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# An Empirical Study on Migration of College Graduates in China

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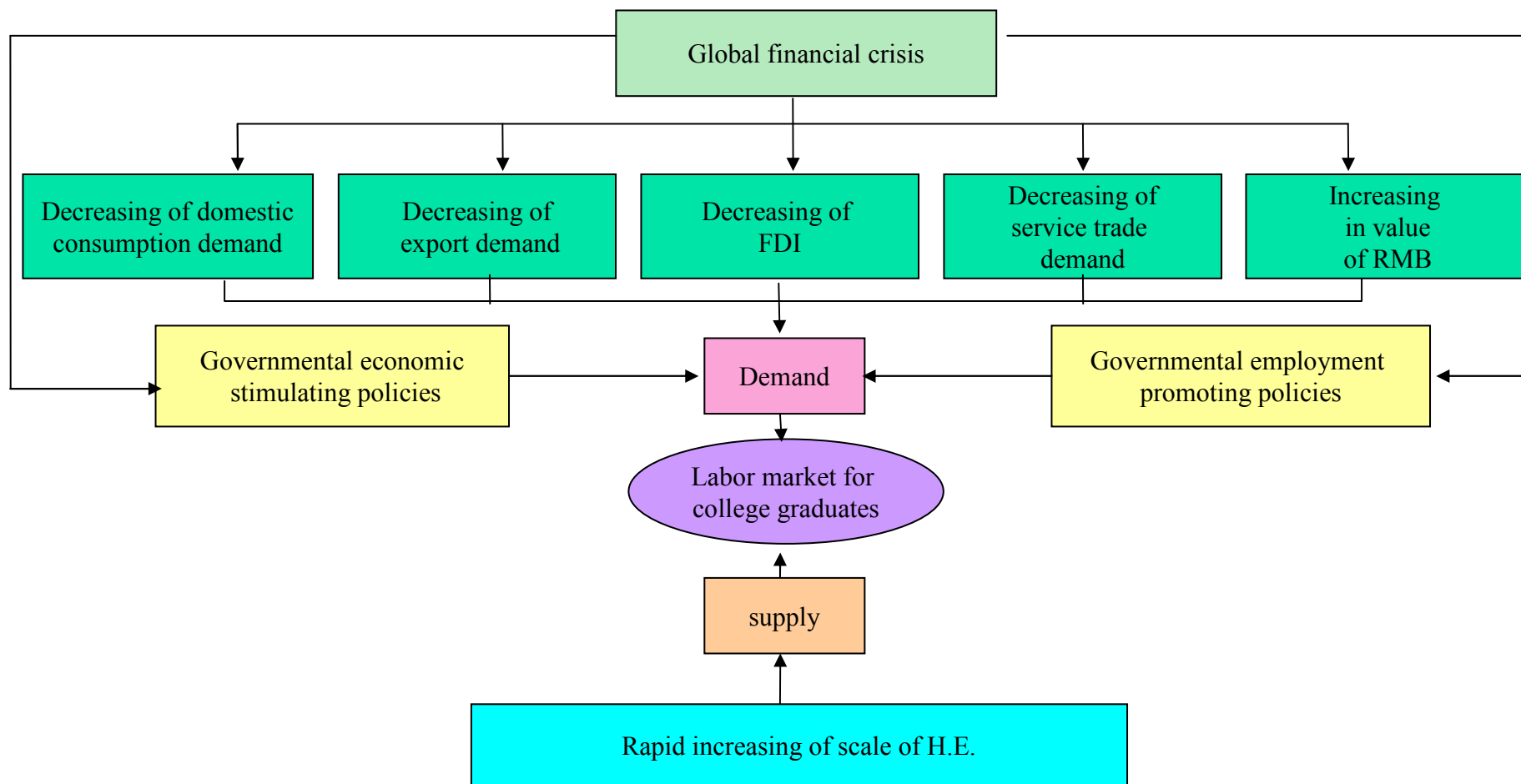
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- ◆ 2. employment status of college graduates
- ◆ 3. mobility status of college graduates
- ◆ 4. influencing factors on inter-province migration
- ◆ 5. the revenue of inter-province migration
- ◆ 6. conclusion



# 1. Analysis Structure





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## 2. Employment Status of College Graduates

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# Sample

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- ◆ Data Set:
  - Peking University, National Survey on College Graduates' Employment
- ◆ Time:
  - June 2009
- ◆ Scope:
  - 14 provinces; 28 higher education institutions; 21753 observations
- ◆ Method:
  - Contact with university directly, survey 500-1000 graduates for each university
- ◆ Questionnaire design:
  - 4 parts: basic information, job characteristics, job searching situation, educational performance



# Sample composition by region

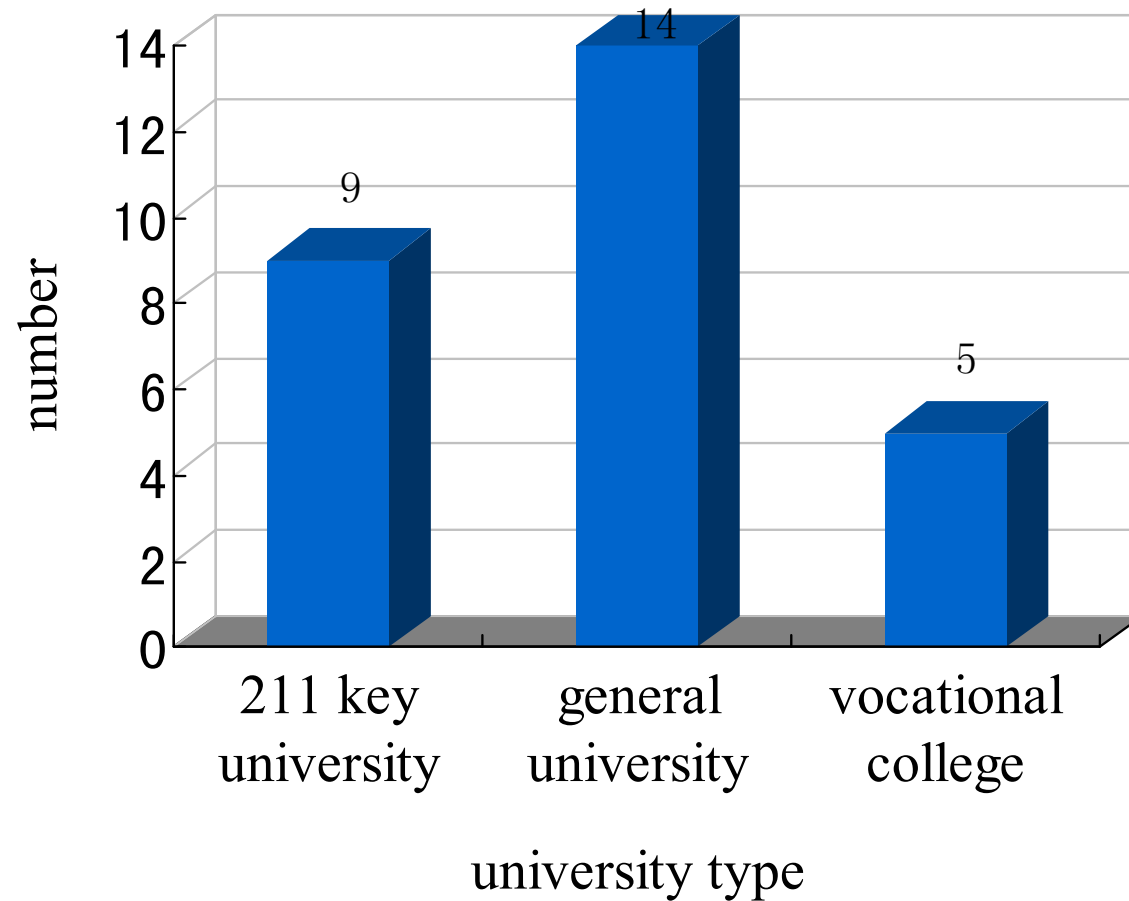
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- ◆ Eastern region (7)
  - Beijing, Tianjin, Hebei, Shandong, Jiangsu, Zhejiang, Hainan
- ◆ Central region (4)
  - Jilin, Heilongjiang, Shanxi, Henan
- ◆ Western region (3)
  - Guangxi, Guizhou, Xinjiang



# Sample composition by university type

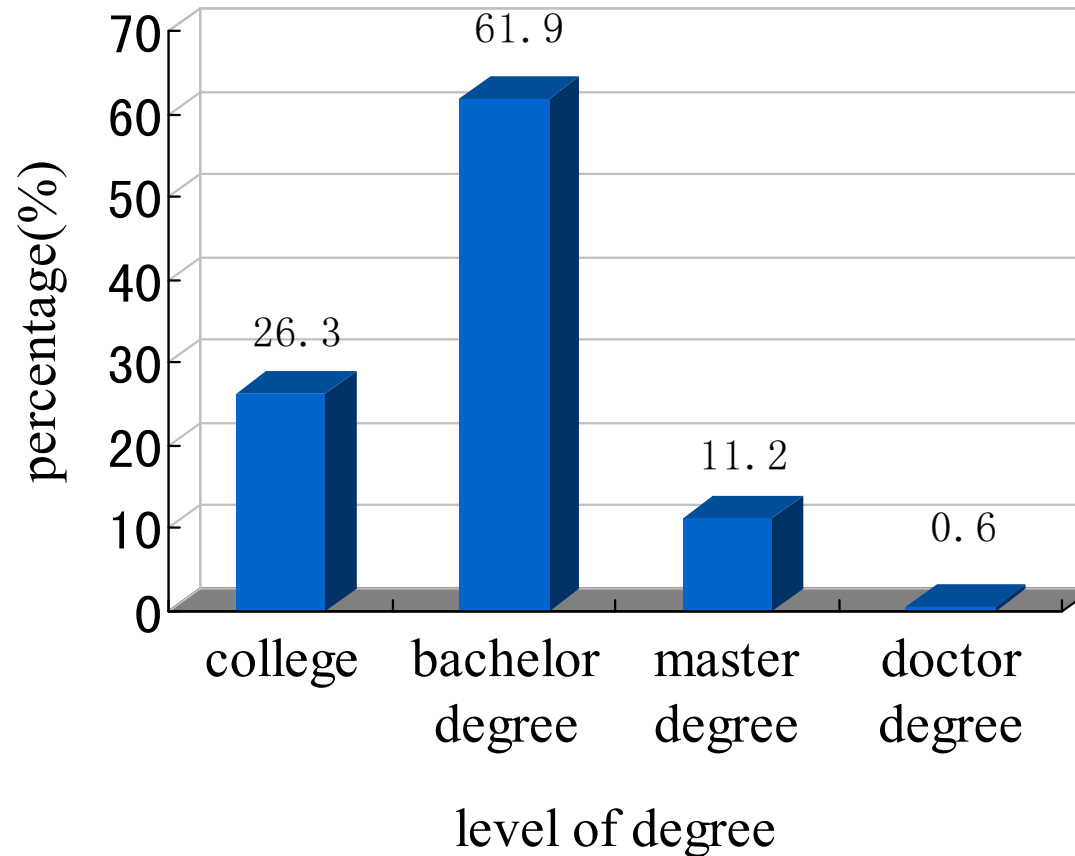
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# Sample composition by level of degree

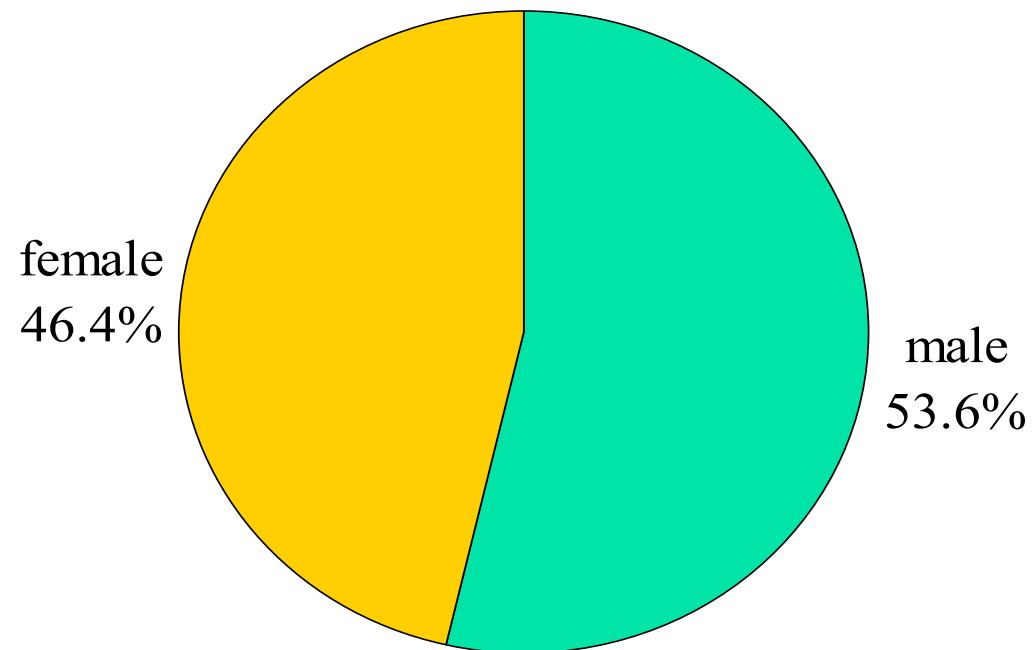
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# Sample composition by gender

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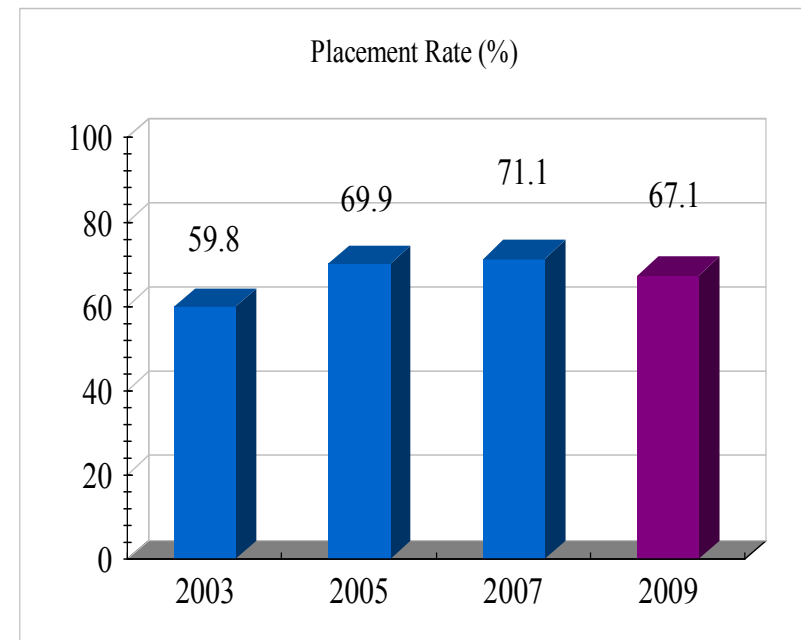
# Employment status of graduates (%)

| code | Status when surveyed                           | 2009 | 2007 | 2005 | 2003 |
|------|--|------|------|------|------|
| (1)  | have already signed labor contracts            | 34.5 | 40.4 | 33.7 | 31.9 |
| (2)  | have confirmed employers                       |      |      | 13.5 | 8.8  |
| (3)  | Refuse any job offers                          | 26.4 | 22.6 | 5.0  | 2.9  |
| (4)  | Waiting for interview results                  |      |      | 4.1  | 5.6  |
| (5)  | No job offering                                |      |      | 13.3 | 27.3 |
| (6)  | will start up their own enterprises            | 5.7  | 13.9 | 3.6  | 4.0  |
| (7)  | admission to graduate waived of entrance exams | 18.3 | 14.1 | 4.8  | 15.1 |
| (8)  | admission to graduate passing entrance exams   |      |      | 12.0 |      |
| (9)  | Go abroad                                      | 3.2  | 2.7  | 2.3  |      |
| (10) | Not apply jobs                                 | 2.2  | 5.3  | 4.8  | 1.7  |
| (11) | Other status                                   | 1.2  | 1.1  | 3.0  | 2.7  |



## A Significant Decline in Initial Placement Rate

- ◆ the proportions of university graduates who :
  - have already signed labor contracts,
  - have confirmed employers,
  - will start up their own enterprises,
  - attend graduate schools,
  - work or study abroad.

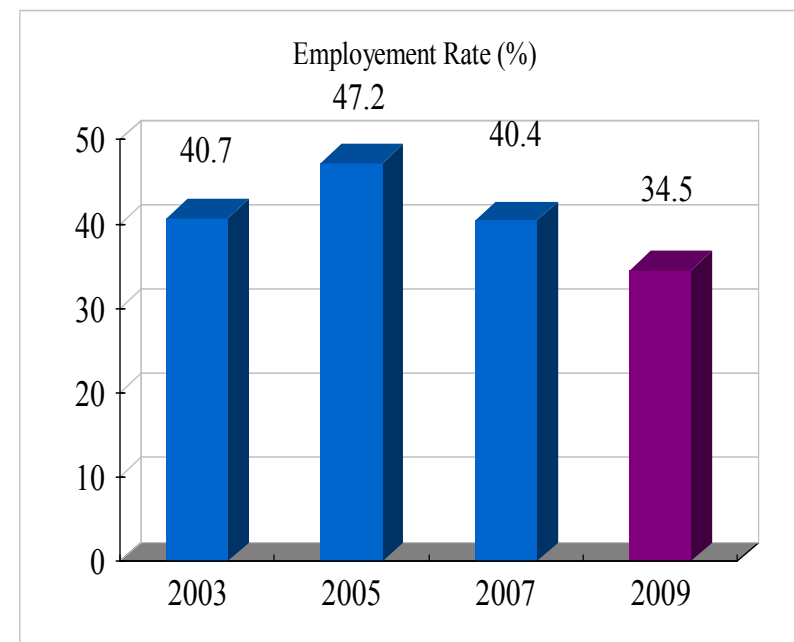


Data source: Peking University, National Survey of Graduating College Students



## A Significant Decline in Initial **Employment** Rate

- ◆ the proportions of university graduates who :
  - have already signed labor contracts.
  - have confirmed employers.



Data source: Peking University, National Survey of Graduating College Students



## Placement Rate by level of degree

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|                 | 2003 | 2005 | 2007 | 2009 |
|-----------------|------|------|------|------|
| College         | 33.8 | 56.5 | 70.3 | 66.3 |
| Bachelor degree | 75.7 | 72.1 | 69.6 | 67.2 |
| Master degree   | 89.1 | 82.5 | 82.8 | 67.6 |
| Doctor degree   | 74.6 | 77.2 | 85.8 | 73.8 |



## Starting salary by level degree (RMB Yuan)

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|                 | 2003 | 2005 | 2007 | 2009 |
|-----------------|------|------|------|------|
| College         | 1356 | 1413 | 1410 | 1510 |
| Bachelor degree | 1502 | 1618 | 1788 | 2276 |
| Master degree   | 3009 | 2790 | 3469 | 3637 |
| Doctor degree   | 3021 | 3035 | 3252 | 3757 |
| Total           | 1569 | 1659 | 1798 | 2331 |



## Employment Proportion by Location (%)

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| Location                    | 2003 | 2005 | 2007 | 2009 |
|-----------------------------|------|------|------|------|
| Large and medium-sized city | 76.6 | 70.7 | 80.2 | 83.7 |
| County                      | 17.1 | 21.9 | 14.1 | 12.1 |
| Township                    | 5.3  | 5.5  | 4.4  | 3.4  |
| village                     | 0.9  | 1.9  | 1.4  | 0.8  |



## Employment Proportion by Sectors (%)

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| Sector                     | 2003 | 2005 | 2007 | 2009 |
|----------------------------|------|------|------|------|
| Government Agencies        | 12.4 | 9.2  | 12.7 | 10.9 |
| Schools                    | 23.1 | 19.3 | 5.4  | 6.0  |
| Research Institutions      | 4.1  | 4.7  | 1.1  | 1.7  |
| State Owned Enterprises    | 34.5 | 29.7 | 23.5 | 34.5 |
| Foreign-Funded Enterprises | 8.3  | 9.5  | 9.5  | 6.8  |
| Private Enterprises        | 10.7 | 16.3 | 34.2 | 31.0 |
| Collective Enterprises     | 1.0  | 2.1  | 1.2  | 0.8  |
| Other Sectors              | 5.9  | 9.2  | 12.2 | 2.3  |



## Employment Proportion by Occupation (%)

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| Occupation                | 2003 | 2005 | 2007 | 2009 |
|---------------------------|------|------|------|------|
| Specialized technique     | 51.9 | 45.2 | 34.3 | 43.4 |
| Technique auxiliary       | 17.5 | 17.3 | 20.8 | 8.7  |
| Administration management | 14.0 | 14.8 | 17.7 | 14.1 |
| Administration management | 6.3  | 10.5 | 8.6  | 13.6 |
| Service section           | 6.5  | 6.5  | 11.4 | 9.6  |
| Industry worker           | 2.2  | 1.6  | 5.0  | 3.3  |
| Agriculture manufacture   | 0.2  | 0.4  | 0.1  | 0.8  |
| Other occupation          | 1.3  | 3.6  | 1.9  | 6.6  |



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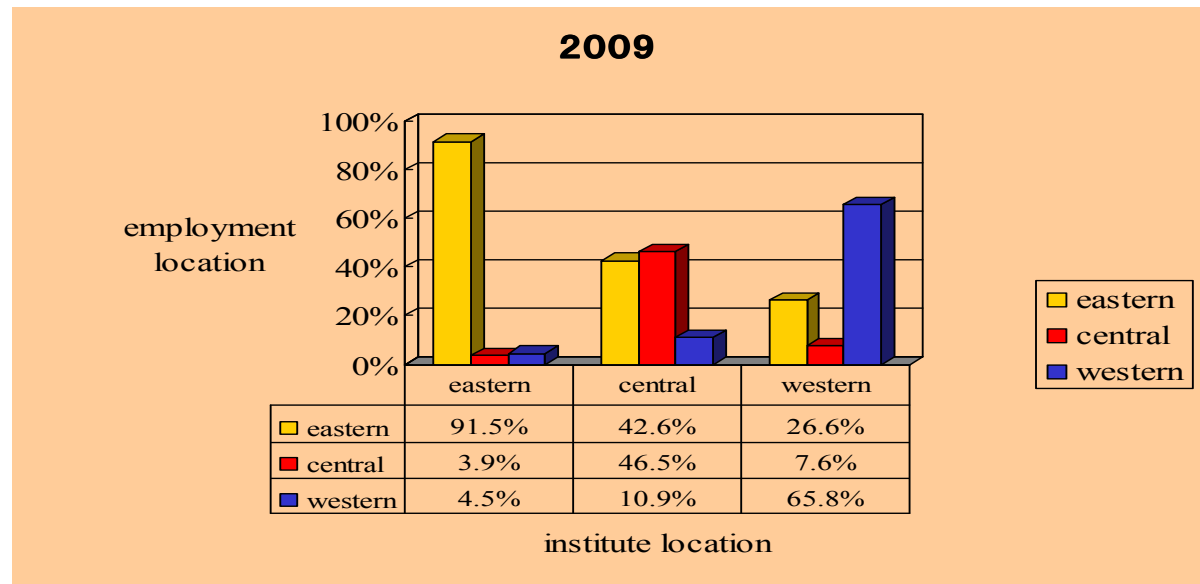
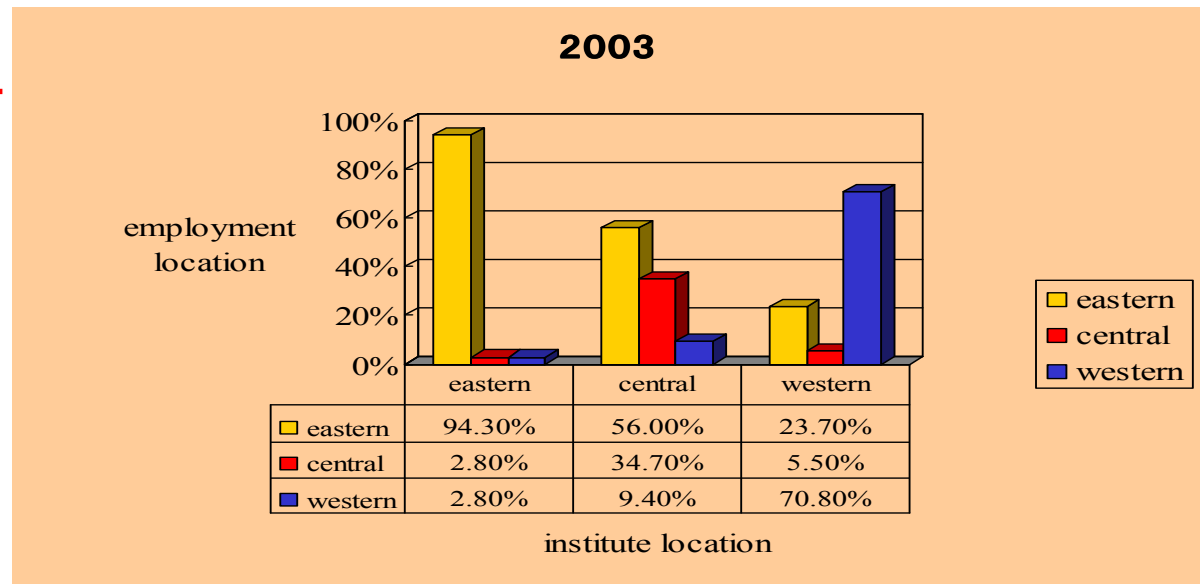
### 3. mobility status of college graduates

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# Mobility

- ◆ The pattern of employment location doesn't change between 2003 and 2009





# Migration type

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- ◆ 1. Repeat Migrant: In category 1, the Repeat Migrant moves away from the domicile area for higher education and then moves again on leaving university to enter employment in an area different from both the domicile and education areas.
- ◆ 2. Return Migrant: In category 2, the Return Migrant enters higher education in an area that is different from his/her domicile area but then returns to the domicile area to enter employment.
- ◆ 3. Sticker: In category 3, the Sticker moves away from the domicile region for higher education, but then stays in this same region for employment.
- ◆ 4. Late Mover: In category 4, the Late Mover remains in the domicile area for higher education but then moves away upon graduation to another region for employment.
- ◆ 5. Stayer: In category 5, the Stayer is the nonmigrant who enters higher education in the same area as his/her domicile and then subsequently enters into employment in the same area again.

Faggian, Alessandra, Philip McCann, Stephen Sheppard (2006), An analysis of ethnic differences in UK graduate migration behavior, *Journal of Regional Science*, 40:461-471



# Mobility

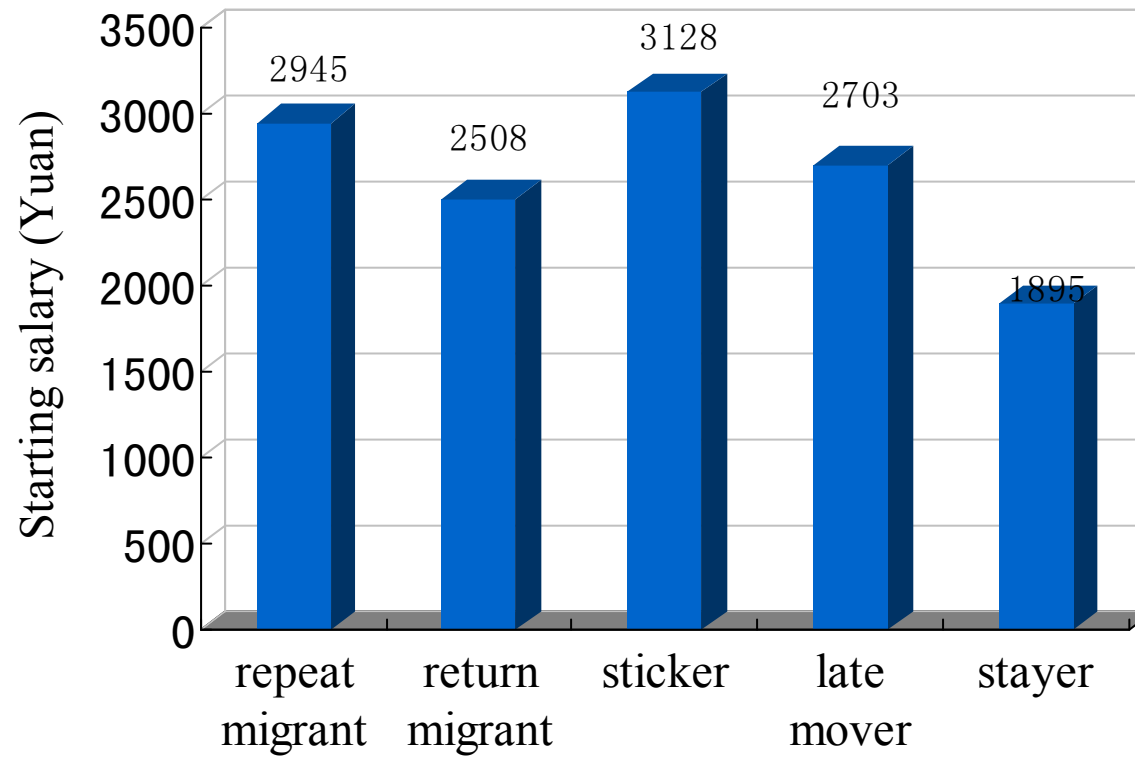
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|                | Frequency | Percent |
|----------------|-----------|---------|
| repeat migrant | 856       | 12.9    |
| return migrant | 674       | 10.2    |
| sticker        | 961       | 14.5    |
| late mover     | 546       | 8.2     |
| stayer         | 3592      | 54.2    |
|                | 6629      | 100.0   |



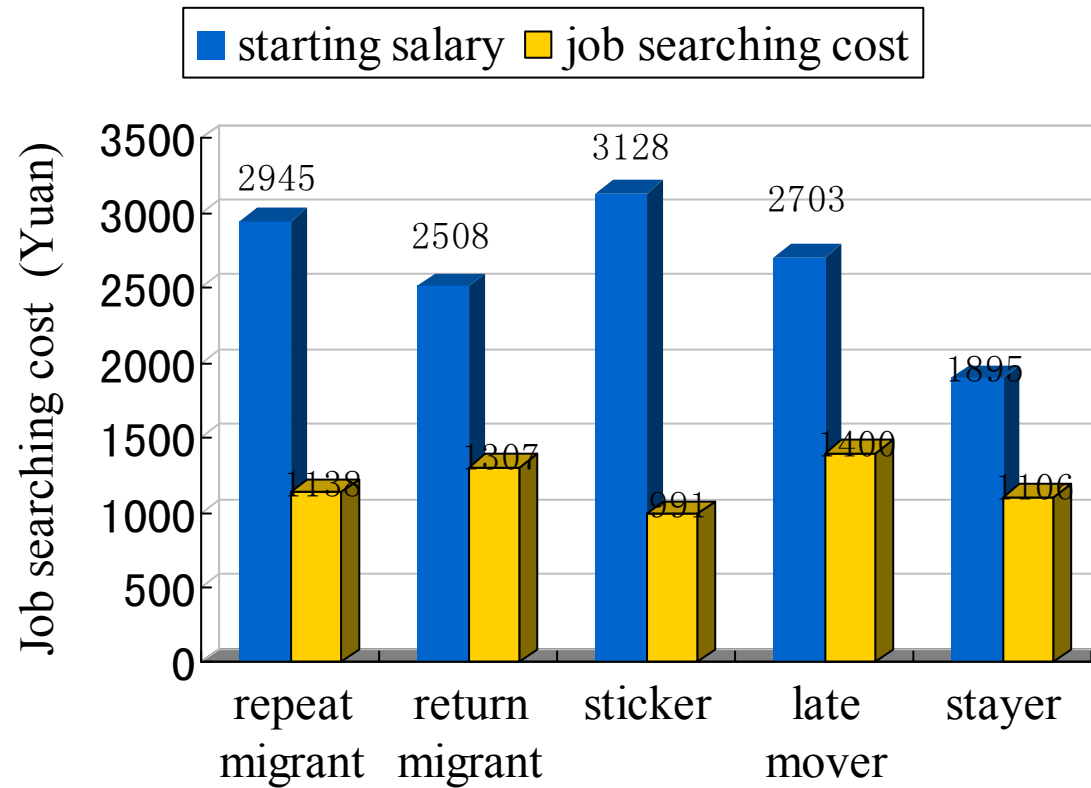
# Starting salary by migration type

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# Job searching cost by migration type





# Top 10 provinces by migration type

| rank | repeat migrant |       | return migrant |       | Sticker      |       | Late Mover |       | Stayer   |       |
|------|----------------|-------|----------------|-------|--------------|-------|------------|-------|----------|-------|
|      | Province       | Value | Province       | Value | Province     | Value | Province   | Value | Province | Value |
| 1    | Guangdong      | 20.8  | Zhejiang       | 9.8   | Beijing      | 69.1  | Beijing    | 19.9  | Shandong | 39.9  |
| 2    | Beijing        | 10.9  | Shandong       | 8.1   | Shandong     | 9.1   | Guangdong  | 16.6  | Beijing  | 13.4  |
| 3    | Shanghai       | 9.4   | Hebei          | 7.9   | Tianjin      | 5.0   | Jiangsu    | 9.9   | Hebei    | 12.1  |
| 4    | Zhejiang       | 5.7   | Guangdong      | 6.8   | Xinjiang     | 3.3   | Shanghai   | 8.8   | Zhejiang | 11.0  |
| 5    | Jiangsu        | 5.1   | Jiangsu        | 6.4   | Hainan       | 3.3   | Tianjin    | 6.1   | Jiangsu  | 6.8   |
| 6    | Sichuan        | 4.9   | Fujian         | 4.8   | Heilongjiang | 2.3   | Zhejiang   | 5.2   | Henan    | 4.9   |
| 7    | Tianjin        | 4.9   | Hubei          | 4.1   | Guangxi      | 1.8   | Shaanxi    | 5.0   | Guangxi  | 2.5   |
| 8    | Hebei          | 4.3   | Hunan          | 4.1   | Zhejiang     | 1.6   | Hebei      | 3.9   | Shanxi   | 2.4   |
| 9    | Liaoning       | 4.2   | Henan          | 3.7   | Hebei        | 1.5   | Liaoning   | 3.6   | Guizhou  | 2.1   |
| 10   | Shandong       | 4.2   | Sichuan        | 3.5   | Jiangsu      | .7    | Chongqing  | 3.3   | Tianjin  | 1.5   |



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## 4. influencing factors on inter-province migration

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# Regression equation

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$$\text{MLogit}(P) = \ln[P/(1-P)] = \alpha + \sum \beta_j X_j + \varepsilon$$



# Regression result: Repeat migrant

|                         | Beta   | S.E.  | Sig.  |
|-------------------------|--------|-------|-------|
| constant                | -6.774 | 1.044 | 0.000 |
| gender(male=1)          | 0.882  | 0.102 | 0.000 |
| minority(han=1)         | -0.451 | 0.176 | 0.011 |
| one child (one child=1) | -0.282 | 0.105 | 0.007 |
| undergraduate           | 0.976  | 0.263 | 0.000 |
| postgraduate            | 1.005  | 0.284 | 0.000 |
| 211 key university      | 3.765  | 0.408 | 0.000 |
| general university      | 1.868  | 0.403 | 0.000 |
| party member            | -0.015 | 0.095 | 0.873 |
| english certificate     | 0.101  | 0.133 | 0.446 |
| middle income           | 0.201  | 0.096 | 0.037 |
| high income             | -0.006 | 0.101 | 0.950 |
| social network          | -0.382 | 0.138 | 0.006 |
| father education        | 0.028  | 0.015 | 0.059 |
| emp. GRPPC              | 0.153  | 0.097 | 0.116 |

$R^2=0.409$



# Regression result: return migrant

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|                         | Beta   | S.E.  | Sig.  |
|-------------------------|--------|-------|-------|
| constant                | 7.14   | 1.041 | 0.000 |
| gender(male=1)          | 0.258  | 0.102 | 0.011 |
| minority(han=1)         | -0.003 | 0.193 | 0.988 |
| one child (one child=1) | 0.081  | 0.109 | 0.459 |
| undergraduate           | 1.296  | 0.271 | 0.000 |
| postgraduate            | 1.353  | 0.293 | 0.000 |
| 211 key university      | 2.213  | 0.325 | 0.000 |
| general university      | 0.831  | 0.318 | 0.009 |
| party member            | -0.053 | 0.101 | 0.600 |
| english certificate     | -0.039 | 0.129 | 0.764 |
| middle income           | 0.05   | 0.103 | 0.626 |
| high income             | 0.393  | 0.106 | 0.000 |
| social network          | 0.028  | 0.133 | 0.833 |
| father education        | 0.01   | 0.015 | 0.538 |
| emp. GRPPC              | -1.115 | 0.102 | 0.000 |



# Regression result: Sticker

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|                         |         |       |       |
|-------------------------|---------|-------|-------|
| constant                | -21.667 | 1.209 | 0.000 |
| gender(male=1)          | 0.124   | 0.091 | 0.176 |
| minority(han=1)         | -0.398  | 0.191 | 0.037 |
| one child (one child=1) | -0.434  | 0.102 | 0.000 |
| undergraduate           | 0.67    | 0.257 | 0.009 |
| postgraduate            | 1.205   | 0.274 | 0.000 |
| 211 key university      | 1.789   | 0.293 | 0.000 |
| general university      | 0.241   | 0.282 | 0.394 |
| party member            | 0.222   | 0.093 | 0.017 |
| english certificate     | -0.092  | 0.129 | 0.475 |
| middle income           | 0.043   | 0.094 | 0.646 |
| high income             | 0.024   | 0.096 | 0.805 |
| social network          | -0.776  | 0.141 | 0.000 |
| father education        | 0.045   | 0.015 | 0.002 |
| emp. GRPPC              | 1.795   | 0.115 | 0.000 |



# Regression result: Late mover

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|                         |         |       |       |
|-------------------------|---------|-------|-------|
| constant                | -10.078 | 1.277 | 0.000 |
| gender(male=1)          | 0.427   | 0.106 | 0.000 |
| minority(han=1)         | -0.542  | 0.208 | 0.009 |
| one child (one child=1) | -0.298  | 0.118 | 0.011 |
| undergraduate           | 0.629   | 0.234 | 0.007 |
| postgraduate            | 1.391   | 0.261 | 0.000 |
| 211 key university      | 0.518   | 0.269 | 0.054 |
| general university      | 0.183   | 0.247 | 0.460 |
| party member            | 0.034   | 0.108 | 0.750 |
| english certificate     | -0.25   | 0.127 | 0.049 |
| middle income           | 0.057   | 0.107 | 0.594 |
| high income             | -0.179  | 0.112 | 0.109 |
| social network          | -0.249  | 0.147 | 0.090 |
| father education        | 0.014   | 0.016 | 0.381 |
| emp. GRPPC              | 0.755   | 0.123 | 0.000 |



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## 5. the revenue of inter-province migration

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# Regression equation

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$$\text{Ln}(Y) = \alpha + \sum \beta_j X_j + \varepsilon$$

Y: starting salary



# Regression result

|                         | Beta   | Std. Error | Std. Beta | t      | Sig.  |
|-------------------------|--------|------------|-----------|--------|-------|
| constant                | 4.559  | 0.179      |           | 25.419 | 0.000 |
| repeat migrant          | 0.202  | 0.025      | 0.103     | 8.026  | 0.000 |
| return migrant          | 0.062  | 0.013      | 0.057     | 4.647  | 0.000 |
| sticker                 | 0.100  | 0.025      | 0.053     | 4.051  | 0.000 |
| late mover              | 0.186  | 0.028      | 0.077     | 6.604  | 0.000 |
| gender(male=1)          | 0.089  | 0.015      | 0.067     | 5.790  | 0.000 |
| minority(han=1)         | -0.004 | 0.032      | -0.001    | -0.131 | 0.896 |
| one child (one child=1) | 0.042  | 0.017      | 0.030     | 2.486  | 0.013 |
| undergraduate           | 0.210  | 0.034      | 0.158     | 6.212  | 0.000 |
| postgraduate            | 0.552  | 0.039      | 0.319     | 14.239 | 0.000 |
| 211 key university      | 0.267  | 0.039      | 0.195     | 6.900  | 0.000 |
| general university      | -0.024 | 0.035      | -0.018    | -0.697 | 0.486 |
| party member            | 0.052  | 0.016      | 0.039     | 3.295  | 0.001 |
| english certificate     | 0.034  | 0.019      | 0.020     | 1.789  | 0.074 |
| middle income           | -0.027 | 0.015      | -0.020    | -1.774 | 0.076 |
| high income             | 0.107  | 0.016      | 0.079     | 6.654  | 0.000 |
| social network          | 0.035  | 0.021      | 0.020     | 1.692  | 0.091 |
| father education        | 0.010  | 0.002      | 0.053     | 4.318  | 0.000 |
| emp. GRPPC              | 0.223  | 0.017      | 0.158     | 12.755 | 0.000 |



## 6. conclusion

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1. 54.2% of graduates are stayers.
2. it still retains the trend of migration from interior area to coastal area.
3. The economy development level is the key factor for repeat migrants, stickers and late migrants (but not return movers). Their main destinations are Beijing, Shanghai, Tianjin, Guangdong, Jiangsu and Zhejiang.
4. individual personal characteristics and individual human capital variables are main factors influencing migration.
5. The starting salaries of repeat migrant, late mover, sticker and return migrant are greater significantly than that of stayer.



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Thanks!

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