and Professor Jeroen Wessie of Utrecht University for help on how to program the test with *Stata*. The results obtained with “SUEST” are available upon request.

analyses reported below, I have chosen to keep Chongqing because of the wish to provide a “full perspective” and the fact that excluding Chongqing does not seem to affect the results in any way. Finally, we have slightly more observations on the export/GDP variable than on export+import/GDP. To make results from models using these two alternative measures of economic openness more comparable, I have deleted those additional observations on export.

### ***Results from Baseline Ordered Logit Analyses***

The results from the baseline ordered logit analyses are presented in Table 2, with Models 1-4 for Party Secretaries and Models 5-8 for Governors. Models 1, 3, 5 and 7 use total trade (Export+Import/GDP, %) as our main independent variable; Export/GDP is used in Models 2, 4, 6 and 8. Moreover, Models 3 and 4, 7 and 8 provide estimation results that do not include provincial fixed effects. Results from models with or without provincial fixed effects, however, seem largely consistent with each other. Interestingly, different dynamics seem to be at play for the two different categories of top provincial cadres. While the Center seems to have tightened control over the Party Secretaries in provinces that are more exposed to the world market (especially those that export more), its grip declines over the Governors in more trade-dependent provinces.

### **[Table 2 about here]**

*Party Secretaries.* Consistent with the expectations of the central control hypothesis, both measures of market integration – trade/GDP and export/GDP are found to be *positively* associated with the degree of bureaucratic integration of Party Secretaries. Although trade openness is only slightly significant in Model 1 with provincial fixed effects (at the 0.1 level), it is highly significant in Model 3 where we include only year dummy variables. Export/GDP, on the other hand, is highly significant (at 0.01) in both Models 2 and 4. This implies that, all else

equal, the Center seems to be assigning to trade-dependent and export-oriented provinces Party chiefs more likely to be holding a concurrent central office, with significant central experience or careers at another province. That is, these provinces with greater international trade exposure are controlled more tightly by the Center and the top Party officials in these provinces will be more likely to be sympathetic to any central policy perspectives.

Since we cannot directly observe the latent variable of political control through the degree of political closeness between the provincial top officials and the Center, we cannot interpret results from an ordered logit model by reading off the estimated coefficients. In what follows, we use predicted probabilities for our dependent variables along different values of our openness variable, and the technique of “first difference” effects to interpret the results from our ordered logit analyses. Because results from models with or without provincial fixed effects are largely consistent, we choose to use the former for our interpretation purposes because they seem to be giving us results that are more conservative. Between the two openness measures, I choose export/GDP for our Secretary models because this variable seems to have more significant effects than the overall trade/GDP measure. The opposite, however, is true for the Governor models, as we will see below.

**[Figure 5 about here]**

One common way of interpreting results from ordered-logit analyses is to look at the predicted probabilities for different categories of outcomes (our four types of officials with different degree of bureaucratic integration) along different values of our major independent variable of interest, while holding all other independent variables constant. For instance, using Export/GDP share as our independent variable, I have plotted the predicted probabilities for the four types of officials in Figure 5. When a hypothetical province’s Export/GDP share is 5%, the

predicted probability for having a Party Secretary that is of one of the four categories is about 0.26 (localist), 0.57 (outsider), 0.15 (centralist), and 0.02 (concurrent centralist). The higher probability of having an outsider Party Secretary than that of having a localist one even at this low level of openness might reflect the fact that Party Secretaries are in general less likely to be a localist (than Governors, as we will see below). It seems quite common for the Center to shuffle Party Secretaries among the provinces given the powerful nature of the office of Party Secretary in the provinces.

When the Export/GDP share rises to 40%, the probability of having a localist drops to 0.04, and that of having an outsider to about 0.28. Meanwhile, the probability of having a “centralist” climbs to 0.46, with that of having a “concurrent centralist” rising to about 0.21. At the maximum value of 89.67% in our sample (Guangdong, 1994), the predicted probabilities become 0.01 for having a localist, 0.05 for having an outsider, 0.17 for having a centralist and 0.77 for having a concurrent centralist as the provincial Party Secretary. A province exporting more can expect its provincial Party Secretary, the top-ranking official in the province, to be more bureaucratically integrated. S/he is politically more controlled by the Center either because of the substantial periods of a prior career spent at the Center or through a concurrent position at the Center such as the Politburo membership in the Communist Central Committee.

**[Table 3 about here]**

A similar method of interpretation using the notion of probability is to obtain the “first difference” effects of independent variables through simulations. Following King, Tomz and Wittenberg (King, Tomz, and Wittenberg 2000; Tomz, Wittenberg, and King 2003), I simulated these effects and presented them in Table 3. The results are largely the same with regard to our Export/GDP share variable. Holding all other variables at their mean values, increasing

Export/GDP share by 1 standard deviation (about 11.42%) from its mean (about 9.51%) can on average reduce the probability of a province having a localist Party Secretary by about 0.09, and that of having an outsider by about 0.07. In contrast, the probability of having a centralist and concurrent centralist rises by about 0.13 and 0.03 respectively.

In the meantime, our government investment variable, which measures the propensity of provincial governments to engage in capital construction investment, seems to be negatively related to central political control over Party Secretaries. This is counterintuitive since Yasheng Huang (Huang 1996a) has compellingly shown political control as an effective tool in curbing local investment urges. This variable, however, is not significant at any conventional level for our models here. The same seems also true of our variable on provincial size measured through shares of provincial population in national totals.

Age seems to be a positive and significant determinant (at 0.1 in our Models 1 and 2 with provincial fixed effects and at 0.01 in Models 3 and 4) of the Secretary's "closeness" with the Center. This implies that as a person advances in age, s/he is more likely to carry a career trajectory involving working at more places (other than the province the official is observed as currently serving). Not surprisingly, being able to work in one's native province is associated with lower bureaucratic integration, consistent with the notion that posting a native son/daughter in the provincial top position could weaken central political grip (Li and Bachman 1989). Belonging to an ethnic minority group also reduces an official's bureaucratic integration indicating that a minority official is more likely to be stationed close to home. However, the negative coefficients on both variables are only significant in the two models without provincial fixed effects. Finally, higher educational status and whether the Secretary also works



concurrently as a Governor are not significant predictors of the Secretary's political distance with the Center or the degree of the latter's control over the province.

*Governors.* The story on economic openness and political control for the Governors seems very different. While growing trade exposure tends to increase central political control over the provincial Party Secretaries, the opposite could be said for the Governors. Again in Table 2, both measures of economic openness are found to be negatively (statistically significant at 0.01 for Export+Import/GDP and at 0.05 for Export/GDP) related to the Governors' bureaucratic integration scores in both models that include provincial fixed effects (Models 5 and 6). While Export+Import/GDP is still significant (at 0.1) if provincial fixed effects are dropped, Export/GDP is no longer significant at conventional levels. We choose to use *Trade Openness* (Export+Import/GDP, %) from Model 5 as our major openness variable for interpretation purposes because it seems to give the strongest evidence against our hypothesis of increasing central political control.

**[Figure 6 about here]**

As is in the case of interpreting the Party Secretary Models, I plot the predicted probabilities of having different degree of bureaucratic integration for provincial Governors based upon different degree of economic openness. What we see in Figure 6, however, seems less interesting than what we have observed for the case of Party Secretaries. Localist Governors seem to be the norm regardless of the level of economic openness, although the probability of having a localist Governor increases while that of all three other categories diminishes as a province becomes more dependent on foreign trade. The predicted probability of its having a localist Governor is already exceeding 0.9 when a province's Export+Import/GDP share reaches

about 50%. Furthermore, it seems that the predicted probability of observing a Governor that is a concurrent centralist is extremely low.

We also simulate the “first difference” effects as above. As seen from Table 3, increasing Export+Import/GDP share by 1 standard deviation (about 20.3%) from its mean (14.76%) will raise the probability of having a provincial localist Governor (who spent all of his previous career in the province) by over 0.23. It will lower the probabilities of having an outsider, centralist or concurrent centralist as the Governor by 0.15, 0.08, or 0.005 respectively. That is to say, the more a province is exposed to the world market, the less likely that it will have a Governor with significant outside-the-province experience. For our purposes, this seems to be indicating that greater market integration for a province has led to diminished central political control with regard to the provincial Governors.

In the meantime, as is the case with Party Secretaries, we do not find any significant effects for population size or government investment. Finally, most personal characteristics of Governors do not seem to be related to the official’s degree of political integration with the center, except for the variable on whether the Governor also happens to be serving as the Secretary. The positive and highly significant coefficient (at 0.01 across all four models in Table 2) on the latter indicates that Governors who concurrently serve as Party Secretaries tend to be more politically controlled by the Center. With simulated “first difference” effects, this means that compared with a Governor who is not a concurrent Party Secretary of the same province, observing an official who serves both positions at the same time will reduce the probability of his/her being a localist by about 0.42, while increasing the probability of his/her being a centralist by about 0.32. This seems plausible as the Center is more likely to entrust a Governor with a concurrent top party post in the province if the official has a prior career trajectory that is

more friendly towards the Center (i.e. less likely to be an official who made his/her career within the province).

### ***Results from Logit Analyses***

The results presented above seem to have largely obtained when other variables such as real provincial per capita GDP to control for level of economic development and the role of FDI, another common measure of economic openness. I report the results from these robustness analyses in Table A2 in the appendix. In the meantime, in order to test the robustness of our results to the coding of the dependent variables further, I recode our bureaucratic integration variable into a binary variable with a value of “1” for those officials originally coded as “centralists” or “concurrent centralists,” and “0” otherwise. I then conduct logit analyses for both Secretaries and Governors and report the results in Table 3.

### **[Table 3 about here]**

Indeed, analyses from logit models largely confirm the findings from ordered logit estimations presented earlier. Indeed, our economic openness variables continue to be positively related to bureaucratic integration of Party Secretaries. The results are significant across all four models, at 0.1 in Model 9 with Trade Openness as the independent variable, at 0.05 in Model 10 with Export/GDP as the openness proxy, and at 0.01 in both Models 11 and 12 without provincial fixed effects. This indicates that provinces more exposed to foreign trade, especially export, are more likely to have top officials with either significant central work experience or holding a concurrent position at the Center. That is to say, these provinces are under tighter political control by Beijing. In the meantime, the negative effects of trade openness in the Governor models seem less robust with logit analyses. The coefficient for openness (Export+Import/GDP, %) is only significant in one model with provincial fixed effects (Model

13). This implies that trade exposure is still likely related to reduced central political control over the governors, but these results are more sensitive to our coding of the dependent variables.

### *Summary*

Overall, two very different sets of logic seem to be operating behind the degree of central political control for provincial Governors and Party Secretaries in the era of economic decentralization, reform and opening. On the one hand, trade openness, especially export performance has led the Center to tighten its control over the provinces by appointing Party Secretaries whose prior career trajectories would make them less susceptible to capture by local interests and more sympathetic with a central policy perspective, as is expected by the hypothesis postulating increased control with growing economic openness. On the other hand, provinces more exposed to foreign trade seem more likely to be ruled by Governors more locally-oriented in previous career path and thus perhaps less politically controlled by the Center. This finding, though somewhat less robust, on the Governors also seems to lend some empirical support for the hypothesis of increasing local autonomy, predicted by theories of economic integration and national disintegration.

Such weakened central control with regard to Governors could result from demands from the localities economically empowered by decentralization and opening and perhaps better positioned to bargain with the Center in picking leaders to local likings. It could also reflect the trade-offs the Center has had to make between two inherently conflicting goals of governing the localities. Pursuit of control ensures policy compliance but might hurt local incentives and economic growth vital for legitimating the regime, which requires efficiency and indigenous knowledge provided better by officials with greater local experience.

Tempting as it is, it would be premature to conclude at this point that the effects of economic openness are at best mixed and thus indeterminate. This, however, could miss the larger point. We also have to take into account the resilient primacy of the Communist Party over government at each level of the country's administrative apparatus (Lieberthal 1995). Despite the inevitable tradeoffs entailing loosened control over the Governors in face of growing integration with the world market, the Center seems to have focused upon tightening control over the more powerful officials at the provincial level, the Party Secretaries. The wish might be that effective control of the latter could remedy diminished grip over the former, and the twin benefits of economic efficiency and central political control be reaped optimally.

## VI. CONCLUSION

To sum up, this paper with a top-down perspective has taken issue with the bottom-up approach and dire predictions of economic theories on international economic integration and national disintegration and scholarship in Chinese political economy that would imply the rise of provincial political power at the expense of the central control. To be sure, our evidence shows that economic openness might have led to weakened central political control over the executive leadership of the provinces in that Governors with more local experience and perhaps parochial policy outlook are more likely to be posted in provinces exposed to foreign trade. Nevertheless, such evidence has to be interpreted in the context of party dominance over the government. A more persuasive interpretation of evidence from systematic analyses of our empirical data, meanwhile, indicates that the Center has tightened political control, especially through and within the communist party institutions, over provinces more exposed to the international market.

“Ex ante” political control has been exercised by the Center through appointing Party Secretaries, still the top political officials of a province, with career trajectories that will make

them less susceptible to the narrow local interests and policy perspectives identified with the very locality they are serving as incumbents. More specifically, Secretaries with greater central career experience or longer years spent in other provinces, with higher scores of bureaucratic integration for our purposes, will be more likely to serve in the more open provinces (especially those that export more). Thus, increased control in these areas might have compensated for any weakening of central grip shown through the lower bureaucratic integration of Governors in those provinces. Besides, waning control over Governors could partly reflect difficult tradeoffs confronted by the Center between necessary political control to check the potentially centrifugal forces unleashed by economic opening and decentralization on the one hand, and pursuit of economic efficiency, an equally powerful imperative for the ruling Communist Party on the other.

While casting empirical doubt over arguments linking China's opening and reform with gradual central political decline, our findings also have wider implications for the broader political economy literature. Despite the dismal predictions of national disintegration under growing fiscal conflicts by prevailing economic theories on economic openness and regional separatist tendencies, empirically we have found few cases of break-up of nation-states because of a link to the international market. This study identifies a possible political mechanism whereby the Center could manipulate institutions of control for alleviating central-provincial preference divergence engendered in the process of opening up to the global marketplace. Despite the different ways political institutions of control operate in different settings, it is feasible that the concept of central political control could be applied to other political settings to see whether similar stories could be told there, why or why not.

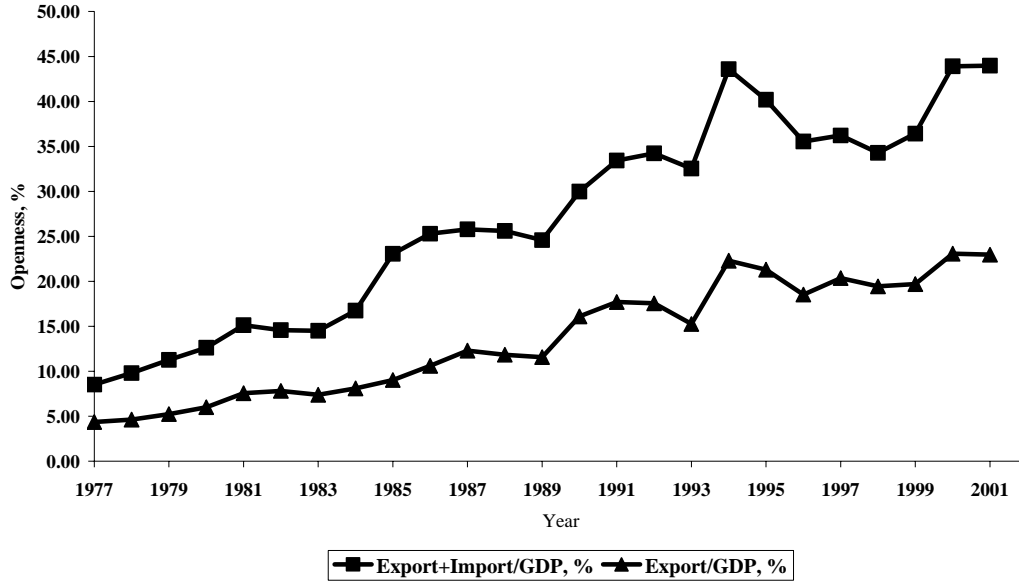
Furthermore, the notion of political institutions being "endogenous" is germane to one large body of scholarship on globalization and the expansion of public economies that often

treats institutions as “exogenous.” Despite the prominence of institutions such as labor unions and leftist parties in this literature, we know little about how these institutions have evolved under increasing global market integration. Neither do we understand much about the link between the weakening or strengthening of such institutions along their national-subnational dimensions on the one hand, and government involvement in the economy on the other. Pursuit of cross-national research along these lines thus could be highly fruitful.

Finally, while evidence presented here in this paper indicates that overall central political control has increased for Chinese provinces more exposed to foreign trade during 1977-2001, our conclusions should not be seen as absolute. As the political system in China continues to evolve, the story to be told in the future about the central-provincial political dynamic could change as well. Until that time comes, however, an approach privileging the hypothesis of central political control seems more empirically warranted for the period covered in our study. After we have attempted to identify the role of economic openness in strengthening or enervating central control over the provinces in the reform and opening era, the more interesting questions that logically follow would then be whether varying central political control have engendered different effects over the various policy realms, and what kind of effects these are, if any. Answers along these lines would await more exciting research endeavor in the future.

# Figures and Tables in Text

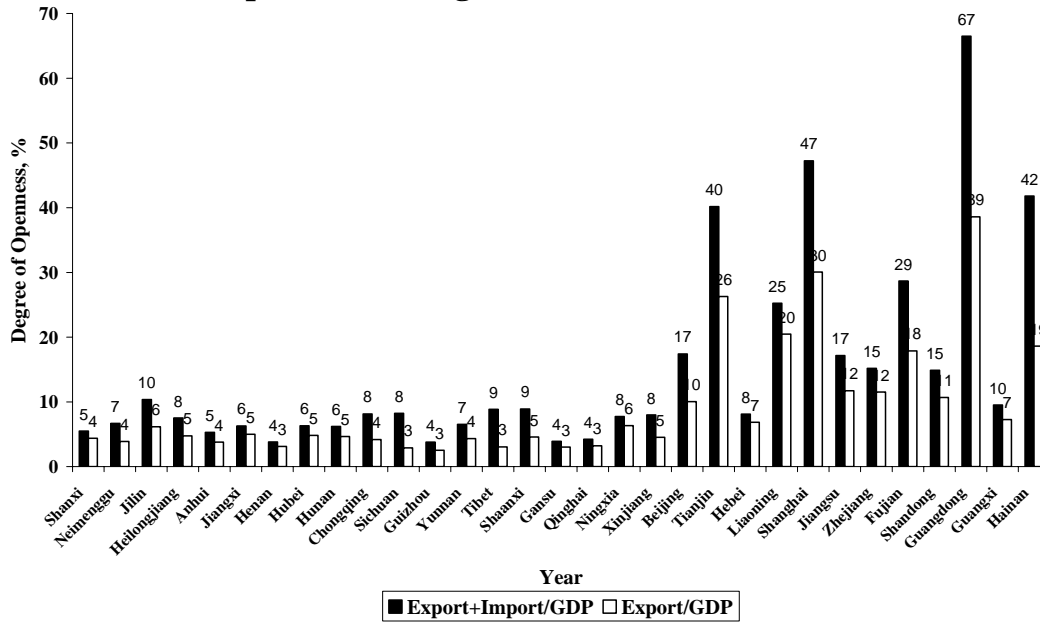
## Figure 1 Economic Openness in China (1977-2001)



Source: (Guojia Tonji Ju [State Statistical Bureau] 1999, 2002a)



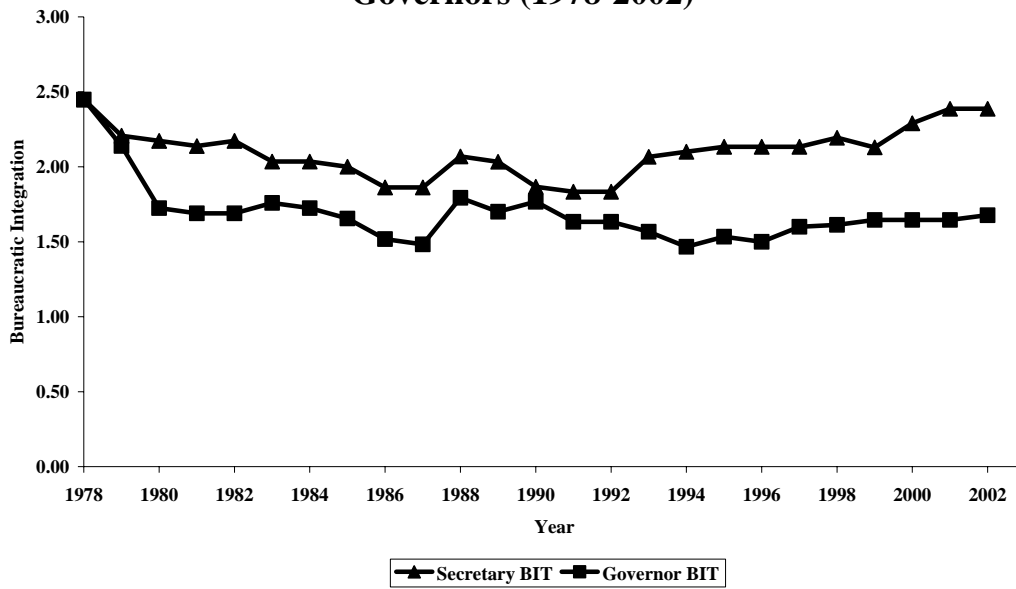
**Figure 2 Cross-Sectional Variation in the Degree of Trade Openness among China's Provinces (1977-2001)**



Note: The coastal provinces refer to those to the right of Xinjiang (from Beijing to Hainan). Import and export data for Neimenggu, Jiangsu and Guangdong start from 1978. Jiangxi's import data start from 1978, export data from 1977. Hainan's data start from 1988; Chongqing's data start from 1997. Shaanxi's import data start from 1984. Finally, data are missing for Tibet in 1986.

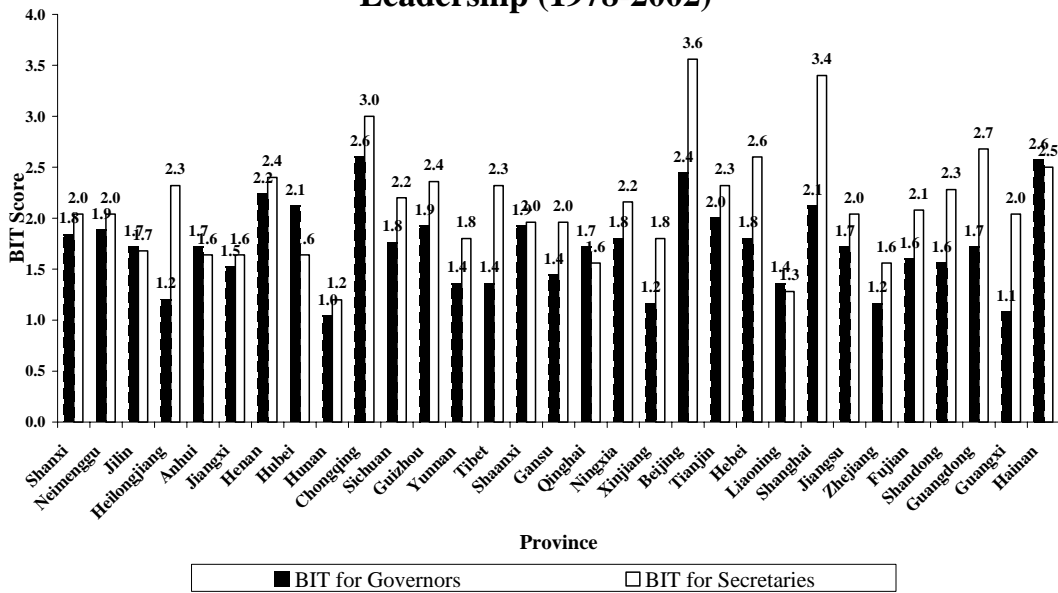
Source: 1977-1985 data are from (Guojia Tonji Ju [State Statistical Bureau] 1999), 1986-2001 data are from (Ministry of Foreign Trade and Economic Cooperation 1986-2002).

**Figure 3 Average Bureaucratic Integration (BIT) Scores for Provincial Party Secretaries and Governors (1978-2002)**



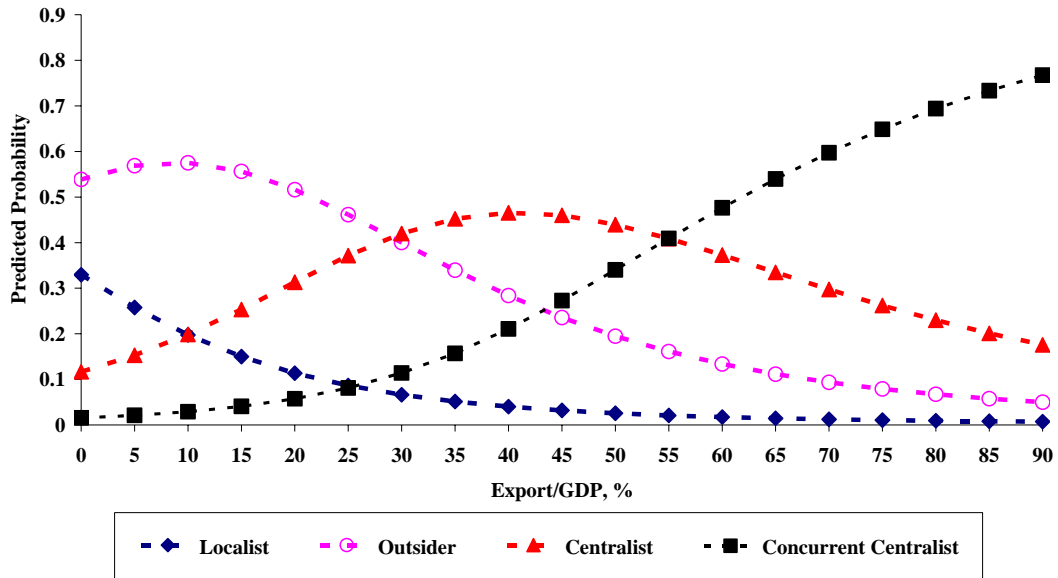
Source: Author's dataset.

**Figure 4 Cross-sectional Variation in the Bureaucratic Integration (BIT) of the Top Provincial Leadership (1978-2002)**



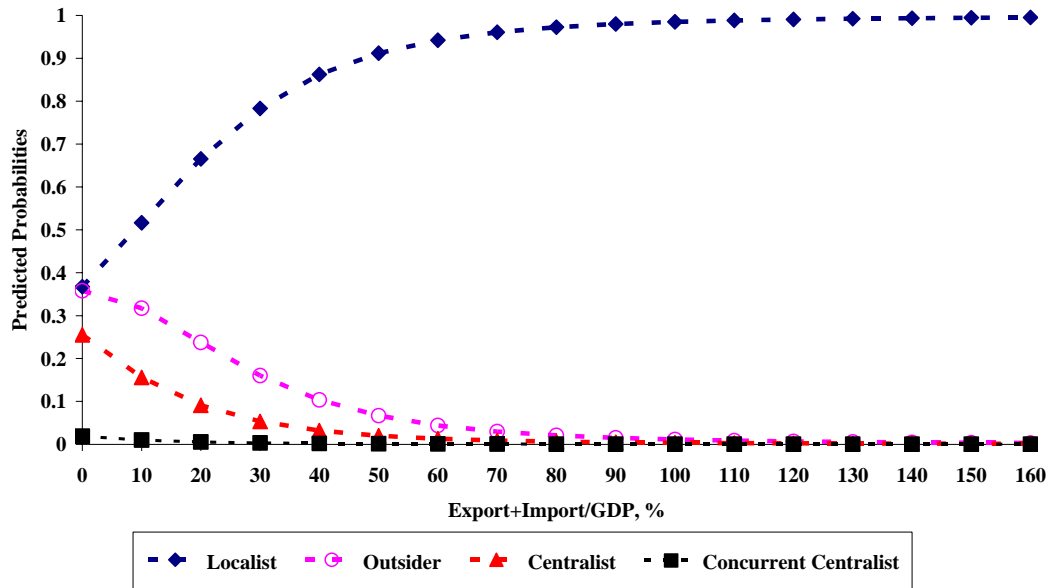
Note: Again, the coastal provinces refer to those to the right of Xinjiang (from Beijing to Hainan).  
 Source: Author's dataset.

**Figure 5 Predicted Probabilities for Party Secretary  
Bureaucratic Integration by Export/GDP, %**



Note: Predicted probabilities are calculated and plotted according to simulations (1000 times) recommended in (King, Tomz, and Wittenberg 2000; Tomz, Wittenberg, and King 2003), through holding all other independent variables (including the year and provincial dummies), except for our variable of interest here – Export/GDP, at their mean values.

**Figure 6 Predicted Probabilities for Governor Bureaucratic Integration by Export+Import/GDP, %**



Note: Predicted probabilities are calculated and plotted according to simulations (1000 times) recommended in (King, Tomz, and Wittenberg 2000; Tomz, Wittenberg, and King 2003), through holding all other independent variables (including the year and provincial dummies), except for our variable of interest here – Export+Import/GDP, at their mean values.

**Table 1**  
**Expected Signs of the Effects of Economic Openness on Central Political Control**

	Effects of Openness Expected Under Competing Hypotheses	
	Central Control	Local Autonomy
Bureaucratic Integration for Governors	+	-
Bureaucratic Integration for Secretaries	+	-

**Table 2 Ordered Logit Analyses of the Effects of Economic Openness on Bureaucratic Integration of Top Provincial Officials (1978-2002): Baseline Results**

	Party Secretary				Governor			
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
<b>Age</b>	0.064* (0.035)	0.067* (0.035)	0.090*** (0.034)	0.090*** (0.034)	0.028 (0.044)	0.022 (0.043)	0.036 (0.040)	0.033 (0.040)
<b>Education</b>	0.702 (0.571)	0.700 (0.562)	0.508 (0.440)	0.523 (0.434)	0.496 (0.561)	0.442 (0.549)	0.366 (0.471)	0.359 (0.471)
<b>Nationality</b>	-1.882 (1.463)	-1.912 (1.472)	-1.940* (1.157)	-1.931* (1.162)	-0.242 (0.985)	-0.234 (1.006)	-0.787 (0.620)	-0.741 (0.616)
<b>Native Province</b>	-0.976 (0.613)	-0.946 (0.612)	-1.126** (0.525)	-1.125** (0.526)	-0.562 (0.512)	-0.508 (0.529)	-0.560 (0.453)	-0.560 (0.450)
<b>Overlap</b>	0.742 (0.619)	0.849 (0.619)	0.403 (0.482)	0.554 (0.483)	1.981*** (0.675)	1.805*** (0.599)	1.907*** (0.645)	1.818*** (0.600)
<b>Govt. Investment</b>	-0.010 (0.016)	-0.010 (0.016)	0.012 (0.014)	0.014 (0.014)	0.027 (0.022)	0.027 (0.023)	-0.004 (0.020)	-0.006 (0.020)
<b>Population</b>	-0.388 (0.503)	-0.368 (0.485)	0.014 (0.078)	0.012 (0.077)	1.549 (1.125)	2.273 (1.870)	-0.055 (0.092)	-0.050 (0.092)
<b>Trade Openness, %</b>	0.031* (0.017)		0.029*** (0.010)		-0.063*** (0.021)		-0.014* (0.008)	
<b>Export/GDP, %</b>		0.069*** (0.026)		0.048*** (0.018)		-0.078** (0.035)		-0.017 (0.015)
<b>Cut 1</b>	-1.655 (2.693)	-1.315 (2.702)	5.197 (2.241)	5.511 (2.254)	2.531 (3.758)	2.931 (4.061)	2.634 (2.545)	2.278 (2.503)
<b>Cut 2</b>	1.015 (2.652)	1.369 (2.665)	7.346 (2.276)	7.660 (2.292)	4.097 (3.751)	4.461 (4.054)	3.925 (2.548)	3.564 (2.503)
<b>Cut 3</b>	3.339 (2.532)	3.719 (2.550)	9.066 (2.246)	9.367 (2.262)	7.187 (3.677)	7.493 (3.990)	6.658 (2.576)	6.301 (2.533)
<b>Provincial Dummies</b>	Yes	Yes	No	No	Yes	Yes	No	No
<b>Year Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Pseudo-Log Likelihood</b>	-698.848	-695.109	-822.289	-823.259	-623.68	-633.896	-720.992	-723.45
<b>No. of Provinces</b>	31	31	31	31	31	31	31	31
<b>Observations</b>	725	725	725	725	725	725	725	725
<b>Wald <math>\chi^2</math></b>	254.8	290.03	66.24	65.1	142.55	156.55	47.86	46.99
<b>Prob &gt; <math>\chi^2</math></b>	0.000	0.000	0.0004	0.0005	0.000	0.000	0.0354	0.0425
<b>Pseudo <math>R^2</math></b>	0.2243	0.2285	0.0873	0.0862	0.1871	0.1737	0.0602	0.057

Note: The dependent variable is the bureaucratic integration of Provincial Party Secretaries and Governors measured via an ordinal value of 1-4. Coefficients and standard errors for provincial and year dummy variables are not reported. Robust standard errors with clustering on individual IDs of the officials are in the parentheses; \*\*\*: p<0.01; \*\*: p<0.05, \*: p<0.1 (2-tailed tests).

**Table 3 “First Difference” Effects of Economic Openness upon Bureaucratic Integration of Leading Provincial Officials (1978-2002)**

	<b>Localist</b>	<b>Outsider</b>	<b>Centralist</b>	<b>Concurrent Centralist</b>
<b>Party Secretary</b>				
<b>Export/GDP, %</b>	-0.094 (0.030) [-0.150, -0.033]	-0.069 (0.051) [-0.186, 0.001]	0.131 (0.055) [0.033, 0.252]	0.032 (0.020) [0.006, 0.081]
<b>Governors</b>				
<b>Export+Import/GDP, %</b>	0.235 (0.065) [0.087, 0.345]	-0.150 (0.047) [-0.238, -0.048]	-0.080 (0.023) [-0.130, -0.033]	-0.005 (0.003) [-0.013, -0.001]

Note: Obtained according to simulations (1000 times) recommended in (King, Tomz, and Wittenberg 2000; Tomz, Wittenberg, and King 2003), through holding all our independent variables at their means (including the variable of interest), and moving the variable of interest by 1 standard deviation. The standard errors are in the parentheses and 95% confidence intervals in brackets.



**Table 4 Logit Analyses of the Effects of Economic Openness on Bureaucratic Integration of Top Provincial Officials (1978-2002): Sensitivity Results<sup>a</sup>**

	Party Secretary				Governor			
	Model 9 <sup>b</sup>	Model 10 <sup>b</sup>	Model 11	Model 12	Model 13 <sup>c</sup>	Model 14 <sup>c</sup>	Model 15	Model 16
<b>Age</b>	0.081 (0.063)	0.084 (0.064)	0.096* (0.050)	0.097* (0.050)	0.084 (0.059)	0.077 (0.059)	0.050 (0.053)	0.049 (0.053)
<b>Education</b>	1.098 (0.704)	1.074 (0.700)	0.849 (0.539)	0.840 (0.529)	0.623 (0.716)	0.611 (0.705)	0.303 (0.551)	0.297 (0.553)
<b>Nationality</b>	0.277 (1.905)	0.249 (1.882)	-1.035 (1.477)	-1.023 (1.469)	0.547 (1.287)	0.506 (1.296)	-0.216 (0.720)	-0.184 (0.711)
<b>Native Province</b>	1.082 (0.683)	1.103 (0.683)	-0.070 (0.510)	-0.072 (0.507)	-0.534 (0.742)	-0.474 (0.747)	-0.422 (0.557)	-0.439 (0.558)
<b>Overlap</b>	1.641** (0.702)	1.728** (0.721)	1.127** (0.487)	1.211** (0.522)	2.525*** (0.900)	2.320*** (0.814)	2.007*** (0.614)	2.001*** (0.612)
<b>Govt. Investment</b>	-0.038 (0.026)	-0.039 (0.026)	-0.004 (0.023)	-0.002 (0.023)	0.047* (0.026)	0.045* (0.025)	0.010 (0.022)	0.009 (0.022)
<b>Population</b>	-0.554 (0.490)	-0.547 (0.498)	0.023 (0.089)	0.024 (0.089)	3.578 (2.605)	4.129 (2.518)	0.016 (0.120)	0.019 (0.120)
<b>Trade Openness, %</b>	0.022* (0.012)		0.025*** (0.008)		-0.052*** (0.025)		-0.001 (0.009)	
<b>Export/GDP, %</b>		0.049** (0.025)		0.042*** (0.015)		-0.101 (0.065)		0.003 (0.016)
<b>Constant</b>	-2.110 (4.880)	-2.387 (4.928)	-7.899 (3.285)	-8.222 (3.330)	-11.839** (5.229)	-11.524** (5.120)	-6.340* (3.413)	-6.269* (3.360)
<b>Provincial Dummies</b>	Yes	Yes	No	No	Yes	Yes	No	No
<b>Year Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Pseudo-Log Likelihood</b>	-283.915	-282.9	-390.531	-391.464	-241.284	-243.415	-343.247	-343.217
<b>Number of Provinces</b>	25	25	31	31	23	23	31	31
<b>Observations</b>	597	597	725	725	533	533	725	725
<b>Wald <math>\chi^2</math></b>	81.17	81.97	44.48	42.73	80.91	79.18	28.56	28.25
<b>Prob &gt; <math>\chi^2</math></b>	0.0156	0.0134	0.0702	0.0975	0.0103	0.0144	0.6415	0.657
<b>Pseudo <math>R^2</math></b>	0.2529	0.2555	0.0935	0.0914	0.2313	0.2246	0.061	0.0611

Note: a. The dependent variable is the bureaucratic integration of Provincial Party Secretaries and Governors measured via a binary value of 1 or 0. Coefficients and standard errors for provincial and year dummy variables are not reported. Robust standard errors with clustering on individual IDs of the officials are in the parentheses; \*\*\*: p<0.01; \*\*: p<0.05, \*: p<0.1 (2-tailed tests).

b. Observations on Neimenggu (Inner Mongolia), Liaoning, Zhejiang, Jiangxi, Hunan and Chongqing are dropped from Models for Party Secretaries with provincial fixed effects because of lack of variation (and thus perfect prediction) in the dependent variable during the observed period.

c. Observations on Liaoning, Heilongjiang, Zhejiang, Jiangxi, Hunan, Guangxi, Shaanxi and Qinghai are dropped from Models for Governors with provincial fixed effects because of lack of variation in the dependent variable (and thus perfect prediction) during the observed period.

## APPENDIX: DESCRIPTIVE STATISTICS AND MORE SENSITIVITY CHECKS

In this appendix, we first provide the summary statistics and then present results from robustness estimations for determinants of the bureaucratic integration of the leading provincial officials. We also show results from the various sensitivity analyses conducted. First, we report the summary statistics in Table A1.

**Table A1 Summary Statistics**

Variable Name	Observations	Mean	S.D.	Minimum	Maximum
Party Secretary BIT (ordinal 1, 2, 3, 4)	725	2.081	0.892	1	4
Party Secretary BIT (binary 0, 1)	725	0.281	0.450	0	1
Party Secretary Age (Years)	725	60.756	5.020	43	75
Party Secretary Education (Dummy)	725	0.364	0.482	0	1
Party Secretary Nationality (Dummy)	725	0.032	0.175	0	1
Party Secretary Native Province (Dummy)	725	0.248	0.432	0	1
Governor BIT (ordinal 1, 2, 3, 4)	725	1.670	0.836	1	4
Governor BIT (binary 0, 1)	725	0.203	0.402	0	1
Governor Age (years)	725	58.676	5.634	43	74
Governor Education (Dummy)	725	0.448	0.498	0	1
Governor Nationality (Dummy)	725	0.218	0.413	0	1
Governor Native Province (Dummy)	725	0.303	0.460	0	1
Overlap (Dummy)	725	0.091	0.288	0	1
Government Investment (%)	725	17.686	15.118	1.922	91.906
Population (% of national total)	725	3.284	2.215	0.185	9.917
Per capita GDP (log of 1977 constant RMB Yuan, in 1000s)	725	-0.182	0.706	-1.946	2.269
Trade Openness (Export+Import/GDP, %)	725	14.762	20.296	0.140	155.067
Export/GDP (%)	725	9.507	11.416	0.009	89.673
FDI/GDP (%)	525	2.245	3.704	0.0005	24.355

Note: More detailed definitions of the variables appear in text. S.D. stands for standard deviation.

Source: For political variables, see Appendix to Chapter 3 in (Sheng 2004 [forthcoming, December]); for economic variables, see (Guojia Tonji Ju [State Statistical Bureau] 1999, 2002b; Ministry of Foreign Trade and Economic Cooperation 1986-2002)

Meanwhile, results from robustness analyses with additional control variables are presented in Table A2. The effect of foreign direct investment is taken into account in Models 17-18 (for Secretaries) and Models 21-22 (for Governors). Again, our findings on the role of foreign trade and export from the baseline estimations in the test have largely obtained with positive effects in the Secretaries Models and negative effects in the Governors Models. Although Export/GDP is no longer significant in the Governor Model (Model 22), the negative

and significant (at 0.1) effect of FDI/GDP suggests that foreign investment, as an alternative openness variable, has largely absorbed the negative effect of export.

Level of economic development in the provinces is controlled for in Models 19-20 (for Secretaries) and Models 21-22 (for Governors). While high collinearity between our openness variables and proxy of economic development (over 0.6) has reduced the significance level for the Trade Openness variable in the Secretary Model (Model 19), Export/GDP has remained positive and significant (at 0.05) in Model 20. Somewhat strange results, however, are found in the Governor Models. While our openness variables remain negative and significant (both at 0.01), our per capita GDP variable becomes positive and significant (at 0.05).

This seems quite counterintuitive. Because we theorize that economic openness is positively related to economic development, we would expect that both variables should exert negative effects upon the bureaucratic integration of Governors if openness tends to reduce central political control. The opposite signs of the two variables and the high levels of significance, together with their high correlation, all suggest that the results might be an artifact of collinearity. Thus, we try to avoid including the economic development variable in the baseline estimations, but choose to report the sensitivity analyses here in the appendix.

**Table A2 Ordered Logit Analyses of the Effects of Economic Openness on Bureaucratic Integration of Top Provincial Officials (1978-2002): Sensitivity Results<sup>a</sup>**

	Party Secretary				Governor			
	Model 17 <sup>b</sup>	Model 18 <sup>b</sup>	Model 19	Model 20	Model 21 <sup>c</sup>	Model 22 <sup>c</sup>	Model 23	Model 24
<b>Age</b>	0.079 (0.049)	0.083* (0.050)	0.066* (0.035)	0.067* (0.035)	-0.008 (0.065)	-0.005 (0.064)	0.035 (0.044)	0.028 (0.043)
<b>Education</b>	1.228 (0.756)	1.218 (0.748)	0.740 (0.595)	0.711 (0.583)	0.754 (0.712)	0.733 (0.694)	0.600 (0.572)	0.536 (0.558)
<b>Nationality</b>	-3.357** (1.366)	-3.349** (1.406)	-1.908 (1.459)	-1.919 (1.472)	0.836 (1.123)	0.834 (1.123)	-0.416 (1.050)	-0.405 (1.059)
<b>Native Province</b>	-1.405** (0.699)	-1.373* (0.707)	-0.976 (0.617)	-0.946 (0.613)	-1.243* (0.726)	-1.136 (0.735)	-0.595 (0.539)	-0.528 (0.555)
<b>Overlap</b>	0.946 (0.847)	1.106 (0.837)	0.754 (0.618)	0.851 (0.618)	2.348** (1.120)	2.281** (1.092)	2.104*** (0.721)	1.887*** (0.641)
<b>Govt. Investment</b>	-0.005 (0.038)	-0.004 (0.038)	-0.011 (0.016)	-0.010 (0.016)	0.014 (0.042)	0.008 (0.043)	0.023 (0.021)	0.023 (0.022)
<b>Population</b>	-0.350 (0.861)	-0.263 (0.666)	-0.373 (0.501)	-0.364 (0.483)	3.679 (2.545)	4.645* (2.807)	2.130 (1.644)	3.010 (2.036)
<b>Trade Openness, %</b>	0.046** (0.023)		0.030 (0.018)		-0.050** (0.023)		-0.073*** (0.021)	
<b>Export/GDP, %</b>		0.089*** (0.029)		0.068** (0.029)		-0.048 (0.031)		-0.100*** (0.035)
<b>FDI/GDP, %</b>	-0.121 (0.105)	-0.106 (0.095)			-0.153 (0.115)	-0.221* (0.123)		
<b>Per capita GDP (log)</b>			0.419 (1.241)	0.114 (1.261)			2.613** (1.235)	2.438** (1.224)
<b>Cut 1</b>	-2.189 (4.100)	-1.097 (3.624)	1.282 (9.274)	-0.522 (9.347)	-1.289 (5.789)	0.001 (5.687)	3.039 (4.080)	3.517 (4.156)
<b>Cut 2</b>	0.493 (4.007)	1.599 (3.542)	3.954 (9.257)	2.162 (9.328)	0.350 (5.755)	1.618 (5.655)	4.638 (4.086)	5.075 (4.158)
<b>Cut 3</b>	2.705 (3.951)	3.838 (3.523)	6.277 (9.152)	4.512 (9.230)	3.769 (5.788)	5.015 (5.705)	7.825 (3.999)	8.183 (4.094)
<b>Provincial Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Year Dummies</b>	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
<b>Pseudo-Log Likelihood</b>	-482.553	-479.43	-698.587	-695.09	-405.853	-410.165	-615.165	-626.478
<b>Number of Provinces</b>	30	30	31	31	27	27	31	31
<b>Observations</b>	525	525	725	725	471	471	725	725
<b>Wald <math>\chi^2</math></b>	351.74	444.3	319.57	345.61	139.46	148.06	160.39	164.97
<b>Prob &gt; <math>\chi^2</math></b>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>Pseudo <math>R^2</math></b>	0.2767	0.2814	0.2246	0.2285	0.2038	0.1954	0.1982	0.1834

Note: a. The dependent variable is the bureaucratic integration of Provincial Party Secretaries and Governors measured via an ordinal value of 1-4. Coefficients and standard errors for provincial and year dummy variables are not reported. Robust standard errors with clustering on individual IDs of the officials are in the parentheses; \*\*\*:  $p < 0.01$ ; \*\*:  $p < 0.05$ ; \*:  $p < 0.1$  (2-tailed tests).

b. Models for Party Secretaries including FDI/GDP (%) does not have observations for Tibet due to lack of data.

c. In addition to Tibet, observations on Hunan, Guangxi and Xinjiang are dropped from Models for Governors including FDI/GDP (%) because of lack of variation in the dependent variable (and thus perfect prediction) during the observed period.

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