

## Appendix (Not for Publication)

### A. About matching different data sets

We match the NBS and the ODI data by firm names. In particular, firms with identical names in both dataset or with slight variations in their names, such as a bracket or an abbreviation, were linked together. During the matching process, we encounter several cases that we test separately, here is the summary:

1. subsidiary : means one company is the other one's subsidiary company (子公司).
2. location: means the names of two companies are the same, but they are in different places. For example, 恒基光伏□力科技股份有限公司 and 浙江恒基光伏□力科技股份有限公司 should be the same, and the latter indicates the location "浙江".
3. word: The two companies' names are the same except for a tiny difference. For example, "小□士天津□□□展股份有限公司" and "天津小□士□□□展股份有限公司" are very likely to be the same.
4. stock: one of the company is Joint Stock Limited Liability Company and the other one is Limited Liability Company.
5. group: One of the company is the name of a Group Corporations Co Ltd, the other one belongs to this group.
6. new: One is ABC company, but the other one's name is new ABC company. For example, 宁波新海太塑料机械有限公司 and 宁波海太塑料机械有限公司 might be the same company.
7. two of the companies are subsidiary companies of a same company or belong to a same group Group Corporations Co Ltd.
8. Plant: one company is one of the plants of the other company.

## B. Different types of traded goods

- We use the UN BEC list of capital goods (at the HS6 level) to identify any imports and exports of capital good. Then we use that to compute the share of value of capital goods in total export (and import) value.
- For raw material, we use the WB's WITS classifications ([http://wits.worldbank.org/wits/data\\_details.html](http://wits.worldbank.org/wits/data_details.html)) under HS Standard Product Groups and the listing of raw materials (WTO-SoP1: Raw materials). We use the concordance from the UN to match each SITC3 to unique HS1 and HS2.
- For labor intensity of industries, we use UNCTAD's definition (<http://unctadstat.unctad.org/UnctadStatMetadata/Classifications/Methodology&Classifications.html>) under SITC Revision 3. The first category is labor-intensive. We use the concordance from the UN to match each SITC3 to unique HS1 and HS2.

## Appendix C. Additional Results

**Table A1. Industry Breakdown**

| Industry                                | Freq. | Percent |
|---|-------|---------|
| Business Services                       | 2,816 | 0.289   |
| Wholesale Trade                         | 2,419 | 0.248   |
| Building and civil engineering          | 285   | 0.029   |
| Nonferrous Metals Mining and Dressing   | 212   | 0.022   |
| Nonmetal Mineral Products               | 202   | 0.021   |
| Garments, shoes and caps manufacturing  | 189   | 0.019   |
| Forestry                                | 181   | 0.019   |
| Real Estate                             | 169   | 0.017   |
| Electric Equipment and Machinery        | 162   | 0.017   |
| R&D                                     | 159   | 0.016   |
| Geologic Prospecting                    | 157   | 0.016   |
| Other financial activities              | 143   | 0.015   |
| Metal Products                          | 135   | 0.014   |
| Retail trade                            | 122   | 0.013   |
| Transport Equipment                     | 118   | 0.012   |
| Food Production                         | 106   | 0.011   |
| Water way transport                     | 101   | 0.010   |
| Agriculture                             | 86    | 0.009   |
| Ordinary Machinery                      | 86    | 0.009   |
| Software                                | 84    | 0.009   |
| Plastic Products                        | 82    | 0.008   |
| Professional and technical services     | 82    | 0.008   |
| Timber Processing, Bamboo, Cane, Palm F | 82    | 0.008   |
| Food Processing                         | 77    | 0.008   |
| Textile Industry                        | 75    | 0.008   |
| Telecom and other information transmiss | 67    | 0.007   |
| Securities                              | 61    | 0.006   |
| Leather, Furs, Down and Related Product | 58    | 0.006   |
| Medical and Pharmaceutical Products     | 57    | 0.006   |
| Raw Chemical Materials and Chemical Pro | 57    | 0.006   |
| Telecom, computer and other electronic  | 57    | 0.006   |
| Ferrous Metals Mining and Dressing      | 55    | 0.006   |
| Cultural, Educational and Sports Goods  | 53    | 0.005   |
| Instruments, Meters, Cultural and Cleri | 48    | 0.005   |
| Waste materials recycling and reprocess | 48    | 0.005   |
| Catering                                | 47    | 0.005   |
| Smelting and Pressing of Ferrous Metals | 44    | 0.005   |
| Computer services                       | 42    | 0.004   |
| Special Purposes Equipment              | 42    | 0.004   |
| Smelting and Pressing of Nonferrous Met | 41    | 0.004   |
| Art & Craft and Other Manufacturing     | 34    | 0.003   |

|   |              |          |
|---|--------------|----------|
| Other services                          | 34           | 0.003    |
| Building installation                   | 33           | 0.003    |
| Science & technology exchange and promo | 33           | 0.003    |
| Petroleum and Natural Gas Extraction    | 32           | 0.003    |
| Nonmetal Minerals Mining and Dressing   | 29           | 0.003    |
| Fishing                                 | 28           | 0.003    |
| Furniture Manufacturing                 | 26           | 0.003    |
| Rubber Products                         | 25           | 0.003    |
| Air transport                           | 22           | 0.002    |
| Papermaking and Paper Products          | 22           | 0.002    |
| Leasing                                 | 20           | 0.002    |
| Railway transport                       | 18           | 0.002    |
| Chemical Fiber                          | 17           | 0.002    |
| Building decoration                     | 15           | 0.002    |
| Loading & unloading and carrying, and o | 15           | 0.002    |
| Animal husbandry                        | 14           | 0.001    |
| Beverage Production                     | 13           | 0.001    |
| Hotels                                  | 13           | 0.001    |
| Services to Households                  | 13           | 0.001    |
| Storage                                 | 13           | 0.001    |
| Culture and art                         | 12           | 0.001    |
| Highway transport                       | 12           | 0.001    |
| Production and Supply of Power, Steam a | 11           | 0.001    |
| Services for agriculture, forestry, ani | 10           | 0.001    |
| Urban public transport                  | 10           | 0.001    |
| Education                               | 9            | 0.001    |
| Other construction                      | 9            | 0.001    |
| Banking                                 | 7            | 0.001    |
| Broadcasting, television, film and audi | 7            | 0.001    |
| Health                                  | 7            | 0.001    |
| News and publishing industry            | 7            | 0.001    |
| Petroleum Refining, Coking, and nuclear | 7            | 0.001    |
| Printing and Record Medium Reproduction | 7            | 0.001    |
| Tobacco Processing and production       | 7            | 0.001    |
| Post                                    | 6            | 0.001    |
| Entertainment industry                  | 5            | 0.001    |
| Production and Supply of Water          | 5            | 0.001    |
| Production and Supply of Gas            | 4            | 0.000    |
| Coal Mining and Processing              | 3            | 0.000    |
| Pipeline transport                      | 3            | 0.000    |
| Sports                                  | 3            | 0.000    |
| Management of Public Facilities         | 2            | 0.000    |
| Management of environment               | 2            | 0.000    |
| Other                                   | 13           | 0.001    |
| <b>Total</b>                            | <b>9,744</b> | <b>1</b> |

Industry classification is based on NBS 4-digit code.

**Table A2. Distribution across Provinces**

| Province            | Freq. | Percent | Cum.  |
|---------------------|-------|---------|-------|
| Zhejiang            | 1,993 | 20.45   | 20.45 |
| Shandong            | 996   | 10.22   | 30.68 |
| Jiangsu             | 938   | 9.63    | 40.3  |
| Guangdong           | 920   | 9.44    | 49.74 |
| Central Enterprises | 568   | 5.83    | 55.57 |
| Shanghai            | 508   | 5.21    | 60.79 |
| Beijing             | 489   | 5.02    | 65.8  |
| Fujian              | 410   | 4.21    | 70.01 |
| Liaoning            | 341   | 3.5     | 73.51 |
| Heilongjiang        | 302   | 3.1     | 76.61 |
| Hunan               | 295   | 3.03    | 79.64 |
| Tianjin             | 253   | 2.6     | 82.24 |
| Yunnan              | 201   | 2.06    | 84.3  |
| Henan               | 171   | 1.75    | 86.05 |
| Hebei               | 170   | 1.74    | 87.8  |
| Jilin               | 164   | 1.68    | 89.48 |
| Sichuan             | 159   | 1.63    | 91.11 |
| Guangxi             | 139   | 1.43    | 92.54 |
| Xinjiang            | 123   | 1.26    | 93.8  |
| Anhui               | 103   | 1.06    | 94.86 |
| Chongqing           | 95    | 0.97    | 95.83 |
| Jiangxi             | 89    | 0.91    | 96.75 |
| Hubei               | 73    | 0.75    | 97.5  |
| Shaanxi             | 73    | 0.75    | 98.25 |
| Shanxi              | 72    | 0.74    | 98.98 |
| Gansu               | 35    | 0.36    | 99.34 |
| Hainan              | 28    | 0.29    | 99.63 |
| Ningxia             | 13    | 0.13    | 99.76 |
| Guizhou             | 12    | 0.12    | 99.89 |
| Qinghai             | 9     | 0.09    | 99.98 |
| Xizang              | 2     | 0.02    | 100   |
| Total               | 9,744 | 100     |       |

**Table A3. Number of OFDI Firms by Ownership Type**

| Year | State-owned | Domestic Private | Foreign |
|------|-------------|------------------|---------|
| 1998 | 0           | 0                | 0       |
| 1999 | 0           | 0                | 0       |
| 2000 | 0           | 3                | 2       |
| 2001 | 2           | 2                | 1       |
| 2002 | 0           | 28               | 1       |
| 2003 | 4           | 22               | 3       |
| 2004 | 2           | 39               | 13      |
| 2005 | 20          | 273              | 82      |
| 2006 | 21          | 366              | 79      |
| 2007 | 23          | 366              | 93      |
| 2008 | 12          | 335              | 79      |
| 2009 | 26          | 336              | 110     |

Source: PRC's Ministry of Commerce OFDI Data.

**Table A4.1: Breakdown of industries by NBS classifications of NBS-OFDI dataset:**

| Sector             | Freq. | Percent |
|--------------------|-------|---------|
| Manufacturing      | 2,544 | 98.76   |
| Mining             | 19    | 0.74    |
| Power, Gas & Water | 13    | 0.5     |

**Table A4.2: Breakdown of industries by OFDI assigned classifications of customs-OFDI dataset:**

| Industry  | Freq. | Percent | Cum.  |
|---|-------|---------|-------|
| 74 Business Services  | 718   | 39.56   | 39.56 |
| 63 Wholesale Trade  | 421   | 23.2    | 62.75 |
| 18 Garments, shoes and caps manufacturing                         | 46    | 2.53    | 65.29 |
| 47 Building and civil engineering                                 | 45    | 2.48    | 67.77 |
| 31 Nonmetal Mineral Products                                      | 32    | 1.76    | 69.53 |
| 39 R&D  | 31    | 1.71    | 71.24 |
| 75 Electric Equipment and Machinery                               | 31    | 1.71    | 72.95 |
| 65 Retail trade   | 28    | 1.54    | 74.49 |
| 14 Food Production  | 25    | 1.38    | 75.87 |
| 34 Metal Products   | 23    | 1.27    | 77.13 |
| 19 Transport Equipment  | 22    | 1.21    | 78.35 |
| 37 Leather, Furs, Down and Related Products                       | 22    | 1.21    | 79.56 |
| 30 Plastic Products   | 20    | 1.1     | 80.66 |
| 60 Telecom and other information transmission                     | 19    | 1.05    | 81.71 |
| 24 Cultural, Educational and Sports Goods                         | 18    | 0.99    | 82.7  |
| 2 Forestry  | 17    | 0.94    | 83.64 |
| 20 Timber Processing, Bamboo, Cane, Palm Fiber and Straw Products | 17    | 0.94    | 84.57 |
| 35 Ordinary Machinery   | 17    | 0.94    | 85.51 |
| 9 Nonferrous Metals Mining and Dressing                           | 16    | 0.88    | 86.39 |
| 17 Textile Industry   | 15    | 0.83    | 87.22 |
| 40 Telecom, computer and other electronic equipment               | 14    | 0.77    | 87.99 |
| 78 Geologic Prospecting   | 14    | 0.77    | 88.76 |
| 41 Instruments, Meters, Cultural and Clerical Machinery           | 13    | 0.72    | 89.48 |
| 13 Food Processing  | 12    | 0.66    | 90.14 |
| 71 Other financial activities                                     | 11    | 0.61    | 90.74 |
| 1 Agriculture   | 10    | 0.55    | 91.29 |
| 36 Special Purposes Equipment                                     | 10    | 0.55    | 91.85 |
| 26 Raw Chemical Materials and Chemical Products                   | 9     | 0.5     | 92.34 |
| 27 Medical and Pharmaceutical Products                            | 9     | 0.5     | 92.84 |
| 72 Real Estate  | 8     | 0.44    | 93.28 |
| 76 Professional and technical services                            | 8     | 0.44    | 93.72 |
| 8 Software  | 7     | 0.39    | 94.1  |
| 29 Water way transport  | 7     | 0.39    | 94.49 |

|             |  |       |      |       |
|-------------|--|-------|------|-------|
| 32          | Rubber Products  | 7     | 0.39 | 94.88 |
| 54          | Smelting and Pressing of Ferrous Metals                          | 7     | 0.39 | 95.26 |
| 62          | Ferrous Metals Mining and Dressing                               | 7     | 0.39 | 95.65 |
| 22          | Papermaking and Paper Products                                   | 6     | 0.33 | 95.98 |
| 33          | Waste materials recycling and reprocessing                       | 6     | 0.33 | 96.31 |
| 43          | Smelting and Pressing of Nonferrous Metals                       | 6     | 0.33 | 96.64 |
| 69          | Securities   | 6     | 0.33 | 96.97 |
| 83          | Other services   | 5     | 0.28 | 97.25 |
| 4           | Services to Households   | 4     | 0.22 | 97.47 |
| 42          | Fishing  | 4     | 0.22 | 97.69 |
| 61          | Computer services  | 4     | 0.22 | 97.91 |
| 82          | Art & Craft and Other Manufacturing                              | 4     | 0.22 | 98.13 |
| 7           | Building installation  | 3     | 0.17 | 98.29 |
| 21          | Science & technology exchange and promotion services             | 3     | 0.17 | 98.46 |
| 28          | Furniture Manufacturing  | 3     | 0.17 | 98.62 |
| 48          | Catering   | 3     | 0.17 | 98.79 |
| 58          | Chemical Fiber   | 3     | 0.17 | 98.95 |
| 67          | Storage  | 3     | 0.17 | 99.12 |
| 77          | Petroleum and Natural Gas Extraction                             | 3     | 0.17 | 99.28 |
| 10          | Highway transport  | 2     | 0.11 | 99.39 |
| 16          | Nonmetal Minerals Mining and Dressing                            | 2     | 0.11 | 99.5  |
| 52          | Tobacco Processing and production                                | 2     | 0.11 | 99.61 |
| 5           | Loading & unloading and carrying, and other transport            | 1     | 0.06 | 99.67 |
| 15          | Air transport  | 1     | 0.06 | 99.72 |
| 55          | Post   | 1     | 0.06 | 99.78 |
| 57          | Leasing  | 1     | 0.06 | 99.83 |
| 59          | Beverage Production  | 1     | 0.06 | 99.89 |
| 73          | Culture and art  | 1     | 0.06 | 99.94 |
| 90          | Services for agriculture, forestry, animal husbandry and fishing | 1     | 0.06 | 100   |
| <hr/> Total |  | 1,815 | 100  |       |



**Table A5: Success Rates of Matching between ODI and Customs Data, and ODI and Manufacturing Survey Data**

| year    | NBS matches | Customs matches export | Customs matches import |
|---------|-------------|------------------------|------------------------|
| 1998    | 0.16        |                        |                        |
| 1999    | 0.11        |                        |                        |
| 2000    | 0.35        | 0.01                   | 0.01                   |
| 2001    | 0.29        | 0.01                   | 0.01                   |
| 2002    | 0.55        | 0.06                   | 0.06                   |
| 2003    | 0.47        | 0.05                   | 0.05                   |
| 2004    | 0.32        | 0.09                   | 0.08                   |
| 2005    | 0.47        | 0.39                   | 0.37                   |
| 2006    | 0.44        | 0.41                   | 0.42                   |
| 2007    | 0.39        |                        |                        |
| 2008    | 0.34        |                        |                        |
| 2009    | 0.27        |                        |                        |
| Average | 0.35        | 0.15                   | 0.14                   |

**Table A6. ODI Effects on Export Performance (FE Regressions)**

| <b>All firms (OFDI = 0 for non-OFDI firms and obs before OFDI)</b> |                     |                  |                     |                    |
|--|---------------------|------------------|---------------------|--------------------|
| <b>Sample</b>  |                     |                  |                     |                    |
| <b>Dependent Var:</b>  | Exp total value     | Exp unit val     | # of Exp HS6        | Exp # of country   |
| OFDI   | 0.017<br>(0.069)    | 0.103<br>(0.057) | 0.079**<br>(0.027)  | 0.067**<br>(0.023) |
| Firm FE  | Yes                 | Yes              | Yes                 | Yes                |
| Year FE  | Yes                 | Yes              | Yes                 | Yes                |
| R-squared  | 0.727               | 0.806            | 0.839               | 0.838              |
| Nb of Obs  | 717355              | 717355           | 751589              | 751588             |
| <b>Dependent Var:</b>  | Imp total value     | Imp unit val     | Imp # of hs6 value  | Imp # of country   |
| OFDI   | 0.630***<br>(0.074) | 0.047<br>(0.083) | 0.301***<br>(0.034) | 0.064*<br>(0.030)  |
| Firm FE  | Yes                 | Yes              | Yes                 | Yes                |
| Year FE  | Yes                 | Yes              | Yes                 | Yes                |
| R-squared  | 0.826               | 0.795            | 0.835               | 0.716              |
| Nb of Obs  | 659392              | 659392           | 659392              | 677740             |

ODI = 1 for all firm-years when and after a firm reported overseas investment. All dependent variables are logged. All custom firms and treated firms prior to OFDI are included in the control group. Robust standard errors reported in brackets.

\* p<0.05; \*\* p<0.01; \*\*\* p<0.001.

**Table A7. Balancing Test of Matching ODI and non-ODI (NBS Sample)**

| Variable           | Sample    | Mean    |         | %reduct |      | t-test |              |
|--------------------|-----------|---------|---------|---------|------|--------|--------------|
|                    |           | Treated | Control | %bias   | bias | t      | p>t          |
| Expport intensity  | Unmatched | 0.441   | 0.202   | 62.1    |      | 21.89  | <b>0.000</b> |
|                    | Matched   | 0.441   | 0.443   | -0.6    | 99.1 | -0.05  | 0.962        |
| Ln Employment      | Unmatched | 5.722   | 4.703   | 85.8    |      | 32.65  | <b>0.000</b> |
|                    | Matched   | 5.716   | 5.736   | -1.7    | 98.1 | -0.01  | 0.989        |
| Capital intensity  | Unmatched | 0.217   | 0.204   | 8.5     |      | 2.78   | <b>0.000</b> |
|                    | Matched   | 0.217   | 0.213   | 2.9     | 65.4 | 0.34   | 0.735        |
| Material intensity | Unmatched | -0.248  | -0.279  | 11.4    |      | 3.2    | <b>0.001</b> |
|                    | Matched   | -0.248  | -0.262  | 5.1     | 55   | 0.21   | 0.834        |
| TFP                | Unmatched | 6.258   | 5.477   | 72.3    |      | 26.02  | <b>0.000</b> |
|                    | Matched   | 6.254   | 6.298   | -4.1    | 94.4 | 0.03   | 0.976        |
| SOE                | Unmatched | 0.252   | 0.176   | 18.5    |      | 6.64   | <b>0.000</b> |
|                    | Matched   | 0.251   | 0.244   | 1.8     | 90   | 0.13   | 0.893        |
| HKMT               | Unmatched | 0.133   | 0.128   | 1.3     |      | 0.45   | 0.653        |
|                    | Matched   | 0.133   | 0.134   | -0.3    | 74.3 | -0.01  | 0.99         |
| Foreign            | Unmatched | 0.169   | 0.119   | 14.4    |      | 5.23   | <b>0.000</b> |
|                    | Matched   | 0.169   | 0.176   | -2      | 86.1 | -0.46  | 0.643        |

**Table A8. Balancing Test of Matching ODI and non-ODI (Customs Sample)**

| Variable     | Sample    | Mean    |         | %bias  | %reduct<br>bias | t-test |              |
|--------------|-----------|---------|---------|--------|-----------------|--------|--------------|
|              |           | Treated | Control |        |                 | t      | p>t          |
| Import share | Unmatched | 0.280   | 0.404   | -41.6  |                 | -10.36 | <b>0.000</b> |
|              | Matched   | 0.280   | 0.283   | -1.1   | 97.4            | -0.19  | 0.85         |
| Export       | Unmatched | 15.324  | 13.467  | 76.9   |                 | 18.63  | <b>0.000</b> |
|              | Matched   | 15.324  | 15.261  | 2.6    | 96.6            | 0.48   | 0.629        |
| SOE          | Unmatched | 0.329   | 0.136   | 46.9   |                 | 13.58  | <b>0.000</b> |
|              | Matched   | 0.329   | 0.331   | -0.5   | 99              | -0.07  | 0.946        |
| POE          | Unmatched | 0.445   | 0.166   | 63.6   |                 | 18.13  | <b>0.000</b> |
|              | Matched   | 0.445   | 0.427   | 4.2    | 93.5            | 0.63   | 0.532        |
| Foreign      | Unmatched | 0.226   | 0.687   | -104.5 |                 | -24.04 | <b>0.000</b> |
|              | Matched   | 0.226   | 0.241   | -3.5   | 96.7            | -0.61  | 0.541        |