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Crisis, Stimulus Package and Migration in China

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Abstract

Authors of this paper trace the influence of the 2008 global crisis and the impact of the subsequently implemented stimulus package on the characteristics of migrant flow in China until 2012. They analyze the consequences of the temporary but dramatic economic set-back on migrant employment and that of the booming investments incited by the stimulus package. The paper reveals that the set-back caused dramatic temporary rise of migrant unemployment; it also had regional character due to the coastal concentration of exports hit by the crisis, determining earlier the direction of migrant flow. Regional priorities of the stimulus package reinforced the redirection of migrants away from the coast towards central and western regions. Migration routes also shortened partly because migrants's destination shifted closer to their home-town region and also by increasingly finding workplace within their own province during the researched period. The stimulus package restructured migrant routes of the pre-crisis period not only according to its regional priorities, but also according to sectoral priorities from manufacturing towards the construction sector. The restructuring, combined with increased number of migrants, shows both temporary and steady features as migrants adapt to the dynamics of the impact of the stimulus package and to respective economic reactions.

Keywords: migration, employment, stimulus package, crisis, spacial disparities, China

JEL classification: E24, R23, P23, F5, R2, J08

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Válság, élénkítő csomag és migráció Kínában

Csanádi Mária - Nie Zihan - Li Shi

Összefoglaló

E cikk szerzői nyomon követik a 2008-as globális válság, és az azt követő élénkítő csomag hatását Kína belső migrációs folyamatára 2012-ig. A cikk feltárja, hogy a gazdasági visszaesés drámai átmeneti hatással volt a migráns munkanélküliségre. A válság nem csak összhatásában, hanem regionális eloszlásában is jellegzetes volt a válság által érintett export partmenti koncentrációja következtében, amely meghatározta az addigi migráció irányát. Az élénkítő csomag térbeli prioritásai felerősítették a válság okozta eláramlást a partmenti területekről a közép és nyugati területek felé. Az áramlási utak ezáltal le is rövidültek a vizsgált időszakban: a migránsok részben közelebb kerültek eredeti lakhelyük térségéhez, s azon belül növekvő mértékben saját tartományukon belül mozogtak. A prioritások nemcsak térben változtatták meg az addigi áramlási irányokat, hanem ágazatok szerint is: a feldolgozóiparból az építőiparba. Az áramlási irányok dinamikájában tartós és ideiglenes vonásokat is felfedezhettünk, ahogy a migránsok alkalmazkodtak az élénkítő csomag prioritásai és azok okozta reakciók hatásához.

Tárgyszavak: migráció, foglalkoztatás, élénkítő csomag, válság, térbeli egyenlőtlenségek, Kína

JEL kódok: E24, R23, P23, F5, R2, J08

Köszönetnyilvánítás

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NATIONAL LEVEL CONSEQUENCES OF THE CRISIS AND THE STIMULUS PACKAGE

The global economic crisis in 2008 had a sweeping effect on the Chinese economy. Major economic indicators (Table 1) reflect the set-back caused by the crisis in 2009 both in export, in GDP/cap and export/GDP, starting rebound only in 2010. Investments followed the opposite tendency: increasing radically during the crisis and slowing down in 2010 when economic revival started.

Table 1.

Factors influenced by the crisis and the stimulus package

	2007	2008	2009	2010	2011
GDP y/y	14.2	9.6	9.2	10.4	9.3
Export y/y	26.0	17.2	-16.0	31.3	20.3
Export/GDP	35.2	32.0	24.1	25.7	26.1
Investm y/y	24.8	25.9	30.0	23.8	12.0

Source: China Statistical Yearbooks; GDP (Index of Gross Domestic Product): China Statistical Yearbook 2012, Table 2-4; Export (USD): China Statistical Yearbook 2012, Table 6-3; Export/GDP: own calculations based on GDP (yuan; CSY 2012, Table 2-1), export (USD; CSY 2012, Table 6-3; and Reference exchange rate of Renminbi to US Dollars (CSY 2012, Table 6-2); Investment (Total investment in fixed assets, RMB): China Statistical Yearbook 2012, Table 5-7
http://www.stats.gov.cn/english/statisticaldata/yearlydata/

Behind this investment trend sectoral differences may be perceived (Table 2): investments in manufacturing and construction show opposite prospect of growth from 2008 to 2009. Investments in manufacturing first slowed down from 2007 onwards, than in 2010 the pace slightly accelerated and substantially slowed-down again in 2011. Meanwhile, investments in construction, though with slower pace than manufacturing, steadily speeded up until 2010, leaving the pace of manufacturing well behind, and than slowed down in 2011, almost to the pace of investments in manufacturing. More extreme pulsation is detected in the annual growth of loans with the radical, almost hundred percent, growth in 2009, stagnation in 2010 and shrinkage in 2011. Hectic changes follow the concerns of central economic policy.

The dynamics of FDI still grows in 2008 despite the global crisis events but accommodates to the falling export dynamics in 2009. FDI's radical drop in 2009 happened when investment in fixed assets otherwise radically grew. From 2010 on it paralleled the acceleration and slow down of overall and sectoral (manufacturing and construction) investments.

Table 2.

Factors of development

	2007	2008	2009	2010	2011
Inv.manuf y/y	30.6	27.4	24.5	25.5	15.9
Inv.constr y/y	15.7	19.5	28.1	40.6	19.8
Loans y/y	39.7	17.0	99.3	0.8	-8.5
FDI y/y	18.6	23.6	-2.6	17.4	9.7

Source**:** inv. manuf, inv. constr (RMB): China Statistical Yearbook 2012, Table 5-7; loans (RMB): "Social Financing" from China Statistical Yearbook 2012, Table 19-11; FDI (Foreign Direct Investment Actually Utilized, USD): China Statistical Yearbook 2008, Table 17-15; 2009, Table 17-15; 2010, Table 6-14; 2011, Table 6-14; 2012, Table 6-14
China Statistical Yearbooks, http://www.stats.gov.cn/english/statisticaldata/yearlydata/

Radical growth of investment in construction and in loans in 2009 are the result of the priorities of the 4 trillion CNY (612.06 billion USD) stimulus package introduced by the central government in late 2008. The package constituted 13 percent of the GDP in 2008. The goal of the package was to decrease export dependency and stimulate economic growth. Therefore, investments were oriented towards domestic fields instead of export, focused on the development of infrastructure rather than on overwhelmingly export-oriented manufacturing sector, prioritizing large scale enterprises as opposed to small- and middle sized enterprises dominating export industries; state owned enterprises were supposed to be in better position for resource acquisition and instead of the exporting and economically developped coastal region the central and western regions were to be further developped. Priority goals of the planned distribution of resources focused mainly on public infrastructure (38 percent), post-quake reconstruction (25 percent), social welfare investments (10 percent), rural development (9 percent), technology advancement (9 percent), sustainable development (9 percent) and educational-cultural projects (4 percent). One-third of the investments were to be financed by the central budget, the remaining two thirds by local governments, enterprises and banks.[1]

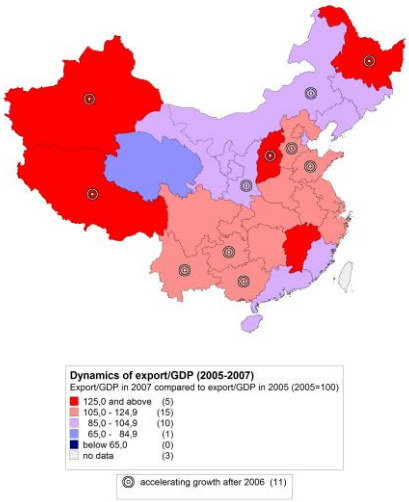
[1] Source: Economic Observer On-line China's Stimulus Package: A Breakdown of Spending http://www.eeo.com.cn/ens/finance_investment/2009/03/07/131626.shtml

REGIONAL LEVEL CONSEQUENCES OF THE CRISIS AND THE STIMULUS PACKAGE

The crisis and the stimulus package together changed the shape of the regional development trends by 2010. Map 1/a and 1/b display the dramatic regional impact of the crisis in the form of distribution of Export/GDP growth before and after the crisis periods. They reveal a drastic shift from overall high growth and acceleration of Export/GDP during 2005-2007, into a deep set-back in 2008-2010. Some coastal provinces experienced slow-down already in the first period. Map 1/b, however, also demonstrates a gradual recuperation through the overall acceleration of Export/GDP growth after 2009 both in the east and west. Growth during the stimulus period may be detected only in some inland provinces, otherwise all others performed below the 2008 year's share.

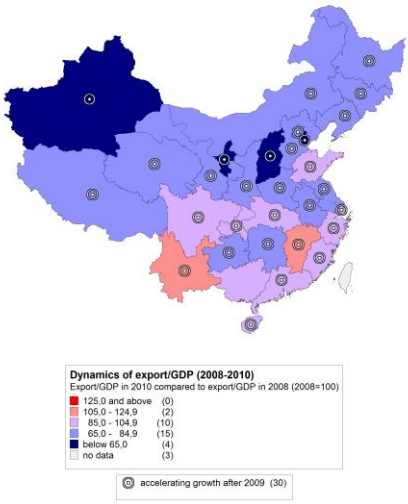
Map 1/a

Spatial dynamics of Export/GDP by provinces between 2005-2007



Map 1/b

Spatial dynamics of Export/GDP by provinces between 2008-2010

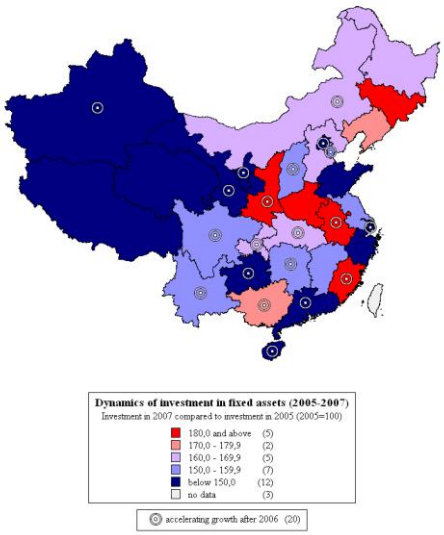


Source: Michigan University, China Data Center chinadataonline.org
Note: The colors show the different speed of growth for Export/GDP. Little circles withinprovinces are signs of acceleration in growth-rate after 2006 and 2009

Map 2/a and 2/b show the regional redistribution and expansion of investment growth towards the central and western regions, to the detriment of the coastal ones. However, it is also clear that invesment growth towards those regions only reinforced the tendency of the pre-crisis period incited by central economic policy that started in 2004-2006. However, growth was overall, since even the lowest pace at the coastal provinces in 2008-2010 involves high investment growth and acceleration after 2009 during the period.

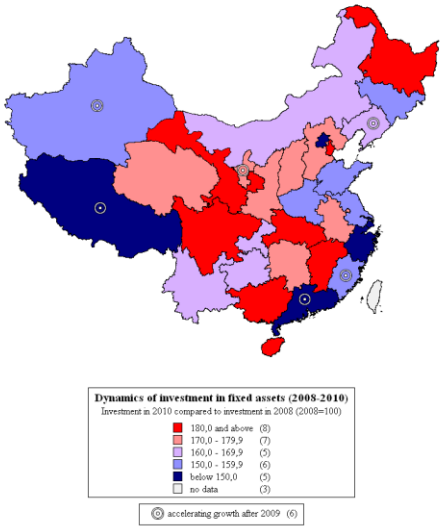
Map 2/a

Spatial dynamics of investments in fixed assets by provinces between 2005-2007



Map 2/b

Spatial dynamics of investments in fixed assets by provinces between 2008-2010

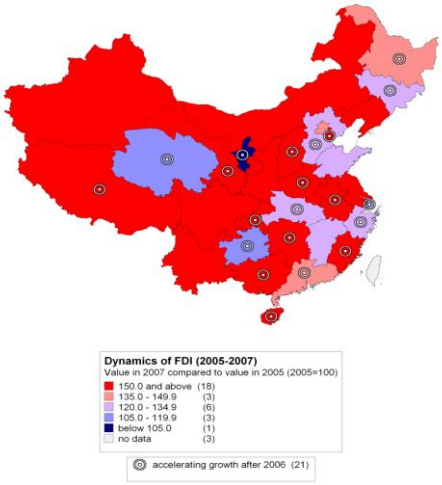


Source: Michigan University, China Data Center chinadataonline.org
Note: The colors show the different speed of growth for investments in fixed assets. Little circles within provinces are signs of acceleration in growth-rate after 2006 and 2009

Map 3/a suggests that FDI also became interested in central and western regions already prior the stimulus pakcage and grew fast all over the region and accelerated in many provinces from 2006 onwards. What Map 3/b reflects is that growth shifted away from formerly preferred coastal and western provinces and was focussed on the central provinces. After the crisis period the growth of all coastal provinces slipped into the two lowest growth rate intervals from that of the higher and highest ones of before crisis.

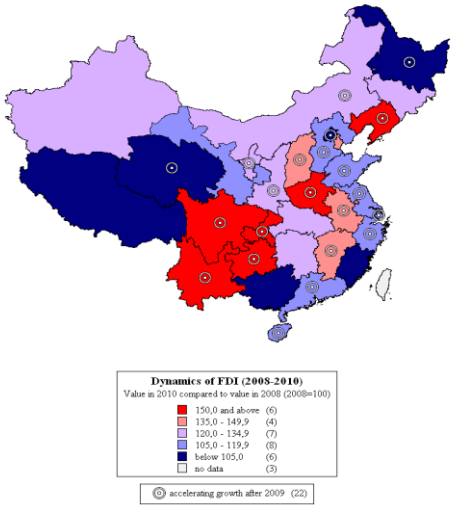
Map 3/a

Spatial dynamics of FDI by provinces between 2005-2007



Map 3/b

Spatial dynamics of FDI by provinces between 2008-2010

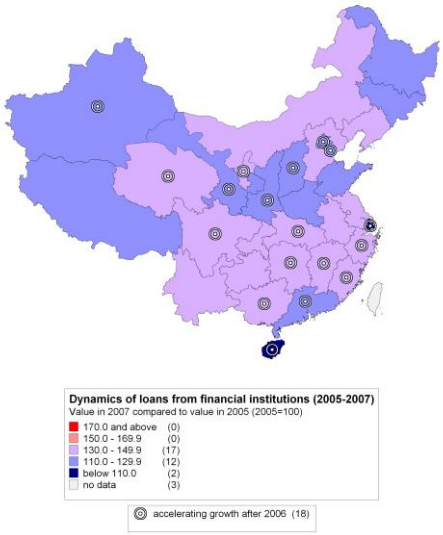


Source: Michigan University, China Data Center chinadataonline.org
Note: The colors show the different speed of growth for FDI. Little circles within provinces are signs of acceleration in growth rate after 2006 and 2009

According to Table 2 loans have exploded in 2009 and this had a dramatic regional impact. On Map 4/b radical regional changes may be perceived in the regional distribution of loan growth in 2008-2010 compared to 2005-2007 (Map 4/a), despite wiedespread regional acceleration of loan growth during this period. The highest regional level growth during the whole period of 2008-2010 surpassed those of the previous period by two intervals. Map 4/b shows that while the loan increase had spread almost overall, provinces where the highest growth was registered are located at central and western regions.

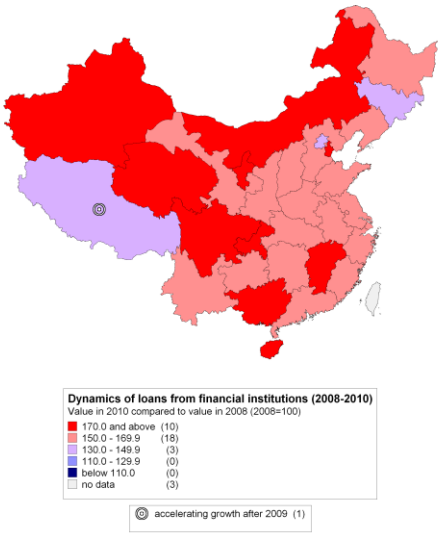
Map 4/a

Spatial dynamics of loans from financial institutions by provinces between 2005-2007



Map 4/b

Spatial dynamics of loans from financial institutions by provinces between 2008-2010

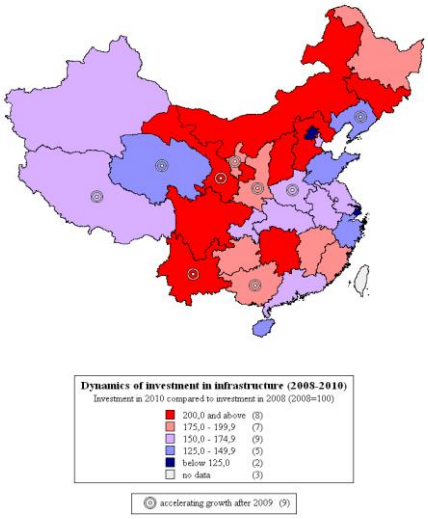


Source: Michigan University, China Data Center chinadataonline.org
Note: The colors show the different speed of growth for FDI. Little circles within provinces are signs of acceleration in growth rate after 2006 and 2009

Besides the regional impact of the stimulus package clear regional-sectoral priorities emerged. Construction and manufacturing were typical sectors affected by the crisis and the regional-sectoral priorities of the stimulus plan. Map 5/a demonstrates that more frequent were the highest growth intervals of investment in the construction sector but also that these were all concentrated to the western and central areas as opposed to the regional distribution of investment dynamics in manufacturing. Still, investments grew substantially also in manufacturing during this period even in the lowest intervals. Here too the highest and higher investment pace clusters are located at the central and western regions (Map 5/b), while acceleration is shown overwhelmingly along central and eastern regions after 2009. All these characteristics demonstrate the revival of manufacturing after crisis and enterprises' reaction to direct or indirect investment opportunities provided by the stimulus package regionally.

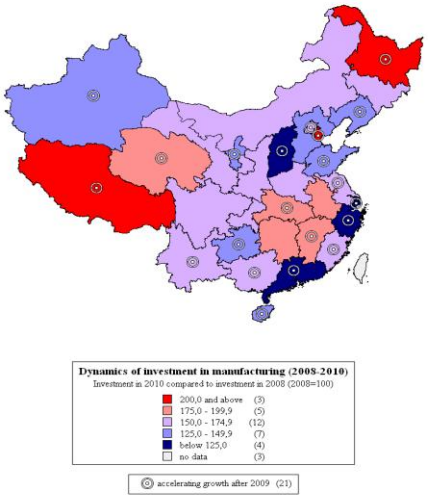
Map 5/a

Spatial dynamics of investments in construction by provinces between 2008-2010



Map 5/b

Spatial dynamics of investments in manufacturing by provinces between 2008-2010

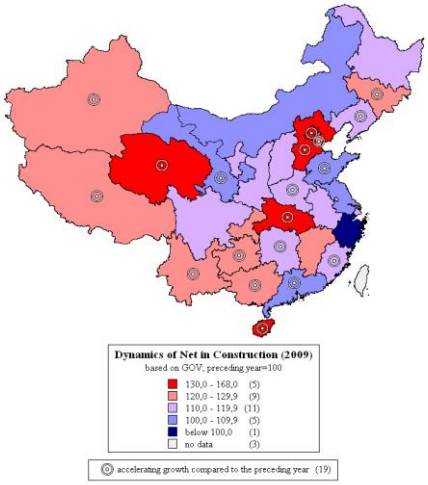


Source: China Statistical Yearbook 2009, Table 5-7; 2010, Table 5-7; 2011, Table 5-7
http://www.stats.gov.cn/english/statisticaldata/yearlydata/
Note: The colors show the different speed of growth for investments in infrastructure and manufacturing. Little circles within provinces are signs of acceleration in growth-rate after 2009

The investments in the manufacturing and construction sectors and their regional concentration incited the production of both prioritized state-owned units and that of the private sector through the increased input demand created by the former. Maps 6/a and 6/b show that in the case of construction, output growth of state-owned sector was much higher and also more concentrated to the central and western regions than in the case of manufacturing. Moreover, it also stimulated higher and more regionally concentrated output growth in the private field.

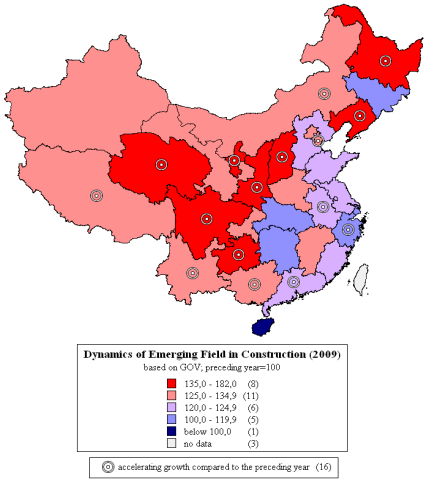
Map 6/a

Expansion of output in the state-owned field in construction sector in 2009



Map 6/b

Expansion of output in the activated private sphere in construction sector in 2009

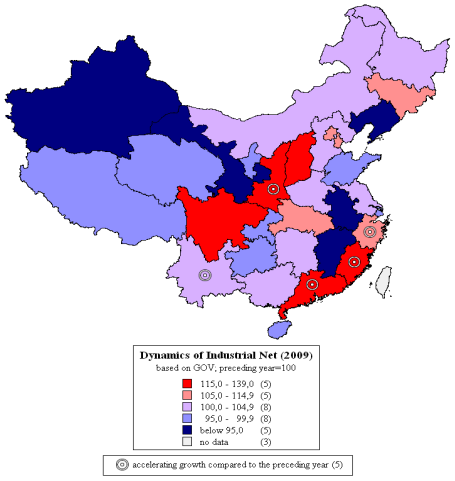


Source: China Statistical Yearbook 2009, Table 14-16; 2010, Table 15-16; 2011, Table 5-6
http://www.stats.gov.cn/english/statisticaldata/yearlydata/
Note: The colors show the different speed of growth for network and market fields in construction and manufacturing.

However, we know from Table 2 that manufacturing sector followed the increase in construction by 2010 though at slower pace. This is reflected regionally both in the output growth of state-owned fields in central and coastal regions (Map 7/a) and the widespread expansion of the output growth of the market field in the central and western regions (Map 7/b), though growth pace intervals in manufacturing output were lower than in the case of construction in both state-owned and private fields.

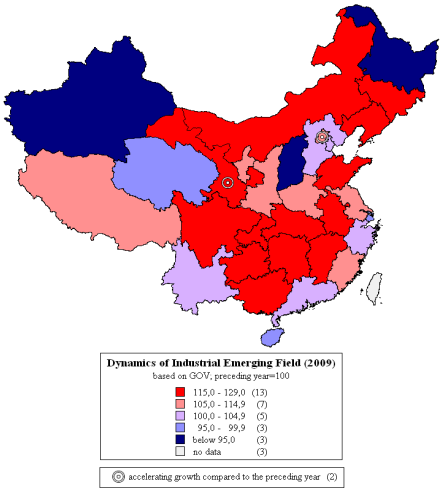
Map 7/a

Expansion of output in the state-owned field in manufacturing sector in 2009



Map 7/b

Expansion of output in the activated private sphere in manufacturing sector in 2009



Source: State-owned: China Statistical Yearbook 2009, Table 13-8; 2010, Table 14-8; Private: China Statistical Yearbook 2009, Table 13-12; 2010, Table 14-12
http://www.stats.gov.cn/english/statisticaldata/yearlydata/
Note: The colors show the different speed of growth for investments in infrastructure and manufacturing. Little circles within provinces are signs of acceleration in growth-rate after 2009

Concluding the above, maps suggest the realization of both regional, sectoral and ownership priorities of the stimulus package compared to pre-crisis period in the development towards central and western regions, towards construction and the state sector. However, they also demonstrate the prompt reaction of the manufacturing sector in central and western regions and that of the market to the input demands of the prioritized economic sectors. Regional distribution of accelerations after 2009 show the gradual regeneration of the coastal region regarding export/GDP, investment and output, suggesting temporal factors in the stimulus package and also its indirect stimulating impact combined with the slow rise of export. Next we shall first analyze the impact of the crisis and the stimulus package on employment in general. Second, we shall reveal to what extent migration was more or less sensitive to these phenomena, and what consequences did this bring about.

IMPACT OF THE CRISIS AND THE STIMULUS PACKAGE ON EMPLOYMENT

To what extent was employment influenced by the crisis and by the regional, sectoral and ownership priorities of the stimulus package? On national level, overall employment data in urban areas (Table 3) does not reflect the set-back during the crisis suggested on the maps and Table 1. On average, employment growth slowed down half percent in 2008 compared to

the 2007 growth rate, while it increased continuously by three-four percent each year until 2011. We have to acknowledge that yearly data do not reveal temporal set-backs.

Checking data by ownership, the picture is more diverse. Insensitivity to the crisis may be perceived at SOEs where dynamics of low growth rate of employment was practically stagnant along 2007, 2008 and 2009. Employment in SOEs began to increase from 2010 onwards presumably as an impact of the stimulus package. Meanwhile, sensitivity to crisis was much higher at collectively owned units, cooperatives and in joint ownership enterprises, where a continuous but slowing down shrinkage of employment was experienced and no indirect impact of the stimulus package is perceived. The most sensitive reactions may be seen in the high growth rate of employment in private enterprises, that slowed down in 2008 at the start of the crisis, but again accelerated by 2009 at the impact of the stimulus package. This dynamics matches the reactions of the market to imput demands of the prioritized fields seen on maps (6/b and 7/b). The high growth in the private sector slowed down again in 2010 when employment in SOEs already began to grow and both grew in 2011 but growth pace was higher and grew much more radically at private enterprises, showing more sensitive reactions.

Table 3.

Growth Rate of Employed Persons at Year-end in Urban Areas by Ownership

	2007	2008	2009	2010	2011
Urban Employment	4.47	3.72	3.80	4.10	3.54
State-owned Units	-0.10	0.36	-0.42	1.50	2.88
Collective-owned Units	-5.98	-7.80	-6.63	-3.34	0.92
Cooperative Units	-4.33	-3.53	-2.44	-2.56	-4.43
Joint Ownership	-3.57	0.00	-13.72	-1.67	1.42
Limited Liability Corporations	8.05	5.73	10.91	7.40	25.09
Share Holding Corporations Ltd.	6.31	6.60	13.85	7.07	15.54
Private Enterprises	15.85	11.85	8.20	9.50	13.85
Units with Fund from HK, Mac. Taiw.	11.28	-0.15	6.17	6.76	21.09
Foreign Funded Units	13.42	4.43	3.70	7.73	15.52
Self-employed Individuals	9.88	9.03	17.61	5.25	17.00

Source: Compiled from China Statistical Yearbook 2012, Table 4-2
http://www.stats.gov.cn/english/statisticaldata/yearlydata/

Similar reactions are experienced in employment growth in shareholding corporations and limited liability corporations, where employment growth rate doubled in 2009. Parallel to those, employment in foreign funded units, and at Hong Kong, Makao and Taiwan

enterprises increased substantially from 2009 and 2010 respectively, adding up to the category of non-state-owned enterprises.

Can we detect the influence of the crisis and the stimulus package on employment at prioritized construction sector? Available data regarding ownership and sectors combined are unfortunately more aggregated than in Table 3 allowing for less subtle analysis. However, Tables 4/a, b, c, d show that if we combine ownership and sectors the differences become more visible. Data testify for the differing sensitivity to the crisis and to the stimulus package over the years.[2] The most sensitive to crisis were the collectively owned enterprises (Table 4/a) regardless of sectors with employment loss all over the examined period. Recuperation of this sector was only experienced in the prioritized construction and in hotel services, but only by 2011.

Table 4/a.

Dynamics of employment in collectively owned enterprises in urban units by sectors between 2007 and 2011 (previous year =100)

	2007	**2008**	**2009**	**2010**	**2011**
Manufacturing	-10.71	-9.27	-10.07	-9.49	-7.68
Construction	-1.86	-6.76	-3.27	-1.21	**15.90**
Transport, Storage & Post	-9.26	-9.92	-7.32	-3.86	-11.55
Wholesale & Retail	-10.89	-15.02	-10.51	-8.63	-2.49
Hotels & Catering	-8.97	-4.70	-5.48	-8.49	4.41
Leasing & Business Service	0.95	-3.86	10.89	2.47	-15.34
Services to Households & Other Serv.	-9.73	**-1.00**	-6.36	-4.40	-23.54
Total	-5.91	-7.88	-6.60	-3.34	0.93

Source: China Statistical Yearbook
http://www.stats.gov.cn/english/statisticaldata/yearlydata/
NBS, China Statistical Yearbook 2007-2012: Table 5-5 in Yearbook 2007; Table 4-6 in Yearbook 2008 and 2009; Table 4-5 in Yearbook 2010 and 2011; Table 4-4 in Yearbook 2012.

Crisis is reflected also in all sectors in the employment data of state owned enterprises in 2008-2009 (Table 4/b), while the impact of the stimulus package priorities emerges in 2010-2011 but only in the prioritized construction sector that might have compensated all others.

[2] Table 4 a, b, c, d is a combined dataset compiled from two tables in the NBS statistics that contain only urban employment data. One is the "Number of Employed Persons in Urban Units at Year-end by Status of Registration and Sector in Detail". This table contains SOE-s, collective units and „other type of ownership that does not include private ownership; The other table iss the "Number of Engaged Persons in Urban Private Enterprises and Self-employed Individuals". Combination of this two tables is possible since both contain urban units, sectoral divisions and ownership but these latter do not overlap.

By 2011 all other sectors show growth in the number of employed, except for the state owned manufacturing where the shrinkage of employment was steady throughout the period, while in the leasing service sector ups and downs are experienced between 2007-2011.[3]

Table 4/b.

Dynamics of employment in state owned enterprises in urban units by sectors between 2007 and 2011 (previous year =100)

	2007	2008	2009	2010	2011
Manufacturing	-6.48	-6.29	**-9.82**	-4.87	-4.49
Construction	**3.21**	**-1.31**	**-1.89**	**6.12**	**19.53**
Transport, Storage & Post	-0.24	-1.73	-2.49	-2.56	**3.12**
Wholesale & Retail	-6.78	-7.66	-0.28	-4.82	6.17
Hotels & Catering	-8.27	-3.30	-2.60	-0.98	3.10
Leasing & Business Service	-0.47	4.51	-0.39	4.85	-2.77
Services to Households & Other Serv.	3.69	0.11	-1.66	2.02	6.48
Total	-0.11	0.37	-0.42	1.50	2.88

Source: China Statistical Yearbook http://www.stats.gov.cn/english/statisticaldata/yearlydata/NBS, China Statistical Yearbook 2007-2012: Table 5-5 in Yearbook 2007; Table 4-6 in Yearbook 2008 and 2009; Table 4-5 in Yearbook 2010 and 2011; Table 4-4 in Yearbook 2012.

Interestingly enough growth was continuous at "other type of ownership" (Table 4/c) that does not contain SOEs, collective and private units and self-employed individuals. This was experienced in all sectors in this category throughout the whole examined period. Thus, neither crisis, nor stimulus package impact is distinguishable. The highest growth rate in employment over the whole period among all sectors and in 2011 among all ownership types was in the construction industry. Manufacturing also showed faster growth of employment in 2011 but some service sectors proved to be faster.

[3] Calculations are based on 7 sectors that were available in this combination of ownership and sector. However, this may contain distortions regarding ownership, since the 7 sectors selected are very typical sectors for private enterprises and self-employed individuals. The sum of them takes up about 90% of the Total. However, for state-owned and collective owned enterprises, the 7 sectors are probably not representative enough.

Table 4/c.

Dynamics of employment in other types of ownership in urban units by sectors between 2007 and 2011 (previous year =100)

	2007	2008	2009	2010	2011
Manufacturing	6.61	0.67	4.38	6.22	15.56
Construction	10.56	6.29	18.17	10.11	45.60
Transport, Storage & Post	9.08	8.48	10.69	4.08	10.28
Wholesale & Retail	4.86	11.83	9.89	7.94	30.05
Hotels & Catering	7.76	8.58	8.72	6.24	21.65
Leasing & Business Service	13.15	25.30	10.97	9.80	-9.98
Services to Households & Other Serv.	4.01	-4.04	17.52	5.45	-1.77
Total	8.04	4.12	8.87	7.28	19.68

Source: China Statistical Yearbook
http://www.stats.gov.cn/english/statisticaldata/yearlydata/
NBS, China Statistical Yearbook 2007-2012: Table 5-5 in Yearbook 2007; Table 4-6 in Yearbook 2008 and 2009; Table 4-5 in Yearbook 2010 and 2011; Table 4-4 in Yearbook 2012.

At private enterprises (Table 4/d) crisis was perceivable only in the slow-down of growth in 2008 and 2009 in manufacturing and in 2008 in transporting sectors, but here too, the pace of revival was fast. Employment in construction sector grew the fastest in 2008 and from then on growth pace, though high, did not reach that percentage. High pace in construction in private fields match Map 6/b, however those in service and commerce sectors were higher. Except for transport and storage, the lowest pace is revealed in the manufacturing sector, which is also true in the case of state owned enterprises where employment shrank throughout the whole period (Table 4/b). These trends do not reflect the picture revealed on Map 7/b that shows prompt reaction in the output of private manufacturing enterprises to the regional and sectoral priorities of the stimulus package unless increased output in the manufacturing sector was achieved by growing productivity.

Table 4/d.

Dynamics of engaged persons in urban private enterprises and self-employed individuals by sectors between 2007 and 2011 (previous year =100)

	2007	2008	2009	2010	2011
Manufacturing	12.50	8.48	4.39	8.41	6.51
Construction	17.24	19.47	11.87	15.27	13.86
Transport, Storage & Post	11.35	4.61	9.00	0.11	7.98
Wholesale & Retail	12.21	11.05	15.30	4.87	20.90
Hotels & Catering	9.26	9.94	12.61	6.34	10.58
Leasing & Business Service	17.45	14.18	19.96	8.93	23.55
Services to Households & Other Serv.	9.19	10.07	13.82	12.96	9.73
Total	13.26	10.68	12.09	7.66	15.19

Source: China Statistical Yearbook http://www.stats.gov.cn/english/statisticaldata/yearlydata/ NBS, China Statistical Yearbook 2007-2012: Table 5-12 in Yearbook 2007; Table 4-13 in Yearbook 2008; Table 4-12 in Yearbook 2009; Table 4-8 in Yearbook 2010 and 2011; Table 4-7 in Yearbook 2012

If we try to reveal whether regional focus of the crisis and the differing regional priorities of the stimulus package have influenced employment distribution, we meet further constrained chances for analysis. Data on regional-sectoral employment differences are only available for private enterprises that definitely distorts results (Table 5). Regional distribution of employment in private enterprises show the gradual and slight decline of the share of the east to the advantage of the central regions, while the share of the western region remained stagnant. In this respect, original goal of the stimulus package to deviate the production from export orientation focused to the east and develop central and western regions did not bring about radical change regarding employment ratios, despite its strong regional investment focus depicted on maps.

Table 5.

Regional share of Engaged Persons in Urban Private Enterprises and Self-employed Individuals

	2007	2008	2009	2010	2011
East	57.58	57.48	58.10	55.79	54.35
Center	21.95	21.68	22.04	24.26	24.96
West	20.48	20.84	19.86	19.95	20.68

Source: own calculations based on China Statistical Yearbook http://www.stats.gov.cn/english/statisticaldata/yearlydata/, NBS, China Statistical Yearbooks, 2008-2012: Table 4-13 in Yearbook 2008; Table 4-12 in Yearbook 2009; Table 4-8 in Yearbook 2010 and 2011; Table 4-7 in Yearbook 2012

When we disaggregate these data by sector and regions both the impact of the crisis and that of the stimulus package may be better tracked. In the east, all sectors follow the general tendency of the east loosing faintly its dominant position, except for transport and storage where the share of the eastern region increased to the detriment of the central and western regions. Losses however are different sector by sector. (Table 6).

Table 6.

Regional share of Engaged Persons in Urban Private Enterprises and Self-employed Individuals according to sectors (%)

	2008			2009			2010			2011		
	E	C	W	E	C	W	E	C	W	E	C	W
Manuf..	70.38	16.42	13.20	70.26	16.98	12.76	69.13	16.98	13.88	68.85	18.41	12.75
Constr.n	65.00	15.69	19.31	63.38	15.85	20.77	59.73	20.11	20.17	59.02	20.35	20.63
Transp. Stor	53.66	24.34	22.00	57.48	21.92	20.60	56.02	22.65	21.33	55.93	23.06	21.01
Wholes& Ret.	52.87	24.15	22.98	55.18	23.94	20.88	51.52	27.27	21.20	49.29	28.11	22.60
Hotels & Cat.	44.12	25.90	29.98	46.34	26.13	27.53	43.71	29.00	27.29	42.39	28.31	29.30
Leasing & Bus.	61.01	21.03	17.97	60.69	20.84	18.47	59.91	21.72	18.36	59.30	22.45	18.25
Serv. to Househ.	50.23	25.88	23.88	48.58	28.51	22.91	44.64	33.45	21.91	44.62	31.59	23.79
Total	**57.48**	**21.68**	**20.84**	**58.10**	**22.04**	**19.86**	**55.79**	**24.26**	**19.95**	**54.35**	**24.96**	**20.68**

Note: E= Eastern region; C= central region; W= wester region
Source: own calculations based on own calculations based on China Statistical Yearbook http://www.stats.gov.cn/english/statisticaldata/yearlydata/, NBS, China Statistical Yearbooks, 2009-2012: Table 4-12 in Yearbook 2009; Table 4-8 in Yearbook 2010 and 2011; Table 4-7 in 2012 Yearbook.

In manufacturing, regional trends show insensitivity in the distribution of employment in private enterprises, despite the fact that major crisis impact was exerted on this export sensitive sector concentrated to the east and to the private field (see Map 3/b and map 7/b). The ratio of employment in this sector in the east was considerably higher than the average throughout the years. This picture becomes more subtle if we consider the previous tables (Table 4/c and 4/d). These tables show that though regional distribution of employment with the overwhelming share of the east practically stagnated, the growth of employed at private and other type of enterprises in manufacturing show substantive slow-down during the crisis period of 2008-2009.

Major changes in regional distribution may be traced in service sectors (whole-sale and retail, hotel and catering), where higher ratio of the eastern region continuously declined to

the advantage of the central region, or both to central and western regions owing to the faster increase in the number of employed persons in these latter regions[4].

The regional ratio of employment in construction was the second highest in the east after that of manufacturing, though its importance compared in absolute employment numbers was much lower. This high ratio however, steadily decreases over the years to the advantage of the central region. Decline of the ratio occurs despite its continuous growth in absolute value, matching the regional and sectoral priorities of the stimulus package also in private sector's employment. However, Table 3 shows that except for 2008-2009, construction sector had the highest growth rate between 2007-2010 in overall employment no matter which ownership is considered.

Concluding the above, employment dynamics by ownership and sectors do show stronger differences by ownership than sectors regarding the sensitivity to crisis. However, differences in sectoral dynamics proved to be more sensitive to the stimulus package than to ownership priorities. The pace of employment in the prioritized construction sector grew without regard on the ownership, while that in manufacturing declined. Ownership instead, influenced the year the pace began to grow and also the scale of the pace.

Regarding private enterprises, the adaptation of employment to regional priorities in general and to sectoral priorities in particular may be detected in the construction sector while insensitivity is shown in the manufacturing sector, keeping earlier regional ratio over the years. Regional priorities are more frequently perceived in the central rather than in the western regions.

Would these overall employment characteristics be consistent with migrant flow? We suppose that opposite to the low sensitivity of employment to the crisis and to the regional and sectoral priorities of the stimulus pakcage we shall find a more flexibly adapting migrant labor market. Migrants who are unsettled, without urban household registration (hukou), with low ratio of labor contract and insurance and weakly unionized have lower capacity to promote their collective interest. Without institutionalized channels of protest, either mass demonstrations or frequent mobility are chosen. On the other hand, employers who use migrant workers with low interest enforcement capacity are less constrained by legal commitments to improve working conditions and to manoeuver according to their actual needs. Thus, migrant flow incited from both directions would react much more sensitively to economic dynamics caused by the crisis and the priorities of the stimulus package.

[4] Unfortunately here we are unable to distinguish enterprises from self-employed. Therefore, it is not clear, to what extent this faster growth was due to the increase in the number of enterprises or of self-employed as a result of increased domestic market at central and western regions or as a consequence of unemployment in other sectors.

THE IMPACT OF THE CRISIS ON MIGRANT FLOW

A national level migrant and nonfarm rural labor survey has been carried out by the Chinese National Bureau of Statistics (NBS) each year since 2008. It provides a unique chance to reveal and follow the crucial period of the 2008 crisis and the stimulus package from the point of view of migration.

The NBS migrant survey was launched at the end of 2008. It is based on the NBS's rural household survey sample. The survey covers 31 provinces, autonomous regions and municipalities, 899 counties, 7500 villages and nearly 200,000 rural laborers. The introduction of the specific sampling method can be found in China Statistical Yearbook. Each year since 2008, the NBS would publish a report based on this survey. The latest report is for 2012. The report is published on the website of the NBS each year and from 2010, it was included as a chapter in China Development Report 2011.

Unfortunately some of the necessary criteria from our point of view as size and ownership of enterprises where migrants work are completely missing. Still, several tendencies regarding the interdependency between economic developments and migrant flow may be revealed.

As already said, regionally, the economic crisis directly hit overwhelmingly the eastern coast of the country where export was concentrated (Map 8). Indirectly, however, it hit also those central and western regions, the origin of 80 percent of the migrants (NBS small census 2005). As a consequence of the crisis, by the end of 2008, 600 thousand enterprises were suddenly closed down, most of them in the eastern region (Kong et al. 2009, p. 237)[5] and 16 percent of the 140 million migrants became suddenly unemployed between late 2008 and early 2009.[6] Migrant lay-off was regionally concentrated, since in 2008, 71 percent of the

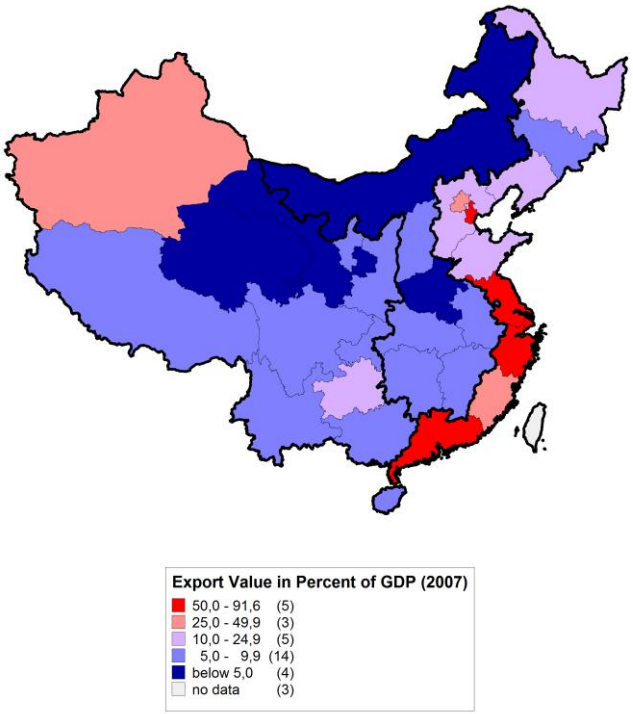
[5] Close-downs and the severity of impact was different among cities and sectors. In the second year of their follow-up migrant survey in early 2009 Meng at al. (2010) unveiled strong disparities among the 15 cities surveyed for migration. The number of close-down workplaces embraced about one third of the referred 600 000 and the percentage of close-downs compared to their original sample workplaces ranged from 1.5 percent to 40 percent. The percentage of close-down workplaces was even more extreme by sectors and cities. In manufacturing close-downs ranged from zero to 45 percent, in construction from zero to 50 percent, in various types of agencies from zero to 60 percent of sampled workplaces vanished by early 2009. On average, around 13 percent (1.4 million) of the migrant employment in the 15 surveyed cities has been affected by the shutdowns, in the hardest hit cities were 20-34 percent of the sampled individuals were affected. in the economic downturn (Meng at al, 2010, pp. 11-12

[6] Crisis has a multiplicative effect on families' living and social conditions since rural households use migration as one of their main sources of income, with remittances accounting for about 21 per cent of total rural income and 43 per cent of migrant-sending households' total income in 2007 (Demurger, 2012). Multiplicative is also the effect on sending families' age and gender distribution during crisis owing to returning migrants and also so-far migration routes, since „.. In 2007, 19 per cent of sending households had at least one migrant member working in the local county seat, 30

migrants were working in the eastern provinces attracted by the export industry and surrounding regions, 13.2 percent in central area and 15.4 percent in western area (NBS report, 2008).

Map 8

Regional distribution of Export/GDP size in 2007



Source: China's Statistical Yearbook NBS, 2008
http://www.stats.gov.cn/english/statisticaldata/yearlydata/

Concentration of migrants in 2008 on the crisis-hit eastern region is reflected by the fact that 62.4 of migrants who returned home in late 2008 to their hometown returned from eastern provinces,[7] 16.15 percent from central and 21.3 percent from western provinces. Not only regional, but provincial concentration of those who returned was high: 24.6 percent returned from Guangdong Province and 17.2 percent from Yangtze River Delta area. These two areas were the main destinations of migration. Regional sensitivity owing to

per cent had at least one migrant member working outside the county within the province, and 44 per cent had at least one migrant member working outside the province.Sending households ...have a higher share of adult males.. fewer elderly members ..., but more children below the age of 16." (Demurger, 2012).

[7] Comparing migrant's regional distribution to the regional distribution of returned migrants, it seems that migrants in eastern area were less likely to return, while migrants in western and centlal regions were more likely to return. However, these numbers are blurred by the fact that the figures on returned migrants were collected around Spring Festival, and many migrants in eastern area faced high cost of returning to their hometown in center-west, discouraging their returning during Spring Festival. The crisis might have caused a higher return rate in 2008 compared with 2007, but unfortunately we do not have such comparable information.

concentration of migrants was intensified by the fact that in 2008 about 63 percent of migrants were working overwhelmingly in provincial capitals, large cities and municipalities (NBS survey, 2008). This ratio remained practically stagnant over the examined years (Table 7)

Table 7.

Concentration of migrants (%)

	2009	**2010**	**2011**
Four municip.	9.0	8.8	10.3
Prov.capitals	19.8	19.4	20.5
Pref. level cities	34.4	34.8	33.9
Concentration	63.2	63	64.7
Summa migr.	100.0	100.0	100.0

Source: For 2009 data, see http://www.stats.gov.cn/was40/gjtjj_detail.jsp?channelid=33728&record=21; for 2010 data, see China Development Report 2011; and for 2011 data, see http://www.stats.gov.cn/tjfx/fxbg/t20120427_402801903.htm.

Crisis impact may be also revealed in the sectoral-regional distribution of returned migrants' earlier workplace: 26.1 percent of returned migrants worked in the export oriented manufacturing and 28.2 percent worked in construction (presumably in the east from where over 60 percent of returned migrants flew). Among all migrants who worked in manufacturing and construction, 46.2 percent and 73.3 percent had returned respectively, a higher proportion than the average.[8] Sensitivity to the crisis is reflected by the fact that this period saw the increase in the frequency and in the number of participants of mass demonstrations and the radicalization of requests (Cai Y, 2008, 2010).

The prevalence and propagation of the crisis was uncertain, so were the chances of recovery and its impact on party legitimacy strictly intertwined with the economy (Csanádi, 2008; Buckley, 2009; Cai and Chan, 2009; Demick, 2008; Chan, 2010; Kong at al, 2009; Meng at al, 2010; Wong 2008; Charter 2008; Chen N.; 2009, Yu 2009). However, uncertainty soon withered away. The dramatic set-back proved to be short-lived. From the second quarter of 2009 exports began to recover after the dramatic set-back, loans skyrocketed and investments accelerated already in 2009 followed by even higher pace of investments in the construction sector next year. Although GDP growth was slower compared to export growth but it accelerated to 10.4 by 2010 and also FDI got impetus after the shrinkage in 2009 (Table 1 and Table 2).

[8] Data source: NBS, China Migrants Monitoring Report 2008, web link: http://www.stats.gov.cn/was40/gjtjj_detail.jsp?channelid=33728&record=41

Thanks to the prompt implementation of the stimulus package and to the recuperation and regional spreading of export activity, migrant unemployment soon dropped to 3.4 percent after mid 2009 (Cai and Chan, 2009, 521). This is the reason why the 16 percent unemployment rate during the few months at the peak of the crisis is not visible in case of year-on-year calculations.

THE IMPACT OF THE STIMULUS PACKAGE ON MIGRANT FLOW

The stimulus plan not only quickly compensated the impact of the crisis but also kept the labor demand and the demand for migrants growing well above their number before the crisis (Table 8).

Table 8.

Scale of Migrants and Urban Employment (Million)

	2008	2009	2010	2011	2012
Nonfarm Rural Labor	225.42	229.78	242.23	252.78	262.78
1. Migrants	**140.41**	**145.33**	**153.35**	**158.63**	**163.36**
Growth rate		**3.50**	**5.52**	**3.44**	**2.98**
(1) Migrants within households	111.82	115.67	122.64	125.64	129.61
(2) Migrate out with whole families	28.59	29.66	30.71	32.79	33.75
2. Local Nonfarm	85.01	84.45	88.88	94.15	99.26
Urban Employed Persons	321.03	333.22	346.87	359.14	371.02
Growth rate	3.72	3.80	4.10	3.54	3.31

Note: nonfarm rural labor (migrants plus local rural workers). Here migrant stands for rural labor that migrates out of their home town and local rural workers stands for those who have jobs within their origin township and do not migrate out.
Source: NBS, China Migrants Monitoring Report 2009-2012. 2008 data is obtained from the 2009 report. Web link for 2012 report: http://www.stats.gov.cn/tjfx/jdfx/t20130527_402899251.htm All following tables concerning China Migrants Monitoring Report 2012 share the same source above.
NBS, China Statistical Yearbooks 2012, Table 4-2.

During the researched period the estimated number of migrants increased by almost 20 million: from 140.41 million in 2008 to 158.63 million in 2011.[9] The remarkable labor market

[9] China's migrants monitorinig report (NMS) 2012, also in China Development Report http://www.stats.gov.cn/tjfx/jdfx/t20130527_402899251.htm. Other sources as China-CIA The world Factbook (2013) https://www.cia.gov/library/publications/the-world-factbook/geos/ch.html estimate the number of migrant growth much larger, to 100 million, but I assume there is a category mistake in 2011 that does not overlap that of in 2008. In 2008 it considers migrants amounting to 140.41 million, while in 2011 considers non-farm rural laborers (migrants plus local rural workers)

impact of the stimulus package is reflected in the research report of the National Development and Reform Commission (NDRC). According to the report, investments created 5.6 million permanent jobs and 50 million temporary workplaces (Blomberg, 2010 June 15)[10]. The pace of migrant growth followed the growing labor demand through the acceleration of investment growth in construction and sky-rocketing loans in 2009. The rate of growth in migrant number was the highest in 2010, just as the rate of overall employment in urban area, though the growth rate of migrants was higher (Table 8).

THE INFLUENCE OF THE CRISIS AND THE STIMULUS PACKAGE ON MIGRANT'S REGIONAL AND SECTORAL DISTRIBUTION

The question is: did the crisis, the investment priorities of the stimulus package, the adaptation of the private sphere in construction and manufacturing sectors and the growing scale of migration, influence the thus-far regional and sectoral distribution of migrants? Was there a restructuring of migrant routes within provinces and across provinces by regions? If yes, do they seem persistent or temporary?

Table 9.

Regional distribution of migrants migrating within and across provinces (%)

	2008		2009		2010		2011		2012	
	Within Prov.	Across Prov.	Within Prov.	Across Prov.	Within Prov.	Across Prov.	Within Prov.	Across Prov.	Within Prov.	Across Prov.
National	46.7	53.3	48.8	51.2	49.7	50.3	52.9	47.1	53.2	46.8
Eastern	79.7	20.3	79.6	20.4	80.3	19.7	83.4	16.6	83.7	16.3
Central	29.0	71.0	30.6	69.4	30.9	69.1	32.8	67.2	33.8	66.2
Western	37.0	63.0	40.9	59.1	43.1	56.9	43.0	57.0	43.4	56.6

Source: NBS, China Migrants Monitoring Reports 2009-2012

Table 9 shows a steady decline in the share of those who migrate out of their province. The tendency that began with the crisis was reinforced by the impact of the regional preferences of the stimulus package. We find a regional restructuring towards migrants who, owing to regional economic developments, first were forced, later preferred to find job within

252.78 million. Here migrant stands for rural labor that migrates out of their home town and local rural workers stands for those who have jobs within their origin township and do not migrate out.

[10] China May See `Severe' Job Losses Next Year As Stimulus Unwinds, CICC Says http://www.bloomberg.com/news/2010-06-16/china-may-see-severe-job-losses-as-stimulus-projects-completed-cicc-says.html, 2010 June 15

their hukou province[11] rather than migrate outside the province. By 2011 the overall ratio among those who stayed and those who left the province reversed compared to earlier tendencies: the share of those who remained in their hukou province was higher than that of those who migrated outside of it. Disaggregating this ratio by regions, regional differences may be detected: the majority of those with hukou in the east steadily migrated within their own province throughout the researched period.

Supposedly due to the crisis and the regional investment preferences of the stimulus package, the ratio of those who chose to remain within their hukou province increased the most in the traditionally major source of outmigration, at western provinces. It slightly but steadily increased both at eastern and central regions. This tendency matches the regional impact of priority developments seen on all the maps ranging from 1-7 and the growth of employment in the prioritized construction sector in all three regions. The differences emerge in the years when the ratio of those who remained in their own hukou province increased the most: in the west the increase occurred continuously from 2008 throughout 2010, in the center in slower pace from 2010 throughout 2012, while in the east, the shortest in time from 2010 to 2011. The different time and length of growth ratio reasons may be manifold: it might be connected to the different periods of investment growth and migrant labor demand in the different regions. We do not have related data in this respect. Whether this restructuring within regions remains persistent, we would need to examine a longer period. Despite the increase in the number of migrants, and the widespread economic growth around main industrial sites migrants' concentration to large cities did not change, instead, somewhat even grew at municipalities and province capitals (Table 8). This is because job opportunities brought by the stimulus package benefited mainly large cities, and these latter are the places where enterprises concentrate. We do not have however, data on migrant concentration according to ownership that would control for the trends of distribution of migrants in cities either according to the stimulus priorities or the reaction of the private sector to those.

As a result of regional developmental preferences and higher ratio of those who remained in their own province, in 2009 compared to 2008 central and western regions absorbed larger ratio of migrants both in absolute numbers and relatively, though the absorbing dominance of the east from other regions prevailed (Table 10). Moreover, in the east, in absolute numbers, fewer migrants remained in their own location in 2009 compared to 2008, also decreasing relatively compared to the remaining migrant population at central and western regions. However, from the source aspect, the decline of the share of the eastern area happened largely in 2009, at the peak of the crisis and the absolute numbers also slumped. Migrants from central and western area increased both in shares and absolute

[11] Hukou province means the province where the migrant's home-town is located and his/her registration belongs to.

numbers in 2009. The crisis drove migrants from eastern area back to their home town and migrants from central and western countryside were attracted to cities nearby since there were more job opportunities in central and western cities due to the stimulus plan. If we take the absolute numbers behind the percentages in the available 2008-2009 years for migrants entering from outside the region in the east, center and west respectively, and first deduct the migrant numbers of the two years within a region and second, deduct regional results from each other, we can get the regional location of net entrants. Based on that we can argue that new entrants in 2009 were concentrated to the central and western regions (99.64- 90.76 = 8.88E; 24.77-18.59= +6.18C; 29.40-21.65=7.75W. 6.18C+7.75W-8.88E=+5.85 net new entrants). After 2009's radical restructuring, the share of each region remained quite stable, while the number of migrants grew in a modest rate. It looks like that in this respect in these early years the crisis had stronger role in the destination of new entrants than the starting stimulus package. Naturally the available period is too short to reveal a tendency.

Table 10.

Scale and share of migrants from 2008 to 2012 according to original location and to destination by region

	ALL	EAST				CENTER				WEST			
		F	T	F	T	F	T	F	T	F	T	F	T
	mil	%	%	mil	mil	%	%	mil	mil	%	%	mil	mil
2008	140.41	37.6	71.0	52.79	99.64	32.7	13.2	45.91	18.59	29.7	15.4	41.70	21.65
2009	145.33	31.9	62.5	46.36	90.76	36.5	17.0	53.05	24.77	31.6	20.2	45.92	29.40
2010	153.35	31.8		48.77		36.6		56.13		31.6		48.46	
2011	158.63	31.6		50.13		36.6		58.06		31.8		50.44	
2012	163.36	31.5		51.46		36.7		59.95		31.8		51.95	

Note: F= Coming From; T= going To; All those coming from (F) = 100; all those going to (T) = is nearly 100 yearly. The rest (e.g. 0.4 in 2008 and 0.3 in 2009) is the share of those oversea migrants.
Source: NBS, China Migrants Monitoring Report 2009-20112

Unfortunately we do not have a clear sectoral distribution of migrants only that of non-farm rural laborers that to some extent distorts migration figures with those local rural workers who have jobs within their original township but do not migrate out.[12] However, even in this distorted form we can detect the slow but steady increase of the migrant ratio in the construction sector to the detriment of the manufacturing sector throughout 2012 (Table

[12] We have comparable data on the sectoral distribution of migrants only for 2009 According to these data the share of migrants in manufacturing in 2009 was 39.1% and in the construction share was 17.3%, both higher than the corresponding shares of nonfarm rural laborers (36.1% and 15.2%, Table 11). Migrants are probably also more concentrated in manufacturing and construction than nonfarm rural laborers in other years.

11). This happened despite the fact that the share of non-farm rural laborers in the manufacturing sector remained the double of those in the construction sector.

Table 11.

Sectoral Distribution of Nonfarm Rural Laborers from 2008-2011 (%)

	2008	2009	2010	2011	2012
Manufacturing	37.2	36.1	36.7	36.0	35.7
Construction	**13.8**	**15.2**	**16.1**	**17.7**	**18.4**
Transportation, storage & post	6.4	6.8	6.9	6.6	6.6
Wholesale & retail	9.0	10.0	10.0	10.1	9.8
Hotel & catering	5.5	6.0	6.0	5.3	5.2
Services	12.2	12.7	12.7	12.2	12.2
Others	15.9	13.2	11.6	12.1	12.1
Total	100.0	100.0	100.0	100.0	100.0

Note: non-farm rural laborers (migrants plus local rural workers). Here migrant stands for rural labor that migrates out of their home town and local rural workers stands for those who have jobs within their origin township and do not migrate out.
Source: NBS, China Migrants Monitoring Report 2009-20112

The share of employment in manufacturing in 2009 decreased by 1.1 percentage point, then slightly increased in 2010 and practically remained stagnant the next two years. The growing share of employment of non-farm rural laborers follows the tendency of increasing share of construction sector in the GDP. In 2008 it was 6 percent, increased to 6.6 percent in 2009 and 2010, and kept rising to 6.8 percent in 2011 and 2012. Given the statistical figures of the first half of 2013, the share of construction will be even higher[13] Since the majority of construction workers are migrants, the growing share of migrants working in construction reflected the expanding construction sector. Even after the 2009 and 2010 stimulus package, employment in the construction sector shows no sign of shrinking. The stimulus package may have triggered the construction "boom" and exert a relative long impact on the sectoral distribution of migrants.

Sectoral distribution of non-farm laborers by region is available only for 2010 and 2011 (Table 12). It reflects the varied reactions of sectors differentiated by region. The share of those working in manufacturing declined in the east, somewhat increased in the central region and stagnated in the western region. In turn, in the construction sector employment slightly increased in all regions, but the highest increase was in the central region by 2011. It

[13] Data source: construction shares in GDP of 2008-2011 are collected from the *China Statistical Yearbook* 2012 and information of 2012 and first half of 2013 is collected and calculated from following NBS web links: http://www.stats.gov.cn/tjgb/ndtjgb/qgndtjgb/t20130221_402874525.htm and http://www.stats.gov.cn/tjfx/jdfx/t20130715_402911015.htm

looks like that both sectoral and regional priorities worked according to the priorities of the stimulus package.)

Table 12.

Sectoral Distribution of Nonfarm Rural Laborers in 2010-2011 by Region (%)

	All		East		Center		West	
	2010	**2011**	**2010**	**2011**	**2010**	**2011**	**2010**	**2011**
Manufacturing	36.7	36.0	46.2	44.8	22.4	23.0	15.0	15.4
Construction	**16.1**	**17.7**	**12.2**	**13.4**	**20.5**	**24.7**	**26.1**	**27.4**
Transportation , storage and post	6.9	6.0	5.8	5.5	8.5	8.1	9.3	9.3
Wholesale and retail	10.0	10.1	8.6	8.7	13.1	13.1	11.9	12.5
Hoteling and catering	6.0	5.3	5.0	4.5	7.0	5.9	8.5	7.3
Services	12.7	12.2	12.1	12.3	13.5	11.4	14.1	12.2
Others	11.6	12.7	10.1	10.8	15.0	13.8	15.1	15.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: NBS, China Migrants Monitoring Reports 2010 & 2011

Incomes increased steadily in all sectors, supposedly as a result of increased labor demand, owing to regional and sectoral preferences of the stimulus package, and market reactions to it. Still, the highest incomes in absolute number all over the years and the highest growth in 2011 are shown in the transportation and construction sectors (Table 13). However,, construction sector preferred by the stimulus package carried the highest risks in employment without contract in 2009 presumably owing to the large pool of migrants attracted to the construction sector. In 2009, 74 percent of migrants working in the construction sector compared to the average 57.2 percent of migrants did not have a contract. In manufacturing, this ratio increased in 2010 when investment rate increased and there might have been an oversupply. In the same year, in construction this ratio declined when investment rate and labor shortage developed both owing to the higher labor demand than actual supply caused by accelerated investments in the sector and by the attraction of other sectors, including manufacturing. Those with no contract in manufacturing never reached the ratio of the same in construction and remained always below the average while in construction this ratio was always the highest presumably owing to the high turnover of those working in this sector.[14] In 2011 those with no contract in manufacturing declined parallel to

[14] This fact may be explained also by the special conditions the workers are hired in the construction sector. In most cases, the construction companies do not employ any construction worker directly. They will find a labor company to provide workers. The labor companies often have connection with several laborer dealers. The laborer dealers always have a bunch of construction workers at their order.

all other sectors' no-contract ratio. This tendency evolved presumably owing to the revival of manufacturing that was competing for similar educational level migrants as in construction. We suppose that by that time also the labor-law criteria temporary suspended in 2009 were re-implemented.

Table 13.

Average Monthly Income of Migrants by Sector (yuan, based on 2008 prices)

	2008	2009			2010			2011		
	Monthly income	**Monthly income**	**Growth %**	**NO contract %**	**Monthly income**	**Growth %**	**NO contract %**	**Monthly income**	**Growth %**	**NO contract %**
Manuf.	1264	1340	6.01	49.3	1542	15.07	52.3	1776	15.18	49.6
Constr.	1534	1636	6.65	74.0	1897	15.95	70.9	2203	16.13	73.6
Transp., storage & post	1582	1683	6.38	Missing	1907	13.31	Missing	2298	20.50	Missing
Wholesale & retail	1397	1453	4.01	66.0	1673	15.14	64.7	1872	11.89	60.9
Hotel & catering	1169	1273	8.90	65.2	1473	15.71	65.7	1671	13.44	64.6
Services	1219	1285	5.41	63.9	1482	15.33	62.8	1689	13.97	61.4
Average	1340	1427	6.49	57.2	1648	15.49	58	1895	14.99	56.2

Note: The 2008 figures are derived from 2009 income level and growth rate.
Source: NBS, China Migrants Monitoring Report 2009-2011

Differences in growth pace of wages to the advantage of the prioritized sector might have been caused by the regional and sectoral preferences of the stimulus package. Priorities brought about faster income increase in the western and central regions in 2009, narrowing the so-far prevailing regional migrant income gap (Table 14). This happened despite the fact that average monthly income of migrants substantially grew also in the eastern region. This latter was presumably forced to compete with the central region's labor demand that has grown the fastest, adapting to regional development. In 2009, one may experience a radical increase in incomes compared to the previous year in the west. By 2010 the growth rate of real wages at eastern and central regions tripled while in the west doubled. (In nominal terms wage growth rate at eastern and central regions quadrupled, while in the west more than

The workers depend on the dealer to find jobs for them. The labor company will sign formal contracts with the dealers about the labor supply and the payment. In the contract, the dealers represent all the workers as a collective. But there are often no formal contracts between the dealers and the workers, as we see in Table 9. At the end of each construction project, or before the Spring Festival, the labor company gets the money from the construction company, that will pay the dealers, and then the dealers distribute the money to hired workers. It could a long period between when the workers start to work and when they get their money. To cover everyday expense, the workers borrow money from the dealers, and the borrowed part will be deducted from total due payment in the final settlement.

doubled[15]). Such radical increase was caused regionally for different reasons: in the east, dramatic growth was presumably caused by the developing labor shortage due to the deviation of migration routes to the central and western regions. In the central and western regions, radical increase might be attributed the labor demand caused by the direct impact of the stimulus package. From then on, growth pace of eastern and western provinces did not differ spatially, thus the size of income gap between the west and east stabilized. The pace of growth at the center remained the fastest throughout 2012, steadily narrowing the income gap between the eastern and the central regions.[16]

Table 14.

Average Monthly Income of Migrants and Growth by Regions (based on current and 2008 prices)

	2008	2009	2010	2011	2012
National Level (yuan)	1340	1427	1648	1895	2064
East	1352	1432	1653	1899	2061
Center	1275	1360	1591	1855	2035
West	1273	1388	1602	1841	2007
Real Growth (%):					
National Level		6.49	15.46	14.99	8.93
East		5.92	15.46	14.85	8.53
Center		6.63	17.03	16.62	9.66
West		9.01	15.42	14.91	9.02
Nominal Growth (%):					
All		5.75	19.27	21.24	11.76
East		5.18	19.27	21.05	11.35
Center		5.88	20.89	22.92	12.51
West		8.25	19.23	21.12	11.86

Note: nominal income figures from NBS Migrants Monitoring Reports, adjusted by CPI from NBS data to get real income and real growth rate
Source: NBS, China Migrants Monitoring Report 2009-2011

Not only income conditions but also social security conditions improved by 2010 and onwards, though still extremely low in every respect (Table 15). The highest coverage was experienced in the case of Accident insurance. There was a slight set-back during 2009 crisis period in pension, accident and medical insurance coverage. It contributed to this set-back that in 2009 the government, responding to the crisis, temporary suspended the

[15] The real income growth in 2009 was the fastest also by controlled CPI than in the other three years. The major differences between nominal and real income results may be revealed in 2010 and 2011. Using nominal income, growth rate in 2011 is higher than that of 2010, but in real terms it will reverse, referring to the higher inflation of wages in 2011 compared to 2010.
[16] The relative high income in construction and transportation could be a result of long working hours and also act as compensation of intensive work, bad working conditions, no social security and no contract security. If converted to hourly income, the workers in the two sectors may not enjoy such income advantages.

implementation of the new labor law. From 2010 just as in the case of incomes, security coverage increased steadily, incited by the emerging labor demand for migrants in 2010 due to the stimulus package.

Table 15.

Social Security Coverage by type (%)

	2008	2009	2010	2011	2012
Pension	9.8	7.6	9.5	13.9	14.3
Accident	24.1	21.8	24.1	23.6	24.0
Medical	13.1	12.2	14.3	16.7	16.9
Unemployment	3.7	3.9	4.9	8.0	8.4
Maternity	2.0	2.4	2.9	5.6	6.1

Note: summa number of migrants by security type = 100. The figures in the table above are the proportion of migrants whose employer provides them with different form of social security. We do not have here the ratio of those paying for themselves, or that of those paying shared with the employer, neither the ratio of those who do not have those types of security at all.
Source: NBS, China Migrants Monitoring Report 2009-2012

Regarding security coverage data by region (Table 16), the ratio of coverage was and remained much lower in both the center and the west than in the east reflecting the difference in economic and labor market developments. However, supposedly as a result of increased labor demand owing to recuperating export and improving export structure in the east, versus the attraction of migrants to the central and western regions and government policy, the rapid expansion of social security coverage occurred in all three regions in almost all kinds of securities between 2009 and 2012.[17] The ratio of those covered with accident insurance was the highest among all insurances, while that of maternity the lowest. Pension coverage, though lower in the west and central regions practically doubled everywhere, though still being very low: the highest percentage was in the east with 16 percent in 2012. The ratio of those covered by unemployment and maternity insurance also doubled during the period. Accident insurance also increased in all three regions by 2010, but either remained stagnant as in the western and eastern provinces from 2011, or declined as in the central region. Similar stagnation may be experienced in all three regions in 2011-2012 after a substantial growth by 2010. Growth of the ratio of those covered by different securities in

[17] In the largest city with high export ratio and GDP/capita the competition is for those with higher level education. A new regulation coming into effect in 2013 July 1 losened the criteria of the chances to receive local hukou for those in higher education. This policy will benefit migrant workers as they obtain the 120 points required by having a strong education background or professional skills, or doing jobs in fields that are urgently needed by the city enables the applicant to keep allocated farmland back in their hometown, while securing urban benefits in Shanghai.
http://news.xinhuanet.com/english/indepth/2013-06/19/c_124880812.htm. At the same time, owing to sluggish manufacturing export and rising labor costs, labor demand of small and medium sized enterprises declined in the major south east provinces forcing enterprises to decrease labor or even close down.

2010 is parallel with the increase of the rate of urban workers and migrants as well as the gradual recuperation of export/GDP, the increase in the rate of investment in manufacturing and presumably the increased labor demand owing to the response of the manufacturing sector to input needs of the prioritized construction sector that brought about massive labor demand and better job offers in 2010.[18]

Table 16.

Social Security Coverage: by Region, between 2009 and 2012 (%)

		Pension	Accident	Medical	Unempl.	Maternity
All	**2009**	7.6	21.8	12.2	3.9	2.3
	2010	9.5	24.1	14.3	4.9	2.9
	2011	13.9	23.6	16.7	8	5.6
	2012	14.3	24	16.9	8.4	6.1
East	**2009**	8.8	24.6	13.9	4.6	2.8
	2010	10.9	27	16.1	5.7	3.5
	2011	16.4	27	19.3	9.5	6.7
	2012	16.9	27.3	19.6	10	7.3
Center	**2009**	5.2	14.3	8.6	2.6	1.4
	2010	7.1	17.5	10.2	3.6	2.2
	2011	8.3	14.8	10.2	4.8	3.4
	2012	9.2	16.4	10.9	5.3	3.6
West	**2009**	4.2	15.7	7.4	2	1
	2010	5.5	17.5	10	2.9	1.3
	2011	8.3	17	11.1	4.5	2.8
	2012	8.3	17	11.3	4.9	3.2

Note: summa number of migrants by security type = 100% The figures in the table above are the proportion of migrants whose employer provides them with different form of social security. We do not have here the ratio of those paying for themselves, or that of those paying shared with the employer, neither the ratio of those who do not have those types of security at all.
Source: NBS, China Migrants Monitoring Report 2011-2012

Besides growing income and expanding social security, working conditions have improved also regarding working time (Table 17). We only have national level aggregated figures, unfortunately, neither regional nor sectoral differences may be uncovered from those. On national level, though the ratio of migrants working more than 5 days and more than 44 hours a week and more than 8 hours a day is overwhelming, ratios have visibly decreased from 2010 to 2011.

[18] Unfortunately we do not have disaggregated data on the regional dispersion of the first and second generation of migrants that would explain the higher education and higher demands of these latter responding to the changes in export structure.

Table 17.

Average Working Time of Migrants

	2009	2010	2011
Months per year		9.8	9.8
Days for Month	26	26.2	25.4
Hours per day	58.4h/week: 8.9	9.0	8.8
Proportion of migrants who work more than 5 days a week		86.4	83.5
Proportion of migrants who work more than 8 hours a day		49.3	42.4
Proportion of migrants who work more than 44 hours a week	89.8	90.7	84.5

Note: (No completely comparable working time information for 2009 and none for 2008) 8.9 = 26 days per month/4 weeks= 6.5 days per week, 58.4/6.5= 8.9
Source: NBS, China Migrants Monitoring Report 2009-2011

Crisis and economic development had an interesting impact on non-farm laborers and within those on migrants and their new generation. There is a radical improvement of education level among nonfarm laborers in 2011 in general, both compared to returning migrants in 2008 (more than double) and to the educational level of the new generation (Table 18).[19] Compared to this latter, the share of higher education among returned migrants was one third of that of the new generation.

Table 18.

Education Level of Nonfarm Rural Laborers 2011 (%)

	Nonfarm Rural Laborers	Local Nonfarm Laborers	Migrants			New generation Migrants
			Returning in 2008	2009	2011	
Illiterate	1.5	2.1	2.4	1.1	0.9	0.3
Primary school	14.4	18.4	14.8	10.6	10.7	5.9
Middle School	61.1	59.0	65.8	64.8	62.9	59.8
High School	13.2	13.9	11.1	13.1	12.7	14.5
Technical secondary school	4.5	3.2	4.0	10.4	5.8	8.6
Tertiary and higher education	5.3	3.4	2.0		7.0	10.9

Note: In 2009, education level of migrants does not separate Technical secondary school and Tertiary education and higher. The sum of these to level is 10.4
Source: NBS, 2008 Migrant survey, NBS, Migrants Monitoring Report 2009 and 2011

[19] Presumably sharp disparities stand behind the average data according to migration destinations and local development specifics, or the situation changed since the report of a survey carried out in 2006-2007 in in Guangzhou City and Bozhou rural areas. The primary migration motivation and reasons for migrants to relocate or change jobs. New generation interviewed in this survey did not migrate for work, did not remit money home, was tired from school, did not have longer-term purposes but to amuse themselves (Hu, 2012). Hu's conclusions are opposite that of Chiang at al.(2013)carried out 4 times between 2000 and 2009 about young generation in Gansu city. This survey suggest, that besides non-economic goals at both young woman and man they are also motivated by altruistic economic reasons for the sake of the family.

Meanwhile nonfarm rural workers' average age rose from 34 to 36. Age structure tended towards the increase of the ratio of those above 40 years from 30.0 percent in 2008 to 40.7 percent in 2012 (Table 19). Several explanations are possible: either the number of nonfarm rural laborers increased owing to increased labor demand and shortage of younger generation.

Table 19.

Age Structure of Nonfarm Rural Labor (%)

	2008	2009	2010	2011	2012
16-20	10.7	8.5	6.5	6.3	4.9
21-30	35.3	35.8	35.9	32.7	31.9
31-40	24.0	23.6	23.5	22.7	22.5
41-50	18.6	19.9	21.2	24.0	25.6
50+	11.4	12.2	12.9	14.3	15.1

Source: China's Migrants Monitoring Report 2009-2012

Increasing proportion of older generation suggests that new generation among migrants is increasingly scarce. New entrants educational structure improved, presumably increasing their wages in the labor market and contributing to the demand of more advanced production and export structure.

CONCLUSION

We have traced the impact of global crisis and the priorities of the stimulus package introduced in late 2008 on the characteristics of migrant flow in China. Our hypothesis was based on macro-level and regional level economic data. GDP and export data demonstrated substantial set-back in the 2008-2009 period and recuperation in the years after, while investment data reflected the impact of the stimulus package from 2009 onwards. Sectoral priorities of the stimulus package were revealed in the higher growth pace of the construction sector in 2009 compared to the crisis hit manufacturing. Regional level investment, credit and output growth compared to pre-crisis period demonstrated strong regional deviation or reinforced tendencies from the east towards the central and western regions according to regional priorities of the stimulus package. Also regional-sectoral investment growth in manufacturing and construction testified for the fulfillment of sectoral and regional priorities of the stimulus package. Regional level output by state owned enterprises and private enterprises show the prompt reaction of the market to input demands of the prioritized state owned sphere in both manufacturing and construction sectors. Our hypothesis based on the

above dynamics was that migrant flow would react sensitively to the crisis and to the sectoral, regional priorities of the stimulus package.

Results show that sensitivity to crisis and to the stimulus package priorities, though sectorally similar, is higher at migrant data than regarding general employment data. The crisis caused a temporary but dramatic set-back in migrant employment while the booming investments incited by the stimulus package increased labor demand well above the pre-crisis period. On the one hand, temporary set-back in migrant flow had regional character owing to coastal concentration of exports. On the other hand, stimulus package did restructure migrant routes of the pre-crisis period according to its regional and sectoral priorities. The regional priorities of the stimulus package reinforced the redirection of migrants away from the coast though keeping the east's majority share. Restructuring occurred also by the fact, that migrants in all regions increasingly chose to remain in their hukou province rather than migrating out of it. Thus, regional shift in migrant flow has shortened the distance of migration routes and destination both regionally and within provinces. Regional shift also incited radical overall wage growth and the narrowing of the wage gap among regions.

Also sectoral impact of the stimulus package on migration was revealed. The number of migrants decreased in manufacturing and increased in the prioritized construction. Labor demand and restructuring went parallel to decreasing income disparities among migrants not only regionally but also sectorally. Narrowing gap occurred, not only in the volume of wages but also in the increase of social securiy coverage, the decline of the ratio of those workers with no labor contract (though being the higherst in the construction sector) and the decrease of working hours. Based on indirect indicators we also suppose that that these developments were also influenced by the restructuring of industrial production and export during this period that requires higher skills and higher wages and develops labor shortage in this field. This is supposed to be reflected in the decreasing ratio of illiterates and that of those finishing primary and middle school to the advantage of those who ackquired high school, technical secondary school and higher education. This supposition is reinforced by parallel shift in age structure towards older migrant generation that increases new generation value.

Characteristics of migrant flow show several persistent features that may prove to be later temporary as migrants adapt to the dynamics of the impact of the stimulus package or or to a new stimulus with different sectoral and regional priorities. Signs of temporary character of so-far tendencies may be also detected: mobilization of the manufacturing sector as a reaction to prioritized input demands is attracting further migrant growth, and so do the reactions of the private sector, the growing labor demand of slowly recuperating export and new investments at coastal region.

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