# When the Autocrat Gives: Determinants of Fiscal Transfers in China[1]

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## Abstract

In the absence of democracy, credible federalist institutions, and a welfare state legacy what would motivate transfer payments from the federal to local level? By examining central transfer payments to Chinese counties, which deliver the bulk of the public goods, this paper discusses and tests an alternative set of motivations for transfer payments in autocracies. Given sufficient time horizon, the autocrat has strong incentive to pay off local defenders of the regime, as well as incentive to promote development through awarding growth and supporting education. In sharp contrast to democracies, however, autocracies have little incentive to transfer money to areas with higher shares of the elderly, since they do not vote and their contribution to long-term growth is discounted. We test these hypotheses on central and provincial transfer payments to Chinese counties between 1993 and 2003. Through GLS and 2SLS regressions with and without fixed effects, we consistently find that the size of the local government payroll has the largest impact on transfer payments, followed by the level of development and the share of school-age children. Contrary to robust findings in democracies, we find consistently that counties with higher share of the elderly receive no extra fiscal transfers.

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The motivation for intergovernmental transfers has long been the subject of political economy research because the way that transfers are implemented can have profound impact on the distribution of public goods, macroeconomic outcomes, and national political outcomes.[1] Examining the existing literature on intergovernmental transfers, federal level authorities are motivated to transfer funds to local authorities by democratic elections, credible federalist institutions, and the welfare state. However, if these institutions were absent, would a central authority still have a basis on which to transfer funds to subnational governments? If so, what distributive outcomes can we expect? An emerging literature on the political economy of dictatorship suggests that autocratic central governments with sufficient time horizon have at least one reason for transferring funds to grassroots governments: to ensure that local officials stand on the side of the regime against societal opposition. If the time horizon is sufficiently long, an autocratic central authority has the additional incentive to encourage growth through rewarding high growth areas and through upholding education standards. However, unlike in democracies, the basis of power is force rather than votes. Thus, although the elderly constitutes a powerful bloc in democracies because they tend to vote, autocracies have little political reason to appease them through transfer payments.

In this paper, we test these propositions using county-level fiscal data in China from 1993 to 2003. Through analysis with GLS, fixed effects, and 2SLS models, we consistently find that the size of the local government payroll has the largest impact on transfer payments. The level of development at the county level also has a weak effect on transfer payments, suggesting some attempt to encourage growth. Once provincial

[1] See Oates, W. E., 1999, An essay on fiscal federalism. *Journal of Economic Literature* 37, 1120-1149, Treisman, D., 1999, *After the Deluge: Regional Crises and Political Consolidation in Russia* (University of Michigan Press, Ann Arbor) Pages.}

fixed effects are included, we also find some tendencies to support education through transfer payments to counties with high share of young children. At the same time, however, we find quite consistently that counties with higher share of the elderly receive no more transfers than the average county.

**Why Intergovernmental Transfers**

Intergovernmental transfers, defined here as the transfer of funds collected by the central (or federal) government and given to subnational governments for expenditure, are often discussed as a byproduct of institutional equilibriums. A realistic understanding of China, however, takes away most of the explanations for fiscal transfers. In order to explain the torrent of intergovernmental transfers in China, new motivations would have to be derived and tested.

First and foremost, intergovernmental transfers are often discussed in the context of federalism. Where subnational governments have legally guaranteed sovereignty over certain policy domains, a welfare-maximizing federal government would encourage local governments to produce public goods with spillovers through transfer payments. [2] Beyond this basic motivation, credible federalist institutions also provide the preconditions for central governments to transfer funds in order to placate credible secessionist threats or to encroach upon the domain of local governments. [3]

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[2] Spillover here means the extent to which a public good affects the welfare level of people outside one's jurisdiction. Clean air, for example, is a public good with spillover. Given such spillover, a local government might under-provide clean air in an attempt to benefit from clean air policies of neighboring localities. See Bednar, J., 2005, Federalism as a public good. *Constitutional Political Economy* 16, Besley, T. and S. Coate, 1999, Centralized versus decentralized provision of local public goods: a political economy analysis (NBER Working Paper 7084, (National Bureau of Economic Research, Cambridge, MA), Oates, W. E., 1999, An essay on fiscal federalism. *Journal of Economic Literature* 37, 1120-1149.

[3] Diaz-Cayeros, A., 2003, The centralization of fiscal authority: an empirical investigation, in: S. U. Department of Political Science, ed., Working Papers (Stanford University, Palo Alto, CA), Treisman, D., 1999, *After the Deluge: Regional Crises and Political Consolidation in Russia* (University of Michigan Press, Ann Arbor) Pages.

Despite a large literature labeling China as federal, China fails the federalist test by most definitions.[4] Most understanding of a federal structure presumes at least three criteria: mutually exclusive geographical division, institutionally guaranteed separation of authority between national and local governments, and local sovereignty over a subset of policies.[5] With a hierarchically organized one-party state where provincial leaders are directly appointed by the center and local governments are tasked with implementing central policies, China falls well short of fulfilling the latter two criteria of federalism.[6] Furthermore, maintenance of federalism over time requires over-lapping institutions that check the powers of the central authorities.[7] This is obviously missing in a vertically organized single-party state. Wibbels further identifies a political definition of federalism in which local interests must be represented in the national legislature and must have elected legislatures of their own.[8] Unless one were extremely generous in estimating the powers of the people's congresses, China also fails this definition of federalism. Although there are incidents of grassroots policy initiatives that deviate from central policies, these "…clearly can occur in states universally considered centralized."[9]

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[4] Works describing China's fiscal system as federal include the following: Qian, Y. and B. Weingast, 1997, Federalism as a commitment to perserving market incentives. *Journal of Economic Perspectives* 11, 83-92, Qian, Y., B. Weingast and G. Montinola, 1995, Federalism, Chinese Style: the political basis for economic success in China. *World Politics* 48, 50-81.

[5] Bednar, J., 2004, Authority migration in federations: a framework for analysis. *Political Science and Politics* 37, de Figueiredo, R. J. P., M. McFaul and B. Weingast, 2007, Constructing self-enforcing federalism in the early United States and modern Russia. *Publius: The Journal of Federalism* 37.

[6] Cai, H. and D. Treisman, 2006, Did government decentralization cause China's economic miracle? *World Politics* 58, 505-535, Huang, Y., 1996, *Inflation and Investment Controls in China : the Political Economy of Central-Local Relations During the Reform Era* (Cambridge University, New York) Pages.

[7] Bednar, J., 2003, The Madisonian Scheme to Control the National Government, in: S. Kernell, ed., James Madison: The Theory and Practice of Republican Government (Stanford University Press, Stanford CA), Bednar, J., W. Eskridge Jr. and J. A. Ferejohn, 2001, A political theory of federalism, in: J. A. Ferejohn, J. Rakove and J. Riley, eds., Constitutions and Constitutionalism (Cambridge University Press, New York).

[8] Wibbels, E., 2005, *Federalism and the Market: Intergovernmental Conflict and Economic Reform in the Developing World* (Cambridge University Press, New York) Pages.

[9] Cai, H. and D. Treisman, 2006, Did government decentralization cause China's economic miracle? *World Politics* 58, 505-535., pp. 509.

In the absence of a federalist structure, some of the incentives to institute intergovernmental transfers are removed. For example, there is no need to cajole local governments to provide public goods with spillovers since a welfare maximizing central government would simply make a fiscal plan that generates the most welfare given the (inferior) information at its disposal. Assuming high central strength, a central state can have complete discretion over spending with little need to pay off regional governments.[10] If the central authority's perception of its own strength turns out to be incorrect, local governments in such an inflexible system would simply secede, or a genuinely federalist arrangement would emerge.

Even without credible federal institutions, central politicians in democracies have strong incentive to implement fiscal transfer programs in order to maintain electoral advantages. Pork barrel politics in which incumbent legislators secure earmarked grants from the federal budget for their respective electoral districts have played a prominent— though declining—role in American elections.[11] Likewise, both central and local politicians target transfers to more materialistically oriented swing voters.[12] The most potent mechanism to elicit transfers from the central government is the combination of federalist institutions and electoral pressure. If local legislatures were empowered to issue bonds or to go into debt in some fashion, they would blackmail the central government with high deficits or wage arrears, betting that voters and creditors would

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[10] Garman, C., S. Haggard and E. Willis, 2001, Fiscal decentralization: a political theory with Latin American cases. Ibid. 53, 205-236., pp. 210.

[11] Alverez, M. and J. L. Saving, 1997, Deficits, democrats, adn distributive benefits: congressional elections and the pork barrel in the 1980s. *Political Research Quarterly* 50, 809-831.

[12] Dahlberg, M. and E. Johansson, 2002, On the vote-purchasing behavior of incument governments. *American Political Science Review* 96, 27-42, Dixit, A. and J. Londregan, 1998, Fiscal federalism and redistributive politics. *Journal of Public Economics* 68, 153-180.

punish the central government as much as the local governments for these debts.[13]  This electoral blackmail leaves central politicians with little choice but to transfer more funds to local governments in order to pay back striking local public service workers and protesting local creditors.

In these models, the electoral concerns of central politicians drive them to unilaterally transfer funds to selective local jurisdictions or to accede to the blackmailing of local politicians. Without national elections, however, central politicians would have little political incentive to target transfers to crucial electorates.  Likewise, local politicians would have little leverage -- at least not explicit, measurable leverage like votes-- with which to blackmail the central authorities into giving.  In a non-democracy like China, if public sector wage arrears lead to slow down in the provision of public services, citizens neither can punish local or central officials through votes, and local officials would not be able to use voters' discontent as a leverage to obtain more central funds.  Furthermore, if, instead of elections, local politicians are appointed by central leaders, they would have little choice but to agree with fiscal arrangement promulgated by the central government.[14]

Finally, although difficult to imagine outside the context of democracy, it is possible that strong welfare institutions or norms exert an independent effect on central transfers to subnational governments.  One can imagine a strong commitment to provide social welfare by a revolutionary regime or a regime with a strong legacy of state-owned

[13] Rodden, J., 2002, The dilemma of fiscal federalism: grants and fiscal performance around the world. *American Journal of Political Science* 46, 670-687. Rodden, J., 2004, Achieving fiscal discipline in federations: Germany and the EMU, in: European Commission, ed. (European Commissions, Brussels), Treisman, D. and V. Gimpelson, 2002, Fiscal games and public employment: a theory with evidence from Russia. *World Politics* 54, 145-183.
[14] Garman, C., S. Haggard and E. Willis, 2001, Fiscal decentralization: a political theory with Latin American cases. *World Politics* 53, 205-236.

enterprises. Cuba, for example, is often discussed as the paragon of the socialist welfare state with its impressive universal health care system.[15] Some scholars also argue that many of the post-reform banking and fiscal policies in China aimed at channeling funds to the state sector in order to maintain urban employment and urban welfare.[16] In this scenario, welfare institutions, once created, give political actors incentive to maintain them or to gradually modify them and become a part of the long-term institutional equilibrium.[17] If this were the case, a welfare state—even an authoritarian one-- would distribute funds to jurisdictions with objective needs, such as areas with a larger share of the population who are either children or the elderly.[18]

Similar to federalist arrangements, welfare institutions combined with electoral pressure would exert the strongest pressure on central politicians to transfer funds to areas with objective welfare needs, especially in the case of the elderly.[19] Given that aging is a universal experience that cuts across class, concerns for the elderly exert strong pressure on democratically elected politicians to preserve pensions and services for the elderly, even at a time of welfare retrenchment.[20] In Asia, Wong finds that both Taiwan and South Korea began a serious drive toward universal healthcare and pension almost

[15] Boadle, A., 2007, Health care in Cuba more complicated than on SiCKO
By Reuters News (London), Eckstein, S., 1982, The impact of revolution on social welfare in Latin America. *Theory and Society* 11, 43-94.
[16] Lardy, N., 1998, *China's Unfinished Economic Reform* (Brookings Institution Press, Washington, DC) Pages, Lau, L., Y. Qian and G. Roland, 2000, Reform without losers: an interpretation of China's dual track approach to transition. *Journal of Political Economy* 108.
[17] Greif, A. and D. D. Laitin, 2004, A Theory of Endogenous Institutional Change. *American Political Science Review* 98, 633-652, Thelen, K., 2004, *How Institutions Evolve: the Political Economy of Skills in Germany, Britain, the United States, and Japan* (Cambridge University Press, New York) Pages.
[18] Wilensky, H. L., 1974, *The welfare state and equality : structural and ideological roots of public expenditures* (University of California Press, Berkeley) Pages.
[19] Pontusson, J., 2005, *Inequality and prosperity : social Europe vs. liberal America* (Cornell University Press, Ithaca, N.Y.) Pages., pp. 198.
[20] Korpi, W. and J. Palme, 2003, New Politics and Class Politics in the Context of Austerity and Globalization: Welfare State Regress in 18 Countries, 1975–95. *American Political Science Review* 97, 425-446.

immediately upon democratization.[21]   Huber, Ragin, and Stephens put it in these definitive terms: "the presence of large population of aged will automatically result in high spending on pension and health-care programs…."[22]

Despite some important wealth redistribution in the aftermath of the revolution, it is doubtful whether much of China's socialist welfare institutions survived into 90s.  In urban centers, massive layoffs in state firms accompanied half-hearted efforts to bolster the social security system, which led to a drastic decline in welfare provision to all but a small proportion of workers in strategic state firms.[23]  Empirical studies reveal that state funds went toward areas with a large presence of state asset rather than state workers, suggesting that state funds sought to protect large SOEs instead of maintaining workers' welfare.[24]  In the countryside, although the Mao period (1949-1976) saw the rise of rural clinics as well as "barefoot doctors," the reform era witnessed the near complete collapse and privatization of the rural health infrastructure and social security, which compelled the elderly to "work until they drop."[25]   The sharp contrast between fickle welfare institutions in socialist China and sticky welfare institutions in most OECD countries suggests that a key underlying parameter is missing in China: electoral pressure.

**When Does the Autocrat Give?**

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[21] Wong, J., 2004, *Healthy democracies : welfare politics in Taiwan and South Korea* (Cornell University Press, Ithaca) Pages.

[22] Huber, E., D. Rueschemeyer and J. Stephens, 1993b, the impact of economic development on democracy. *Journal of Economic Perspectives* 7, 71-86., pp. 743.

[23] Frazier, M. W., 2006, One country, three systems: the politics of welfare policy in China's authoritarian developmental state, in: S. Kennedy, ed., Capitalism with Chinese Characteristics Conference (Indian University, Bloomington, IN), Hurst, W., 2004, Understanding contentious collective action by Chinese laid-off workers: the importance of regional political economy. *Studies in Comparative International Development* 39.

[24] Park, A. and K. Sehrt, 2001, Tests of financial intermediation and banking reform in China. *Journal of Comparative Economics* 29, 608-644, Shih, V., 2004, Factions matter: personal networks and the distribution of bank loans in China. *Journal of Contemporary China* 13.

[25] Pang, L., A. d. Brauw and S. Rozelle, 2004, Working until You Drop: The Elderly of Rural China. *China Journal*, 73-94, Saich, A., 2001, Social welfare provision and the transition: towards pluralism in service delivery, in: Kennedy School of Government, ed. (Kennedy School of Government, Cambridge, MA).

In the absence of credible federalist institutions, democratic elections, and welfare institutions, both comparative discussion and the literature on China suggest the rise of an extremely predatory central state. Nonetheless, we find the central and provincial governments transferring hundreds of billions of *yuan* to grassroots governments each year.[26] To explain this torrent of transfers, an alternative set of explanations which builds on the authoritarian nature of the Chinese government must be developed.

Following the traditional literature on intergovernmental fiscal relations, we assume a roughly Niskanen-type revenue maximizing central government if it is not constrained by other political considerations.[27] An authoritarian, revenue maximizing central government is expected to devolve fiscal responsibilities to lower levels of governments while claiming the most lucrative revenue sources.[28] Not only would these two policies serve to increase net central revenue, they would also increase the central government's bargaining power vis-à-vis local governments and the populace.[29] Because there are no credible constitutional provisions to assign welfare responsibilities to various levels of governments or to guarantee stable revenue sources at subnational levels, the central government can manipulate the assignment of public good provision and the claims over revenue sources to maximizing net revenue for itself. Without electoral pressure, higher levels of government would shift fiscal responsibilities to lower levels

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[26] In 2002, for example, the central government transferred 250 billion *yuan* to county governments. See Zhao, X., 2003, Zhongyang dui difang caizheng zhuanyi zhifu wenti de sikao (Thought son the problem of central transfer payments to local governments). *Xianxiang Caizheng (County, Village Finance)* 2003, 14-15.

[27] Niskanen, W., 1971, *Bureaucracy and Representative Government* (Aldine Press, Chicago) Pages.

[28] Garman, C., S. Haggard and E. Willis, 2001, Fiscal decentralization: a political theory with Latin American cases. *World Politics* 53, 205-236, Yao, Y. and L. Yang, 2003, Zhidu gonggei shiheng he zhongguo caizheng fenquan de houguo (The consequences of the institutional supply imbalance and fiscal federalism in China). *Zhanlue yu Guanli (Strategy and Mangement)* 2003. Friedman, Pickowicz, and Seldon had earlier observed that a drop in administrative status meant receiving less resources. See Friedman, E., P. Pickowicz and M. Selden, 1991, *Chinese village, socialist state* (Yale University Press, New Haven) Pages.

[29] Levi, M., 1988, *Of Rule and Revenue* (University of California Press, Berkeley, CA) Pages., pp. 16.

without funding them, knowing full well that public goods would be under-provided. At the same time, without electoral blame-shifting, local governments would be unable to compel the central government to provide transfers. Without strong welfare institutions enforced by electoral pressure, the erosion of welfare services at the grassroots level does not pose an immediate political threat to the central leadership.

This predatory logic extends downward from the central to the provincial to the prefectural and ultimately to the county and township level.[30] Each level does its best to push fiscal responsibilities down to lower levels while asserting the largest possible claim on revenue residuals. All of these mechanisms put enormous fiscal pressure on county governments in China, which deliver the bulk of the core public goods, including education, health care, and law and order[31]. This motivates us to examine fiscal transfers counties receive.

Since 1994, the central government indeed has rapidly centralized the most lucrative sources of revenue, including value-added tax (VAT), resource tax, and personal and corporate income taxes. In the case of the VAT, the four layers of subnational government—provincial, prefectural/city, county, and township—together share only 25% of VAT intake.[32] In 2002, the central government further ordered subnational governments to give 50% of personal and enterprise income tax over to the

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[30] Yao, Y. and L. Yang, 2003, Zhidu gonggei shiheng he zhongguo caizheng fenquan de houguo (The consequences of the institutional supply imbalance and fiscal federalism in China). *Zhanlue yu Guanli (Strategy and Mangement)* 2003.
[31] A 2002 World Bank found that Counties and townships account for 70% of education spending and 55-60% of health spending. See World Bank, 2002, National Development and Sub-national Finance (Report No. 22951-CHA), in: World Bank, ed. (World Bank, Washington, DC).
[32] Wong, C., C. Heady and W. T. Woo, 1995, *Fiscal management and economic reform in the People's republic of China* (Oxford University Press, Hong Kong) Pages.

central government.[33]   Indeed, as Figure 1 reveals, central revenue as a share of total government revenue surged rapidly after the 1994 tax centralization and remained at the 50-60% range.   Meanwhile, central expenditure as a share of total government expenditure remained at around 30%.

**[Figure 1 around here]**

Comparatively speaking, when one examines just the revenue or the expenditure figures, China appears to be a highly decentralized country.  It ranks among the top in terms of both subnational share of revenue and expenditure.  However, the logic of predatory central state behavior does not necessarily suggest highly centralized expenditure.  Rather, it leads to a growing gap between subnational governments' expenditure responsibilities and their revenue sources.  If we compare this gap, we find that China, relative to a selection of developing countries-- India, Brazil, and Indonesia--, has the greatest gap between subnational expenditure and revenue.  That is, the revenue streams assigned to local governments in China are least able to support expenditure demands at the local level.[34]

In such a predatory fiscal system, what incentives, if any, does the central government have to redistribute to subnational governments through fiscal transfers? Unlike in democracies, where both central and local politicians are concerned about the electoral impact of declining voter welfare, the welfare of the populace is generally not a pressing concern of authoritarian leaders, except in those rare instances when citizens

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[33] Ministry of Finance, 2003b, Guanyu bianzhi 2002 nian zhongyang he difang caizheng juesuan (cao'an) de tongzhi (Notice concerning drafting the 2002 central and local final budgetary report), in: Budgetary Division of the Ministry of Finance and Treasury Division of the Ministry of Finance, eds., Difang Caizheng Juesuan Wenjian Ziliao: 2002 (Docuemnts and Information Concerning Local Final Budgetary Reporting) (China Finance and Economic Publisher, Beijing).
[34] World Bank, 2002, National Development and Sub-national Finance (Report No. 22951-CHA), in: World Bank, ed. (World Bank, Washington, DC).

solve the collective action problem and threaten the survival of the regime.[35]  Beyond

that, autocratic leaders have at least two strong incentives and one weaker one to institute

a transfer payment scheme.  First, a large literature on patrimonial, rentier, and Leninist

regimes suggests that non-democratic elite often transfers budget and rent to key elite

constituencies because such distributions increases the opportunity cost of defecting to a

challenging coalition.[36]  In this paper, we are mainly interested in motivations for central

transfers to grassroots governments, which is even more puzzling in an authoritarian

context.

Elite politics aside, an autocrat also has an incentive to distribute resources to

maintain basic operation of grassroots governments, especially in a populous or

geographically extensive state.  Under a hierarchical political regime with a highly

centralized fiscal system, asymmetries in budget constraints are generated.  Central,

provincial, and even prefecture levels face soft-budget constraints because they can

always shift responsibilities downward and claim more revenue.  At the grassroots levels,

however, governments face a hardening budget constraint that forces them into one of

two welfare reducing behavior: more taxation or the abolition of local governance.  In the

extreme case, local officials would either transform into unruly bandits seeking to extract

surpluses from the local population or would join an anti-government bandit group.  In

other words, full revenue exploitation by the central authorities would quickly create an

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[35] Acemoglu, D. and J. A. Robinson, 2006, *Economic origins of dictatorship and democracy* (Cambridge University Press, Cambridge ; New York) Pages.

[36] Bates, R. H., 1981, *Markets and states in tropical Africa : the political basis of agricultural policies* (University of California Press, Berkeley) Pages, Boone, C., 1990, The making of rentier class: wealth accumulation and political control in Senegal. *Journal of Development Studies* 26, 425-450, Bueno de Mesquita, B., A. Smith, R. M. Silverson and J. D. Morrow, 2003, *The logic of political survival* (MIT Press, Cambridge, Mass.) Pages, Nathan, A., 1973, A factionalism model for CCP politics. *The China Quarterly* 53, 33-66, Shih, V., 2004, Factions matter: personal networks and the distribution of bank loans in China. *Journal of Contemporary China* 13, Snyder, R., 1992, Explaining Transitions from Neopatrimonial Dictatorships. *Comparative Politics* 24, 379-399.

equilibrium where local officials transform from agents of the stationary bandit into roving bandits, enforcing the central government's expectation of a regime collapse and increasing its rapacious tendency.[37]

While this may be the case in autocracies where the leadership has extremely short time-horizons, extreme displays of predatory behavior tend not to occur in regimes with longer time horizons.[38] Autocratic regimes with some wish or expectation to stay in power, however non-democratic and hierarchical, have incentives to provide funds to grassroots governments in order to prevent local officials from transforming into roving bandits. Furthermore, the central state also has an incentive to provide local officials with adequate means of defeating roving bandits. Where the autocracy is ruled by a committee of competing elite, maintaining grassroots stability may become even more important since full revenue exploitation compels rival elites to unseat an incumbent.[39] This seems to be the case in China, where the Premier and the Secretary General of the Chinese Communist Party are two of roughly a dozen voting members in the ruling Standing Committee of the Politburo. If wide-spread wage arrears led to pandemic instability, other members of the Standing Committee would have cause to remove one or both of them from power.[40]

Beyond strong incentives intimately related to the survival of autocratic regimes, authoritarian leaders with a long time horizon further have an incentive to organize the fiscal system, including transfer payments, in such a way as to maximize the stream of

[37] Olson, M., 1993, Dictatorship, democracy, and development. *American Political Science Review* 87, 10.
[38] Cheibub, J. A., 1998, Political regimes and the extractive capacity of governments: taxation in democracies and dictatorships. *World Politics* 50.
[39] Svolik, M. and C. Boix, 2007, Non-tyrannical autocracies, Working Paper (Washington, DC and Champaign, IL).
[40] Two party secretaries, Hu Yaobang and Zhao Ziyang, were removed for urban unrests.

expected revenue.[41]  Because the autocrat with a long time horizon has claims over much

of the tax revenue, he or she has strong incentive to encourage local officials to maximize

growth in order to reap the revenue benefits from growth.[42]   Instead of granting

autonomy, autocrats promise local officials rewards in the form of promotions and added

transfer payments if they succeed in generating growth.[43]

Indeed, a rich body of literature in the China field has found that both central and

subnational governments have used a variety of fiscal and policy subsidies to encourage

local economic development.   Works by Oi, White, and Whiting find that local

governments encouraged the growth of township and village enterprises through tax

breaks and subsidies.[44]  Related, autocrats with a long time horizon may expend some

funds on cultivating human capital in order to ensure long-term growth.   Growth

incentives—especially long-term ones--, however, are weaker than survival related

incentives since the autocrats themselves often do not know the duration of their

tenures.[45]  Indeed, although China invests substantially in education, Heckman finds that

investment in human capital is still low relative to its return.[46]  If the autocrat's time

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[41] Acemoglu, D., 2003, Why not a political coase theorum? social conflict, commitment, and politics. *Journal of Comparative Economics* 31, 620-652, Levi, M., 1988, *Of Rule and Revenue* (University of California Press, Berkeley, CA) Pages.

[42] Blanchard, O. and A. Schleifer, 2000, Federalism with and without political centralization: China versus Russia,  (NBER Working Paper #7616, Cambridge, MA), Gregory, P., 2004, *The political economy of Stalinism: Evidence from the secret Soviet archives* (Cambridge University Press, New York) Pages., pp. 11. Olson, M., 1993, Dictatorship, democracy, and development. *American Political Science Review* 87, 10.

[43] Cai, H. and D. Treisman, 2006, Did government decentralization cause China's economic miracle? *World Politics* 58, 505-535.

[44] Oi, J. C., 1992, fiscal reform and the economic foundations of local state corporatism in China. Ibid. 45, 99-126, Oi, J. C., 1999, *Rural China takes off : institutional foundations of economic reform* (University of California Press, Berkeley) Pages, White, L. T., 1998, *Unstately power* (M.E. Sharpe, Armonk, N.Y.) Pages, Whiting, S. H., 2001, *Power and wealth in rural China : the political economy of institutional change* (Cambridge University Press, Cambridge ; New York) Pages.

[45] Wintrobe, R., 1998, *The political economy of dictatorship* (Cambridge University Press, Cambridge, UK ; New York, NY) Pages.

[46] Heckman, J., 2003, China's Investment in Human Capital. *Economic Development and Cultural Change* 51, 795-804.

horizon is indeed quite long, he or she may also have an incentive to prevent the widening of inequality since in the long-run it is a probable cause of revolution.[47]

The preceding discussion strongly suggests that the mechanisms driving intergovernmental transfers in federalist democracies are quite different than those in autocracies. Given the un-institutionalized and often violent nature of authoritarian succession, the autocrats have strong reasons to ensure survival through maintaining the livelihood of local officials. They have weaker—but potentially powerful-- incentive to maintain growth through fiscal incentives and investment in human capital. If the time horizon is sufficiently long, autocrats may have some reason to redistribute to poor areas. It remains an open question whether welfare considerations drive transfer payments under autocracies. On the one hand, the benevolent dictator or revolutionary welfare institutions may well channel transfer payments to areas where there are objective welfare needs. On the other hand, given the strength of competing needs, welfare services, particularly those for the elderly, may fall by the way side since money spent on the elderly is not expected to help the autocrat stay in power or to generate additional future revenue. From the preceding discussion, we generate several hypotheses for testing in the second part.

**Hypothesis 1:** The autocrat distributes transfer payments to areas with more local government officials-- both current and retired ones. This arises from the autocrat's strong imperative to prevent local officials from transforming into roving bandits.

**Hypothesis 2:** The autocrat pegs transfer payments to GDP per capita out of two competing considerations.

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[47] Acemoglu, D. and J. A. Robinson, 2006, *Economic origins of dictatorship and democracy* (Cambridge University Press, Cambridge ; New York) Pages.

**2a:** The autocrat institutes a transfer payment scheme to reward localities with high growth. This hypothesis expects per capita GDP to have a positive impact on fiscal transfers.

**2b:** An autocrat with sufficiently long time horizon would transfer funds to areas with low GDP per capita in order to prevent the rise of severe regional inequality and instability.

**Hypothesis 3:** The age structure of the local population exerts some effect on fiscal distribution because age structure defines objective welfare needs.

**3a**: An autocrat seeking to maximize long-term growth channels funds to areas where the share of school age children is high. This would generate a positive relationship between the share of children and transfers.

**3b**. If the autocratic regime had a strong socialist legacy, it may target transfers to the share of the elderly in the population to ensure their livelihood. Otherwise, it has little reason to do so.

**Testing the Model**

According to the logic outlined above, an autocrat has strong incentive to adjust transfer payments to grassroots government (county and township) based on changes in local government payroll. In the mean time, GDP per capita exerts an ambiguous effect on transfer payments, depending on the time-horizon of the ruling regime. Finally, unless there are strong institutions and norms for providing social welfare, transfers pegged to welfare needs are unlikely in autocracies, especially for the elderly. In the statistical models below, we examine which economic and political factors have the most consistent effect on subsidies allocation to Chinese counties.

*Data*

Our data comes from the *Statistical Material for Prefectures, Cities, and Counties Nationwide (Quanguo Dishixian Caizheng Tongji Ziliao)*, published by the Ministry of Finance (MOF).[48] This dataset covers county-level finance for every county-level unit, including counties, county-level cities, and urban districts between 1993 and 2003. This data contain information on local income, expenditure, received subsides in various categories, fiscal dependents, local population, and output. We clean the county level fiscal data by eliminating all county-level urban districts embedded in major cities since districts in large cities have much less fiscal independence than their county counterparts.[49] We do, however, include rural counties in directly administered cities. In any event, these minor adjustments are marginal, and we still have over 20,000 observations.[50]

Our main dependent variable is earmarked transfer per capita (EARMARK), which is further deflated by provincial level GDP deflator (1980=100). We use earmarked transfer as the main dependent variable because it represents the type of transfer over which the central and provincial governments have the most discretion. The other main type of subsidies, fixed subsidies (original system subsidies after 1994), is distributed on the basis of past subsidies level. The State Council designed fixed subsidies to assure subnational governments that the status quo subsidies would remain

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[48] Budgetary Division of the Ministry of Finance, 2001, *Quanguo Dishixian Caizheng Tongji Ziliao (Statistical Material for Prefectures, cities, and counties nationwide)* (China Fiscal Economic Publisher, Beijing) Pages.

[49] Ahmad, E., 1998, the reform of the fiscal transfer system, in: D. Brean, ed., Taxation in Modern China (Routledge, London).

[50] A small number of these observations were dropped through list-wise deletion in our regressions due to missing information.

undiminished after the 1994 tax reform.[51]   Thus, fixed subsidies are not sensitive to changing conditions at the local level.   Meanwhile, the central and provincial governments respond to changes at the grassroots level with dozens of earmarked transfers designated for a variety of purposes, including construction, SOE restructuring, village production, administrative costs, education, social security, public security, and environmental protection, among others.[52]   Because of the flexibility of these transfers, earmarked subsidies constitute powerful tools for higher tiers of governments to "put out fires" at the grassroots levels.

The main variable we use to measure local government payroll is the item "fiscal dependents" (*caizheng gongyang renkou*), which is measured as a share of county population.   Fiscal dependents do not just include local government functionaries; they also include legislators in the local People's Congress, retired cadres, teachers, and decommissioned military officers.[53]   In particular, the central government pays special attention to the livelihood of decommissioned military officers and exerts high pressure on the local governments to ensure their livelihood.[54]   A 1998 MOF report estimates that each fiscal dependent costs between 10,000 yuan to 20,000 yuan per year, or roughly

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[51] State Council, 2003, Guanyu shixing fenshui zhi caizheng guangli tizhi de jueding (Decision concerning the budgetary management system for the tax sharing system), in: Budgetary Division of the Ministry of Finance and Treasury Division of the Ministry of Finance, eds., Difang Caizheng Juesuan Wenjian Ziliao: 2002 (Documents and Information Concerning Local Final Budgetary Reporting) (China Economic and Finance Publisher, Beijing).

[52] Ministry of Finance, 2001, Zhongyang dui difang zhuangxiang bokuan guanli banfa (Method of managing the disbursement of earmarked funds from the center to the local governemnts), in: Office of the Ministry of Finance, ed., Caizheng Guizhang Zhidu Xuanbian (A Collection of Finance Rules and Systems) (China Finance and Economic Publisher, Beijing).

[53] Chen, X., 2003, *Zhongguo Xianxiang Caizheng yu Nongmin Zengshou Wenti Yanjiu (A Study of County and Township Finance and the Problem of Raising Peasant Income in China)* (Shaanxi Economic Publisher, Xi'an) Pages.

[54] CCP Central Committee, State Council and Central Military Commission, 2001, Jundui zhuanye ganbu anzhi zhixing banfa (Method of implementing the settlement of decommissioned officers), in: Beida Yinghua, ed., Zhongguo Falu Jiansuo Xitong (China Legal Search System) (Beida Yinghua, Beijing).

between 1400 USD and 2800 USD a year.[55]  Thus, they constitute an onerous burden on local governments deprived of most of the lucrative revenue sources.

In order to test the welfare hypothesis, we further calculate the "dependency ratios" using population census data from 1990 and 2000.  We represent the dependency ratios with the share of county population 14 or below and 60 and above in each county.  Since the census was only carried out in 1990 and 2000, we use the 1990 figures for the years between 1993 and 1999 and the 2000 figures for the years between 2000 and 2003.  We realize that this is far from an ideal solution.

To test whether the central government distributes progressively or regressively, we include the GDP per capita for every county-year in the sample, deflating the figures with 1980 provincial GDP deflators.  We further include several control variables.  First, fiscal shortfall is calculated as local accumulated fiscal surplus/deficit divided by local collection.  Strictly speaking, this variable records the fiscal balance at the county level, although with very few exceptions, counties generally run a pre-transfer deficit.  Unlike in many other countries, local deficit is not a theoretically important variable in the context of China since true surpluses and deficits are often hidden in extrabudgetary accounts and local officials are rewarded for generating investment and revenue collection rather than for achieving net fiscal surpluses.[56] We further control for the ratio of agricultural output to total output since the structure of the economy may affect the transaction costs of governance and necessitate different levels of central transfers.  We

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[55] Research Team at the Ministry of Finance Institute of Fiscal Science, 1998, Woguo caizheng zhichu guanli de xianzhuang fenxi yu zhengce jianyi (The current state of fiscal expenditure management and policy recommendation). *Jingji Gaige yu Fazhan (Economic Reform and Development)* 1998, 19-25.
[56] Park, A., S. Rozelle, C. Wong and C. Ren, 1996, Distributional consequences of reforming local public finance in China. *China Quarterly* 147, 751-778, Whiting, S. H., 2004, The cadre evaluation system at the grass roots: the paradox of party rule, in: D. L. Yang and B. Naughton, eds., Holding China Together: Diversity and national integration in the post-Deng era (Cambridge University Press, New York).

also control for total population (in 10,000), which is available for all county-year observations. Finally, we include a dummy variable for nationally designated poverty counties, which are counties designated by the State Council as poor or minority counties.[57] To account for the endogeneity of fiscal dependents, we include two instrumental variables: distance of a county from Beijing and from their respective provincial capitals, normalized by the longest distance from Beijing and from the provincial capital, respectively.

In Table 1, we see that on average, a county received nearly 14 yuan per capita in earmarked transfers between 1993 and 2003. Put another way, if a county had 1 million residents, it on average received 14 million yuan in transfers, not a trivial amount. It is worthwhile to note that there is considerable variation in this variable as the standard deviation is over 22 yuan. Our main independent variable, fiscal dependents (FISDEP), averaged 0.03 between 1993 and 2003. A useful interpretation of this figure is that every 33 residents in the average county supported someone on the government payroll. If FISDEP increased by one standard deviation to 0.05, every 20 residents in a county supported someone on the government payroll.

On average, GDP per capita (GDPCAP) adjusted for inflation was 929 yuan between 1993 and 2003, but the standard deviation was quite large at 1073 yuan. The variable ECONSTR records the agriculture share of output, which was on average 0.41 between 1993 and 2003. Furthermore, the average county in this period ran a fiscal deficit (FISSHORT) of 8%, although there is enormous variation in county fiscal balance. In terms of population (POP), the average county had 452,000 residents, while the

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[57] State Council Poverty Relief Leading Group, 2003, *Zhongguo Nongcun Fupin Kaifa Gaiyao (A Summary of Poverty Relief and Development in China)* (China Finance and Economic Publisher, Beijing) Pages.

standard deviation was an impressive 600,000.  In our sample, roughly 23% of the observations were nationally designated poverty counties (NDP).  Finally, on average, the share of population 14 or below (AGE14) was 26%, while the share of county population 60 or above (AGE60) was only 9%.  Since the two distance variables (BEIJING_DISTANCE, PROV_DISTANCE) are normalized by the greatest distance from Beijing and from provincial capitals respectively, it is difficult to interpret the means, but means below 0.5 suggest clustering around Beijing and provincial capitals.

**[Table 1 around here]**

*Methodology*

In our basic model, we run generalized least squared (GLS) regressions for the entire panel of 11 years and roughly 2000 counties.  We use GLS instead of OLS because the assumption that counties are independent units of observations is unsustainable, thus causing a heteroskedasticity problem.  Given this condition, estimation with ordinary least-square (OLS) would produce inefficient estimates with high variance.  GLS takes heteroskedasticity into account and produces more efficient estimators.  We further conduct our analysis with and without provincial and year fixed effects.  Running these regressions with and without provincial fixed effects represents two different approaches to understanding fiscal allocation.  When the equation is estimated without provincial dummies, we examine how the fiscal system as a whole, including both central remittance to the provinces and provincial remittance to the counties, distributes transfer payments.  When we include provincial dummies, however, we examine how the fiscal system, when controlling for central remittance to the provinces and other provincial fixed effects, allocates subsidies.  That is, when we control for provincial dummies, we

examine the factors that drive central transfers directly to counties and provincial transfers to counties. Annual dummies account for macroeconomic and policy shocks that affect fiscal distribution in the entire country. We also include a lagged dependent variable due to the high likelihood of autocorrelation.[58]

Since local officials can adjust local payroll depending on actual or expected transfer, it is likely that there is endogeneity in the relationship between fiscal dependents and transfers. We use distance of a particular county from Beijing and from the provincial capital of the province where the county is located as instrumental variables. The main rationale for using these instrumental variables is that Chinese government entities throughout the administrative hierarchy replicate each other. That is, governments from the central level down to the county level all have roughly the same set of organs, from the court to the ministry of civil affairs on the state side and from the united fronts department to the discipline committee on the party side.[59] Even where the population is sparse, such as Xinjiang and Qinghai, a county must have roughly the same array of institutions that Beijing has. Thus, there is good reason to think that distance drastically increases the *per capita* fiscal dependent because sparsely populated outlying areas are expected to have a much larger government relative to the population than densely populated areas around Beijing or provincial capitals. Since distance is fixed and unaffected by transfer payments, distance variables allow us to exogenize the main variable of interest, per capita fiscal dependents. In 2SLS regressions, the predicted

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[58] Beck, N. and J. N. Katz, 2004, Time-series-cross-section issues: dynamics, 2004, (New York University and California Institution of Technology).

[59] Lieberthal, K., 2004, *Governing China : From Revolution Through Reform* (W.W. Norton, New York) Pages.

values of fiscal dependents (P-FISDEP) generated in the first stage regression are used to explain our main dependent variable of interest, earmarked transfer payments.

We further explore the logic of fiscal transfers through three different fiscal regimes between 1993 and 2003. First, in 1994, the central government centralized the collection of value added taxes (VAT), which deprived local governments a plentiful source of revenue and greatly bolstered the center's capacity to redistribute. Unfortunately, we only have access to one year of data before the 1994 change. We conduct 2SLS analysis on this one year of data with and without fixed effects. Between 1994 and 2000, the central government consolidated control over the collection of VAT, greatly reducing fiscal resources at the local level.[60] To examine the determinants of transfers under this fiscal regime, we average all the variables in this period and conduct cross sectional 2SLS analysis with and without fixed effects. Finally starting in 2001, the central government began a series of reform to abolish rural fees and agricultural taxes. At the same time, it also bolstered total transfer payments to compensate local governments for higher wage needs and lost revenues.[61] Again, we average the figures between 2001 and 2003 to examine whether the distributive logic changed under the new fiscal regime.

**Findings**

Table 2 reports the findings of the GLS and 2SLS models with and without provincial and annual fixed effects. We use standardized coefficients which report the

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[60] Wong, C., 2000, Central-local relations revisited: the 1994 tax sharing reform and public expenditure management in China, in: W. Bank, ed. (World Bank, Washington DC).

[61] Ministry of Finance, 2003d, Nongcun feishui gaige zhongyang dui difang zhuanyi zhifu zhanxing banfa (Temporary method of central transfer payments to the local governemnts to help rural tax-for-fees reform), in: Budgetary Division of the Ministry of Finance and Treasury Division of the Ministry of Finance, eds., Difang Caizheng Juesuan Wenjian Ziliao: 2002 (Docuemnts and Information Concerning Local Final Budgetary Reporting) (China Finance and Economic Publisher, Beijing).

impact of one standard deviation change in the independent variables on the dependent variable. From these findings, it is clear that FISDEP has a robust impact on earmarked transfers throughout all of the model specifications. A standard-deviation increase in fiscal dependents on average brings between 0.12 to 0.48 yuan per capita in additional earmarked transfers, all else being equal. For a county with one million people, a standard deviation increase in FISDEP produces at least 120,000 yuan in additional transfers between 1993 and 2003. Besides the lagged dependent variable, none of the other variable exerts an effect of this magnitude.

It is noteworthy that once provincial fixed effects are taken into account, FISDEP, both with or without instrumental variable, exerts an even stronger influence on transfers. Examining the fourth column on Table 2, a one standard deviation increase in fiscal dependents compels higher authorities to transfer 0.48 yuan per capita in additional funding. As the average county had a population of 452,000, the average county would have received 217,000 yuan in additional funding. This suggests that central transfers directly targeting counties and provincial transfers to counties were highly sensitive to changes in local government payroll, lending more credence to the hypothesis that autocrats are afraid of local officials becoming roving bandits.

We further observe consistently larger coefficients for FISDEP when instrumental variables are used. This suggests the presence of measurement errors in the original variable, which the instruments correct.[62] We strongly suspect a downward bias in the measurement of FISDEP since FISDEP only records payroll within the official roster

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[62] Wooldridge, J. M., 2002, *Econometric analysis of cross section and panel data* (MIT Press, Cambridge, Mass.) Pages.

(*biannei*) and local governments often hide personnel outside of the official roster.[63] The central government may be able to detect the presence of unofficial payroll in some other way—such as an increase in petition letters on wage arrears-- and transfer funds accordingly. This further suggests that the central government is extremely weary of the prospect of local officials turning into roving bandits. Even when local governments under-report payroll against regulations, the central government would rather provide additional transfers than impose a budget constraint by transferring only to those within the official roster. This fear obviously leaves ample room for opportunistic expansion of the local payroll and constitutes a great weakness of the central authorities.

The magnitude of FISDEP's effect is further illustrated in Figure 3, which plots the observed values, fitted values, and 95% confidence interval of the relationship between FISDEP and earmarked transfers. As one can see, per capita transfers rapidly increase with the rise of local payroll. As payroll per capita grows from 0 to 0.1, predicted per capita transfers explode from zero to nearly 50 yuan. Granted, most counties have per capita fiscal dependents between 0.01 and 0.05, but Figure 3 reveals that quite a few counties in fact had FISDEP levels well above 0.1. Figure 3 also reveals the high confidence we have in this relationship, as the 95% confidence interval wraps tightly around the predicted values.

For the central and provincial governments, subsidies pegged to fiscal dependents at least guarantee the minimal maintenance of local governments, although this is far from providing enough for infrastructure building and material for social services. For example, even if wages for teachers were fully paid, students would still lack updated

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[63] Mertha, A., 2005, China's "Soft" Centralization: Shifting Tiao/Kuai Authority Relations Since1998. *China Quarterly*.

schooling facilities and textbooks. The subnational government would have to charge fees to meet these extra obligations. This type of budgetary situation is appropriately termed "eating budget" (*chifan caizheng*) in Chinese official circles because the upper tiers of governments only provide enough transfers to "feed" local fiscal dependents. As long as local officials do not turn against the regime, the general welfare of the population is of less consequence.

[Table 2 and Figure 3 about here]

Beyond FISDEP, GDPCAP also exerts a robustly positive affect on earmarked transfers. This finding suggests that the Chinese fiscal system between 1993 and 2003 generally had a tendency to reward rich areas rather than to redistribute to poor areas. On average, one standard deviation increase in GDPCAP leads to between 0.07 and 0.09 yuan increase in transfers. In the hypothetical county with a population of 1 million, this would translate to between 70,000 and 90,000 yuan in additional transfers. Although by no means trivial, the effect is significantly smaller than the one exerted by FISDEP. In actual practice, the central government rewards affluent localities by requiring local governments to provide matching funds for earmarked transfers. Naturally, richer localities are more able to provide matching funds than poorer localities, which channels more earmarked grants to affluent counties. Despite wide-spread grumbling from the World Bank and from the domestic policy circle that this rule constitutes a major regressive mechanism in the fiscal system, the central government continues to insist on this rule.[64]

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[64] Li, D. and S. Zhang, 1994, Lun zhengfu jian caizheng zhuanyi zhifu wenti (On the problem of intergovernmental transfer payments). *Caizheng Yanjiu (Research on Public Finance)* 1994, 28-32, World Bank, 2002, National Development and Sub-national Finance (Report No. 22951-CHA), in: World Bank, ed. (World Bank, Washington, DC).

As for the dependency ratio, the two variables representing it exhibit disparate effects on earmarked transfers. First, AGE14 appears to exert a minor effect on transfers. A one standard deviation (6%) increase in the share of population at or below fourteen seems to generate somewhere between 0.02 and 0.06 yuan increase in per capita transfer. In a county with 1 million residents, it would bring in up to 60,000 yuan in additional funding. Again, the effect is the strongest in the 2SLS regression including provincial and annual fixed effects, suggesting that direct central and provincial transfers to the county is somewhat sensitive to the needs of the youth. Our theory suggests that concerns with long-term growth may be behind this result.

At the same time, however, we find no evidence that the share of elderly population (AGE60) exerts any positive effect on transfers. If anything, there is some reason to believe that the share of the elderly in the population may exert a *negative* effect on transfers. Examining the third column on Table 2, one sees that a standard deviation increase in elderly population (2%) would bring about 0.02 yuan decrease in per capita transfers. We are not suggesting that the Chinese government has any explicit policies to distribute resources away from the elderly. However, very much contrary to the robust findings in advanced democracies, elderly population does not seem to be a concern for the Chinese government.[65]

In terms of our control variables, agricultural share of output does not appear to exert much systematic influence on transfers. FISSHORT, the fiscal balance of the local governments, exerts a negative influence on transfers. That is, a deficit budget seems to

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[65] Huber, E., C. Ragin and J. Stephens, 1993a, Social Democracy, Christian Democracy, Constitutional Structure, and the Welfare State. *American Journal of Sociology* 99, 711-749, Pontusson, J., 2005, *Inequality and prosperity : social Europe vs. liberal America* (Cornell University Press, Ithaca, N.Y.) Pages, Wilensky, H. L., 1974, *The welfare state and equality : structural and ideological roots of public expenditures* (University of California Press, Berkeley) Pages.

garner slightly more transfers than a balanced budget, although this relationship is not robust across the four equations. Again, it is difficult to assign too much theoretical significance to this finding for two reasons. First, the reported fiscal balance is far from the actual fiscal balance.[66] Second, since local governments cannot legally run a deficit, such transfers simply reflect the desires of provincial governments to temporarily cover up the deficits of local governments.

In terms of the size of the population, it seems to exert a negative effect on transfers. Here, we think that much of this effect is accounted for by the need to replicate the government in both sparsely populated and densely populated areas, which exerts a downward effect on per capita transfers in densely populated areas. When we use the distance variables to instrumentalize FISDEP and include provincial fixed effects on column four, the effect of population disappears entirely. Finally, nationally designated poverty (NDP) counties consistently receive more funding than the average county. The reality is that NDP counties were chosen not just on the basis of poverty indicators, but also on the basis of a county's revolutionary history, closeness to the border, and the connections of the county leadership.[67] Thus, it is difficult to interpret this result as a progressive element in the transfer system.

In sum, our analysis of the panel data spanning the years 1993 to 2003 suggests that central and provincial transfer payments to counties respond quickly to the size of the local government payroll, including local officials, retired cadres, and decommissioned

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[66] Local officials at times engage in "buying taxes" to meet tax collection quotas. To buy tax, they go to another county, sometimes in another province, to borrow tax receipts, repaying the tax creditors along with interest after the annual budgetary inspection. See Zhang, Yuande. 2003. 'bishui' hai zai jixu ('forced taxation' continues). *Gaige Neican (Internal Reference of Reform)* 2003 (31):20-24.

[67] Finance Department of Anhui Province, 2000, 2000 nian Anhui sheng duixia zhuanyi zhifu banfa (Method of transfer payment from the Anhui provincial government to lower levels), in: Ministry of Finance, ed. (Ministry of Finance, Beijing).

military officers. We also find that the central and provincial governments reward affluent regions with higher transfers. We further find some positive linkage between the share of school-age population and transfers. Finally, unlike advanced democracies, the share of elderly in the population exerts no positive effect on transfers.

In Table 3, we further examine the effects of FISDEP, GDPCAP, and age structures on earmarked transfers across three fiscal regimes: 1993, 1994-2000, 2001-2003. Here, we average both dependent and independent variables and run cross-sectional 2SLS analysis for all three periods. Once again, FISDEP exerts a strong influence on earmarked transfers—in fact a much stronger effect than in the previous set of regressions. In the previous estimations, we control for the lagged dependent variable. In this set of regressions, we average all the variables for these uneven periods. We are fairly certain that some of the strong effect is accounted for by autocorrelation. Nonetheless, the findings on Table 3 suggest the center's declining propensity to respond to payroll increases over time, although the effect remains extremely strong.

Looking at the fixed effect 2SLS models, in 1993, the center responded to a standard deviation increase in local payroll with a 1.27 yuan rise in per capita transfer, while in the 2001-2003 period, the center responded to the same increase with 0.81 yuan increase in transfers. 0.81 yuan per capita in transfer is nothing to scoff at, but it clearly is much smaller than the effect in 1993. Two mechanisms may account for the declining sensitivity. First, with the centralization of the tax structure in 1994, the center became increasingly confident of its own capacity to maintain power. In the 90s, the center firmed up its control over unruly local governments and the military.[68] As part of the

[68] Yang, D. L., 2004, *Remaking the Chinese Leviathan: Market Transition and the Politics of Governance in China* (Stanford University Press, Stanford, CA) Pages.

state-building effort, civil service wage payments also became part of a regular transfer outside of the earmarked transfer system.[69]

Once we average the data by period, however, we find that GDPCAP exerts an inconsistent effect on transfers. Without fixed effects, GDPCAP in all three periods exhibits some positive tendency, especially in the 2001-2003 period. However, when we include fixed effects, GDPCAP does not seem to exert any effect. Similarly, we find very inconsistent effect in the AGE14 variable, which shows that without provincial fixed effects, the fiscal system in the first two periods had a tendency to distribute away from areas with more children. After regional characteristics are controlled for, however, the share of population at or below 14 exerts a positive and significant effect on transfers in the 1994 -2000 period, although it remains insignificant in the other periods. This is especially surprising for the 2001-2003 period considering the heavy emphasis that the current leadership has put on rural education.[70] When we do not control for regional heterogeneity, AGE60 actually exerts a downward and systematic effect on transfers across all three fiscal regimes, although once provincial fixed effects are included, these downward effects disappear. Again, this does not suggest that the Chinese government intentionally discriminates against the elderly. It just means that elderly population is not a high policy priority for the government in the face of other pressing priorities. In terms of the control variables, they exert more or less similar effects as those found on Table 2, although in a much less consistent manner.

**[Table 3 around here]**

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[69] Ministry of Finance, 2003a, 2002 nian yibanxing caizheng zhuanyi zhifu banfa (The method for regular transfer payments in 2002), in: Budgetary Division of the Ministry of Finance and Treasury Division of the Ministry of Finance, eds., Difang Caizheng Juesuan Wenjian Ziliao: 2002 (Docuemnts and Information Concerning Local Final Budgetary Reporting) (China Finance and Economic PUblisher, Beijing) 32-36.
[70] Wen, J., 2007, Government Work Report, in: People's Daily, ed. (Beijing).

**Conclusions**

The theory developed in this paper and the findings suggest that China does not operate like a federalist democracy. Far from it, the findings reveal that autocratic governments with a long time horizon like China have an incentive to conduct intergovernmental transfers in order to maintain the loyalty of grassroots officials. Since these officials stand on the front-line of the regime's daily struggle with societal forces, the regime is more than willing to provide them with a livelihood. The regime also has some incentive to structure transfer payments to reward high growth areas because more economic activities generally increase the overall size of tax revenue. The regime further has some weak incentive to fund spending on children, which contributes to long-term growth. Unlike advanced democracies, however, an autocratic regime has few reasons to providing funding to the elderly since that sub-population does not affect leadership selection or the longevity of the regime. The elderly also contributes much less to the long-term growth of the economy. Thus, welfare for the elderly becomes a relatively low policy priority, which is reflected in its limited funding.[71]

Authoritarian political incentives compel autocrats to be highly sensitive to the needs of those who help maintain their power. Politicians in democratically elected governments have similar motives, but the selectorate in democracies is a much larger share of the population. Thus, even if the evidence on the growth impact of democracy is mixed, comparative evidence strongly suggests that democracies are much better at providing welfare to the broad population. Beyond the highly robust findings that rich

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[71] Frazier, M. W., 2006, One country, three systems: the politics of welfare policy in China's authoritarian developmental state, in: S. Kennedy, ed., Capitalism with Chinese Characteristics Conference (Indian University, Bloomington, IN), Wong, C., 2005, Can China change development paradigm for the 21st century, in: Stiftung Wissenschaft und Politik, ed., SWP Working Paper (SWP, Berlin).

democracies raise welfare spending and fiscal transfers as the share of the elderly increases, both qualitative and quantitative analysis of developing countries also reveals significantly greater welfare spending in developing democracies. Wong shows that democratization in Taiwan and Korea drastically bolstered welfare services in these two countries.[72] Rudra finds robust statistical evidence that democracy exerts a positive effect on welfare spending in developing countries.[73] The research on the impact of regime type on fiscal transfers and welfare provision is just at its beginning; more research is needed to fully comprehend the impact of regime type on various kinds of welfare related expenditure. At the same time, a deeper understanding of how various parameters in autocratic regimes affect fiscal transfers and welfare provision is also needed. A rich literature already explores the ways in which democratic institutions shape welfare policies in democracies;[74] further research should inquire how different features of autocratic regimes have shaped welfare policies and resource allocation.

Although this paper provides further theorization and evidence on the complex interactive dynamic between the various tiers of the Chinese government, it is far from the final word on this subject. For one, if the central and provincial governments consistently bolster transfers when local payroll increases, would not county and township governments relentlessly engage in the opportunistic expansion of local fiscal dependents? We do not think they are the main culprits behind the steady rise of fiscal dependents in the 90s. It is extremely costly for grassroots governments to increase fiscal

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[72] Wong, J., 2004, *Healthy democracies : welfare politics in Taiwan and South Korea* (Cornell University Press, Ithaca) Pages.

[73] Rudra, N., 2002, Globalization and the Decline of the Welfare State in Less-Developed Countries. *World Politics* 56, 411-445.

[74] For example, see Esping-Andersen, G., 1990, *The three worlds of welfare capitalism* (Princeton University Press, Princeton, N.J.) Pages, Lynch, J., 2006, *Age in the welfare state : the origins of social spending on pensioners, workers, and children* (Cambridge University Press, Cambridge ; New York) Pages.

dependents.  If local officials increase payroll without providing the funds for their wages, higher levels of government would punish them for widespread wage arrears.  In Anhui, for example, governments in localities with wage arrear problems were forbidden to travel or to buy a car.[75]  If instability occurs, officials at the county and township level further face severe administrative punishment.[76]

The main culprits behind the increase of fiscal dependents are probably provincial and prefecture governments. These two levels of governments stand to benefit enormously as middlemen because for most categories of transfers, the central government provides a lump-sum payment to the provinces, which in turn distribute either directly to counties or indirectly via prefectures.[77]  As superiors of county governments, provincial and prefecture governments also have the authority to increase the rosters for counties in order to extract more transfers from the center.  At the same time, if counties face financial hardship, wage arrears, and social instability, provincial and prefecture governments can always blame the county leaders for failing to follow central policies.  If a riot takes place in a particular county, the county leadership is blamed, but the province can use these credible signals to lobby for even more transfers. Given these incentives, provinces and prefectures have every reason to order counties to

[75] Anhui People's Government, 2000, Anhui sheng baozhang xian (shi), xiang (zhen) gongzi zhengchang fafang zhanxing banfa (Temporary method of guranteeing the timely payment of wages for counties (cities), townships (towns) in Anhui), in: Beida Yinghua, ed., Zhongguo Falu Jiansuo Xitong (China Law Search System) (Beida Yinghua, Beijing).
[76] Office of CCP Central Committee and Office of the State Council, 2002, Guanyu duisheji nongmin fudan an(shi) jian shixing zeren zhuijiu de zhanxing banfa (Temporary methods on holding relevant officials responsible for incidents related to farmers' burden), in: B. Yinghua, ed., Zhongguo Falu Jiansuo Xitong (System for Chinese Law Searches).
[77] Ministry of Finance, 2003c, Guanyu xiada 2002 nian nongcun feishui gaige shidian xian (shi) zhongyang zhuanyi zhifu zijin de tongzhi (Notice concerning disbursing central transfer payment to the counties (cities) for the 2002 tax-for-fees reform), in: Budgetary Division of the Ministry of Finance and Treasury Division of the Ministry of Finance, eds., Difang Caizheng Juesuan Wenjian Ziliao: 2002 (Docuemnts and Information Concerning Local Final Budgetary Reporting) (China Finance and Economci Publisher, Beijing).

increase fiscal dependents in order to enlarge central subsidies, part of which land costlessly into their pockets.

If that were the case, why doesn't the central government police provincial governments more strictly? Returning to the brief discussion on paying off the elite selectorate, the fiscal system as a whole may intentionally allocate enormous rent to provincial governments because provincial leaders constitute an important support-base for various central-level factions. While central leaders may design tough measures to monitor and restrict spending at the grassroots level, they are probably much less inclined to do so with their main supporters at the provincial level. Much more work needs to be conducted to explore how elite political incentives cascade down through the various tiers of governments, eventually resulting in policy outcomes that affect China's 1.3 billion people.

**Figure 1: Share of Central Revenue and Expenditure: 1978-2002**[78]
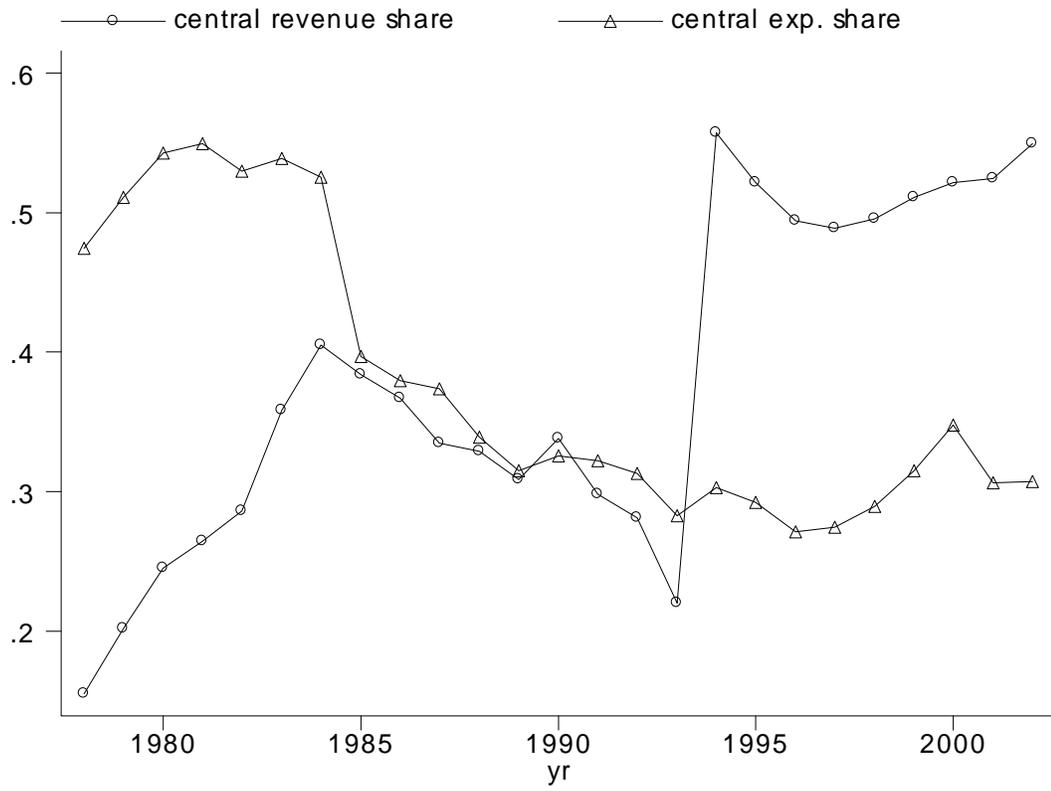
[78] Source: *China Statistical Yearbook,* various years.

**Figure 2: Observed values, fitted values, and 95% confidence interval of the relationship between fiscal dependents (X-axis) and per capita transfer (Y-axis)**
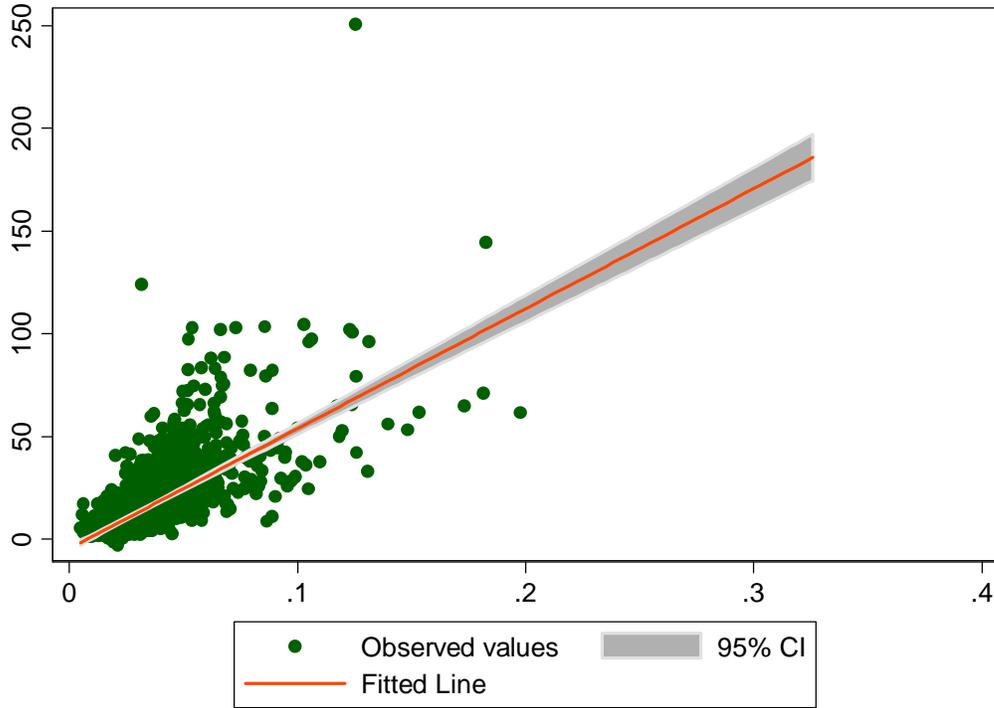
Table 1　Descriptive Statistics

| | EARMARK [a] | FISDEP | GDPCAP [a] | ECONSTR | FISSHORT | POP | NDP | AGE14 [b] | AGE60 [b] | PROV_ DISTANCE | BEIJING_ DISTANCE |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Obs | 25409 | 25145 | 25472 | 25376 | 25484 | 26023 | 26400 | 25182 | 25182 | 17925 | 17925 |
| Mean | 13.99 | 0.03 | 929 | 0.41 | -0.08 | 45.23 | 0.23 | 0.26 | 0.09 | 0.43 | 0.34 |
| Std. | 22.29 | 0.02 | 1073 | 0.24 | 1.21 | 60.03 | 0.42 | 0.06 | 0.02 | 0.24 | 0.20 |
| Min | -19.92 | 0.00 | 0.00 | 0.00 | -44.71 | 1.00 | 0.00 | 0.10 | 0.03 | 0.01 | 0.00 |
| Max | 1883.74 | 0.77 | 64212 | 1.00 | 117.74 | 5022 | 1.00 | 0.43 | 0.22 | 1.00 | 1.00 |

a. All figures are averaged over the period of 1993-2003 and are comparable (deflated by 1980 GDP deflator)
b. They are averaged value between 1993 and 2000

Note: EARMARK is the Per Capita fiscal earmarked transfer (Yuan); FISDEP, fiscal dependent population as the ratio to total Population; GDPCAP Per Capita GDP (RMB Yuan); ECONSTR, Agricultural output as the share in total output; FISSHORT, the difference between fiscal revenue and fiscal expenditure as the ratio to fiscal revenue; POP, total population (10, 000 Persons); NDP, a dummy of National Designated Poverty County (=1, if yes; =0, otherwise); AGING 14, the share of population under the age of 15; AGING60, the share of population above the age of 59. PROV_DISTANCE, the distance between a county and the provincial capital, which is normalized by the distance between the provincial capital and the county furthest from it. BEIJING_DISTANCE measures the distance of a county from Beijing, normalized by the distance between Beijing and the county in China furthest from it. PROV_DISTANCE and BEIJING_DISTANCE are instruments for P-FISDEP in Table 2 and Table 3.

Table 2: Estimations of the Impact of Fiscal Dependents on Earmarked transfers to Counties: 1993-2003 Panel

| | No Fixed Effects | | With Fixed Effects | |
|---|---|---|---|---|
| | GLS | 2SLS | GLS | 2SLS |
| Lag(EARMARK) | 0.70*** | 0.67*** | 0.64*** | 0.54*** |
| FISDEP/ P-FISDEP | 0.12*** | 0.21*** | 0.12*** | 0.48*** |
| GDPCAP | 0.07*** | 0.09*** | 0.08*** | 0.09*** |
| AGE14 | 0.01 | 0.02** | 0.03*** | 0.06*** |
| AGE60 | -0.01 | -0.01 | -0.02* | 0.01 |
| ECONSTR | -0.004 | -0.01* | -0.01 | -0.01 |
| FISSHORT | -0.03*** | -0.02 | -0.0*** | 0.00 |
| POP | -0.06*** | -0.04*** | -0.07*** | 0.00 |
| NDP | 0.03*** | 0.04*** | 0.03*** | 0.04*** |
| Tianjin | | | -0.03*** | -0.01*** |
| Hebei | | | -0.24*** | -0.27*** |
| Shanxi | | | -0.19*** | -0.25*** |
| Inner Mongolia | | | -0.18*** | -0.24*** |
| Liaoning | | | -0.15*** | -0.14*** |
| Jilin | | | -0.11*** | -0.14*** |
| Heilongjiang | | | -0.12*** | -0.14*** |
| Shanghai | | | -0.03** | -0.05*** |
| Jiangsu | | | -0.15*** | -0.19*** |
| Zhejiang | | | -0.15*** | -0.17*** |
| Anhui | | | -0.13*** | -0.17*** |
| Fujian | | | -0.16*** | -0.20*** |
| Jiangxi | | | -0.17*** | -0.21*** |
| Shandong | | | -0.21*** | -0.24*** |
| Henan | | | -0.20*** | -0.24*** |
| Hubei | | | -0.14*** | -0.17*** |
| Hunan | | | -0.18*** | -0.22*** |
| Guangdong | | | -0.16*** | -0.20*** |
| Guangxi | | | -0.17*** | -0.22*** |
| Hainan | | | -0.06*** | -0.07*** |
| Sichuan | | | -0.18*** | -0.19*** |
| Guizhou | | | -0.17*** | -0.22*** |
| Yunnan | | | -0.18*** | -0.25*** |
| Xizang | | | -0.11*** | -0.25*** |
| Shaanxi | | | -0.16*** | -0.22*** |
| Gansu | | | -0.16*** | -0.17*** |
| Qinghai | | | -0.07*** | -0.09*** |
| Ningxia | | | -0.05*** | -0.07*** |
| Xinjiang | | | -0.22*** | -0.29*** |
| 1995 | | | -0.02*** | -0.05*** |
| 1996 | | | 0.02*** | -0.01 |
| 1997 | | | 0.02*** | -0.01 |
| 1998 | | | 0.01** | -0.02 |
| 1999 | | | 0.07*** | 0.07** |
| 2000 | | | -0.02*** | -0.02* |
| 2001 | | | 0.04*** | 0. 03* |
| 2002 | | | 0.03*** | 0.02*** |
| 2003 | | | 0.06*** | 0.05*** |
| OBS | 20047 | 14785 | 20047 | 14785 |
| Adj-R2 | 0.64 | 0.65 | 0.66 | 0.6 |

Note: 1. *, p<0.1; **, p<0.05, ***, p<0.01;

2. The significant level is based on robust standard error.

3. All estimated results are standardized coefficients.

Table 3: 2SLS Estimations of the Impact of Fiscal Dependents on Earmarked transfers Across Three Fiscal Regimes

| | 1993 | 1994-2000 | 2001-2003 | 1993 | 1994-2000 | 2001-2003 |
|---|---|---|---|---|---|---|
| P-FISDEP | 1.28*** | 0.65*** | 0.52*** | 1.27*** | 0.96*** | 0.81*** |
| GDPCAP | 0.01 | 0.05 | 0.09*** | -0.02 | 0.00 | -0.04 |
| AGE14 | -0.18*** | -0.10*** | 0.08*** | -0.03 | 0.09* | -0.01 |
| AGE60 | -0.13* | -0.13*** | -0.08** | -0.02 | -0.001 | 0.002 |
| ECONSTR | 0.14** | -0.01 | 0.05* | 0.02 | 0.02 | -0.01 |
| FISSHORT | -0.04 | -0.06 | 0.09** | -0.05 | -0.02 | 0.07** |
| POP | 0.04 | -0.09* | -0.2*** | 0.05 | -0.06 | 0.02 |
| NDP | 0.04 | 0.10*** | 0.03* | 0.01 | 0.09*** | 0.06*** |
| Tianjin | | | | | -0.11*** | |
| Hebei | | | | -0.58*** | -0.93*** | -0.81*** |
| Shanxi | | | | -0.53*** | -0.84*** | -0.71*** |
| Inner Mongolia | | | | -0.42*** | -0.75*** | -0.71*** |
| Liaoning | | | | -0.21* | -0.41*** | -0.43*** |
| Jilin | | | | -0.36*** | -0.51*** | -0.43*** |
| Heilongjiang | | | | -0.14 | -0.49*** | -0.48*** |
| Shanghai | | | | -0.05 | -0.05*** | -0.13*** |
| Jiangsu | | | | -0.34*** | -0.60*** | -0.54*** |
| Zhejiang | | | | -0.42*** | -0.53*** | -0.52*** |
| Anhui | | | | -0.48*** | -0.59*** | -0.55*** |
| Fujian | | | | -0.48*** | -0.64*** | -0.59*** |
| Jiangxi | | | | -0.47*** | -0.77*** | -0.66*** |
| Shandong | | | | -0.44*** | -0.79*** | -0.71*** |
| Henan | | | | -0.50*** | -0.78*** | -0.71*** |
| Hubei | | | | -0.40*** | -0.60*** | -0.54*** |
| Hunan | | | | -0.43*** | -0.69*** | -0.66*** |
| Guangdong | | | | -0.37*** | -0.67*** | -0.54*** |
| Guangxi | | | | -0.39*** | -0.69*** | -0.65*** |
| Hainan | | | | -0.14*** | -0.27*** | -0.21*** |
| Sichuan | | | | -0.45*** | -0.65*** | -0.58*** |
| Guizhou | | | | -0.47*** | -0.75*** | -0.59*** |
| Yunnan | | | | -0.20** | -0.84*** | -0.58*** |
| Xizang | | | | -0.41*** | -0.91*** | -0.30*** |
| Shaanxi | | | | -0.56*** | -0.86*** | -0.58*** |
| Gansu | | | | -0.40** | -0.60*** | -0.47*** |
| Qinghai | | | | -0.08 | -0.32*** | -0.22*** |
| Ningxia | | | | -0.27*** | -0.26*** | -0.16*** |
| Xinjiang | | | | -0.46*** | -0.84*** | −0. 74*** |
| OBS | 1548 | 1548 | 1597 | 1548 | 1548 | 1597 |
| R2 | 0.08 | 0.44 | 0.52 | 0.26 | 0.54 | 0.72 |

Note: 1. *, $p<0.1$; **, $p<0.05$, ***, $p<0.01$;

2. The significant level is based on robust standard error.

3. All estimated results are standardized coefficients.