Grasping the Small: The Political Economy of Growth, Poverty and the Role of the State in Two Chinese Provinces

John A. Donaldson
Department of Political Science
Singapore Management University

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"To the people, food is heaven." – Mencius[1]

Section One: Introduction

Is growth good for the poor? In theory, yes. As one influential report on China's "War on Poverty" argued (with an important caveat), "Obviously robust economic growth helps reduce poverty, as long as the gains are reasonably distributed" (Rozelle, Zhang, and Huang 2000). In practice as well, growth is often a crucial ingredient in the poverty reduction recipe. While this relationship is well founded, important exceptions abound – some areas grow, but poverty persists; the economies of other areas stagnates, yet poverty diminishes. These exceptions, if studied, will not only illuminate further the causal relationship between these two concepts, but also provide hope for areas for which few prospects of growth exist. This paper examines two neighboring poor Chinese provinces, which faced similar challenges and shared similar characteristics. One grew sluggishly, but the rural poor experienced striking improvement; the other grew rapidly, but its poor people saw few gains, a pattern that can be seen between at least 1991 to the present.

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[1] A significantly different earlier version of this paper was also presented in May 2006 for the Asian Network for the Study of Local China (ANSLoC). I thank participants of that workshop for comments and suggestions. The author also gratefully acknowledges the generous research support of the Office of Research, Singapore Management University.

The first is Guizhou, a notoriously poor province in a remote southwest corner of China (Map 1).[2] As shown in Table 1, Guizhou in 1991 performed poorly as measured both by its GNP/capita (RMB 890,[3] last among the 30 provinces considered[4]) and by percentage of the population living below the international poverty line (59 percent, ranking 28 of 30). Moreover, between 1991 and 1996, its economy grew sluggishly, ranking 29th for growth between 1991 and 1996.[5] In spite of this poor economic performance both overall and in relation to its neighbor, Yunnan, however, between 1991 and 1996, Guizhou province, according to World Bank statistics, stood among the leaders (3rd of 30) in poverty reduction, its poverty rate dropping 31 percentage points, from 59 percent to 28 percent.

Map 1: China (Guizhou and Yunnan highlighted)[1]

Province	Per capita GDP (1991) Rank	Poverty rate (1991) Rank	Per Capita GDP Growth rate (1991-1996) Rank	Poverty change (1991-1996) Rank
Guizhou	30	28	29	3
Yunnan	25	23	13	29

Table 1: Economic rankings for Guizhou and Yunnan (rankings among 30 provinces). Source: Author's calculations

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[2] For purposes of this paper, references to "China" refer to "Mainland China," and exclude data related to Taiwan, Hong Kong and Macao.

[3] The exchange rate has until recently been pegged at approximately RMB 8.2/US dollar. The population and area statistics for Guizhou and Yunnan come from Statistical Yearbooks.

[4] These statistics also exclude Chongqing.

[5] This information is based on the most reliable source for disaggregated poverty information in China currently available, a World Bank (2001) report, "China: Overcoming Poverty." This report provides complete, relatively reliable poverty-level data for only two years, 1991 and 1996. The other two years reported in the study (1989 and 1990) are not reliable, according to one of the study's authors (Chen 2002).

By contrast, Guizhou's neighbor, Yunnan experienced rapid economic growth but little decline in poverty rates. Also a poor province, ranking in 1991 25th of 30 in per capita GDP and 23rd in the proportion of the population below the international poverty line (44 percent), Yunnan's nominal GDP nearly tripled from RMB 51.7 billion in 1991 to RMB 149 billion in 1996 (its growth rate ranking 13th overall – remarkable for a western province in China). In spite of this, the province ranked 29th in overall poverty change between 1991 and 1996. Expressed in human terms and calculated based on China's poverty line, the ranks of Guizhou's poor declined from 6.2 million in 1991 to 3.8 million in 1996, a difference of 2.4 million people. By contrast, poverty in Yunnan claimed an additional 2.2 million people over the same period, with the number of poor rising from 5.5 million in 1991 to 7.7 million in 1996 (World Bank 2001).

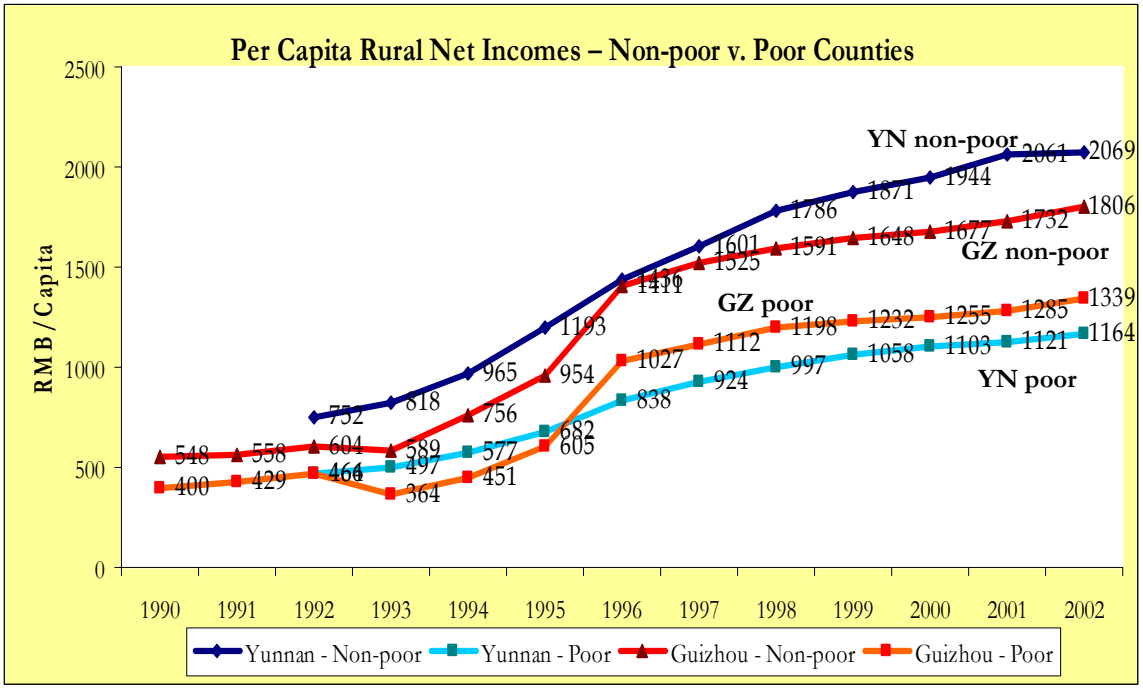

Figure 1: Per capita net incomes – non-poor v. poor counties (Guizhou and Yunnan). Source: Guizhou and Yunnan Statistical Yearbooks, various years.

While the data from the World Bank measure these trends only to 1996,[6] Figure 1, which compares the net rural income of poor and non-poor counties in the provinces, suggests this pattern continued past 1996, to at least 2002. Using data on per capita rural net income as a proxy for poverty, and calculating that measure separately for poor and non-poor counties of both provinces, as categorized by China's central government, we can compare income levels of Guizhou and Yunnan's poor and non-poor counties.[7] Poor counties within Guizhou and Yunnan in 1992 had similar per capita net rural incomes (RMB 466 versus RMB 464). However, despite an economic growth rate that drastically outpaced Guizhou's, nominal net rural

[6] In May of 2005, a World Bank economist provided for me her dataset of Guizhou and Yunnan's headcount poverty data to 2002, on the condition that I not publish them. They are consistent with the patterns seen in the net income data.

[7] China's State Council, part of the central government, starting in 1986 designated hundreds of China's counties as 'poor.' I adopt their classifications for this research.

incomes in Yunnan's poor counties increased on average three percentage points slower each year to 2002, compared to Guizhou's poor counties. Meanwhile, increases in incomes of Yunnan's non-poor counties outpaced that of Guizhou's over that period. For both these two sources of data, the pattern is similar, suggesting that: a) poverty continued to fall in Guizhou at a faster rate than in Yunnan, despite Yunnan's superior rate of economic growth, and b) Yunnan's non-poor counties received most of the benefits from economic growth in the province. This pattern appears to be valid from 1991 to at least 2002.

Section Two: Researching the Puzzle

What explains this unexpected pattern? By asking this question, the present paper aspires to contribute to a broader debate concerning what explains the disconnect between two concepts—development and poverty. Specifically, I look at one form of 'development,' as evidenced by measures such as economic growth, industrialization and increased technology, and 'poverty reduction,' as indicated by declining numbers of poor people. Most scholars expect that economic growth is inversely related to poverty rates, an argument that most starkly presented in a paper entitled (Growth *is* Good for the Poor*)* penned by a pair of World Bank economists, David Dollar and Aart Kraay. Analyzing worldwide and historical data, they conclude, "It should come as no surprise that the general relationship between growth of income of the poor and growth of mean income is one-to-one," (2000, 28).[8] This contention contrasts with the more common belief that economic growth is often necessary, but

[8] Finding a close correlation between growth and poverty reduction, the authors, by contrast, suggest there is little role for the government other than opening the economy, introducing rule of law, keeping inflation in check, and spending less. This paper sparked controversy throughout the academic and policy communities, with some supporting it (e.g., Bigsten and Levin 2001), and others criticizing it (e.g., Weisbrot et al. 2000; Rodrik 2000; Oxfam 2000).

insufficient, for poverty reduction; intervention, often by the state, is needed to ensure that the poor benefit from growth.

In this project, I participate in the debate on whether growth actually '*is* good for the poor,' not by directly refuting or supporting this argument, but by examining two unexpected cases: one Chinese province in which poverty declined despite China's slowest economic growth, and another in which robust economic growth failed to reduce poverty.[9] I explore the kinds of development and the types of activities that support poor rural people in improving their lives by adopting qualitative methodology of structured, focused comparative case study of the type called for by political scientists (e.g., George and Bennett 2005) and China scholars (e.g., Chung 1995). Comparing cases of unexpected poverty change permits examinations of theories on how best to reduce poverty, involving the use of government and private actors, as well as engaging a public policy debate on the effectiveness of alternative strategies. It is my hope that these insights will not be irrelevant to the issues faced by other poor countries and economies.

For this study, I adopted five different methods to collect data, including: 1) studying analytical and scholarly articles from Western and Chinese sources; 2) interviewing relevant officials and scholars in Beijing and both provincial capitals; 3) conducting fieldwork in both provinces, allowing direct observation of candidate explanations for the puzzle; 4) conducting semi-structured interviews with villagers and officials in dozens of counties and villages in the two target provinces; and 5) analyzing statistical data collected by a variety of organizations. My fieldwork was conducted in the 10 months between September 2003 and July 2004, and a follow up trip in Summer 2005). While each of these methods has biases, through using five I hope to "triangulate" evidence generated from each and not overly rely on any one data source.

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[9] The two cases were chosen because they were data points furthest away from a regression line generated by modeling the effect of growth on poverty in China's provinces

Numerous factors can explain the increase in growth in Yunnan without a corresponding decrease in poverty and/or (preferably 'and') factors that explain the decrease in poverty in Guizhou without a corresponding increase in growth. My research involved exploring each of these factors – geographic, natural, demographic, cultural, economic and political – that can be used to explain this puzzle (Table 2). Candidate factors should explain these curious patterns and, in combination, affect millions of rural residents. While some studies examine the relationship between economic growth and poverty reduction in the aggregate, this study reminds us that the specific distribution and structure of economic growth, and the policies used to generate it, cannot be ignored. Thus for each factor, I focus not just on volume (for instance, how much 'road' there is), but also distribution (is the road located in poor areas or in rich?) and structure (is the road accessible to poor people, or primarily to wealthy people?).

Geographic/ Natural Factors	Demographic Factors	Cultural Factors	Government/ Policy Factors
- Mountainous terrain - Natural resource endowments - Arable land per capita - Natural disasters (flooding/ drought) - Weather (rain/ temperature)	- Population/ population growth - Migration	- Motivation - Minority Ethnicities - Civil Society	- Central policy - International organization support - Corruption - Overall spending - Education/health - Central government transfers - Transportation/ infrastructure - Local taxation
Industrial Structure	**Agricultural Production**	**Industrial Production**	**Services/Other Econ Factors**
- Industrial structure (GDP) - Industrial structure (Labor)	- Overall agricultural production - Grain, meat, tobacco and other agricultural product production - Farm implements - Fertilizer use	- Town-village Enterprises - Non-agricultural industrial production (steel, chemicals, textiles, etc.) - Power generation - Agricultural added-value industries - Coal/other mining materials	- Inflation - Foreign trade - Foreign capital usage - Tourism

Table 2: Candidate factors

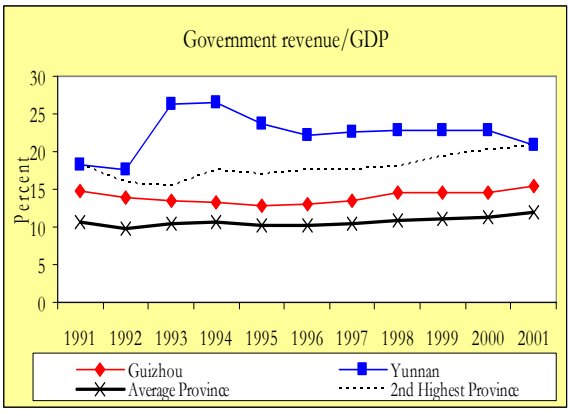


Figure 2: Government expenditure/GDP. Source: China Financial Yearbook, Various Years.

Space allows for exemplifying only a couple of rejected factors. For instance, government spending is a commonly cited factor affecting poverty and growth. However, Guizhou, both as a whole, and its poor counties, spent far less than Yunnan. Between 1991 and 1996, Yunnan spent between 45 to 58 percent more per capita than

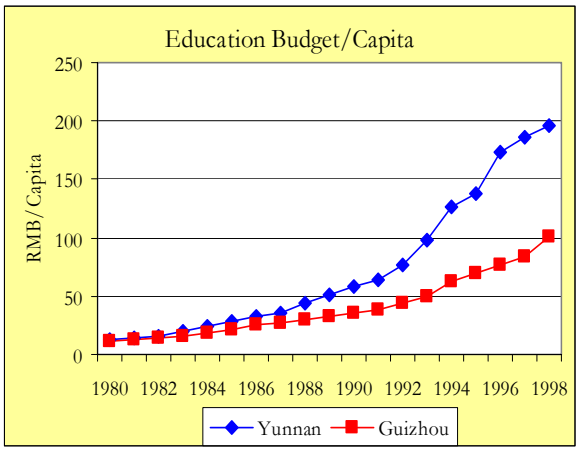
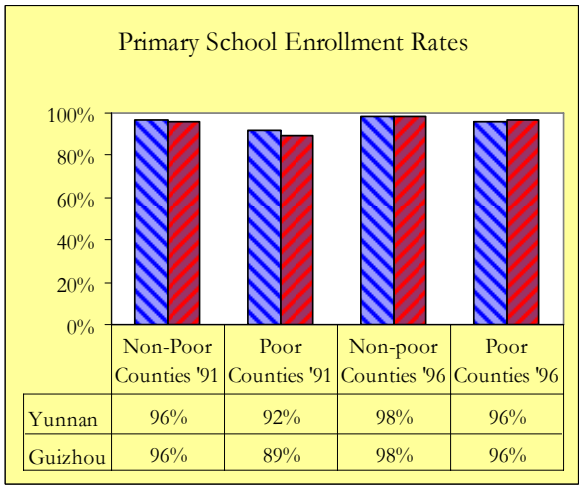


Figure 3: Education expenditure per capita. Source: Guizhou Statistical Yearbook various years; Yunnan Statistical Yearbook various years)



	Non-Poor Counties '91	Poor Counties '91	Non-poor Counties '96	Poor Counties '96
Yunnan	96%	92%	98%	96%
Guizhou	96%	89%	98%	96%

Figure 4: Primary school enrollment rates. Source: Guizhou Statistical Yearbook 1992, 1997; Yunnan Statistical Yearbook 1992, 1997)

Guizhou. Yunnan's government spending relative to its GDP was among China's highest, and in most years after 1991 Yunnan led all of China's provinces (Figure 2). Guizhou, for its part, although spending more relative to its GDP than the average province, spends far less than Yunnan. Moreover, in terms of spending related to poverty reduction, Yunnan spent far more per capita compared to Guizhou, including on budgetary items such as support for poor areas and agricultural spending. Moreover, while both provinces have proportionally the same number of poor counties, the central government transferred more money to Yunnan to support poverty alleviation projects than it did Guizhou. This pattern continues up to at least 2002.

Primary education, also cited as a critical factor for poverty reduction, likewise does not seem to explain this pattern of poverty reduction and economic growth in the two provinces. While Guizhou provides education in rural, and especially poor, areas, there is little evidence that it does so to a greater extent than other provinces. For instance, Guizhou's spending on education has been a fraction of Yunnan's (Figure 3), while primary school enrollment rates in the two provinces were similar in 1991 and 1996, both in poor and non-poor counties (Figure 4). The UNDP Human Development Report (1999) rated the education system of China's provinces

using a measure of adult literacy rate and combined school enrollment rates; both Guizhou and Yunnan received the same score of 0.64, relatively low compared to other provinces.[10] This is not to deny the nearly undeniable importance of education for poverty reduction, both in general and in Guizhou. Yet, because education does not vary within Yunnan and Guizhou, it apparently cannot explain the pattern of poverty reduction without economic growth. Similarly, other factors, including population growth, agricultural production, civil society, can be rejected as not part of this puzzle's explanation.

Section Three: Analysis of Key Factors

How did the two provinces generate these different results? Four factors appear to be especially critical: roadways, tourism migration and coal mining. Evidence related to volume, distribution and structure of these factors increases our confidence that they explain this puzzle. Tourism, extensively discussed in a forthcoming China Quarterly article (Donaldson Forthcoming), was omitted for lack of space. I discuss the three other factors in this section.

Factor 1: Roadway – "*If you want to become wealthy, first build a road," (Chinese saying)*

Roads are indeed often cited as crucial for both economic growth and poverty reduction – but how can they explain growth without poverty reduction (and vice versa)? Road types are numerous, with myriad functions and contrasting effects on growth and poverty. For instance,

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[10] Fieldwork revealed some aspects of Guizhou's education system may be better than Yunnan's I saw numerous examples of newly constructed schools, many funded by the four wealthy costal cities that have partnered with Guizhou to help reduce poverty. However, these examples provide little evidence that the quality of rural education is significantly better in Guizhou or in Yunnan, especially in the 1990s. However, research on the Indian state of Kerala consistently emphasizes the importance of the volumes of funds spent on education, which in our situation does not apply. More research is needed on this question.

highways can transport imports and exports, facilitate linkages for investment and aid, convey people reliably and conveniently to and from neighboring provinces, and more comfortably ferry visitors between popular tourist areas. Highways thus potentially contribute a great deal toward promoting economic growth (Jalilian and Weiss 2004; Estache 2004). However, unless a poor person lives adjacent to highways or convenient feeder roads, he or she will not benefit directly from highway construction. Highways by themselves are rarely sufficient to reduce poverty among dispersed, often isolated rural populations, and they are too costly to serve large numbers of far-flung farmers.

By contrast, a country road linking poor villages to nearby market towns can make a significant difference in the lives and livelihoods of poor rural residents for a fraction of the cost of a highway (Fan and Chan-Kang 2004). Country roads vary a great deal in quality and width – from concrete roads to dirt roads. Towns in China have long been the locus of markets (Skinner 1964), and their importance to the economy and their role in linking towns to villages is central. For the rural poor, a modest paved road, or even a dirt road that leads to a market town or county center, makes a greater difference by increasing access to markets and information. Country roads can also reduce the price of agricultural inputs such as seed, fertilizers and tools and increase farm productivity. Reducing time to markets also enhances incentives to produce marketable products, and over time can increase confidence in the value of investing in or borrowing money for expensive productive assets such as fruit trees. Navigable roads also augment the range of middlemen to drive into rural areas to purchase surplus agriculture directly from the farmers and sell it in further flung markets. Most research, however, does not separate roads by type, which might explain the mixed results in studies of roads and poverty reduction.

At the start of the 1990s, both Yunnan and Guizhou embarked on strikingly different transportation improvement schemes. Overall, although Guizhou also planned a modest highway system, the province constructed many more rural roads of the type that the literature suggests reduce poverty. Yunnan by contrast focused primarily on implementing an ambitious and successful plan to construct six cross-province high-quality highways. These varying political decisions affected the volume, distribution and most importantly, structure of each province's road system, which in turn affected poverty reduction and economic growth in contrasting ways.

Focusing on volume, while Yunnan had more road length than Guizhou for much of the 1990s, Guizhou had a higher road density (road length per area) (Figure 5). In 1991, Guizhou's overall road density of 17.9 km/100 km^2 exceeded Yunnan's 14.75 km/100 km^2. By 1996, when Yunnan's total roadway length of 70279 kilometers was the third longest of any province in China, compared to Guizhou's rank of 20, Guizhou's total density of roadway still exceeded Yunnan's (18.58 km/100 km^2 to 17.83731). Moreover, although Yunnan province constructed new roadway at a brisker pace compared to Guizhou, Yunnan's road density did not catch up with Guizhou's until after 1998.

More importantly, Yunnan and Guizhou's roads were of different types. Starting in 1992, Yunnan announced plans for its highway system – an ambitious

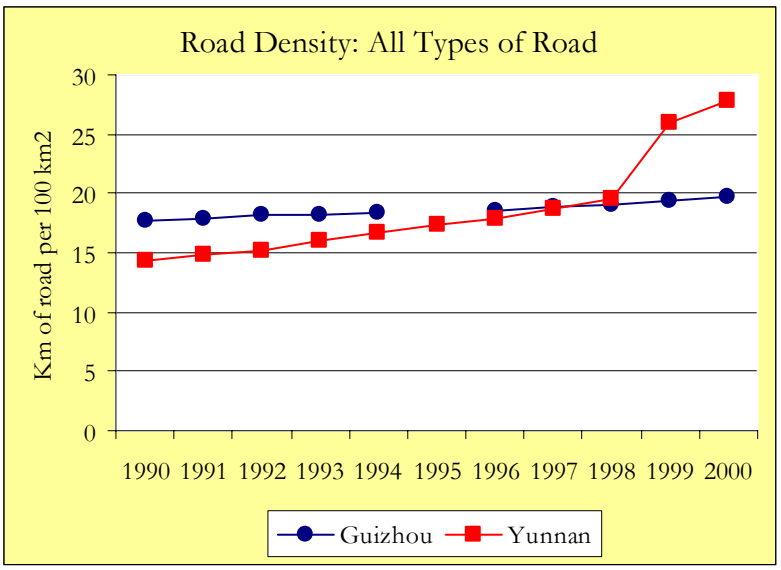

Figure 5: Road density in Yunnan and Guizhou. Source: Yunnan and Guizhou Statistical Yearbooks, Various Years

plan that focused on a set of six highways radiating out from the central axis of Kunming, the province's capital. Three of these linked Kunming with three major border crossings, while three further roads linked Kunming with three provincial capitals. The six spurs, consisting primarily of class 1 and 2 highways together would total 3,458 kilometers.[11] Guizhou province that same year announced a less ambitious plan for three main roadways, one east-west highway linking Hunan with Yunnan, and two north-south roads, one linking Guiyang with Guangxi and Chongqing – with the total highway density much lower than in Yunnan (see Table 3). Moreover, the volume of funds used to finance roadway investments contrasted between the two provinces. Even with its more modest ambitions, for this entire plan Guizhou needed an estimated RMB 12 billion, but could provide only a fraction of that (Gong 1996).

Yunnan 1992 Highway Plans	3458 kilometers total
Kunming → Myanmar border	925 kilometers
Kunming → Guizhou border	221 kilometers
Kunming → Sichuan border	471 kilometers
Kunming → Guangxi border	480 kilometers
Kunming → Laos border	864 kilometers
Kunming → Vietnamese border	497 kilometers
Guizhou 1992 Highway Plans	1378 kilometers total
Hunan border ↔ Yunnan border	735 kilometers
Guiyang → Guangxi border	321 kilometers
Guiyang → Chongqing border	322 kilometers

Table 3: Highway plans of Yunnan and Guizhou (1992). Source: Authors calculations; Guizhou and Yunnan Yearbooks, Various Years

Whereas Yunnan spent nearly RMB 1 billion in 1992, Guizhou's spending did not reach that level until 1996.[12] In part for this reason, Guizhou's eastern spur, 14 years after its planning, has not yet been completed as recently as the spring of 2004. Not only did Guizhou focus its limited

[11] Fan and Chan-Kang (2004) define high quality roads as expressways, and Class 1 and 2 roads and low quality roads as Class 3 and below.

[12] In 1991, Guizhou's announced fixed capital investments in roadways was RMB 79.1 million, which climbed to RMB 1.1 billion in 1996. Yunnan, in contrast, spent RMB 971 million in 1992, RMB 1.75 billion in 1993 and RMB 1.56 billion in 1994 on roadways alone. Overall for the eighth five-year plan (1991-1995), Yunnan spent over RMB 7 billion on roadway construction.

transportation funding on areas where it could benefit poor people, but what highways it did construct were better distributed, compared to Yunnan's, by linking poor areas with primary cities. On the other hand, Yunnan's highways promoted trade flows with each of its neighbors and helped to increase tobacco production and tourism. These effects stimulated economic growth, but, due to the distribution and structure of the province's new roadways, did not help as much to reduce poverty.

In contrast with Yunnan's highway plan, Guizhou focused primarily on constructing rural roadway, a plan that explicitly aimed to reduce rural poverty promulgated in March 1986 under the leadership of current Chinese General Secretary Hu Jintao, who then served as the Secretary of Guizhou's Communist Party (Guizhou Yearbook 1987). As two Guizhou scholars summarize this part of the strategy,

> In 1991, a key provincial infrastructure project was to construct, expand, deepen and repaved public roadways, especially emphasizing the proactive application of the Food-for-Work program to build mountain roads, link administrative villages with navigable roads, and to support the construction of township and village roadways. (Wang and Zhang 2003, p. 403)

Also in the early 1990s, Guizhou further expanded this plan, by including the expansion of roadways linking township to counties. These plans were also explicitly tied to poverty reduction, as when Guizhou's 1994 plan for poverty reduction highlighted the use of rural roadways as a key element of its anti-poverty plan, by constructing "local roadways for poor towns and townships, as well as most market places and commercial areas," (Guizhou Yearbook 1991, 1995). Overall, between 1989 and 1999, Guizhou invested more than RMB 4 billion to build 8,919 km of road linking county and township, thereby connecting for the first time 315 townships with their county cities (Ran and Lie 2000). Based on partial statistics, road density of Guizhou's "non-graded roads" far exceeded that of Yunnan's (Guizhou and Yunnan Statistical Yearbooks, various years). The density of such roads by the mid-1990s in Guizhou

(12.78 km/100 km²) exceeded Yunnan's (7.58 km/100 km²) by about forty percent (Figure 6). Moreover, while Guizhou claimed to have built more than 2000 kilometers of village-to-market roads in the years between 1993 and 1996, official data from Yunnan indicates that the length of such roads declined between 1991 and 1996. For its well-developed highway system (which supported trade and tourism in the province – thus sparking increased GDP but little poverty reduction), however, Yunnan has a relatively underdeveloped country road system (ranking 12th in China for length and 16th for total density). Guizhou on the other hand ranks third in China for county road. Moreover, although it might seem counterintuitive, the country roads I traveled on in Guizhou were of much higher quality than those in Yunnan. More packed, less muddy during the rain, and wider, often with borders on each side, Guizhou's country roads tended to be much more navigable, thus likely reducing costs and facilitating transport to market.

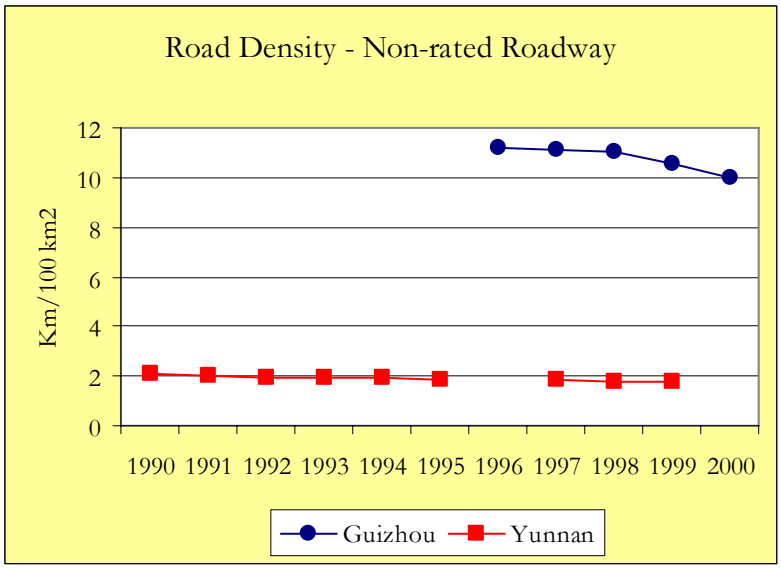

Figure 6: Road density of non-rated roadway in Guizhou and Yunnan. (Various sources)

Therefore, based on both statistical data and fieldwork, a key element of Guizhou's development included the construction of low-level roadways, the kind that is vital for the village-level economy, though of limited use for economic growth in the province. The distribution and structure of the roadways in both provinces, and the economic effects of such roads, were generally consistent with our expectations. Yunnan's main strategy in its road construction policy was to focus its resources on building highways, which successfully

stimulated the province's exports and supported the development of the tourism industry. Guizhou for its part concentrated on rural roadways, becoming in the process a leading province in density of such roadways.

Factor 2: Migration – "Move a tree and it dies, move a man and he thrives," (Chinese proverb)

Starting in the early 1980s, Deng Xiaoping's reforms sparked fresh waves of migrant flows in China, flows that had been dammed through strict controls over population movement established in the early years of the People's Republic of China. It was rural-to-urban migration that dominated this period, as tens millions of primarily young rural laborers brought inexpensive labor to cities of all sizes, further stimulating industrialization and construction in China's coastal cities. Such flows reduced poverty in the countryside, both by reducing mouths to feed and by adding the small-but-significant remittances farmers' family earnings in the countryside. Many migrant families also saved a portion of these remittances, accumulating the capital needed to start small businesses once the migrant, newly endowed with experience and new skills, returned to the countryside.[13] Recent research suggests remittances benefited poor households. Whereas migrant income constituted about 43 percent of the incomes of the

[13] The vast majority of migrants work diligently and spend frugally, mailing the bulk of their earnings to their home villages to provide for basic family needs, the education of siblings, the housing improvements and other necessities. Qian (1996) shows that such remittances are of a scale that makes a major difference in the household economy, although these effects are felt primarily on household income. By comparing net income of migrants with those of an average rural family at the origin, Ma also shows that remittances are especially beneficial in poorer non-coastal provinces, where the income ratio is 5:1 in favor of families with migrants (Ma 1999, p. 179). Taylor and his colleagues also find that remittances make a major difference in rural incomes, increasing them between 16-43 percent. A study of six provinces in 2000 concludes that the average migrant remits one-third of their total income (RMB 908), and that families back home receive on average RMB 465 per person, or 77 percent of their own earned wages. Migrant remittances as a proportion of total income are greater the poorer the family.

wealthiest 50 percent, it represented 62 percent of the total income of the poorest 10 percent of households in the sample. Among residents of China's poor counties, controlling for resource endowments, households with migrants tend to have per capita incomes 12 percent higher than those households without migrants (Du, Park, and Wang 2004, pp. 12-6).[14]

Migration also helps spur urban development and growth. Migrants contribute to the growth of areas to which they migrate by providing low-wage services that urban workers, endowed until the mid-1990s with cradle-to-grave job protection and urban residence permits that guaranteed them a degree of social protection, are unwilling to perform (Knight, Song, and Jia 1999). In contrast to its impact on urban areas, however, migration contributes only modestly to the income growth of the rural area of origin. Since migrants are almost exclusively the youngest, best-educated and most vigorous people from their village (Rozelle et al. 1999; Yang and Guo 1999; Hare 1999), migration often removes from the village the most productive workers.[15] Migrant remittances, when used to start businesses, can help develop rural areas; however, the extent to which this occurs, especially in poor areas, depends on to what purpose the funds are applied.[16] Overall, migration brings to urban China far more economic growth that it does to rural China (especially for poor areas), although poor rural areas have benefited through reduced poverty.

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[14] Using a different poverty line, Du and his colleagues find that poverty rates after remittances declined from 67.1 percent to 49.2 percent.

[15] In two villages with significant remittances that Qian surveys, migration actually reduced agricultural production because of the loss of labor. He concludes, "the impact of out-migration on local economic development in these two villages turned out to be more negative, although some of the remittances were invested in some small household businesses," (Qian 1996, p. 138).

[16] A survey by Taylor and his colleagues found weak evidence that households reinvest remittances in "self-employed activities," and also found that these investments rarely returned immediate profits (Taylor, Rozelle, and de Brauw 2003, p. 94). Another survey of five villages revealed that while remittances in four villages increased household income, in only two of these villages did migration spur new businesses (Qian 1996). During fieldwork, I saw few examples of remittance-based investment in businesses.

Although Guizhou and Yunnan shared many attributes throughout the 1980s that allow us to expect that the patterns of migration within the two provinces would be similar, the actual migration rates in the two provinces differed dramatically. While both provinces are similar regionally, geographically and demographically, Guizhou had a much higher rate of migration that Yunnan during the 1990s. During the mid-to-late 1980s, migration rates in both provinces (like those in most western provinces save Sichuan) were low, as rural residents were constrained – by legal restrictions, lack of information and insufficiently developed migrant networks – from participating extensively in migration at that time. However, starting in the late 1980s and increasingly in the early 1990s, Guizhou saw a surge of migration, reaching a rate that eventually exceeded average flows in China and in the country's southwest, dwarfing Yunnan's more modest increases. In Guizhou, this created a virtuous cycle as initial migrants sought opportunities for and otherwise encouraged friends and relatives to migrate, reflecting "chain migration" that is common throughout China (Rozelle et al. 1999). Guizhou's significant migration flows, though earlier than Yunnan's, began later than those from other inland provinces such as Anhui and Sichuan. The relatively few years of experience among migrants from Guizhou translated to more modest salaries for migrants. While remittances were crucial to reducing poverty among the families of migrants, it was less often sufficient to invest in productive businesses. Although Guizhou's inexpensive labor contributed to stimulating economic growth, because large numbers of laborers worked outside the province, migration contributed to the GDP of *other* provinces, primarily Guangdong and Jiangsu. Thus, in Guizhou, migration contributes to the explanation of the pattern we saw emerging in the 1990s: poverty reduction without economic growth. Meanwhile, Yunnan's labor flows, whether internal or outside the province, were among China's lowest. Because the majority of Yunnan's relatively few rural migrants stayed within the province, their labor contributed to both economic growth

and poverty reduction in the province. Yunnan's relative low rates of migration meant that Yunnan did not benefit from migration's ability to reduce poverty.

Three national sources of migration data for Guizhou and Yunnan (the 1990 and 2000 censuses and the 1995 1% survey), as well as annual yearbooks reveal that Guizhou residents tended to migrate far more frequently Yunnan residents; moreover, when Guizhou residents migrated, they tended to quit the province entirely, whereas Yunnan-based migrants tended to stay within the province.[17] China's 1990 census suggests that Guizhou and Yunnan residents were among the least likely to migrate in China.[18] Despite the similarity between the volume of migrants in Yunnan and Guizhou, one enduring element of the difference between the two provinces became evident during this period: Guizhou migrants tended to migrate out of the province more frequently than their Yunnan counterparts.[19] The differences between Guizhou

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[17] Chinese statistical sources of migration are difficult to use. First, the data underestimate the incidence of migration. Many migrants, especially in the early years, moved illegally and, despite the improving legal infrastructure in China, still experienced social discrimination. For this reason, is not surprising that poor rural migrants might avoid social scientists and census takers, increasing the difficulty of reporting accurate estimations of the size and flow of migration. Second, the 1990 and 2000 censuses and the 1995 1% survey calculate migration rates in different ways. The 1990 census reports all those who are away from where they lived long-term five years previously (including in-province migration), whereas the 2000 census reports anyone living in a province other than the one in which they are registered. The 1% survey may be less accurate than the census in terms of its sampling. According to Du and his co-authors, the 2000 census is more accurate for measuring migration, because it asks not only where respondents currently live but also the location of their resident permits (Du, Park, and Wang 2004, p. 7). However, the 2000 census measures only migrants who had left the province, and thus cannot be used as a source for intraprovincial migration. With these caveats in mind, a general pattern nevertheless emerges from these primary sources, as well from secondary social science research.

[18] Some 777,500 Guizhou residents (or about 2.4 percent of the whole population, rank 24) and one million Yunnan residents (about 2.7 percent, rank 19) had by then settled somewhere other than their hometowns, out of a total of 34 million Chinese who had by then left their hometowns.

[19] According to the 1990 census, of Guizhou's 777,500 migrants, 40 percent (the 9th highest ratio in China) settled in other provinces. Of the more than one million migrants from Yunnan, only 27 percent (the 19th highest ratio in China) migrated out of the province by 1990.

and Yunnan widened between 1990 and 1995. According to the 1995 1% population sample survey, migration from Guizhou slightly exceeded Yunnan's in proportion to its population.[20] Overall, two-thirds more Guizhou rural residents left the province than did Yunnan residents, despite the fact that, in 1995, Yunnan's rural population exceeded Guizhou's by more than 13 percent.[21]

These trends in Guizhou and Yunnan continued between the years 1995-1998, according to Chinese provincial-level data (Figures 7 and 8). Calculating

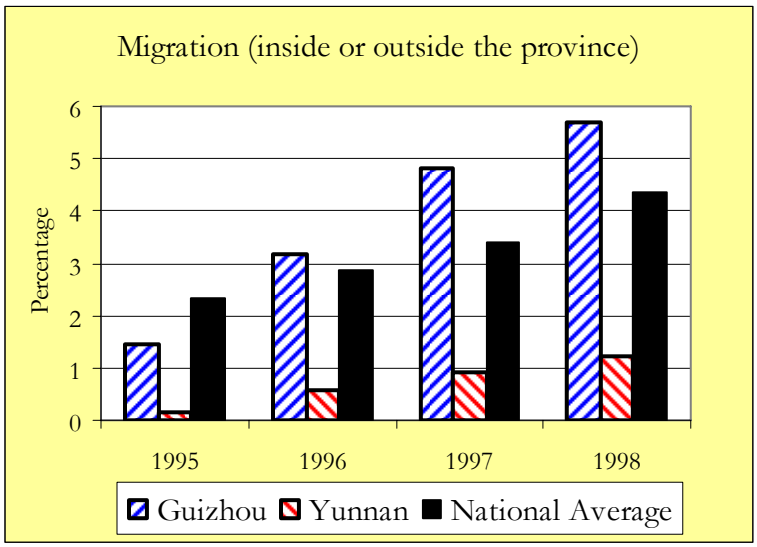

Figure 7: Migration rates (inside or outside the province). Source: China Population Yearbook, Various Years

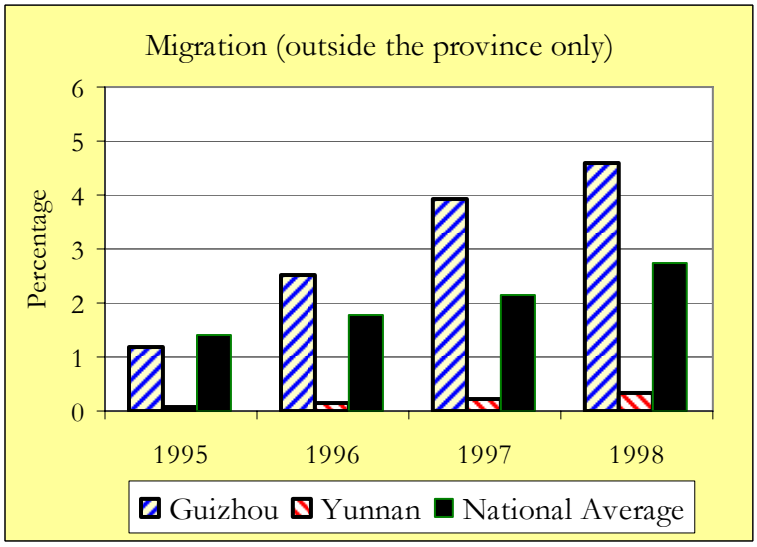

Figure 8: Migration rates (outside the province only). Source: China Population Yearbook, Various Years

[20] This survey implies that about 2.7 percent of Guizhou's total agricultural population (compared to 2.5 percent of Yunnan's) had migrated by 1995. Whereas total migration rates in both provinces increased by 1990-1995, the proportion of Guizhou's migrants who migrated out of the province grew, while Yunnan's rate remained about the same as that in 1990.

[21] According to the survey, about half of Guizhou's migrants departed the province to seek work (compared to 40 percent in 1990), while only 30 percent of Yunnan's migrants left the province, basically the same proportion as in 1990. In all, about 1.3 percent of the rural population of Guizhou left the province by 1995, about double the proportion in Yunnan (about 0.7 percent of the rural population of Yunnan left the province), according to this survey.

migration differently than the censuses, this source found that 1.44 percent of Guizhou residents migrated either within or outside the province in 1995, far above the 0.16 percent of Yunnan residents who migrated, but still below the 2.35 percent average across China's provinces. The rate of migration for each province grew steadily, with Guizhou exceeding the national average by 1996. By 1998, 5.7 percent of Guizhou's residents (rank of 10 in China), were living away from home, compared to 1.22 percent of Yunnan's rural residents (rank of 24) and 4.37 percent China's provinces as a whole. Moreover, while the majority (80 percent) of Guizhou migrants left the province, a minority of Yunnan migrants (around 30 percent) moved to other provinces. This pattern is also consistent with data from the 2000 census, which indicates that the rate of Guizhou's migration outside the province continued to accelerate. By 2000, 1.6 million people with Guizhou residence permits lived long-term outside the province (4.9 percent of the population – rank of 9),[22] nearly five times the number of people who had left the province a decade previously (312,800). Compared to this, the 343,542 Yunnan residence permit holders (0.9 percent of the population, ranking 26) living outside the province seems modest.

Other provincial-level studies using different methods consistently suggest that Guizhou's rural residents migrated more than Yunnan's. Johnson estimates migration within provinces from 1990 to 2000 by calculating the differences between expected and reported populations. In this way, he finds that whereas 2.27 million people left Guizhou (7 percent of the population) during that decade, Yunnan experienced a net gain of 730,000 people (adding two percent to its population) over the same period (Johnson 2002, p. 24).[23] These statistical data are also

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[22] Compare this figure with the 3.42 percent average for China as a whole and five percent average for Southwest China (Du, Park, and Wang 2004, Table 4).

[23] A survey of six provinces, although it does not include Guizhou, does support the conclusion that Yunnan's migrants are few relative to the rest of the country, increasing from an estimated zero percent in 1988 to four percent in 1995, compared to national totals of five percent and 12

consistent with results from fieldwork. In many Guizhou villages, spread throughout the province, whether minority areas or not, it was less common to see young people between the ages of 16-35. Interviews with households in such villages revealed that many of these migrants had left the province, mainly to the coastal province of Guangdong to work in factories or on construction sites. Most of the families had received remittances from migrants, though in many cases these remittances were not large – typically a few hundred yuan per month. Interviews with Guizhou migrants who had returned for festivals reinforced the conclusion that Guizhou people migrate less than those from Sichuan, but more than those from Yunnan. For instance, migrants I interviewed, whether working in Sichuan, Guangzhou or other provinces, almost invariably reported that Sichuan migrants are very common, far more common than Guizhou natives; however, they almost never met migrants from Yunnan.

In terms of distribution, the scant quantitative data available suggest that migrants from Guizhou hailed from the poorest areas. For instance, a survey of rural residents (Du, Park, and Wang 2004) in each of China's poor counties revealed that, compared to Yunnan, Guizhou had a higher proportion of rural households with at least one migrant laborer. This survey indicates that about one in five of China's households living in poor counties on average contain at least one migrant, and remittance income from those migrants likely supports these households.[24]

Much more evidence is available for the impact of remittances for Guizhou's poor areas. Data collected by the provincial labor employment office count only the funds that were mailed back home from outside the province, and do not include money that is brought back during

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percent, according to this survey (Rozelle et al. 1999, p. 372).

[24] The 1990 census figures have migration statistics from each of the two province's poor areas. The rate is almost identical: 41 percent of Yunnan's migrants came from poor counties, compared to 40 percent for Guizhou. By the 2000 census, Yunnan's rate had declined to 36 percent. Unfortunately, the county-level 2000 census data for Guizhou is unavailable.

holidays or money that is mailed from within the province. However, these statistics make clear that remittances were collectively large and important, increasing in size starting in the early 1990s. The volume of remittances grew 460 percent between 1991, when migrants remitted RMB 580 million, and 1996, when remittances totaled RMB 3.25 billion. To put it into scale, the more than RMB 3 billion in calculated remittances is sizeable compared to RMB 8.5 billion in total budget expenditure for the province. (I found no comparable data for Yunnan.) Moreover, these remittances make a major difference to the local economy. For instance, statistics collected by Guizhou's provincial labor employment office conclude that remittances sent back by migrant laborers exceeded the entire government revenues of 22 of Guizhou's 87 counties and in some cases more than three times as large (Wang and Zhang 2003, p. 548).

Thus, migration contributes to the overall pattern seen in Yunnan and Guizhou. For Guizhou, it helped reduce poverty, even as modest remittances contributed little to that province's economic growth. Guizhou's mobile labor force primarily contributed primarily to other provinces' GDP growth. For Yunnan, the effect of migration is one of a missed opportunity – since few rural residents have migrated, migration does not explain economic growth (except that most migrants worked within the province), although it does explain the lack of poverty reduction. Moreover, Yunnan appears to be trapped in a vicious cycle – because few migrated, there is little basis for chain migration today.

Factor 3: Coal Mining – *Coal is the food of industry (Vladimir Lenin)*

Coal mining is often positioned to help directly reduce rural poverty. Although extraordinarily dangerous, coal mining is a relatively low-skilled activity in which most able-bodied poor people can participate. The scale of mines however is crucial. Larger scale mines, usually featuring relatively advanced equipment and capital-intensive techniques, can have a

major impact on economic growth, while smaller-scale mines, more labor-intensive and often employing cruder technology and tools, can make a greater difference in reducing poverty. Throughout the world, larger scale mining extracts 95 percent of the world's total mineral production with but 2.5 million people, while smaller-scale mining, employs an estimated 13 million workers and directly or indirectly supports an estimated 80-100 million people (Weber-Fahr et al. 2002).

In China's case, though rarely profitable, the coal industry has undergirded the economic growth in this country which relies on coal for more than two-thirds its energy and 80 percent of its electricity (Rui 2004, p. 3). China categorizes its mines into three types (in order of scale): a) centrally-controlled state-owned mines, b) locally-managed state-owned enterprises (SOE) on the provincial, prefecture and county levels, and c) local non-state-owned mines under township, village, collective or individual authority called town-and-village enterprise (TVE) mines. Micro-scale mines – a fourth, 'unofficial' category – are mined, often illegally, by groups of individuals, often on an ad hoc and seasonal basis. Since all mines use primarily rural labor, the central government further hoped that development of small-scale, non-state local mines would also reduce poverty and improve the welfare of local rural residents – an explicit policy goal. Though highly dangerous, in many cases poverty compels many to turn to coal mining for a crucial source of income.[25] Recent central efforts to shut these mines are likely to exacerbate rural poverty.

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[25] Despite their contribution to poverty reduction and economic growth, China's mines "are the most dangerous in the world," according to a recent study aptly subtitled "Your Rice Bowl or Your Life?" (Wright 2004, p. 631). Statistics (likely understated) concerning accident rates in China's mines suggested that state-owned mines were responsible for more than twice as many deaths per million tons than India between 1992 and 2001, and nearly 30 times as many as in United States' coal industry over nearly the same period. While each death means a lost breadwinner, often contributing to the numbers of poor, these losses probably do not outweigh

Coal mining is one of the few industries in which Guizhou enjoys a clear advantage over Yunnan. In the reform era, Guizhou's production capacity has consistently exceeded Yunnan's and in most periods also grew faster. Overall, between 1978 and 1996 (before changes in central policy forced production cuts in both provinces), Guizhou's production more than quadrupled (increasing 335 percent) compared to Yunnan's growth over that period of 158 percent. Focusing on the early 1990s, Guizhou's production capacity increased 65 percent, from 37.23 million tons in 1991 to 61.54 million tons in 1996, while during that same period Yunnan's production increased by a healthy, but more modest, 40 percent, from about 22 million tons in 1991 to 30.7 million tons in 1996. Expressed in per capita terms, the gap between Guizhou's coal production capacity and Yunnan's is even starker (Figure 9), with the gap increasing especially rapidly between 1991

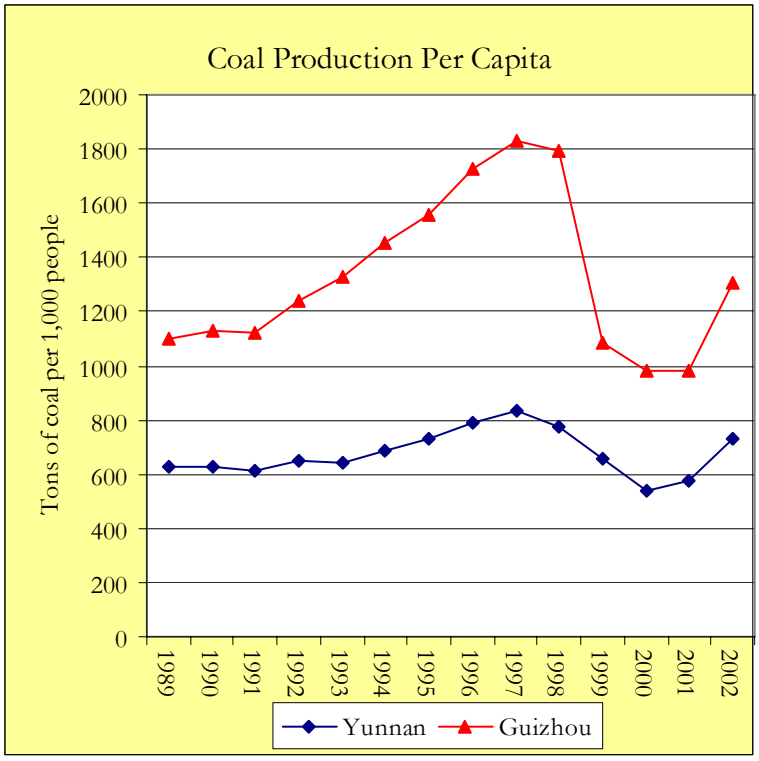

Figure 9: Coal production per capita in Yunnan and Guizhou. Guizhou and Yunnan Yearbooks, various years.

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the economic benefits, especially in terms of poverty reduction. For instance, applying death rates reported by Wright, Guizhou would have lost approximately 125 miners based on its production in 1991, and 252 miners based on 1996 production levels. This morbid calculation has to be weighed against the number of families that depend on mining for income, including the reported 300,000 workers formally employed in the mining industry in Guizhou in 1993 (Guizhou Statistical Yearbook 1994, p. 54).

and 1996. Guizhou's productive capacity per capita was double that of Yunnan's between 1993 and 1998.[26]

Not only is Guizhou's coal industry larger than Yunnan's, but its distribution favors poor areas.[27] In 1996, 56 percent of Guizhou's total coal production was produced in poor counties, compared to 39 percent for Yunnan (Figure 10), while coal production in Guizhou's poor counties was triple that of Yunnan's poor counties. Although losses in the industry in the wake of changes in central government policy after 1998 dramatically reduced the production of both provinces, the losses in both provinces were evenly spread between poor and non-poor counties, leaving the

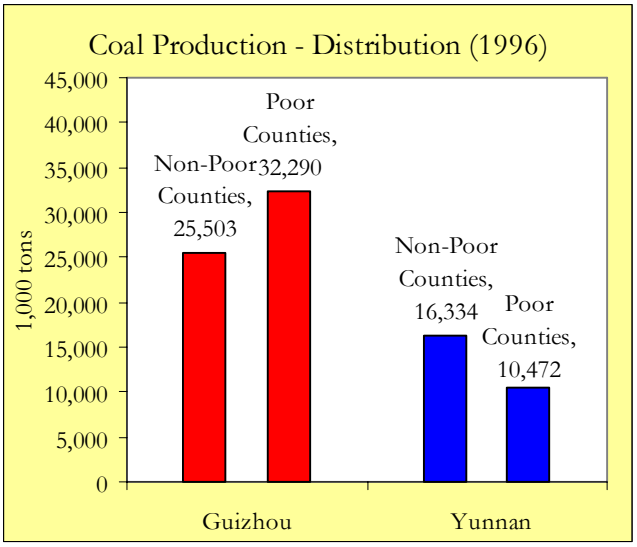

Figure 10: Coal production - distribution (1996). Source: Guizhou and Yunnan Statistical Yearbooks, 1997.

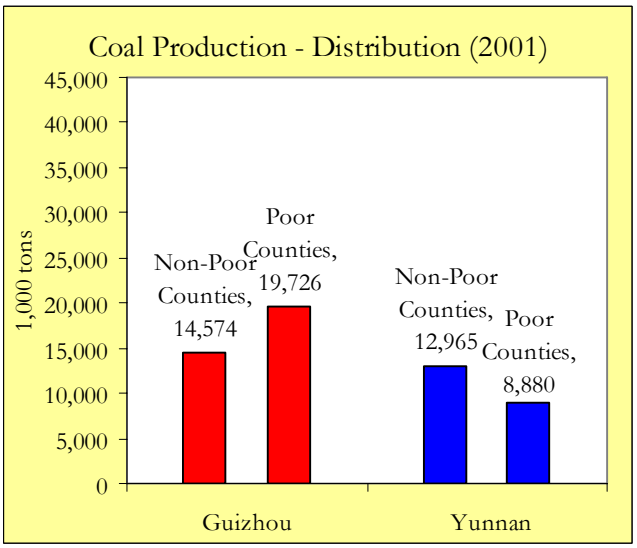

Figure 11: Coal production - distribution (2001). Source: Guizhou and Yunnan Statistical Yearbooks, 2002.

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[26] Central policy changes in the late 1990s also affected Guizhou's industry more, especially initially. After 1998, while Guizhou's production declined 39 percent from 65.6 million tons to 30.3 million tons the next year, coal production in Yunnan declined 13 percent from 30.9 million tons in 1998 to 26.6 million tons over that period. Nevertheless, Guizhou's coal industry was consistently larger than Yunnan's, and apparently recovered from cutbacks in the late 1990s, as production nearly tripled between 2001 and 2004.

[27] Yunnan's production by poor counties improved somewhat by 1996, compared to 1991, when poor counties produced about one-third of all of the province's coal (33.1 percent). Information about Guizhou's county-level coal production in 1991 is not available.

proportions the same as previous year.[28] Despite losses in production, Guizhou's poor counties still produced more than twice as much as Yunnan's poor counties (Figure 11).

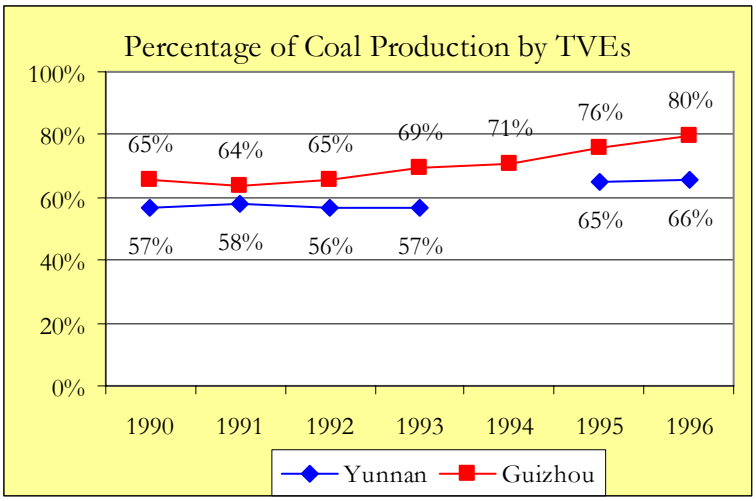

Figure 12: Percentage of coal production by TVE mines.

The structure of coal mines in Guizhou is also more conducive to poverty reduction compared to those in Yunnan.[29] In the early 1990s, one-third of Guizhou's coal was produced in SOE mines, while the remaining two-thirds of Guizhou's coal production came from small-scale (often tiny) TVEs. Although TVEs produced a majority of Yunnan's coal, throughout the 1990s a higher proportion of coal mines were organized into medium-sized or larger enterprises with some degree of sophisticated technology and equipment. As Figure 12 indicates, the proportion of coal produced by Guizhou's TVE mines is consistently higher than Yunnan's and, starting in 1991, increased faster. By 1996, TVEs

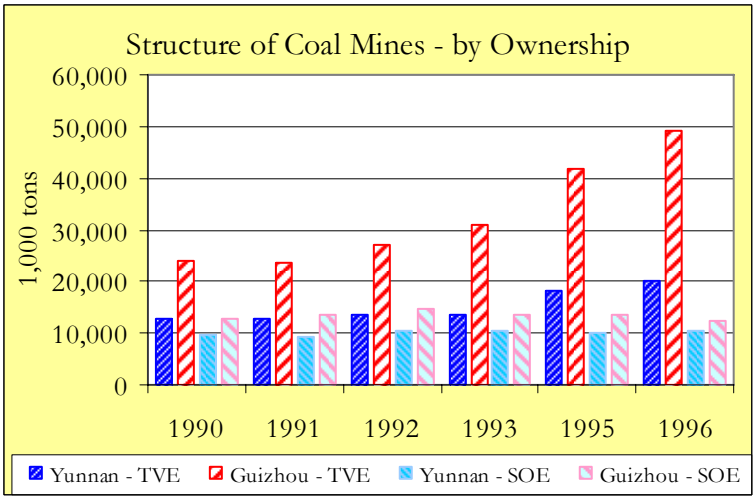

Figure 13: Ownership structure of mines.

[28] In Yunnan, coal production in poor counties increased to 41 percent, while in Guizhou it increased to 58 percent.

[29] Unfortunately, available statistics do not allow us to analyze simultaneously distribution (poor versus non poor counties) and structure (SOE mines vs. TVE mines).

produced about two-thirds of Yunnan's coal output, while Guizhou's TVEs produced four-fifths. Moreover, as shown in Figure 13, annual coal production in Guizhou's TVEs captured most of the gains in coal production, doubling in capacity between 1990 and 1996. This growth outpaced not only that of Guizhou's SOEs (annual production of which dropped by 272,000 tons), but also that of Yunnan's TVEs (annual production increased by more than 750,000 tons) and Yunnan's SOEs (annual production increased by 930,000 tons). Therefore, while TVEs captured all of the gains in Guizhou's coal production, over this period, the relatively slower growth in Yunnan's coal production was shared between TVEs and SOEs.

Fieldwork reinforced the conclusions of the scholarly literature that coal mines of different sorts will help either reducing poverty or promote economic growth, depending on how they are structured. In both Yunnan and Guizhou, I saw numerous coal mines of all sorts, primarily located in poor areas. In studying coal mines and by talking to local residents near the mines and workers who worked there, I reached two broad conclusions that reinforced the impression that the coal industry helped to explain the puzzle. First, there was a distinction in most areas to which I traveled between coal mines in Yunnan and coal mines in Guizhou, even among TVEs. Yunnan's TVE mines tended on the whole to be larger in scale, with broader boundaries, and larger, more formal management. In Guizhou, TVE mines tended to be less formally organized, with smaller teams organized in an ad hoc fashion under a local leader. While in the case of Yunnan, workers tended to be equipped with relatively more advanced equipment, Guizhou miners generally relied on pickaxes and other simple hand tools. In Guizhou, I would pass by tiny scale mines, some just on the side of the road. During my fieldwork, I would also encounter people carrying coal in baskets on their back or in vehicles to the market to sell directly to households for food or home heating. Second, I also noticed that TVEs mines in Guizhou were often located near – sometimes directly adjacent to – other small-scale TVEs, such as brick kilns

or other industries, usually related to construction. In this way, the coal mines provided a steady supply of fuel for these other industries, which in turn would supply a steady market for the coal. These ancillary industries, moreover, would provide additional employment opportunities for nearby rural residents to work. I saw fewer such enterprises in Yunnan, where the coal tended to be sold to larger processing centers, which would transport it to urban centers, or export it to other provinces.

While much of the differences in volume, distribution and structure between Yunnan and Guizhou's coal industries are based on the natural attributes of each province's coal endowments, the strategy each province adopted to exploit those natural endowments nevertheless shaped the development of the coal industry in disparate ways. Guizhou's coal mining industry, especially production from TVEs, was an important part of the province's anti-poverty policies beginning in the mid-1980s. Guizhou's March 1986 anti-poverty directive made production of coal and other natural resources an integral part of provincial development policy, and also made coal mines within poor counties tax-free. The province's 1990 policy similarly emphasized the development of pillar industries, including coal mining, and especially, TVEs. In Yunnan, during the mid-1990s, just as China's central government re-emphasized the goal of reducing and eliminating subsidies for the coal industry, Yunnan redoubled its commitment to subsidizing its SOEs. Against the tide of reform and reduced dependency of industry on government subsidies, Yunnan adopted on October 31, 1995 a policy toward SOEs in the coal sector of "two adds" (adding investment, while increasing the speed of development) and "two unchangables" (continuing "the level of support," and "subsidizing losses"). Yunnan was also much more restrictive in terms of licensing TVEs, compared to Guizhou, which encouraged small informal groups of miners to exploit coal resources. Thus, although the structure of coal is related to geography, government policy here too had an

impact on the eventual effect resources had on poverty and growth in these provinces. Moreover, despite its lower coal production, Yunnan consumed both a greater amount of coal overall, as well as a greater proportion of its own coal resources compared to Guizhou, which was forced by central policy to send, at prices far below market, its natural resources to rapidly growing coastal provinces (Figures 14 and 15).

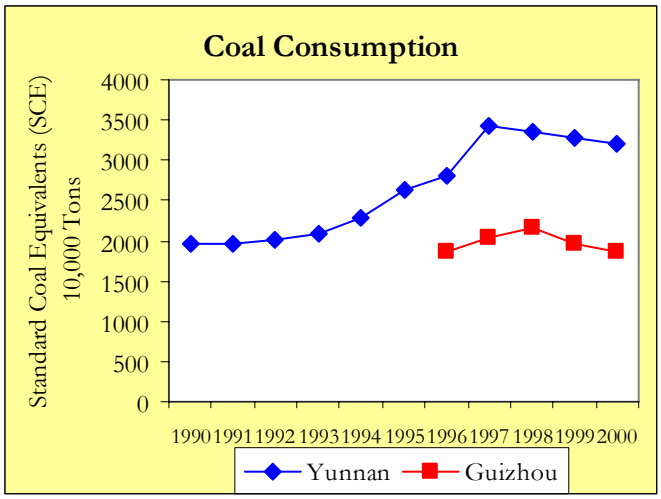

Figure 14: Coal consumption in Yunnan and Guizhou. Source: Yunnan and Guizhou Statistical Yearbooks, Various Years.

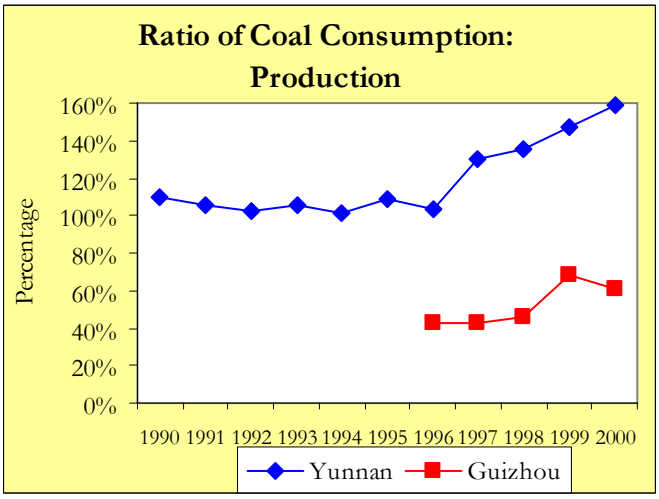

Figure 15: The Relationship between consumption and production of coal in Yunnan and Guizhou. Source: Yunnan and Guizhou Statistical Yearbooks, Various Years

Thus, despite coal's contribution to Yunnan's economic growth, due to its volume, distribution and structure, Yunnan's coal industry did not reduce poverty to the extent that might otherwise be expected. In Guizhou, by contrast, coal production likely impeded economic development, though it did reduce poverty, primarily through smaller-scale TVEs based in Guizhou's poor counties. The effect on poverty reduction must be weighed against the substantial risks endemic in coal mining.

Section Four: Conclusion

This research revealed that the different patterns of economic growth and poverty reduction in the two provinces can be partially explained through their disparate approaches to similar factors including roads, migration and coal mining (and tourism – not discussed here). While these elements proved to be important in both cases, it is the variation within each of them that explains the differing patterns of economic growth and poverty reduction in Yunnan and Guizhou. Moreover, these factors were shaped by policy strategy adopted by these provincial governments, not just by geographic or economic factors.

This is not a traditional 'state-vs.-market' argument, since the results of this research suggest that it is the particular role the state plays and the strategy it adopts that is important. For instance, regarding roadway, both provinces established policies and plans at the same time, but they did so in contrasting ways. Yunnan's strategy promoted large-scale construction intended to maximize economic growth largely through industrial growth. Guizhou's strategy, on the other hand, focused on small-scale activities and poverty reduction. A similar story can be found with migration. Guizhou's strategy toward its surplus labor force incorporated attempts to export its labor to Guizhou's urban, mining and industrial centers, as well as outside the province, especially to coastal cities. Guizhou's 1986 "Directives on Strengthening Work in Poor Areas," the province's first formal anti-poverty policy of the reform era suggested that some central and provincial policies had to be relaxed to deal with poverty, among them policies proscribing population movements. The migration spurred by government initiatives multiplied, as the dynamics of chain migration took effect. By contrast, any effort to spur migration remains absent from any of Yunnan's anti-poverty policies. Yunnan's rapidly increasing growth attracted relatively few native migrants, but did encourage many from other

provinces to migrate to Yunnan (Liang and White 1997; Zhu and Poncet 2003). Both provinces restructured the coal industry. A larger proportion of Yunnan's more modest production of coal employed wealthier workers and fueled the province's growth. A greater portion of Guizhou's larger production – which employed greater numbers of poor people – was exported to the rapidly-growing coast.

Yunnan overall appears to be close to emulating the strategy of a developmental state, by focusing planning and investment in selected industries (such as tourism, coal mining and tobacco), and sourcing the resources and infrastructure needed to support it. As with typical developmental states, Yunnan's primary goal is increasing economic growth, obtained in part by attempting to shift labor, profits and other resources out of agriculture and into industry, and to achieve economies of scale large enough to increase significantly productivity growth.[30] However, by focusing its resources on a limited area (primarily the overall development of central areas, of tourism in the south and parts of the northwest, tobacco in the southwest and coal mining in various areas) and a limited range of industrial sectors, supported in part by the construction of an extensive highway system, Yunnan concentrated its resources. Moreover, many of the decisions made by Yunnan's provincial government, such as focusing the development of its tourism industry in specific areas, and attempting to develop larger-scale coal-based TVEs, effectively nurtured the growth of those sectors and the economy as a whole. However, in doing so, Yunnan's decisions excluded large poor regions, primarily in the province's southeast, northeast and most of its west, and structured industries in ways that made participation by poor people difficult.

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[30] Other evidence that suggest Yunnan is a developmental state includes a notable urban bias, heavy taxation of agriculture (even by China standards) and extensive government expenditure and investment. A lack of space precludes further discussion of these.

Guizhou, focused as it has been on small-scale industries (exemplified here by coal mining, but also including tourism), suggests an alternative model towards poverty reduction, which I dub the 'micro-oriented state.' This model is characterized by adoption of a primary goal of rural poverty reduction through improving rural livelihoods, achieved not only by shifting rural labor (through out-of-province migration) but also by increasing opportunities for farmers to increase their incomes at home, by augmenting access to local markets and by promoting local tourism. The micro-oriented state in this way augments opportunities for poor rural people by supporting activities that poor people can access, such as those that require little formal education and experience in using technology. In doing so, it rejects the dominant strategies of development and poverty reduction that emphasize development based on large-scale, high-tech industry.[31]

Despite providing an alternative pathway to poverty reduction, Guizhou's record should be considered cautiously. The province has experienced significant poverty reduction, impressive compared to endemic poverty throughout the world (despite robust global growth), especially considering the significant barriers the province faced and its modest economic growth rate. Nevertheless, the province has been and remains poor, with severe poverty persisting in many regions. Because the province's economy is underdeveloped, and remains among the lowest as measured by per capita GDP, it is not surprising that skepticism greets the claim that Guizhou has anything to offer as a model for poverty reduction. Most people living in Yunnan's cities

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[31] As Schumacher argued in a popular book published nearly three decades ago, "Today, we suffer from an almost universal idolatry of gigantism. It is therefore necessary to insist on the virtues of smallness – where this applies," (Schumacher 1973, p. 62.) This is equally true today, when the main thrust of many anti-poverty models from all points of the ideological spectrum that emphasize larger scale industries.

have a higher standard of living compared to Guizhou's, and residents of Yunnan's tobacco and tourism regions live relatively comfortably.

Nevertheless, life in Yunnan's impoverished areas is often much harsher than in equivalent areas of Guizhou. Moreover, compared to its economic growth rate, Guizhou's achievements in increasing income of poor people to a sufficient degree to pull millions of rural residents out of poverty is laudable. This is no minor feat, considering that most models fail to reduce povery, a sobering fact faced by those attempting to reduce poverty of all types – rural or urban, in developing or developed countries. Moreover, the growth performance of Yunnan has slowed, whereas Guizhou's has increased, perhaps (a cautious 'perhaps' since I have yet to investigate this) bolstering arguments that growth is best achieved bottom-up (by first addressing poverty), compared to hoping that growth will trickle down to the poor (Moon and Dixon 1992).

The model the province used, that of encouraging indirect economic opportunities accessible to poor people to supplement income from agriculture, I argue should be considered as one of the alternative mechanisms for poverty reduction. The importance of discovering additional models should not be doubted, given the 1.2 billion people that today remain in poverty (Chen and Ravallion 2004). The case of Guizhou suggests (and more research is needed to confirm generalizability of this) that in contrast to approaches that emphasize capital-intensive, large-scale development of the type that spurs economic growth, it is the smaller scale approaches, of a kind that are distributed and structured to be accessible to poor people, that can better provide the opportunities needed to reduce rural poverty.

Bibliography

Bigsten, Arne, and Jorgen Levin. 2001. Growth, Income Distribution, and Poverty: A Review. Paper read at WIDER Development Conference on Growth and Poverty, May 25-26, 2001, at Helsinki.

Chen, Shaohua. 2002. Interview with Shaohua Chen, World Bank economist. Washington, DC, August 2002.

Chen, Shaohua, and Martin Ravallion. 2004. How Have the World's Poorest Fared since the Early 1980s. Washington, DC: World Bank.

Chung, Jae Ho. 1995. Studies of Central-Provincial Relations in the People's Republic of China: A Mid-Term Appraisal. *China Quarterly* 142:487.

Donaldson, John A. Forthcoming. Tourism, Development and Poverty Reduction in Guizhou and Yunnan. *China Quarterly*.

Du, Yang, Albert Park, and Sangui Wang. 2004. Is Migration Helping China's Poor? Paper read at Poverty, Inequality, Labour Market and Welfare Reform in China, August 25-27, 2004, at Australia National University.

Estache, Antonio. 2004. Emerging Infrastructure Policy Issues in Developing Countries: A Survey of the Recent Economic Literature. Washington, DC: World Bank.

Fan, Shenggen, and Connie Chan-Kang. 2004. Road Development, Economic Growth, and Poverty Reduction in China. Washington, DC: International Food Policy Research Institute.

George, Alexander L., and Andrew Bennett. 2005. *Case Studies and Theory Development in the Social Sciences*. Cambridge: MIT Press.

Gong, Xiaokuan. 1996. Guizhou Jichu Sheshi Jianshe yu Zhongguo "T" xing Kaifang Zhanlue (The Construction of Guizhou's Basic Infrastructure and China's "T"-shaped Development Strategy. *Guizhou Shehui Kexue (Social Science in Guizhou)* 139 (1):25-30.

Guizhou Nianjian Bianjibu, ed. Various Years. *Guizhou Yearbook (Guizhou Nianjian)*. Beijing: China Statistics Press.

Hare, Denise. 1999. 'Push' versus 'Pull' Factors in Migration Outflows and Returns: Determinants of Migration Status and Spell Durations Among China's Rural Population. *The Journal of Development Studies* 35 (3):45-72.

Jalilian, Jossein, and John Weiss. 2004. Infrastructure, Growth and Poverty: Some Cross County Evidence. Paper read at Infrastructure and Development: Poverty, Regulation and Private Sector Investment, November 2004.

Johnson, D. Gale. 2002. Provincial Migration in China in the 1990s. *China Economic Review* 14:22-31.

Knight, John, Lina Song, and Huabin Jia. 1999. Chinese Rural Migrants in Urban Enterprises: Three Perspectives. *The Journal of Development Studies* 35 (3):73-104.

Liang, Zai, and Michael J. White. 1997. Market Transition, Government Policies, and Interprovincial Migration in China: 1983-1988. *Economic Development and Cultural Change* 45.

Ma, Z. 1999. Temporary Migration and Regional Development in China. *Environment and Planning A* 31:783-802.

Moon, Bruce E., and William J. Dixon. 1992. Basic Needs and Growth-Welfare Trade Offs. *International Studies Quarterly* 36 (2):191-212.

Oxfam. 2000. Growth with Equity is Good for the Poor. London: Oxfam.

Qian, Wenbao. 1996. *Rural-Urban Migration and Regional Development in China*. Brookfield, VT: Averbury.

Ran, Xiwen, and Xuesong Lie. 2000. Guizhou Fupin Gongjian Chengxiao, Pinkun Tezheng, ji

Duice Cuoshi (The Effectiveness of the Attack on Poverty, the Special Characteristics of Poverty, and Implementation of Countermeasures in Guizhou). *Guizhou Minzu Yanjiu (Guizhou Ethnic Study)* 83 (3):44-49.
Rodrik, Dani. 2000. Growth Versus Poverty Reduction: A Hollow Debate. *Finance and Development* 37 (4):8-9.
Rozelle, Scott, Guo Li, Minggao Shen, Amelia Hughart, and John Giles. 1999. Leaving China's Farms: Survey Results of New Paths and Remaining Hurdles to Rural Migration. *China Quarterly* 158:25-45.
Rozelle, Scott, Linxiu Zhang, and Jikun Huang. 2000. China's War on Poverty. Stanford, CA: Stanford University.
Rui, Huanichan. 2004. The Rise and Fall of China's TVE Coalmines. *Minerals and Energy* 19 (1):2-15.
Schumacher, E.F. 1973. *Small is Beautiful: Economics as if People Mattered*. New York: Harper Colophon Books.
Skinner, G. William. 1964. Marketing and Social Structure in Rural China. *Journal of Asian Studies* 24 (1):3-44.
State Statistical Bureau of the PRC, ed. Various years. *Guizhou Tongji Nianjian (Guizhou Statistical Yearbook)*. Beijing: China Statistical Information & Consultancy Service Centre.
———, ed. Various years. *Yunnan Statistical Yearbook (Yunnan Tongji Nianjian)*. Beijing: China Statistical Information & Consultancy Service Centre.
Taylor, J. Edward, Scott Rozelle, and Alan de Brauw. 2003. Migration and Incomes in Source Communities: A New Economics of Migration Perspective from China. *Economic Development and Cultural Change* 52 (1):75-101.
UNDP (China). 1999. *China Human Development Report*. New York: Oxford University Press published for UNDP, China.
Wang, Shijie, and Duanfa Zhang. 2003. *Guizhou's Anti-poverty System Project (Guizhou Fanpinkun Xitong Gongcheng)*. Guiyang: Guizhou Renmin Chubanshe.
Weber-Fahr, Monika, John E. Strongman, Ramani Kunanayagam, Gary McMahon, and Christopher Sheldon. 2002. Mining and Poverty Reduction. In *A Sourcebook for Poverty Reduction Strategies*, edited by J. Klugman. Washington, DC: World Bank.
Weisbrot, Mark, Dean Baker, Robert Naiman, and Gila Neta. 2000. Growth May be Good for the Poor - But are IMF and World Bank Policies Good for Growth? Washington, DC: Center for Economic and Policy Research.
World Bank. 2001. *China: Overcoming Rural Poverty*. Washington, DC: World Bank.
Wright, Tim. 2004. The Political Economy of Coal Mine Disasters in China: "Your Rice Bowl or Your Life?" *China Quarterly* 179:629-646.
Yang, Xuishi, and Fei Guo. 1999. Gender Differences in Determinants of Temporary Labor Migration in China: A Multilevel Analysis. *The International Migration Review* 33 (4):929-953.
Yunnan Nianjian Bianjibu, ed. Various Years. *Yunnan Yearbook (Yunnan Nianjian)*. Beijing: China Statistics Press.
Zhongguo Jiaotong Nianjian Bianjibu, ed. Various Years. *China Transportation Yearbook (Zhongguo Jiaotong Nianjian)*. Beijing: China Statistics Press.
Zhu, Nong, and Sandra Poncet. 2003. Provincial Migration Dynamics in China: Borders, Centripetal Forces and Trade.