Inter-Regional Migration in a Transition Economy: The Case of China

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Abstract

This study of inter-provincial migration in China uses the 2000 full Census and 2005 1% sample Census datasets. 'Migration velocities' (Mi-j/(Pi.Pj) for all inter-provincial flows have been calculated to reveal the spatial structures of the flows, and to identify trends over time. Location quotients for the provincial in-migrants' occupations and education levels have also been calculated. I then test four hypotheses: (i) that distance-decay functions are decreasing, meaning that the Chinese space-economy is becoming more integrated as capitalist development proceeds; (ii) that the migration patterns and trends will reflect the strong spatial clustering of 'neo/peripheral Fordist' capital accumulation in the Shanghai-Guangdong coastal axis, and that this migration will reflect the occupational and educational characteristics typical of such development; (iii) that there will be evidence from the trends in, and compositions of, the inter-provincial flows of the emergence of a 'new spatial division of labour' in China (replacing regional sectoral specialisation); this will imply, in particular, the migration of professional, technical and managerial staff to and from Beijing and Shanghai; and (iv) that the trends in migration flows will reflect the weakening control over migration exercised by the central state (manifested, for example, by weaker in-flows to, and stronger out-flows from, those provinces which have received priority status for development in the fairly recent past, such as Xinjiang and northeast China).

Introduction

This paper is ambitious in scope but narrow in its empirical focus. It aims to explore the relationships between China's rapid economic development on the one hand, and its inter-regional migration flows on the other, during the period in which the country has experienced a transition from a socialist centrally planned economy to one in which capitalist market relations dominate (i.e. from about 1980 to 2005, but focusing heavily on the most recent period). That is the ambitious bit; the narrow bit is the fact that all of the analysis in this paper is based upon the published data on inter-provincial migration flows (both five-year and lifetime) from the 2000 Population Census, supplemented by the unpublished five-year inter-provincial migration flows from the 2005 1% sample Census Survey.

The structure of the paper is simple and straightforward. After a short discussion of the nature and quality of the data, and the methods used to process the data, the following sections are used to investigate each of four hypotheses about the expected links between migration and rapid economic development in an economy undergoing the transition from socialism to capitalism. The hypotheses are: (i) that migration flows will reflect the fact that the space-economy is becoming more integrated as capitalist modernisation proceeds; (ii) that, more specifically, migration flows will reflect the spatial pattern of capital accumulation associated with the 'Fordist' mass production of consumer goods for both internal and export markets; (iii) that migration flows will reflect the 'maturing' of production relations as older, local and regional forms of specialisation are substituted by new spatial divisions of labour; and (iv) that migration flows will reflect the decreasing importance of state control of, and state policies towards, population migration and redistribution, as the emergence of relatively unfettered labour markets proceeds. A short conclusion summarises the main implications of the study for future inter-provincial migration flows. Note that, while the author accepts that mechanisms of 'circular and cumulative causation' are at work, this paper does not examine in any detail the effects of internal migration on economic growth, only economic growth on internal migration.

Data Quality and Methods of Study

Migration statistics derived from Population Censuses are usually fairly reliable; but in China these data are particularly vulnerable to problems associated with the recording of place of permanent residence. For

example, it is thought that many people in the 1990 Census were enumerated at their legal place of residence (i.e. as non-migrants) rather than their actual place of residence (as migrants). Under the *hukou* household registration system, the social rights that one was entitled to were not available everywhere in the national territory as a citizen of the People's Republic of China, but were restricted to one's place of official legal residence. To migrate, for example, from a village in the interior to a booming coastal industrial city implied the loss of one's rights to access basic services such as health and education. Thus, to the very common and rather natural tendency to avoid 'burning one's bridges' by cutting off all links with one's family, friends and community in the place of origin, was added the fact that, although now living in the city, one still legally 'belonged' to the village. Not surprisingly, the answer to the question 'where is your permanent residence?' was, for many people, the place where the household was legally registered (see Johnson 2003: 30). In the cases of the 2000 Census and the 2005 1% Survey, however, things were very different. A person was recorded as being a permanent resident in a place, if he/she had lived there for at least six months, even if, as was very often the case, the person's place of legal residence was elsewhere (Zhang *et al.* no date: 2).

This change in the 2000 Census, with its more accurate recording of place of residence, continued in the 2005 1% Census.[1] Thus we have data that properly records where people lived on Census night, and, through the '5-year' migration question, where they lived five years previously. In the 2000 Census we also have data on place of birth; this allows us to

analyse lifetime migration as well.

There are, therefore, three inter-provincial migration flow matrices available for use in this paper: (i) the lifetime migrations of people recorded in the 2000 Census; (ii) the five-year migrants recorded in the 2000 Census (i.e. migration 1995-2000); and (iii) the five-year migrants recorded in the 2005 Census (i.e. migration 2000-05). In this paper these inter-provincial migrations are called 'inter-regional'. However, it should be recognised that the average population for the 31 provinces in China is more than 40 million persons and that China is a vast country, so that the spatial and demographic scale of the migrations studied in this paper would, in a EU context, be considered 'international' in scale rather than inter-regional.

We now come to the contentious question of how best to explore the links between migration and economic development. Economists (and some economic geographers) would be inclined to put the migration flow data into a linear regression equation with migration from origin i to destination j (Mi-j) as the dependent (y) variable (i.e. the variable to be explained), and with 'gravity model' variables (Pi = population at origin, Pj = population at destination, Di-j = distance between origin and destination), plus economic variables (notably income per capita differences between i and j) as the independent (x) variables (i.e. the things that cause the variations in the y variable – the migration flows) (Bao *et al.* 2008; Cai and Wang 2003; Fan 2005; Lin *et al.* 2004; Poston and Mao 1998; Shen 1999). I have, for three reasons, decided against this approach. First, my hypotheses require a very high degree of sensitivity to the (changing) spatial patterns of migration. Such specificity is lost in the linear model. Second, I judge it likely, on the basis of previous work, that the social class (e.g. occupational status, educational level) characteristics of both migrants and places will be important in explaining outcomes. Once, again this is difficult, if not impossible, to incorporate into a linear model. And third, what if it turns out that

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[1] The 2000 Census, according to Zhang *et al.* (no date), had a 1.81 percent undercount, but this is thought to be mostly among children aged 0-9 (due to non-recording of children for fear of punishment for breaching the one-child policy). Zhang *et al.* also point out that, during a period of intense upheaval resulting in the growth of a 'floating population' (i.e. people living outside their place of legal residence) of 144 million in 2000, it is inevitable that there will be some inaccuracy in the enumeration of migrants (see also Fan 2002: 433).

there is not just one system or 'nexus' of migration–development links, but rather several systems that co-exist with one another? In a linear model it is usual for everything to be conflated, and for all these crucially important differences to be lost.

My approach, therefore, is to use 'rich description'; that is, to process the data in ways that reveal as much as possible about the people and places involved while 'staying close to the data'. I do this by using 'migration velocities' to measure the size of flows from particular origins to particular destinations, and by using 'location quotients' to highlight the social class characteristics of the inter-provincial in-migrants at particular destinations. Migration velocities were first used, to my knowledge, by Kono and Shio (1965) in their monograph on inter-prefectural migration flows in Japan. A migration velocity (mv) is calculated by dividing the specific migration flow M_{i-j} by the product of the populations at i and at j ($P_i * P_j$). It can be best understood, therefore, as a kind of standardised rate – hence 'velocity' – of migration flow; standardised, that is, by the sizes of the populations at both origin and destination. Since one is standardising for the sizes of the populations at origin and destination, it would not be surprising, perhaps, if the migration velocity values would cluster strongly around a mean value. But this is most certainly not the case. As we shall see, the values of mv not only reflect the tendency for people to migrate more over shorter distances than over longer ones, they also reflect the deep-rooted historical, cultural and social characteristics of places, as well as the locations of income, employment, and occupational promotion opportunities in the space-economy.[2] They greatly assist comparison, not only across a spatial system at a point in time, but also from one period to another.

Location quotients were first used in studies of the links between inter-regional migration and regional economic growth at about the same time as migration velocities appeared (Fielding 1966). A location quotient (lq) measures the ratio of the local or regional percentage value of a variable to the national percentage value for the same variable. In this paper, for example, the proportion of migrants to destination j who are manual production workers at the time of the Census ($M_{jm}*100/M_j$), is divided by the proportion of migrants to all destinations who are manual workers at the time of the Census ($Msum_{jm}*100/Msum_j$) (see Table 1 for the full set of in-migrants' occupations location quotients for 2000). So the location quotient, as used here, highlights the distinctiveness of particular destinations with respect to the social compositions of their in-migration flows.

Hypothesis 1:

distance-decay functions are decreasing, meaning that the Chinese space-economy is becoming more integrated as capitalist development proceeds.

The logic behind this hypothesis is as follows. Under socialism, inter-regional migration largely arises only when, for specified political or economic reasons, workers are posted by the agencies of the state from one region to another (Davis 2000; but see also Lary 1996). The numbers involved could, of course, be very large, as was the case, for example, with the 17 million rustication (urban-to-rural) moves that accompanied the Cultural Revolution in China in the 1960s (Lary 1999). In less turbulent times, however, the dominant characteristics of socialist migrations are that they are planned movements of groups of people designed to meet specific policy objectives (for example, the opening of a new steel-production complex or the settlement of newly-developed land for collective farming; see Hansen 2004). During the transition to capitalism, therefore, one would expect a changeover to unplanned movements of individuals and households to meet

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[2] The matrix of mv values for 2000-05 is available from the author on request: <A.J.Fielding@sussex.ac.uk>. Figure 6, at the end of the paper, is just one example of the data in this matrix expressed in map form – mvs to Shanghai.

individual and family advancement objectives – unplanned in the sense of not being decided by a bureaucracy (Wei 1993).[3] One might expect such migrations to be more general (less specific in purpose and less selective in location), more fluid, and more responsive to changing patterns of regional growth. One would also expect that functioning labour markets would develop which would link individuals seeking work or better employment in one region to opportunities opening up in other regions (Poncet 2006). Mobility (both occupationally and geographically) between employers now becomes common where previously in state-run enterprises inter-employer mobility was extremely rare (for a useful discussions along these lines see Cai and Wang 2003; Davis 1992). More generally, capitalist modernisation in the contemporary world would normally be expected to involve a de-localisation and de-regulation of significant economic relationships – the replacement of the local and the highly-regulated by the distant (even global) and the less-regulated (viz. WTO entry). Such changes would be expected to stimulate longer distance migration flows at the expense of more local ones – note that this is conformable with the Sassen (1987) thesis about the effects of foreign investment on international migration, which Liang and White (1997) suggest might be also relevant to internal migration in China.

So, what is the evidence from inter-provincial migration flows in China? The migration velocity values for all inter-provincial flows were calculated for lifetime migration at the time of the 2000 Census, and the migration velocities for 1995-2000 were powered up (by 2.2617) to make comparison possible. The results are very interesting. In most cases the clear trend was towards lower values for nearer places

and higher ones for more distant places. This was especially true for flows to Beijing (see Figure 1) and Shanghai, where the local provinces had sharp downward trends and the more distant provinces had small to moderate upward trends. It was less true for out-migration trends, particularly in the case of Shanghai where there were downward trends for most of the provinces of central and western China, reflecting perhaps the strong performance of the Shanghai regional economy in the late 1990s. And in the cases of migration flows to Guangdong, Fujian and Zhejiang from nearby provinces, the trend was for sharp increases in the recent period, making this a very clear exception to the rule. However, it is also the case that these coastal provinces, experiencing very rapid urbanisation and industrialisation, were tending to recruit more from distant inland provinces as well.

Does a comparison of the five-year migration velocities for the 1995-2000 and the 2000-05 periods produce the same results? The answer is both yes and no. The tendency for the nearby provinces to fall away as the suppliers of migrants is still very clear: high negative trends are found, for instance, for the flows from Hebei to Beijing, and Anhui to Shanghai. But this time they are joined by Guangdong, which had very much lower flows from its nearby provinces, notably Jiangxi, Hunan and Guangxi, in the recent period. But two new trends are also discernable: the first is towards higher rates of out-migration from the largest cities to their immediately neighbouring provinces, reflecting perhaps the 'local spillover' spread of economic development from Beijing, Shanghai and Guangzhou to their surrounding areas; the second is the tendency for the largest cities to have higher out-migration flows to all other provinces in China (we shall come back to this result later).

Overall then, despite the complexity of the detail, the trend is just as expected. The migration fields are becoming spatially extended as capitalist modernisation integrates the Chinese space-economy. This result conforms to the downward trend in

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[3] In this paper I have not made a distinction between temporary and permanent migration. In some accounts, however, this distinction is judged to be very significant. For example, Renard *et al.* (2007: 13) argue that 'the main source of the growth of the non-agricultural population is not the rural-urban migration but the permanent (i.e. urban-urban) migration controlled by the government, which seems to be less influenced by market mechanisms than temporary migration'.

the values for the distance coefficient in recent linear regression modelling of Chinese inter-provincial migration flows (Bao 2008; Fan 2005; He 2002 reaches a similar conclusion, but by a different route).

Hypothesis 2:

the migration patterns and trends will reflect the strong spatial clustering of 'neo /peripheral-Fordist' capital accumulation in the Shanghai-Guangdong coastal axis, and this migration will reflect the occupational and educational characteristics typical of such development.

The logic behind this hypothesis is as follows. A significant element in the rapid growth of the Chinese economy since the beginning of the 'reform period' in 1978 has been the successful export of mass-produced consumer goods to major markets in North America, East Asia and elsewhere. This success has attracted both home and foreign investment to the manufacturing cities and towns of the coastal provinces of eastern China, but especially to Guangdong, Fujian and Zhejiang. With the factories came new settlements, and a rapid expansion of demand for goods and services. Migrant workers supplied the manual labour for the factories and the construction workers for the new settlements, and they also generated through their purchases the retail outlets that sold, amongst other things, the very consumer goods that they and their like had made. This mass production of standardised goods for mass markets is rightly termed 'Fordist'; except for one thing – many of the consumers of these goods were located abroad. So the virtuous circle between production and consumption was only partially closed. The labour process is Fordist (or even 'Taylorist') in nature, but the regime of accumulation is probably best described as 'neo-' or 'peripheral' Fordist (see Lipietz 1987: 74-89). But whatever form it takes, Fordist accumulation, especially on the never-before-seen scale that has occurred in eastern China over the last 30 years, calls for vast supplies of labour, far outstretching

what is available locally. An influx of migrant workers fills the gap. These migrant workers must be prepared to work for low wages (so they must come from very poor backgrounds), and they must be prepared to do very routine jobs (so they must lack the higher levels of education that raise aspirations) (Schulze 2000).

Does the evidence from inter-provincial migration flows in China conform to this characterisation of the economic growth process? Indeed it does. In fact, this is the big story of contemporary migration in China, known to everyone within the country and to many who study China from outside. In the 1995-2000 period, the highest rate of net migration gain among the 31 provinces was Guangdong, and Zhejiang and Fujian provinces ranked fourth and fifth respectively (after Beijing and Shanghai). Figure 2 provides the picture for 2000-05. This time Shanghai tops the list for net migration gain, Guangdong is third (after Beijing), Zhejiang is fourth and Fujian is sixth (after Tianjin). In those five years alone, Guangdong's population of 85.2 million in 2000 was increased – despite the 'migrants' institutional and social inferiority in the city' (Wang and Fan 2006: 939) – by 13.6 million people as a direct result of net inward migration.[4] Thus, alongside the massive attractiveness to inter-regional migrants of the national administrative capital of China (Beijing) and the main centre for trade and commerce (Shanghai), people in their millions have moved to the coastal belt of provinces located in southeast China (including Shanghai), the provinces which have led the boom in export-oriented manufacturing industry.

But who are these migrants? We can move towards answering this question by looking at the jobs that the migrants filled in their destination locations (note that, due to

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[4] The indirect result of migration is also very important since the migrants are young adults just entering their family-formation years. See Poncet and Zhu (2002) for a 'globalisation' explanation of the concentration of growth and in-migration in the southeast coastal belt, and Yang (2007) for a linking of the growth of this belt to the decline in employment opportunities and therefore out-migration in the inland provinces.

there being no linkage between Census results at the individual level from one Census to the next, we cannot at this stage know, at least from the Census, what jobs they did in their region of origin).[5] Figure 3 shows that the three provinces of coastal southeast China have the highest concentrations of those inter-provincial migrants who were, after their migration, working as manual production workers. The map of in-migrants who have only a junior high-school level of education is almost identical. So, what we are witnessing here is the mass migration of relatively poorly educated people into the low-paid mass-production jobs of the Fordist industries of the southeast coastal belt. Our second hypothesis, therefore, is fully and unequivocally supported by the evidence.

Hypothesis 3:

there will be evidence from the trends in, and compositions of, the inter-provincial flows of the emergence of a 'new spatial division of labour' (NSDL) in China: this will imply, in particular, the migration of professional, technical and managerial staff to and from Beijing and Shanghai.

The logic behind this hypothesis is as follows. In the early stages of the marketisation, capitalisation and financialisation of the economy following 'reform' in 1978, one would expect that relatively small-scale private-sector enterprises would flourish, and that the spatial division of labour would equate to the social division of labour, that is, to the separation of branches of production on the basis of the spatial distribution of natural resources and of inherited sector-specific skills. Thus particular regions would specialise in those branches of production (for example, textiles, chemicals, commerce) that were best suited to the

social, natural and locational advantages of those regions (regional sectoral specialisation – RSS). Exports to other regions, based on market exchange in a money economy, would ensure income flows sufficient to purchase the goods and services produced in those other regions of the national economy. However, as capitalist modernisation proceeds, one would expect enterprises to become much larger and to become multi-locational in their operations. Profitability now depends heavily on using the different places in which the enterprise operates in ways that are best suited to achieving overall efficiency and profitability. This implies the separation out of the stages of production and the functions of the large corporation, with each stage or function located in the region best suited to its (i.e. the corporation's) efficient operation. The result of this, generalised over many enterprises and many products, is a new spatial division of labour (NSDL) that is equivalent to the planned or functional division of labour within the corporation (for example, head office in Beijing, research and development near Shanghai, and routine production in Guangdong or Sichuan). This contrasts sharply with regional sectoral specialisation (RSS), which is equivalent to the social division of labour produced by market exchange. Of course, in the complex real world, there is no simple replacement of RSS by NSDL; they co-exist in time and space. Nevertheless, the migration effects of a transition towards a new spatial division of labour would be expected to have the following characteristics: (i) a tendency for working-class migration to be replaced, at least in part, by the migration of members of the new middle-class(es), notably professional, technical and managerial workers; (ii) a tendency for middle-class migration flows to become heavily focused on the key command centres of this new space-economy, notably Beijing and Shanghai (Choi 2006);[6] and (iii)

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[5] Using data from the 1987 1% Population Sample Survey, Ma (1996) shows that, while most of the flows from rural areas to cities and towns in other provinces were male-dominated, those to Guangdong had a much higher proportion of females. Zhu (2002) shows not only that income gaps significantly influence migration decisions but that the income differential between migrants and non-migrants is even greater for females than for males (see also Li and Li 1995).

[6] Choi (2006) looks at the changes in the tax system and shows (i) that it was centralised after 1994, taking power away from the local authorities and concentrating it in Beijing, and (ii) that this was accompanied by a move towards substituting externally recruited officials for local

a tendency for there to be a positive relationship between social and geographical mobility, whereby those who move inter-regionally (especially if they migrate to 'escalator regions' such as Beijing or Shanghai) tend also to achieve occupational promotion and improved social status.

Does the evidence from the 2000 and 2005 Censuses conform to these expectations? On the partial replacement of working-class migrations by middle-class ones, we cannot, unfortunately, measure this at present directly from the two Censuses. But it is relevant to point out that four of the 13 largest relative declines in migration velocities relate to flows to Guangdong, which also had lower migration velocities in 24 of its 30 in-flows in 2000-05 compared with 1995-2000 (remember that flows to Guangdong, Fujian and Zhejiang were highly biased towards those who were doing manual production jobs and had lower levels of education). In contrast, 21 of Shanghai's 30 in-flows were higher in the later period, and all but one of the significant declines were from neighbouring provinces – see Hypothesis 1 above (Shanghai, along with Beijing, has particularly large numbers of in-migrants with professional and managerial jobs and with university degree and higher degree levels of education – see below). So the message from the data is that the region (Guangdong), which dominated migration flows in the late 1990s and is associated with working-class migration, is conceding its position to a region (Shanghai) which is associated with in-migration flows which are much more socially diverse and include strong elements of middle-class migration.

It is also possible, surely, that we have been influenced by the fact that published research has tended to emphasise (quite rightly, of course) how very mobile many working-class people in China have been in the recent period. So it is important to point to research that emphasises, in contrast, how immobile many poor and unemployed

people can be. In their study of out-migration from a city in northeast China, Abe and Zheng (2007), for example, show how the decline in the state-owned companies has not had the expected push effect on out-migration. Unemployed men and women have too little information on opportunities elsewhere, too little money to effect a successful migration, too few contacts in potential migration destinations, and above all are too dependent on the support of their local families and communities, to risk out-migration.

This brings us to the second issue – is there a bias in middle-class migration flows towards Beijing and Shanghai? Figure 4, which shows the location quotients for in-migrants who at the time of the Census were in professional occupations, proves that indeed there is. But, as is the case for managers, whose location quotients are uncannily similar to those of professionals, Figure 4 also shows that the flows to many other parts of China also have higher-than-average proportions of professionals. Indeed, these distributions suggest the existence of an almost completely different migration system from that of the mass migration of manual workers to the Fordist production sites in southeast China. These inter-provincial migrations can be seen as the (probably largely intra-organisational) transfers of cadres or 'functionaries' – well-educated, skilled and experienced personnel who are posted from one region to another (often to and from the headquarters region) to support and manage the state and private sector organisations' operations in that part of the space-economy (for an interesting paper on the transfer of government cadres to and from Tibet, see Huang 1995; see also Zhang and Gao 2008). The trend data using migration velocities shows another interesting feature. As was mentioned above, the flows from the major cities to the rest of the country increased from the late 1990s to the early 2000s; this is equally true for Beijing, Shanghai and Guangdong. It should be obvious that both of these patterns conform closely to the notion introduced above that a new spatial division

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provincial ones, promoting the inter-provincial migration of bureaucrats.

of labour is emerging in China. But it should not be forgotten that the recruitment by the capital region, and subsequent posting to other regions of the country, of the 'brightest and the best' from all over China, brought about, for example, through the civil service examination system, is not new – it has been an important feature of China's political economy for at least 1500 years, that is, since the establishment of the civil service examination system during the Sui and Tang Dynasties. The difference today, of course, is that it is not just government, or rather central government, that is organised in this way, but a large share of the whole economy, both privately-owned and state-owned.

Finally, does the Census data support the notion, conformable with the new spatial division of labour approach, that Beijing and Shanghai, as 'escalator regions', have become centres of national middle-class formation and career development? (for a summary of research on escalator regions see Fielding 2007).[7] Unfortunately, until longitudinal Census data becomes available, it will not be possible to accept or reject such a proposition on the basis of Census data alone. But other non-Census and Census-based studies suggest that just such a process is well underway. For example, some fascinating middle-class biographies, involving decisions to migrate to Shanghai and Guangzhou, are provided in Sun's study of migration from Anhui (2006). And from the 2000 Census data supplied by Liu (2007), we can calculate the net lifetime migration rate per '000 for those with university degrees. Beijing has far and away the highest figure at + 77; Guangdong, Tianjin, and Shanghai follow with figures between +14 and +35, and the only other provinces with (small) net gains are Shaanxi, Yunnan, Xinjiang, Ningxia and Hainan. These figures can be interpreted as

indicating the massive significance of Gangzhou and Shanghai, but above all, of Beijing-Tianjin as command centres of the Chinese space-economy and as the main locations for upward social mobility.

Hypothesis 4:

the trends in migration flows will reflect the weakening control over migration exercised by the central state, manifested, for example, in weaker in-flows to, and stronger out/return-flows from, those provinces which have received priority status for development in the fairly recent past.

The logic behind this hypothesis is as follows. A Communist-Party-run central government cannot possibly expect, however passionately a policy-objective (such as Western development) is held, to be able to implement spatial policies as effectively in a capitalist market economy as it was able to do in the 'command' economy that prevailed previously.[8] It now has to negotiate with, entice, and persuade economic agents to act in accordance with its policy objectives, where previously it could just say 'this is what will happen'. Those economic agents, of course, now have other priorities than achieving the government's aims; they seek profitability and growth, and if location of investment in certain low-income and potentially 'irredentist' regions threatens profitability and growth then, despite the 'clientalism' of Chinese national and local politics, such investment will not occur.

Does the evidence from the Censuses support such notions? First, we can look at the overall level of inter-provincial migration. The total number of five-year inter-provincial migrants for 1995-2000

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[7] Conceptualising Beijing as an 'escalator region' does not imply that there is an absence of working-class migration to the city-region. Indeed, a feature of such regions is that they attract migrants at both the 'higher' white-collar and 'lower' blue-collar levels of the social system (see Tomba 1999 on the latter).

[8] As Cai and Wang (2003: 74) put it, 'it was not necessary, nor was it permitted, for capital, labour and other factors of production to move freely in response to market signals … Under the planned system, it was impossible for rural residents to move to the cities without official approval, labour mobility across sectors was planned by departments of labour and personnel, and the existence of a labour market was not permitted'.

was 32,280k (k=thousand). That increased by over 50 percent to 50,406k by 2000-05.[9] We cannot know from these figures alone if the weakening of the *hukou* (household registration) controls on mobility were the cause of this very large increase, but it would be surprising (at least to this author) if reduced *hukou* enforcement had not made a significant contribution to this increase in inter-provincial migration.[10]

Secondly, the main thrust of central government policy has been to push economic growth and development westwards (with a secondary priority favouring the northeast), away from the high-income coastal provinces of eastern China towards the populous interior provinces of central western China (especially Sichuan, Chongqing, Guizhou, Yunnan, Shaanxi, and Gansu), and towards the far west (Tibet, Qinghai, and above all, Xinjiang). But only one of these provinces experienced significant net migration gain in the 2000-05 period (Xinjiang, and Xinjiang's rate of net gain per '000 population fell faster than any other province in China, from 50.1 between 1995-2000 to 19.7 between 2000-05).[11]

All the others had net migration losses and these were particularly severe in Sichuan (-38.7), Chongqing (-36.1) and Guizhou (-33.1). Even Tibet, contrary to popular western myths (Fischer 2008), was a net loser by migration in the recent period (-3.0).[12] In that case, maybe although still losing by migration, these western provinces saw a positive *trend* in their net migration rates. With the interesting exceptions of Sichuan (+7.5) and Qinghai (+7.4) this was, most assuredly, not the case. In fact, if one looks at the whole picture (see Figure 5), then what is clear is that the migration trends of the recent period have favoured the east coast provinces: firstly Shanghai itself, then the provinces close to Shanghai (notably Zhejiang, but also Fujian, Jiangsu and Jiangxi), and then finally, Tianjin (which is now linked by rapid transit to Beijing). On the basis of this evidence, Hypothesis 4 seems to be fully supported. Despite the very strong policy commitment at the national level towards encouraging a westward development (especially since 1999), migration is increasingly favouring the east coast region and especially the greater Shanghai region.[13]

Conclusion

This paper has attempted to make links between empirical facts (as represented by the Census results) and a variety of regional economic growth theories in exploring the relationships between regional development and inter-provincial migration flows in China in the recent period. Its main findings are, firstly, that distance decay functions *have* decreased with capitalist modernisation, but that important and interpretable exceptions arise. Secondly, 'Fordist' mass migrations of manual workers to southeastern provinces *have* accompanied that region's very high investment in export-oriented consumer goods production: this mass migration has similarities with the guest-worker

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[9] These figures contrast sharply with the 10,750k who migrated inter-provincially between 1985 and 1990 (He 2002), though the definition of permanent resident was one year in the 1990 Census rather than six months in later Censuses.

[10] See Bao *et al.* (2008) which supports this argument and reports several studies that show that the responsiveness of migration flows to regional income differences has increased over time (see also Lin *et al.* 2004). See also Fan (2002: 433), who claims that 'since the 1980s, the government's relaxation of migration control has made massive flows of migrants possible'. Mobrand (2009) adds a twist to the usual story of the state's influence on geographical mobility (that is, that it restricted it through the operation of the household registration system), by recounting how some local governments in Sichuan boosted the out-migration of their villagers.

[11] This decrease in the net migration gains to Xinjiang contrasts sharply with the early period of Communist rule (Clarke 1994). In 1949, less than 10 percent of Xinjiang's population was ethnically Han (Bachman 2004: 155), now it is over 40 percent (excluding the armed forces – for an interesting paper which emphasises the importance of the non-inclusion of the armed forces in migration estimates for Chinese provinces, see Johnson 2003). Much of the increase in the Han population was brought about by (i) the assisted migration managed by the Xinjiang Production and Construction Corps, and (ii) voluntary (often non-*hukou*) migration. Together, at the height of the in-bound migration, 250,000-300,000 people per annum were migrating to the province (Bachman 2004: 180)

[12] But note that data quality problems may exist here, see Bao *et al.* (2008: footnote 10).

[13] I recognise that this result conforms to the regional preference of migration section in Bao *et al.* (2006), but sits uncomfortably with that of Bao *et al.* (2008).

migrations from southern and southeastern Europe to northwestern Europe in the post-war high-growth period before 1973. Third, evidence in the migration flows for a transition from regional sectoral specialisation towards a new spatial division of labour is much more *mixed*, but that what is certain is that there are other migration systems to be found in contemporary China than that of the mass migrations discussed in (ii) above. In particular, there are migrations of professional and technical workers and of bureaucrats and managers between Beijing and Shanghai on the one hand, and the near and distant provinces of China on the other, with clear signs of the sedimentation of those with special qualifications and skills in Beijing. Fourthly and finally, I find that recent trends in inter-provincial migration suggest strongly that market forces favouring the east coast and, in particular the greater Shanghai region, are outweighing state redistribution policies favouring the development of the near and far west and the northeast.

What about the near and more distant futures? We can be almost certain that the current recession in the countries which form the main export markets for the Fordist production regions of coastal southeastern China will result in a further decrease in the mass migrations to these provinces, as job opportunities tumble and costs of production rise. In contrast, the provinces along the Beijing-Shanghai axis are likely, boosted by the new high-speed rail link, to see a shift from net loss towards net migration gain in the cases of Hebei and Shandong, and towards greater net gain in the case of Jiangsu. Furthermore, despite the recent downturn, the era of a Lewisian 'economic development with unlimited supplies of labour' has come to an end in China (Shao *et al.* 2007), and it seems likely to me that working-class migrations in China will increasingly take on the form suggested by the 'new immigration model' (Fielding 2005). This implies that they will be more diverse in both origins and destinations, that the migrants will be 'gap-fillers' in secondary labour markets rather than the core labour forces of the destination regions, and that local flows will be increasingly replaced by more long-distance flows, often introducing elements of cultural and ethnic diversity into the receiving region. Finally, it follows from much that has been written here, that I would expect the maturation of the Chinese space-economy to result in a decrease in the rate of growth of inter-provincial migration and the substitution of middle-class migrations of professional, technical and managerial workers for the mass migration of manual production workers – this latter being the type of migration which has so massively dominated Chinese inter-regional migration flows in the recent period.

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Table 1: Location Quotients 2000 (5-year in-migrants)

	ED: JHS	ED: UGR	ED: PGR	OCC: MAG	OCC: PRO	OCC: CLE	OCC: TR-S	OCC: A/F/F	OCC: MAN
BEIJING	0.91	2.37	5.01	2.07	1.79	1.77	2.07	0.41	0.63
TIANJIN	0.83	2.18	1.96	1.84	1.28	1.05	1.46	0.74	0.85
HEBEI	0.86	1.04	0.45	1.48	1.41	0.83	1.20	1.90	0.75
SHANXI	0.83	1.18	0.35	1.47	1.24	0.70	1.11	1.07	0.94
INNER-M	0.80	0.43	0.18	1.55	1.03	0.69	1.33	2.66	0.61
LIAONING	0.81	1.89	1.30	1.45	1.20	0.73	1.41	2.18	0.66
JILIN	0.68	3.51	1.96	1.92	1.32	0.77	1.36	2.73	0.56
HEILONG	0.69	3.00	1.26	2.04	1.17	0.70	1.22	3.03	0.57
SHANGHAI	0.96	1.09	2.06	1.25	1.20	1.07	1.66	0.75	0.81
JIANGSU	0.93	1.06	0.94	1.17	0.93	0.60	1.02	1.52	0.93
ZJEJIANG	1.04	0.35	0.46	0.25	0.55	0.38	0.65	0.43	1.29
ANHUI	0.80	1.79	1.14	1.52	1.22	1.04	0.81	4.59	0.42
FUJIAN	1.11	0.39	0.38	0.49	0.70	0.55	0.59	0.48	1.28
JIANGXI	0.72	2.07	0.45	1.59	1.44	0.98	1.02	3.71	0.49
SHANDON	0.80	1.30	0.83	2.13	1.93	1.01	1.25	2.61	0.56
HENAN	0.74	1.42	0.52	1.95	1.99	1.20	1.20	2.95	0.50
HUBEI	0.52	2.99	2.20	2.81	1.75	1.12	1.54	2.02	0.55
HUNAN	0.63	2.85	1.31	1.93	1.74	1.05	1.40	3.32	0.40
GUANGDO	1.26	0.27	0.35	0.56	0.68	1.19	0.65	0.28	1.26
GUANGXI	0.79	1.31	1.10	2.26	1.95	0.95	1.72	1.70	0.55
HAINAN	0.79	1.03	0.72	1.66	2.04	1.74	1.65	1.74	0.52
CHONGQI	0.60	2.78	1.46	1.70	2.03	1.57	1.26	3.19	0.42
SICHUAN	0.61	2.43	1.89	2.00	2.45	1.59	1.18	3.71	0.32
GUIZHOU	0.79	0.56	0.59	1.96	1.42	0.95	1.58	2.24	0.55
YUNNAN	0.85	0.56	0.53	1.34	1.14	0.64	1.98	0.96	0.69
TIBET	0.86	0.56	0.39	2.24	2.59	1.57	2.56	0.76	0.36
SHAANXI	0.53	4.87	2.52	2.27	2.68	1.26	1.73	1.34	0.55
GANSU	0.67	3.07	1.46	2.86	1.95	1.10	1.91	1.70	0.48
QINGHAI	0.76	0.67	0.20	2.49	1.93	0.87	2.33	0.84	0.50
NINGXIA	0.76	0.71	0.19	1.87	1.09	0.71	1.65	1.85	0.64
XINJIANG	0.81	0.10	0.02	0.79	0.56	0.36	1.11	3.44	0.62

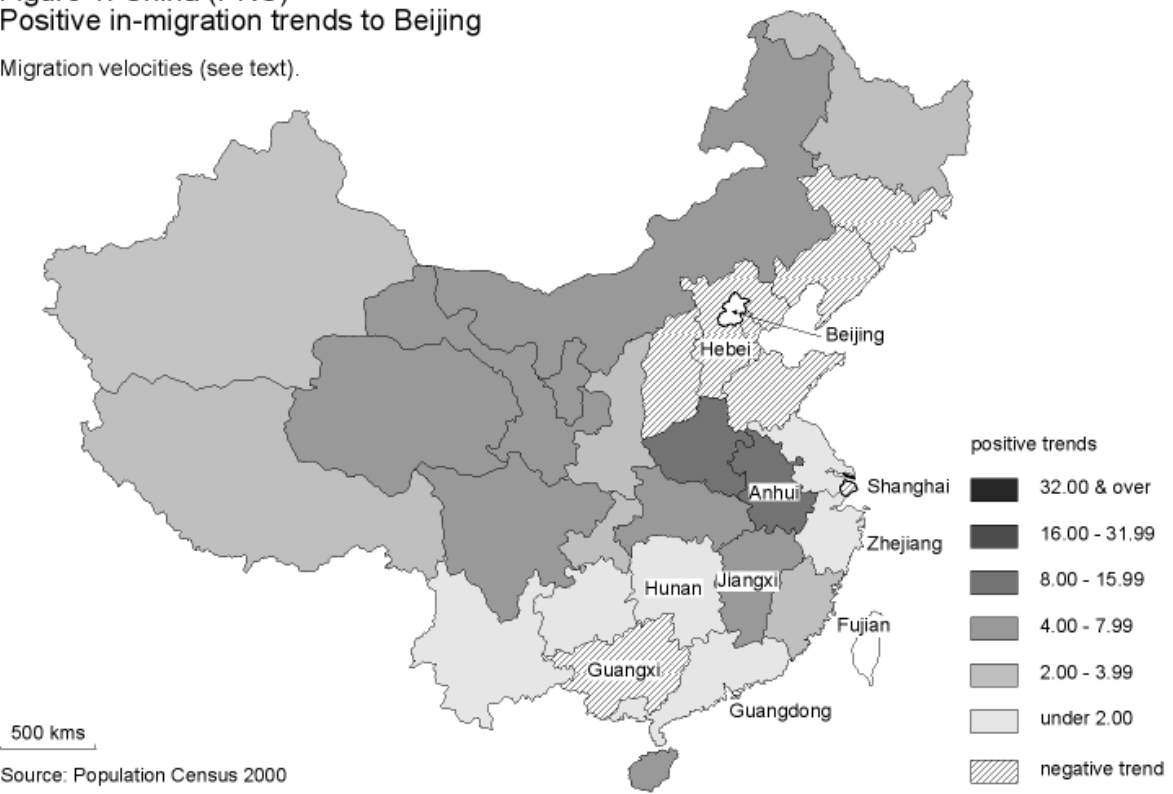*Source:* Author's calculations based on 2000 census
Columns:
Educational achievement: junior high school; university graduate; postgraduate.
Occupation: manager; professional; clerical; trade/services; agriculture/forestry/fishing; manual occupations.

Figure 1: China (PRC)
Positive in-migration trends to Beijing

Migration velocities (see text).

Hebei — Beijing

Anhui — Shanghai

Zhejiang

Hunan   Jiangxi

Fujian

Guangxi

Guangdong

500 kms

Source: Population Census 2000

positive trends

	32.00 & over
	16.00 - 31.99
	8.00 - 15.99
	4.00 - 7.99
	2.00 - 3.99
	under 2.00
	negative trend

Figure 2: China (PRC)
Net migation 2000-2005

In-migration minus out-migration per '000 population

Beijing

Shanghai

Guangdong

500 kms

Source: Population Census 2000

net migration rates

	+128.0 & over
	+64.0 - +127.9
	+32.0 - +63.9
	+16.0 - +31.9
	+8.0 - +15.9
	0.0 - +7.9
	-8.0 - 0.1
	-16.0 - -8.1
	-32.0 -16.1
	> -32.0

16
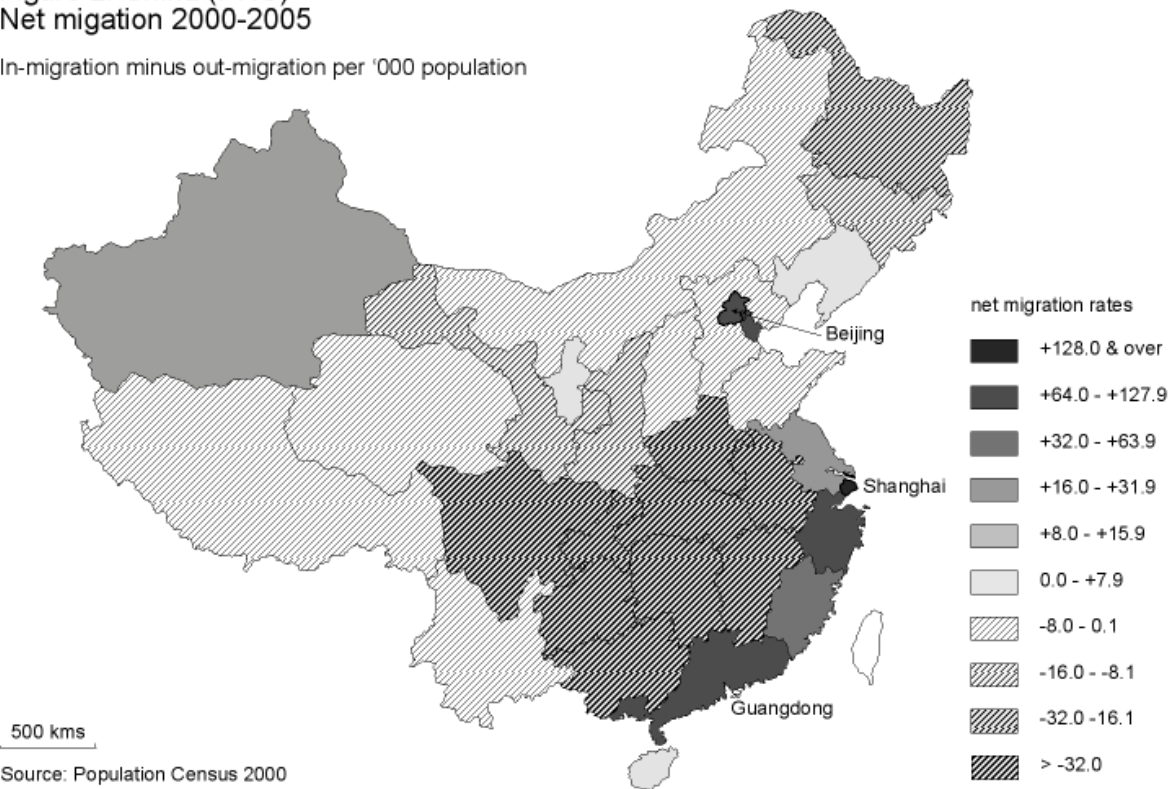
Figure 3: China (PRC)
Occupations of in-migrants: manual production workers

Location quotients (see text).

Tianjin

location quotients:
national average
equals 1.00

■	4.10 & over
■	2.50 - 4.09
■	1.70 - 2.49
■	1.30 - 1.69
■	1.09 - 1.29
■	1.00 - 1.09
■	0.80 - 0.99
■	under 0.80

500 kms

Source: Population Census 2000
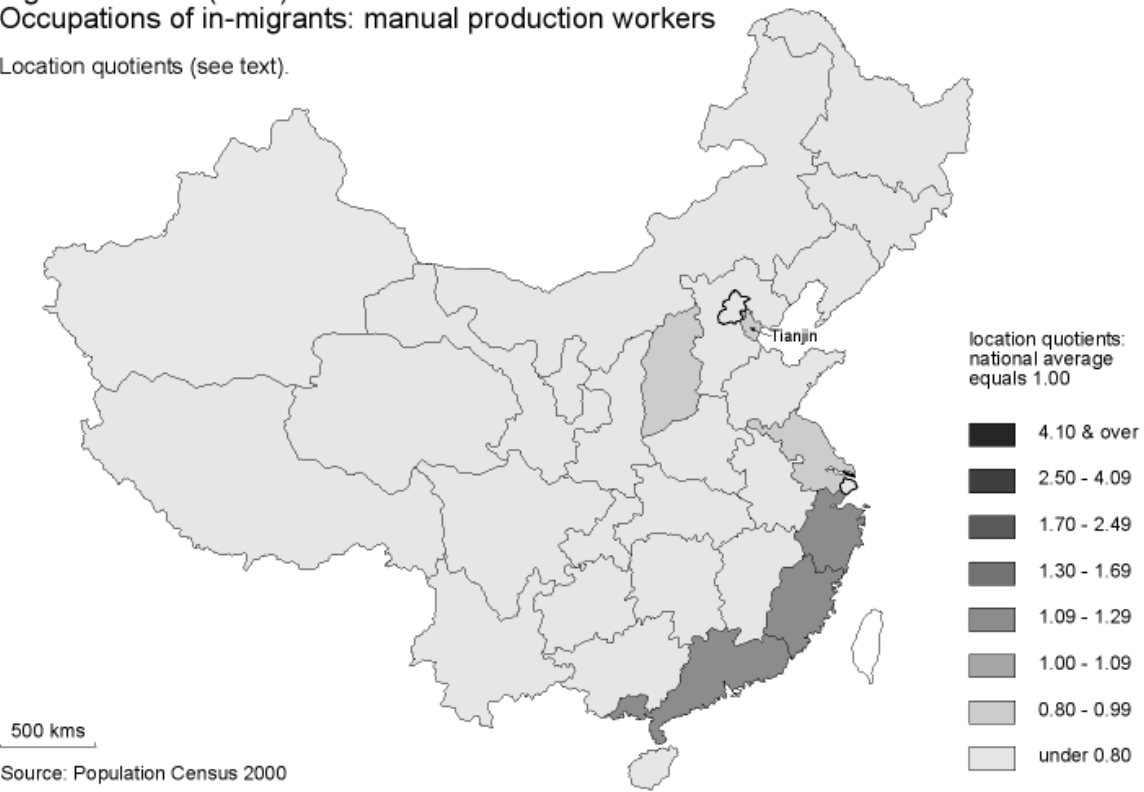
Figure 4: China (PRC)
Occupations of in-migrants: professionals

Location quotients (see text).

Xinjiang

Ningxia

Shaanxi

Tibet

Yunnan

Hainan

location quotients:
national average
equals 1.00

■	4.10 & over
■	2.50 - 4.09
■	1.70 - 2.49
■	1.30 - 1.69
■	1.09 - 1.29
■	1.00 - 1.09
■	0.80 - 0.99
■	under 0.80

500 kms

Source: Population Census 2000

17
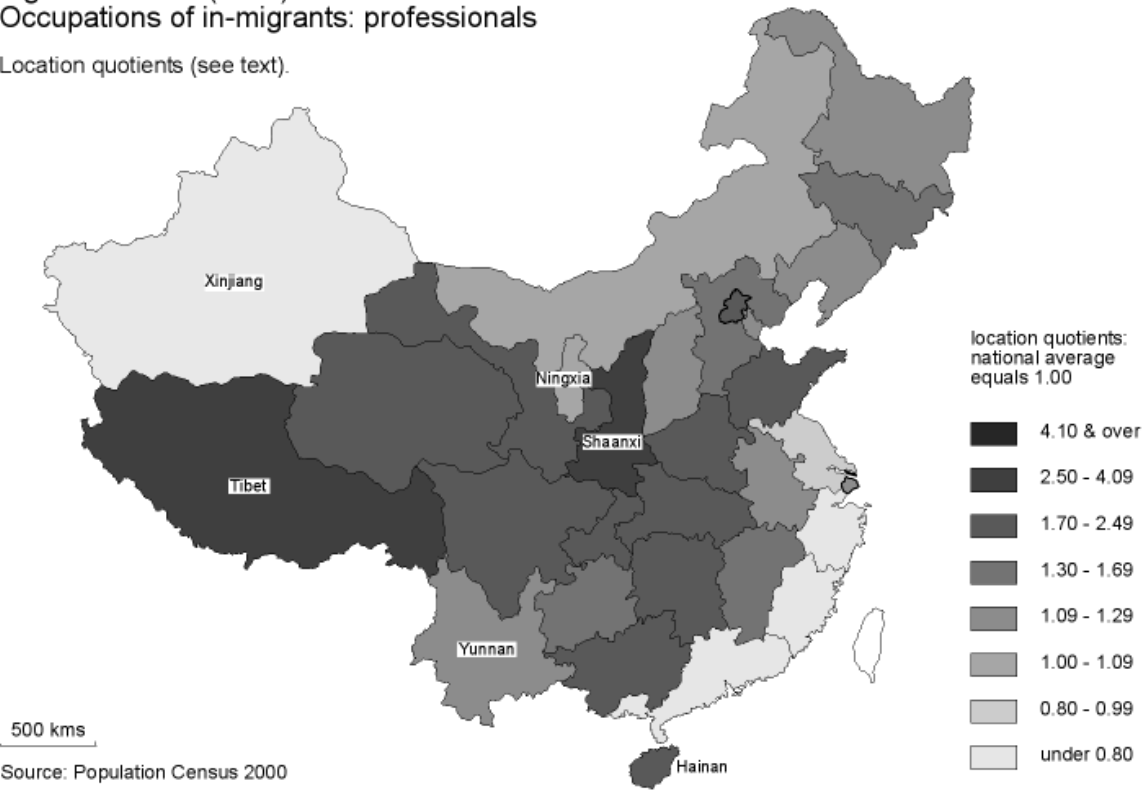
Figure 5: China (PRC) Inter-provincial net migration trend 1995-2000 to 2000-2005

net migration trend per '000 population

- +30.0 & over
- +20.0 - +29.9
- +10.0 - +19.9
- 0.0 - +9.9
- -10.0 - 0.1
- -20.0 - -10.1
- -30.0 - -20.1
- -30.1 & over

500 kms

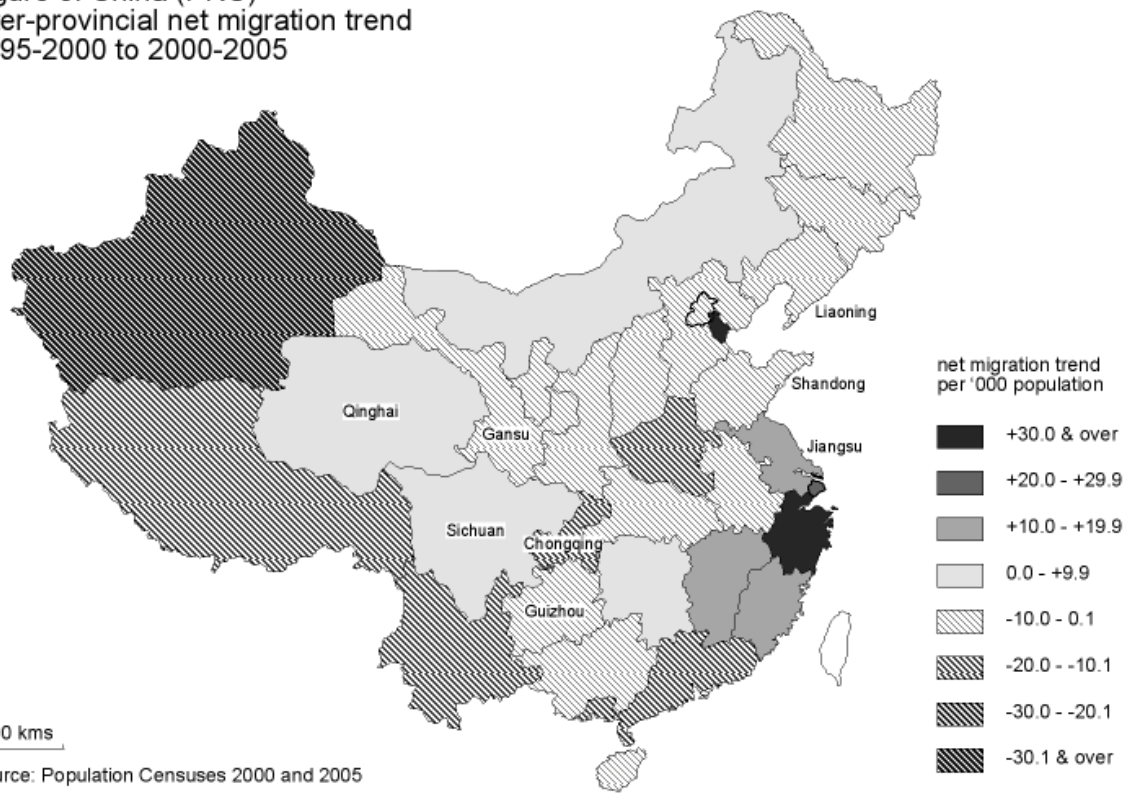Source: Population Censuses 2000 and 2005

Figure 6. China (PRC) In-migrants to Shanghai

Migration velocities (see text).

migration velocity

- 32.0 & over
- 16.0 - 31.9
- 8.00 - 15.99
- 4.00 - 7.99
- 2.00 - 3.99
- 1.00 - 1.99
- 0.50 - 0.99
- under 0.50

500 kms

Source: Population Census 2005