Globalization, Chinese Imports, and Wage Premia

Selva B. Baziki*

November 29, 2014

Abstract

This paper studies the effects of increased competition from low wage countries on the wage gap between skilled and unskilled workers. Treating Chinese accession into WTO as an exogenous shock to domestic competition, the paper shows that higher Chinese import penetration lowers wages for low-skilled workers, but increases wages for high-skilled workers, and thus generates a significantly larger skill premium for the latter group, contributing to the increase in wage inequality. The increase in the premium for high-skilled workers is between four to seven times larger in magnitude compared to the negative effect on the low-skilled. High skilled employees who stay on in the same firm enjoy a larger return to their educational investment which suggests that upwards wage adjustment happens to a larger degree on the job. Low-skilled workers who move between firms suffer a larger negative impact from rising Chinese imports compared to those who stay on at the same firm which suggests downward wage rigidity. The matched worker-firm micro data used covers the total population of workers in privately owned manufacturing firms between 1996 and 2009 in Sweden.

JEL Codes: E24, F16, J31, J62, J63, O33

Keywords: Employment Dynamics, Import Competition, Export Wage Premium.

*Department of Economics, Uppsala University, P.O. Box 513, SE-751 20 Uppsala, Sweden. Phone: (+46)18-471 1562. Fax: (+46)18 - 471 14 78 email: selva.baziki@nek.uu.se,

I thank Nils Gottfries for invaluable discussions; and Mikael Carlsson, Rita Ginja, Francis Kramarz, Omar Licandro, Teodora Borota Milicevic, Oskar Nordström Skans, Alex Solis, and Edoardo di Porto for comments and suggestions. The author gratefully acknowledges financial support from the Wallander-Hedelius-Browaldh Foundation.

1 Introduction

Lower trade costs due to innovations in communication technologies coupled with lower transportation costs have allowed goods from developing countries to increase their presence in local markets in developed countries, especially in the past 20 years. Higher levels of imports from low wage countries increase competition in domestic markets which may put downward pressure on wages of workers performing tasks that are in direct competition with production in low-wage countries. This may have contributed to the widening wage inequality in developed economies which has been widely observed during the same period.[1]

However, it is difficult to single out the effect of globalization and higher import competition on wage dispersion as there are other simultaneous forces at play (Freeman (2009)). One such potential force is skill-biased technological change which increases the relative productivity of skilled workers and thus contributes to rising wage inequality between workers of different skill types.[2] In this regard, the rapidly rising imports from China present an interesting possibility to isolate the effect of rising competition from low wage countries, as its accession to WTO in 2001 could be taken as an exogenous trade shock. China has increased its exports to the rest of the world seven times in the nine years following its membership compared to two times in the nine years prior. Thus, looking at Chinese import penetration into an economy will allow for the estimation of the response of skill premia to a large exogenous import shock. Choosing China as a representative developing country also allows for using Chinese imports to a similar economy as a measure of the exogenous shock. This approach helps address a potential simultaneity problem in the estimation where a domestic shock could be affecting wages and the level of Chinese imports at the same time, or a reverse causality problem where a rise in manufacturing wages could be the driving force behind the rise in manufacturing imports from China.

I use a rich linked employer-employee database covering all privately owned Swedish manufacturing firms from 1996 to 2009 to study the effects of import penetration on the widening wage gap in Sweden.[3] The estimates with fixed person effects are made to capture the response of skill premia of college educated (high-skilled) workers in the overall economy to changes in import penetration. A specification with match fixed effects is used to measures changes in return to skill as a response to changes in the competitive environment during a specific job spell. The analysis is repeated using an instrumental variables approach to allow for a causal interpretation and measure the magnitude of the impact of higher imports on wages of skilled and low-skilled workers.

The paper contributes to the existing matched employer-employee literature in the attention

[1] See Acemoglu and Autor (2011) for a review of the literature.

[2] See Griliches (1969) for the theoretical contribution on skill-biased technological change, and Autor *et al.* (2003) for an application using computerization.

[3] Nordström Skans *et al.* (2009) provide a good summary of the Swedish labor market.

it gives to differentiating the effect for workers who switch their jobs, versus those who remain employed at the same firm. One part of the adjustment mechanism for low-skilled workers (those without any college education) could be that the declining demand for low-skilled workers in the overall economy would lower their wages on the same job. This effect is captured by the within job spell estimation. However, another part of the adjustment could take place via displacement of low-skilled workers. The estimation with only person fixed effects captures both of these effects, as it looks at the response of wages in the overall economy to changes in import competition levels controlling for the person's observable and unobservable characteristics.

In line with expectations, I find that higher Chinese imports translate into lower wages for the low-skilled, and higher wages for the high-skilled workers in the overall economy and thus has contributed to the rise in the wage gap between skill types. The IV estimation reveals that the increase in the wage of skilled employees is about seven times higher than the decline for low-skilled workers. The mechanism for this outcome could be the substitution of Chinese imported goods for domestic production. As cheaper Chinese goods become available in the domestic market, workers whose jobs and wages are threatened are those who work to produce goods that are in direct competition with the Chinese imports. As the demand for these low-skilled workers goes down, the wages offered to them will decline.[4] The estimates show that for low-skilled workers who do not switch their jobs, the magnitude of the negative effect is lower, suggesting that manufacturing wages in our sample can be downward sticky. Skilled workers who stay on the same firm collected higher returns from the rise in Chinese imports in this period.

Recent empirical work looking at the effect of rising Chinese import penetration has not reached a consensus concerning the effect of increased Chinese imports on the wages of low-skilled workers. Focusing on local labor market outcomes for the U.S., Autor *et al.* (2013) examine the effect of industry level Chinese imports on local labor markets. They find that import exposure reduces wages in non-manufacturing sectors for both college and non-college workers, but they do not find a significant effect on manufacturing firm wages. On the other hand, Alvarez and Opazo (2011) use Chilean data on firm-level wages, and find that higher Chinese imports have a negative effect on low-skill wages in manufacturing industries. This paper differs from these previous studies in using a detailed matched employer-employee database. With worker-level wages that cover the entire population of manufacturing workers in a small open economy, the Swedish data allows for a better identification of the effects of an exogenous trade shock on individual wages.

The paper that is closest to this study is by Ashournia *et al.* (2012) and uses similarly constructed Danish data to examine the effect of changes in both industry-level and also firm-level

[4]See Katz and Autor (1999) for details on the supply-demand framework and its effects on changes in the structure of wages. In recent work, Goldin and Katz (2008) confirm that the change in wage differences between workers with different education levels since 1980s in the U.S. are explained by a combination of higher demand for skilled labor and changes in the supply of different skill types into the labor market.

Chinese import penetration on individual wages. Studying within job spell specification wage changes, they find evidence of lower wages for low-skilled workers using the firm-level measure, but their estimates do not show a negative effect of Chinese import penetration on low-skilled wages when using the industry level measure. Since individual wages can be downward sticky on the job, their lack of a negative effect on the low-skilled workers is not surprising. Introducing a fixed effect for each worker instead of the within job spell identification, I find a negative wage effect on low-skilled workers using industry level import penetration figures in the overall population, suggestive of a negative wage adjustment for low-skilled workers who shift between firms.

The rest of the paper proceeds as follows. Section (3) describes the data, Section (2) presents the empirical strategy for the analysis. Section (4) presents the results, and Section (6) discusses the results and concludes.

2 Empirical Strategy

Real wages in manufacturing industries in Sweden have been rising in the past 15 years, as can be seen in Table 1. Developing countries endowed with cheap labor have increased their exports of cheaper goods into the Swedish economy, and in response Swedish manufacturing firms may find it profitable to replace their own production with imported intermediate goods. This substitution away from own production should create downsizing of some (lower) levels of production and lead to a compositional change which could help explain some of the rise in average wages, especially in importing firms which see a larger increase and wider dispersion in wages than non-importers in the same period.

While this theory may help explain the rise in average wages, higher trade with low wage countries could create a change in the demand for low-skilled workers in two ways: either the firm will replace the part of its home production that uses low-skilled workers with imported goods from low-wage countries, laying off low-skilled workers; or, the firm is unable to compete with lower prices and chooses to exit the market laying off low-skilled workers. In either scenario the demand for low-skilled workers in manufacturing industries exposed to higher imports from low wage countries will go down, and so should the wages of low-skilled relative to higher-skilled workers.

However, there are other factors influencing the direction and magnitude of demand for workers in response to higher imports from low wage countries which may cloud the total effect. Higher competition from a low-wage country should create heterogeneous responses across not only workers based on skills and educational attainment, but also across firms depending on capital endowment, and size. Smaller firms that are in direct competition with China could be employing a level

of production that is similar to that of the low wage country, and therefore will be concentrated in low-skilled workers. If the firm chooses to exit the market due to high competition from China, the supply into unemployment will be skewed towards low-skilled workers which should decrease the low-skilled wage in the economy, as in the example discussed above. Meanwhile, larger firms may thrive using cheaper goods from China as intermediate goods in their production, and expand their presence in the product market, increasing demand for not only high-skilled workers, but also the low-skilled and putting upward pressure (a size premium) on wages of both types of workers.[5]

China is Sweden's largest trade partner among developing economies and the Chinese share of manufacturing imports into Sweden has grown about four-fold in the period analysed. China also presents one with a clear cutoff point in 2001 when China joined the WTO. This can be taken as an exogenous shock to local markets in Sweden creating an excellent opportunity to study the effects of imports from low wage countries on the wages of the low-skilled as well as the skill premia of the college educated workers.

Labor market decisions such as the decision to hire/fire workers, and changes in wages could be affected by shocks to the domestic economy that simultaneously have effects on imports from China. Further, an incident of reverse causality may arise if the true reason for an increase in imports from China was an initial increase in domestic wages. To control for this, instead of using Chinese import penetration figures for Sweden, I use Chinese import penetration into Finland as a measure of the exogenous trade shock to the Swedish economy. Sweden and Finland are Scandinavian economies of similar size and as shown in Table 2 quite similar in the way they have been exposed to trade with China in many of the Manufacturing industries. Figure 1 shows that the share of Chinese imports as a share of apparent consumption in both countries follow a similar pattern over time.

To measure the shocks to Chinese imports, I use the share of Chinese imports in the Finnish economy as a share of apparent consumption in Finland in the style of Bernard *et al.* (2006). The advantage of this measure is that it takes into account the size of the domestic industry relative to imports:

$$CMP_{kt}^{Fin} = \frac{M_{kt}^{China}}{M_{kt}^{Total} + Q_{kt} - X_{kt}}. \tag{1}$$

Q_{kt} and X_{kt} represent domestic total output and exports in industry k and year t, respectively. As a robustness check, the analysis is replicated using alternative measures of Chinese import penetration such as (i) Chinese exports to the rest of the world (excluding Sweden), and (ii) the

[5] While it would not be possible to have firm-specific wages as described here in a fully competitive market, the presence of labor market frictions such as compositional differences Bustos (2011), search and matching frictions (Helpman *et al.* (2010)), or more specifically from efficiency wages (Amiti and Davis (2011))

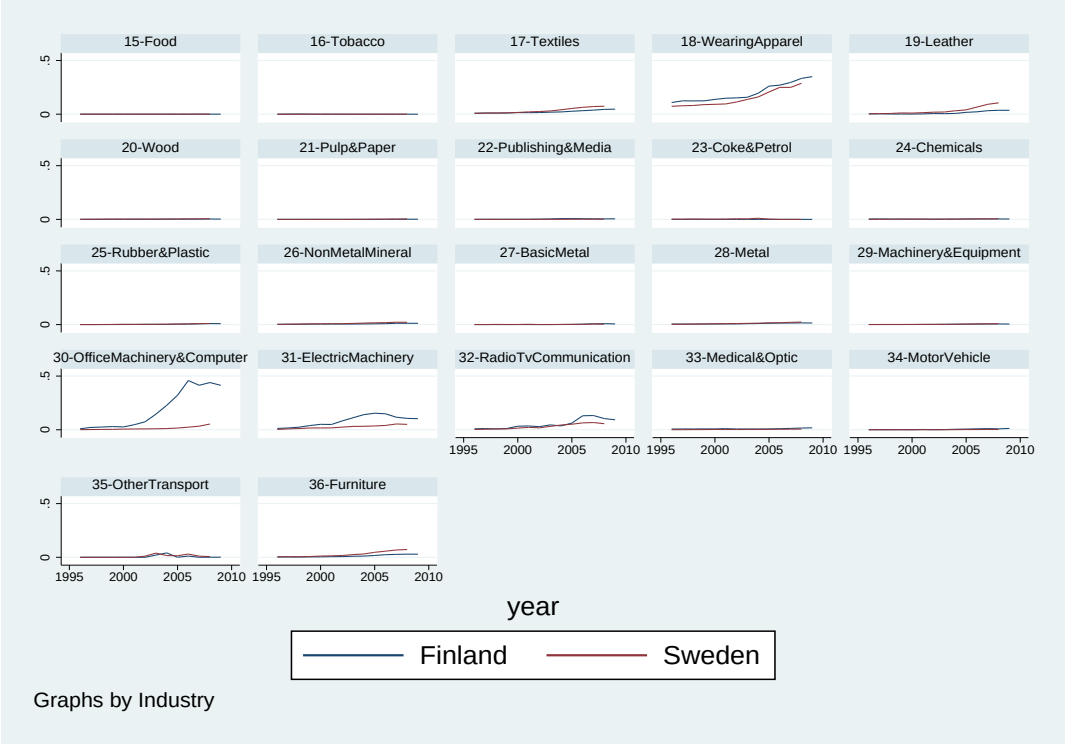

Figure 1: Swedish and Finish imports from China as a share of respective apparent consumptions, by industry, 1996-2009

share of Chinese imports in total Finnish imports, and the results are reported in Section 4.3.[6]

The assessment of the effect of higher competition on wages and the relative skill premium of college educated workers is done in two ways building on the Mincer wage equation.

Total Effect The first approach aims to measure the overall effect of Chinese import penetration on the wages of manufacturing workers. Controlling for person fixed effects and observables, this reduced form approach allows for identification of the effect of an exogenous import shock to domestic competition has on the return to college education. The equation of interest for person i, firm j, industry k, and year t is:

$$logw_{ijt} = \theta_1 CMP_{kt}^{Fin} + \theta_2 CMP_{kt}^{Fin} XCollege_{it} + \alpha_i + x_{it}'\beta_t + \tau_t + \varepsilon_{ijt}, \quad (2)$$

where w_{ijt} is the log wage for individual i that works in firm j at time t, τ_t captures the time component, α_i captures the return to the worker's unobserved characteristics regardless of place of employment, x_{it}' is a vector of time varying individual observables such as age, and education. The import penetration measure is interacted with an indicator for some college education or more to

[6]Table A.3 shows that these measures are highly correlated with each other.

single out the effect on the skill premium.[7] θ_1 will then capture the effect of changes in Chinese import penetration on the wages of non-college educated workers, and θ_2 will show the effect on the return to some college education or more, the skill/college premium.

Within Job Spell Variation An alternative approach to breaking individual wages down to its components introduces a fixed component for each worker and firm match instead of the person fixed effect in the previous specification. This makes it possible to measure how much wage adjustment happens on the job during the same job spell in response to rising imports from China. In addition, personal wages could be affected not only by person and firm characteristics, but also complementarities that could be present in the particular match of a worker to a firm which are unobservable in the data. For example, there could be coworker complementarities due to the present composition of workers in a firm which could have an effect on wages and return to skill at the firm. The person-firm effect also allows the estimation to abstract from any complementarities that are present between the firm and the worker that are independent of changes in Chinese imports. The coefficient of interest will then capture the effect of Chinese import penetration on the wage within the job spell of the worker when she is employed at the same firm:

$$logw_{ijt} = \theta_1 CMP_{kt}^{Fin} + \theta_2 CMP_{kt}^{Fin} XCollege_{it} + x'_{it}\beta_t + z'_{jt}\gamma + \Psi_{\mathbf{J}(i,t)} + \tau_t + \varepsilon_{ijt}, \tag{3}$$

for person i, firm j, industry k, year t, where $[CMP]_{kt}^{Fin}$ is the Chinese import penetration in industry k and year t. The term $\mathbf{J}(i,t)$ is the firm-person effect for firm j that worker i is working in in year t and captures the average wage during a job spell of the worker in a particular firm. Person observables are denoted by x'_{it}, and z'_{jt} are firm observables.

Instrumental Variables Strategy As stated in Section 2, the increase in Chinese imports into Sweden could have been motivated by rising manufacturing wages in Sweden, or, some other unobserved domestic shock that affects both Chinese imports, and also wage setting in Sweden. To overcome these potential simultaneity and reverse causality problems, the paper uses the Finnish measure of Chinese import penetration instead of Chinese imports as a share of Swedish apparent consumption. Since the Finnish measure is correlated with the Swedish import penetration measure, it presents an opportunity to use it as an instrument, and to allow for a causal interpretation of the effect of Chinese import penetration on wages.

First a Swedish measure of Chinese import penetration, CMP_{kt}^{Swe}, is calculated as the share of Chinese imports over Swedish apparent consumption in the style of Equation 1. Next, the

[7] I also add an interaction with firm capital intensity to the equation ($CMP_{kt}^{Fin} XKIntensity_{jt}$) to capture the different impact that Chinese imports could have on capital intensive firms over firms which are more labor intensive and therefore could be in more direct competition with Chinese goods in the product market (Bernard *et al.*, 2006).

following two first stage equations are evaluated:

$$CMP_{kt}^{Swe} = \theta_1 CMP_{kt}^{Fin} + \theta_2 CMP_{kt}^{Fin} XCollege_{it} + \Omega + x_{it}'\beta_t + \tau_t + \varepsilon_{ijt}, \quad (4)$$

where the Finnish Chinese import measure is an instrument for the Swedish import measure, and,

$$CMP_{kt}^{Swe} XCollege_{it} = \theta_1 CMP_{kt}^{Fin} + \theta_2 CMP_{kt}^{Fin} XCollege_{it} + \Omega + x_{it}'\beta_t + \tau_t + \varepsilon_{ijt}, \quad (5)$$

where the Finnish interaction term is an instrumental variable for the Swedish interaction term. The term Ω stands for the covariates that are unique to each of the two specifications: for the reduced form it stands for the person fixed effect α_i, and for the person-firm match approach, it represents $z_{jt}'\gamma + \Psi_{\mathbf{J}(i,t)}$.

3 Data

The linked employer-employee data is accessed through a private but non-exclusive link from Statistics Sweden (SCB) who provide a confidential database where both individuals and firms are reassigned identifiers. The components of this database, as well as supplementary data from other sources are detailed below:

Firm data Firm level data on wage spending, sales, profit, capital, number of employees, firm age, and industry classification come from Statistics Sweden's Business Statistics (FEK), supplemented by legal and controlling ownership of the firm from the Business Register Database (Företagsregistret). Although FEK data is available from 1980 onwards, I focus on the period after 1996 to have the full sample of non-imputed firms. Since the Swedish industry codes, SNI, were reported in three different discontinuous systems (1992, 2002 and 2007) in the period focused on, I converted all the codes to the SNI2002 system to obtain one continuous industry index at the four digit level. The conversions utilised primarily correspondence keys obtained from SCB, but in the few instances where the key was not successful to match splitting industries[8] I assigned a match based on the best fit of description between options.

Worker data The worker side of the database with information on annual taxed wage income, age, gender, highest level and field of education is originally collected by the Swedish Tax Authority (Skatteverket) and is linked to our database under the name Register Based Labor Statistics

[8]These are a total of 3 cases at the two digit level in the 1992 to 2002 conversion, and 2 cases at the two digit level in the 2007 to 2002 conversion

(RAMS) maintained by Statistics Sweden.[9] Each individual is linked to a firm/plant in accordance with the International Labor Organisation's definition of being an employee in the third week of November. The field of education classifications follow UN's International Standard Classification of Education (ISCED).

Industry Trade, Output, and Exchange Rate data Data on international trade between China and Sweden, Finland, and the rest of the world comes from UN COMTRADE database which classifies trade based on product level codes. The manufactured goods that are of interest for our analysis are mainly indexed by material. I have matched these product level trade figures to the Swedish SNI codes used in our firm level data based on category descriptions (see Table A.4 in the Appendix for details). As the UN data is based on materials, it is not possible to identify international trade in Recycling. Therefore, I have left out Swedish Recycling firms (59 firms in 2009) from the analysis on Chinese import penetration. Finnish and Swedish gross output and value added data come from OECD STAN database. Finnish values are reported in Euros, and converted to US Dollars to match the COMTRADE data using Eurostat's annual exchange rates. Period before 1999 uses ECU to US Dollars instead of Euro to US Dollars exchange from the same source. World GDP and Manufacturing (value added) in current US Dollars are both from World Bank's World Development Indicators. Exchange rates from Swedish Kronor to U.S. Dollars are obtained as annual averages from the Riksbank. Current dollar values are put in 2005 dollars using CPI from Bureau of Labor Statistics. To convert all other monetary Swedish Kronor values to base year 2010 I use SCB's publicly available CPI series.

Sample Selection I focus the analysis on the complete population of privately owned manufacturing firms larger than 5 employees each year they are active between the years 1996 and 2009. Due to data availability on Swedish domestic output, the instrumental variables analysis is done until and including 2008.

Manufacturing firms that are either quasi or fully public sector owned/controlled may not be as free or fast in responding in their hiring/firing or wage decisions, and they may also not be primarily profit maximizing firms. Since this paper concerns itself with the reactions of firms to changes in the trading environment, the analysis only considers firms that have been identified as either Limited Liability Partnerships, or Limited Liability Companies in the data.

Since the database does not allow us to single out part time workers, I restrict the baseline sample to those who earn at least 120,000SEK a year (10,000SEK $\approx$\$1,570 a month). I also drop

[9]While the education levels in RAMS are detailed into 5 groups from pre high school to graduate work, I chose to group individuals into the following three educational groups: less than high school diploma, high school diploma holders, and at least some college based on the more detailed classification.

individuals whose education level is unknown, those who are born before 1920 or after 1991, and also those who are only present in the data for one year.

The final sample is composed of about 11,000 firms in the total period covering about a million workers in Sweden. Further details can be found in Tables 3 and 4.

More information about the data can be found in Appendix (A).

4 Results

4.1 Chinese Import Penetration

The regressions are run for the period 1996-2009 due to the availability of Finnish data to construct our measure of Chinese import penetration in Equation (1). The exercise is performed only for workers who are active for at least two years in the data for all the regressions.

Total Effect The results are presented in Table 5 Panel A. For the overall population, Chinese import penetration has no significant effect on wages (Column 1). But when the interaction term is added in Column 2, we see that manufacturing workers with no college education are negatively affected by rising Chinese imports into the sector, whereas wages of college educated workers rise with an increase in Chinese imports. This is in line with expectation that rising import penetration from a low wage country should hurt the workers whose jobs are in direct competition with those in the developing country. On the flip side the demand for, and therefore the relative wages of high-skilled workers go up with higher Chinese import penetration as seen from the marginal effect on the college educated population at the bottom of Panel A.

For the workers who stay at the same firm during their entire tenure in the data we have a slightly different story. The positive effect on the skill premium is still present and the marginal effect is larger for these college educated workers which shows that positive wage adjustment happens more on the job than through job switches for the skilled population. The negative effect for the low-skilled workers is halved in Column 4 compared to Column 2, and no longer significant. For the low-skilled, significant downward adjustment in wages as a response to higher Chinese competition in the sector happens through job switches. This is in line with previous literature that finds downward wage rigidity on the job (see, for instance, Akerlof *et al.* (1996), Dickens *et al.* (2007)). Comparing Columns (2) and (4), we can conclude that in the face of higher Chinese import penetration into the sector, low-skilled workers who have to switch to another firm get a negative wage return from the move, whereas those who stay on in the same firm are less affected.

Within Job Spell Variation This section examines the within job spell response of high and low-skilled worker wages to changes in competition from China. Table 5 Panel B shows results where the separate person fixed effects have been replaced by a person-firm match fixed effect. The regressions control for firm and individual observables and show that working at larger firms, compared to firms with less than 10 employees, contributes positively to wages. Firms with higher sales also affect wages positively, but surprisingly capital intensity does not play a significant role. For low-skilled workers, both in the total population (Column 2) and among those who stay on the same job (Column 4) a higher Chinese imports penetration translates into lower, albeit insignificantly so, wages by a similar magnitude. This result is in accordance with the point estimate on the same variable in Panel A, Column 4 where only the workers remaining in the same firm were analysed. Workers with college education who stay on at the same place of work enjoy a larger increase in the skill premium (Column 4) compared to the estimate which includes switchers (Column 2). Again, this is suggestive that upwards wage adjustment for skilled workers takes place on the job, suggesting that high-skilled workers who stay on in the same firm receive a higher return from the rising imports from China.

4.2 IV Strategy

The first stage results of Equations (4) and (5) can be seen in Table B.4. The second stage equations are run analogous to Equations (2)-(3) with log person wages as the dependent variable, with the predicted values from Equations (4) and (5) replacing the Chinese import share, and interaction terms respectively.

Total Effect Table 6 Panel A shows that in the total population, higher Chinese imports translates to a negative wage outcome for low-skilled workers, and a positive wage premium for skilled employees that is about four times larger than the decline in low-skilled wages. As an example, for an increase of 10% points in Chinese import penetration in the Leather manufacturing industry, low-skilled workers experience a 5% decline in their wages whereas skilled workers see 24% increase in their skill premium, for a total gain of about 18%. For low-skilled workers who stay in the same firm for their entire tenure in the data, the decline in the wage is half as large and statistically insignificant compared to the total population effect shown in Column 2, whereas high-skilled employees enjoy about 21% increase in their wages.

Within Job Spell Variation The results presented in Table 6 Panel B show a similar pattern as in the OLS regressions. Controlling for firm characteristics, low-skilled workers do not see a significant decline in their wages within the job spell, but high-skilled workers have a positive

return associated with higher Chinese imports. This effect is about seven times larger than the negative impact on the low-skilled employees. The effect on the marginal college educated worker is between 17.8% to 20.6% of a wage increase in response to a 10% increase in Chinese imports depending on whether the worker has shifted between firms, or not. As expected, the marginal effect is less than, but close to the effect from Panel A, Column (4) which looked at the return to college education for workers who remain in the same firm.

To conclude, the IV strategy shows that the increase in the college premium resulting from the rise in Chinese import penetration is about four to seven times the negative effect on the low-skilled wages depending on the specification used. The marginal effect of college attendance is significantly positive, around 18-20% in response to a 10% increase in Chinese imports, and are larger for the workers who stay on at the same firm compared to those who switch between firms.

4.3 Robustness Checks

Keeping the First Industry As the firm is free to switch products and therefore industries, the industry assignment over the course of its lifetime could be endogenous to other labor market decisions that could affect the wages at the firm. To address this issue, the regressions above are repeated keeping the industry assignment fixed to the industry on the first year the firm appears in the dataset. The results are reported in Table (7). We see that the coefficient on the main two variables are roughly the same, although slightly higher in magnitude. The reduced form estimates in Table(7) PanelA verify the negative impact of higher competition from China on low-skill jobs, and a positive skill premium for the college educated which is again higher for those who stay on at the same firm. Finally, within the job spell, we see that the negative effect on low-skilled workers is present but insignificant, whereas high-skilled workers do still enjoy a higher skill premium in the face of higher competition from China, shown in Table(7) PanelB.

Different CMP measures A mentioned in Section 2, in addition to the main Chinese import penetration measure presented in Equation 1, this study considers two alternative measures used in the literature. Detailed in equation 6, one measure looks at the pure share of Chinese imports over total imports in each industry-year which will gauge the change in the importance of China as a trade partner. Due to the simultaneity issue discussed above, this measure is also computed for Finland, to proxy the Swedish experience with high imports from developing countries.

$$CMP_{kt}^{Fin} = \frac{M_{kt}^{China}}{M_{jt}^{Total}}, \tag{6}$$

The final measure is Chinese exports (CX) to the rest of the world (RoW), excluding Sweden, weighted by World GDP. This measure will see how important Chinese goods have become relative to World production over the years.

$$CMP_{kt}^{RoW} = log(\frac{CX_{kt}^{World} - CX_{kt}^{Sweden}}{GDP^{World} - GDP^{Sweden}}), \tag{7}$$

The results presented in Tables B.2 and B.3 confirm the presence of a positive return to skill for workers with college education in response to higher imports from China. However, neither one of the measures considers the size of the (the proxy country's) domestic industry k in its calculation, and therefore are not considered to be fitting measures of the import penetration for this study. Theoretically this paper considered the change in Chinese imports effecting wages of different types of workers through the mechanism of changing demand for these workers, and it would be simplistic to assume that the demand for workers in an industry are motivated solely by changes in pure trade shares. For given levels of total imports and domestic exports, if the size of the domestic production is small, a change in Chinese imports will have a larger contribution in the change in demand for workers in that industry compared to an industry with a large domestic output level, whereas specifications 6 and 7 would treat these two industries the same way. A correct definition of the import penetration measure is crucial in capturing the effect of interest, therefore this paper prefers the measure that weighs Chinese imports by (the proxy country's) domestic apparent consumption.

Dividing the Sample Given the years of the study at hand, one potential source of concern could be the presence of a simultaneous unobserved change in the world economy that could be the real motivating reason behind the observed results. While the IV strategy section targets this issue, the particular change in the progress of informatics and communication technologies deserves special attention as the Chinese imports share of Swedish apparent consumption in the industries producing, or heavily using these technologies (Office Machineries; Electrical Machineries; and Radio, TV, and Communications Equipment Industries) grew between 13 to almost 40 times between 1996 and 2008 (Table 2). To address this issue, the regressions are performed on a divided sample excluding these industries. Results are reported in Table 8 and show that the positive premium of the college educated workers is also present in these isolated industries from a direct influence from informatics related technological shocks.

5 Extensions

5.1 Within Firm Variation

While the previous sections established that rising Chinese imports translated into lower wages for low-skilled workers who switch between jobs, and showed some support for downward wage rigidity in the within job spell estimates, the exact response of the firm as an agent to changes in import competition remain unclear. This section will aim at capturing precisely this within firm wage response by controlling for firm fixed effects, as well as other observables on the firm in addition to the person firm effect and observables in Equation 2. By introducing person and firm fixed effects, this method allows for the separation of the person component, and the firm component where the person component can be interpreted as a skill factor that indicates the worker's outside option or return to skill in the labor market, and the firm component as a weaker form of workplace complementarity factor: a component of your wage that is rewarded equally across all the coworkers in that given firm, in other words, this effect captures the firm premium that the individual gets from working in that particular firm.

The methodology builds on Abowd *et al.*(1999), and relies on workers who switch between firms to identify the firm fixed effect in our main wage equation (8). Switchers generate a large network of firms that are connected to each other through at least one other firm in the group through at least one worker who moves between them. In the analysis, the largest such network called the Mobility Group is determined by maximizing the number of firms that are connected, the analysis that follows is strictly restricted to this group of interconnected firms (and therefore their employees). This method includes 99.9% of all the workers and 99.5% of all firms in manufacturing industries.[10]

$$logw_{ijt} = \theta_1 CMP_{kt}^{Fin} + \theta_2 CMP_{kt}^{Fin} XCollege_{it} + \alpha_i + x'_{it}\beta_t + \theta_{J(i;t)} + z'_{jt}\gamma + \tau_t + \varepsilon_{ijt}, \qquad (8)$$

where $\theta_{J(i;t)}$ is a firm fixed effect that captures the premium that all the workers in that firm receive regardless of personal characteristics. Here the coefficient θ_2 will capture how the within firm return to skill changes in response to increased Chinese imports into the sector.

OLS Results Table 9 Columns 1 and 2 show the return to skill in a setting where both person and firm fixed effects are controlled for as components of wage. When firm fixed effects are introduced to capture any firm wage premia that may be present in wages, the remaining response

[10]Total effect and within job spell variation estimates were also performed on the individuals composing the mobility group to allow for comparison across estimates.

in the coefficients of interest will be within firm changes in the wages for skilled and unskilled workers. As the method calls for the identification of the firm fixed effect through a network of interconnected firms through workers who switch between jobs, only overall population results can be produced in this subsection. The table presents the point estimates and standard errors of a bootstrap method of 100 replications where firms could be drawn with replacement from the population of all firms. This section also controls for other observables on the firm level that could have an effect on the wage contract at the firm, such as the size in employment, capital intensity, or the market presence of the firm. All size groups relative to micro-sized firms of size 5 up to 10 employees seem to contribute positively to wages. The results on the Chinese import variables are rather similar to those using specifications from Equations 2 and 3 reported in Table 5, with the magnitude on the marginal effect higher for the within firm adjustment in response to higher Chinese imports. Higher level of competition from low wage countries translates into a widening of the wage distribution within the firm. Low skilled workers are negatively affected (most likely through the channel of low-skilled workers who arrive into a lower paying job ,or, in a less likely scenario given the previous section, on the job downward adjustment). Skilled employees enjoy a premium in response to the higher competition from China, which could potentially reflect a change in the firm's production activities that shift worker demand away from low-skilled to high-skilled employees.

Keeping the First Industry The analysis is repeated while keeping the industry assignment on the firm the same as the first year the firm is present in the data, to complement the results in Section 4.3. The same pattern is present in this approach as well, as the adjustments in the firm to changes in imports from China result in lower wages for the low-skilled, and a higher skill premium for the college educated workers, as presented in Table B.1.

IV results To have a meaningful comparison of the magnitude of effect of changes in Chinese import penetration on the population with and without college education, firm and person fixed effects as well as firm observables $\alpha_i + \theta_{J(i;t)} + z'_{jt}\gamma$ are introduced for Ω in Equations (4) and (5), the first stage predictions are obtained and a second stage regression analogous to Equation (8) with log real wages as the dependent variable is ran using these predicted values instead of Finnish Chinese import penetration values. This approach will allow for the quantification of the within-firm wage adjustment of the high-skilled employees. Results presented in Table 9 Columns 3 and 4 resembles that of the reduced form estimates: low-skilled workers receive significantly lower wages, and skilled workers receive a return to their education investment the magnitude of which is about five times larger than the decline in low-skill wages. The marginal effect is about 18% increase in skilled wages in response to a 10% increase in Chinese imports.

5.2 College Premium for different education fields

This section will allow for non-linearities in the college premium in response to a change in the Chinese imports present in the domestic economy by introducing different education fields for the college educated manufacturing workers. With higher Chinese import penetration, domestic firms could replace domestic production on the low-skill job level with the imported goods from China, and instead focus on either innovation and upgrading of the domestic good, or focus on the marketing and design of the good. A change in the premium of different fields of education at the college level could give an indication of a change in the demand for workers with a particular set of skills that are needed in these manufacturing firms. If Chinese import penetration has affected the returns for technical jobs positively, that could indicate an upgrading of the domestic production, a positive return on sciences could indicate a rising importance of innovation at the firms. The main fields of education of interest, following the UN ISCED classifications, are singled out as Computing, Engineering, Manufacturing and Processing, Business Administration, Social Sciences, and Natural Sciences (Life, Physical, Mathematics).

6 Conclusion

This paper focused on the effect of increased competition from low wage countries on wages for the total population of workers in privately owned manufacturing firms in Sweden between 1996 and 2009. The effect was analysed by taking the increase in Chinese imports as a proxy for higher competition from all low wage countries in this period, as well as treating the Chinese membership to the WTO in 2001 as an exogenous shock to the Swedish domestic markets. The paper focused on the difference in returns for low-skilled and high-skilled workers in response to higher imports from China. I found that higher Chinese imports into a sector translated into lower wages for the low-skilled, and higher wages for the high-skilled workers, and the magnitude of change could be as high as seven times larger for the skilled employees contributing to a widening wage gap in manufacturing industries. One mechanism for this outcome could be the substitution of domestic production to that of Chinese imported goods. As cheaper Chinese goods become available in the domestic market, workers whose wages are threatened are those who work to produce goods that are in direct competition with Chinese imports. As the demand for these low-skilled workers goes down, the wages offered to them will decline, therefore low-skilled workers who switch jobs could end up settling for lower wages. For low-skilled workers who do not switch their jobs, the magnitude of the negative effect was lower, suggesting that wages in our sample can be downward sticky. Skilled workers who stayed at the same firm consistently collected higher returns from a rise in Chinese imports which implied that in my sample positive wage adjustments mostly happened

on the job rather than across jobs.

Local labor markets could be an additional factor that could influence hiring/firing and wage decisions at the firm through effects on labor market tightness, especially with respect to the skill type of the worker. Currently, the municipality information in the data is on the headquarters of the firm which most does not necessarily reflect where the manufacturing firm is necessarily located geographically. To be able to address this issue, and to replicate the analysis in Autor *et al.* (2013), it would be ideal to supplement the data with additional local labor market data.

Additionally, the measure of Chinese import penetration for this paper was detailed at the industry level. Ashournia *et al.*(2012) use firm level import penetration data on products which captures the direct competitive environment that firms face better. Product level imports information would also allow for the identification of whether the firm is in competition with the Chinese good (if imported goods are final goods), or is benefiting from complementarities (if imported goods are intermediate goods) that exist between Chinese imports and Swedish firms. Therefore, it would be ideal to enrich the dataset with additional information on the products imported at the firm level to conduct a similar study and to look at workplace compositional effects as an explanation of wage movements in the event of cheap import penetration into a market.

References

Abowd J.M., Kramarz F. and Margolis D.N., (1999). High Wage Workers and High Wage Firms, *Econometrica*, Econometric Society, 67(2), 251-334.

Acemoglu D., Autor D., (2011). Skills, Tasks, and Technologies: Implications for Employment and Earnings, in *Handbook of Labor Economics* ed. O. Ashenfelter and D. Card, IV(B), 1043-1171.

Akerlof G.A., Dickens W.T., and Perry G.L., (1996). The Macroeconomics of Low Inflation, *Brookings Papers on Economic Activity, Microeconomics*, 1996(1), 1-52.

Alvarez R. and Opazo L., (2011). Effects of Chinese Imports on Relative Wages: Microevidence from Chile, *Scandinavian Journal of Economics*, 113, 342-363.

Amiti M. and Davis D.R., (2012). Trade, Firms, and Wages: Theory and Evidence, *Review of Economics Studies*, 79(1), 1-36.

Ashournia D., Munch J. and Nguyen D., (2012). The Impact of Chinese Import Penetration on Danish Firms and Workers, *University of Copenhagen*, mimeo.

Autor D.H., Levy F. and Murnane R.J., (2003). The Skill Content of Recent Technological Change: An Empirical Exploration, *The Quarterly Journal of Economics*, 118(4), 1279-1333.

Autor D.H., Dorn D. and Hanson G.H., (2013). The China Syndrome: Local Labor Market Effects of Import Competition in the United States, *American Economic Review*, 103(6), 2121-68.

Bernard A.B., Jensen J.B., Schott P.K., (2006). Survival of the best fit: Exposure to low-wage countries and the (uneven) growth of U.S. manufacturing plants, *Journal of International Economics*, 68(1), 219-237.

Bustos P., (2011). Trade Liberalization, Exports, and Technology Upgrading: Evidence on the Impact of MERCOSUR on Argentinian Firms, *American Economic Review*, 101(1), 304-40.

Dickens W.T. , Goette L., Groshen E.L., Holden S., Messina J., Schweitzer M.E., Turunen J., and Ward M.E. (2007). How Wages Change: Micro Evidence from the International Wage Flexibility Project, *Journal of Economic Perspectives*, 21, 195-214.

Freeman R.B., (2009). Globalization and Inequality in *The Oxford Handbook of Economic Inequality*, ed. W. Salverda, B. Nolan, and T.M. Smeeding, Oxford University Press, 575-598.

Goldin C., Katz L.F. (2008). The Race Between Education and Technology. Cambridge: Harvard University Press.
Griliches Z., (1969). Capital-Skill Complementarity, *Review of Economics and Statistics*, LI, 465-468.

Helpman E., Itskhoki O. and Redding S. (2010). Inequality and unemployment in a global economy *Econometrica*, 78(4), 1239-1283.

Katz L.F., Autor D., (1999). Changes in the wage structure and earnings inequality, in *Handbook of Labor Economics* ed. O. Ashenfelter and D. Card, III(A),1463-1555.

Nordström Skans O., Edin P-A. and Holmlund B., (2009). Wage Dispersion Between and Within Plants: Sweden 1985-2000, *NBER Chapters, in: The Structure of Wages: An International Comparison*, 217-260.

7 Tables

7.1 Summary Tables

Table 1: AVERAGE LOG REAL WAGES, 1996-2009

	Total	Male	Female	College	Non-college	Exporter	Importer
1996	12.468	12.519	12.293	12.699	12.418		
	(0.316)	(0.308)	(0.278)	(0.400)	(0.270)		
2000	12.571	12.621	12.419	12.819	12.493	12.499	12.504
	(0.355)	(0.350)	(0.329)	(0.434)	(0.294)	(0.155)	(0.156)
2005	12.655	12.699	12.514	12.908	12.570	12.577	12.586
	(0.379)	(0.372)	(0.365)	(0.454)	(0.306)	(0.156)	(0.161)
2009	12.736	12.770	12.628	12.979	12.639	12.637	12.648
	(0.382)	(0.376)	(0.380)	(0.442)	(0.305)	(0.168)	(0.173)

Note: Sample includes only manufacturing workers born between years 1920 and 1991 earning a real (in 2010 SEK) income of 120,000SEK working for at least two years in manufacturing firms with more than 5 employees and values above zero for sales and capital intensity. Foreign Trade information is available from 2000 onwards at the firm level. Wage standard deviations are reported in parenthesis.

Table 2: CHINESE IMPORT SHARE AS A SHARE OF APPARENT CONSUMPTION IN SWEDEN, AND FINLAND BY INDUSTRIES

Industries	(1) Sweden 1996	(2) Sweden 2008	(3) Swedish Growth	(4) Finland 1996	(5) Finland 2008	(6) Finnish Growth
15-Food	0.0001	0.0006	4.3	0.0001	0.0003	3.5
16-Tobacco	0.0000	0.0000	.	0.0000	0.0000	.
17-Textiles	0.0081	0.0740	8.1	0.0087	0.0448	4.2
18-WearingApparel	0.0736	0.2879	2.9	0.1087	0.3335	2.1
19-Leather	0.0035	0.1057	29.1	0.0023	0.0363	14.8
20-Wood	0.0009	0.0056	5.6	0.0007	0.0036	4.4
21-Pulp&Paper	0.0001	0.0043	42.6	0.0003	0.0012	2.5
22-Publishing&Media	0.0002	0.0022	8.9	0.0006	0.0047	6.4
23-Coke&Petrol	0.0018	0.0002	-0.9	0.0004	0.0001	-0.7
24-Chemicals	0.0011	0.0054	3.8	0.0037	0.0040	0.1
25-Rubber&Plastic	0.0004	0.0099	27.1	0.0005	0.0097	20.2
26-Non-metallicMineral	0.0021	0.0213	9.3	0.0024	0.0123	4.1
27-BasicMetals	0.0005	0.0037	6.7	0.0003	0.0086	26.8
28-Metal	0.0025	0.0236	8.3	0.0049	0.0159	2.2
29-Machinery&Equipment	0.0003	0.0076	21.3	0.0008	0.0061	6.4
30-OfficeMachinery&Comp	0.0013	0.0538	39.8	0.0098	0.4399	43.8
31-ElectricMachinery	0.0035	0.0505	13.3	0.0120	0.1062	7.8
32-RadioTvCommunic	0.0029	0.0564	18.6	0.0089	0.1044	10.7
33-Medical&Optic	0.0008	0.0064	7.1	0.0069	0.0161	1.4
34-MotorVehicle	0.0002	0.0032	19.0	0.0011	0.0087	6.8
35-OtherTransport	0.0001	0.0068	46.7	0.0001	0.0009	6.2
36-Furniture	0.0038	0.0724	18.0	0.0032	0.0294	8.3

Note: 1996 and 2008 figures are calculated using Equation 1. Growth figures are calculated as the number of times the industry's Chinese exposure grew between these two years.

Table 3: FIRM CHARACTERISTICS BY YEAR INTERVALS

	1996-2009	1996-2000	2001-2009
Number of Firms	11,080	8,242	8,852
Number of Individuals	914,022	587,308	730,626
Average Firm Real Wage	12.505	12.438	12.557
	(0.184)	(0.166)	(0.177)
Share of Females	0.22	0.22	0.22
Share of College	0.15	0.13	0.16

Note: Sample includes only manufacturing workers born between years 1920 and 1991 earning a real (in 2010 SEK) income of 120,000SEK working for at least two years in manufacturing firms with more than 5 employees and values above zero for sales and capital intensity. Wage standard deviations are reported in parenthesis.

Table 4: TRADING FIRM CHARACTERISTICS

		Exporter	Non-Exporter	Importer	Non-Importer
2000	Share of Females	0.23	0.23	0.24	0.17
	Share of College	0.15	0.13	0.16	0.10
	Average Age	41	41	41	41
	Average Size	111	29	120	22
	Capital Intensity	312,968	336,700	320,740	286,851
2005	Share of Females	0.22	0.22	0.23	0.18
	Share of College	0.18	0.17	0.19	0.12
	Average Age	43	43	43	44
	Average Size	107	30	119	22
	Capital Intensity	325,946	300,456	332,491	285,993
2009	Share of Females	0.22	0.23	0.24	0.18
	Share of College	0.19	0.19	0.21	0.13
	Average Age	45	43	44	45
	Average Size	100	29	110	22
	Capital Intensity	391,262	317,449	394,272	340,752

Note: Sample includes only manufacturing workers born between years 1920 and 1991 earning a real (in 2010 SEK) income of 120,000SEK working for at least two years in manufacturing firms with more than 5 employees and values above zero for sales and capital intensity. Foreign Trade information is available from 2000 onwards at the firm level.

7.2 Results

Table 5: CHINESE IMPORTS AS A SHARE OF FINNISH APPARENT CONSUMPTION

VARIABLES	(1) Base	(2) Base	(3) Single Firm	(4) Single Firm
Panel A: Equation 2				
Chinese Import Share	0.0971	-0.164**	0.137	-0.0915
	(0.111)	(0.0713)	(0.147)	(0.0698)
Chinese Import Share*College		0.677**		0.616*
		(0.243)		(0.314)
R-squared	0.820	0.820	0.829	0.829
MarginalEff		0.513**		0.524*
StdErr		(0.215)		(0.296)
Panel B : Equation 3				
Chinese Import Share	0.113	-0.105	0.130	-0.0962
	(0.129)	(0.0712)	(0.137)	(0.0669)
Chinese Import Share*College		0.557**		0.611*
		(0.248)		(0.300)
Firm Size : 10-49	0.0226***	0.0227***	0.0214***	0.0215***
	(0.00299)	(0.00301)	(0.00401)	(0.00401)
50-249	0.0348***	0.0350***	0.0332***	0.0333***
	(0.00500)	(0.00499)	(0.00737)	(0.00734)
250-499	0.0409***	0.0412***	0.0361***	0.0363***
	(0.00759)	(0.00756)	(0.0105)	(0.0104)
500+	0.0453***	0.0456***	0.0410***	0.0414***
	(0.0101)	(0.0100)	(0.0132)	(0.0132)
log Capital Intensity	-0.00385	-0.00382	-0.00359	-0.00336
	(0.00334)	(0.00328)	(0.00372)	(0.00356)
log Sales	0.0309***	0.0306***	0.0397***	0.0397***
	(0.00482)	(0.00485)	(0.00699)	(0.00701)
Observations	6,832,039	6,832,039	4,258,869	4,258,869
R-squared	0.852	0.852	0.830	0.830
NoFirms	11020	11020	5651	5651
MarginalEff		0.452*		0.514*
StdErr		(0.234)		(0.279)

*** p<0.01, ** p<0.05, * p<0.10.

Note: All columns have year and person fixed effects in Panel A and year and person-firm match fixed effects in Panel B, and include Age, Age^2 and Age^3 as covariates. Robust standard errors are reported in parenthesis, and are adjusted for clustering at the industry level. Sample includes only manufacturing workers born between years 1920 and 1991 earning a real (in 2010 SEK) income of 120,000SEK working for at least two years in manufacturing firms with more than 5 employees and values above zero for sales and capital intensity. Firm Size categories follow Eurostat classification as microfirms (less than 10 employees), small firms (10 to 49), medium size firms (50 to 249), and large firms (250+) with the addition of very large firms of larger than 500 employees. In this table, reference firms by size are microfirms of size equal or larger than 5, but less than 10 employees. Columns (1) and (2) have the total population, (3) and (4) have workers who are employed at the same firm during their entire tenure in the database.

Table 6: 2SLS STRATEGY

VARIABLES	(1) Base	(2) Base	(3) Single Firm	(4) Single Firm
Panel A : Equation 2				
Chinese Import Share	0.360	-0.583**	0.655	-0.289
	(0.479)	(0.274)	(0.705)	(0.295)
Chinese Import Share*College		2.381**		2.376*
		(0.845)		(1.188)
R-squared	0.825	0.825	0.833	0.833
MarginalEff		1.799**		2.087*
StdErr		(0.792)		(1.191)
Panel B : Equation 3				
Chinese Import Share	0.521	-0.338	0.620	-0.315
	(0.617)	(0.308)	(0.663)	(0.286)
Chinese Import Share*College		2.120**		2.379*
		(0.939)		(1.148)
Firm Size : 10-49	0.0230***	0.0238***	0.0224***	0.0231***
	(0.00341)	(0.00340)	(0.00452)	(0.00447)
50-249	0.0356***	0.0365***	0.0354***	0.0359***
	(0.00624)	(0.00623)	(0.00859)	(0.00857)
250-499	0.0431***	0.0442***	0.0405***	0.0412***
	(0.00926)	(0.00924)	(0.0122)	(0.0121)
500+	0.0487***	0.0503***	0.0455***	0.0466***
	(0.0110)	(0.0110)	(0.0143)	(0.0142)
log Capital Intensity	-0.00204	-0.00216	-0.00202	-0.00119
	(0.00314)	(0.00325)	(0.00380)	(0.00363)
log Sales	0.0237***	0.0226***	0.0317***	0.0310***
	(0.00599)	(0.00605)	(0.00857)	(0.00858)
Observations	6,367,949	6,367,949	4,017,483	4,017,483
R-squared	0.856	0.856	0.834	0.834
No of Firms	10654	10654	5623	5623
MarginalEff		1.782*		2.065*
StdErr		(0.956)		(1.131)

*** p<0.01, ** p<0.05, * p<0.10.

Note:All columns have year and person fixed effects in Panel A and year and firm-person match fixed effects in Panel B and include Age, Age^2 and Age^3 as covariates. Robust standard errors are reported in parenthesis, and are adjusted for clustering at the industry level. Sample includes only manufacturing workers born between years 1920 and 1991 earning a real (in 2010 SEK) income of 120,000SEK working for at least two years in manufacturing firms with more than 5 employees and values above zero for sales and capital intensity. Firm Size categories follow Eurostat classification as microfirms (less than 10 employees), small firms (10 to 49), medium size firms (50 to 249), and large firms (250+) with the addition of very large firms of larger than 500 employees. In this table, reference firms by size are microfirms of size equal or larger than 5, but less than 10 employees. Columns (1) and (2) have the total population, (3) and (4) have workers who are employed at the same firm during their entire tenure in the database. The SITC Rev.3 classification is only available until 2008 for Sweden. In Food, Tobacco, Electrical Machinery and Radio, Television, Communication Equipment industries 2008 values are not reported and are imputed using the 2006-2007 growth rate over the 2007 values.

Table 7: CHINESE IMPORTS AS A SHARE OF FINNISH APPARENT CONSUMPTION USING FIRST INDUSTRY

VARIABLES	(1) Base	(2) Base	(3) Single Firm	(4) Single Firm
Panel A : Equation 2				
Chinese Import Share	0.114	-0.166**	0.169	-0.113
	(0.124)	(0.0770)	(0.169)	(0.0894)
Chinese Import Share*College		0.724***		0.734**
		(0.245)		(0.328)
R-squared	0.820	0.820	0.829	0.829
MarginalEff		0.558**		0.621*
StdErr		(0.219)		(0.299)
Panel B : Equation 3				
Chinese Import Share	0.155	-0.110	0.172	-0.108
	(0.151)	(0.0880)	(0.155)	(0.0843)
Chinese Import Share*College		0.667**		0.730**
		(0.268)		(0.309)
Firm Size : 10-49	0.0225***	0.0226***	0.0212***	0.0213***
	(0.00311)	(0.00312)	(0.00404)	(0.00403)
50-249	0.0346***	0.0348***	0.0330***	0.0331***
	(0.00445)	(0.00447)	(0.00692)	(0.00692)
250-499	0.0406***	0.0408***	0.0358***	0.0360***
	(0.00722)	(0.00722)	(0.0100)	(0.00999)
500+	0.0448***	0.0452***	0.0404***	0.0412***
	(0.00933)	(0.00938)	(0.0127)	(0.0127)
log Capital Intensity	-0.00377	-0.00370	-0.00350	-0.00325
	(0.00324)	(0.00318)	(0.00354)	(0.00339)
log Sales	0.0311***	0.0310***	0.0399***	0.0398***
	(0.00455)	(0.00458)	(0.00691)	(0.00693)
Observations	6,829,634	6,829,634	4,257,713	4,257,713
R-squared	0.852	0.852	0.830	0.830
Min Employee	5	5	5	5
NoFirms	11009	11009	5640	5640
MarginalEff		0.558**		0.622**
StdErr		(0.243)		(0.276)

*** p<0.01, ** p<0.05, * p<0.10.

Note: All columns have year and person fixed effects in Panel A and year and firm-person match fixed effects in Panel B and include Age, Age^2 and Age^3 as covariates. Robust standard errors are reported in parenthesis, and are adjusted for clustering at the industry level. Sample includes only manufacturing workers born between years 1920 and 1991 earning a real (in 2010 SEK) income of 120,000SEK working for at least two years in manufacturing firms with more than 5 employees and values above zero for sales and capital intensity who are assigned the industry in their first year in business throughout their presence. Firm Size categories follow Eurostat classification as microfirms (less than 10 employees), small firms (10 to 49), medium size firms (50 to 249), and large firms (250+) with the addition of very large firms of larger than 500 employees. In this table, reference firms by size are microfirms of size equal or larger than 5, but less than 10 employees. Columns (1) and (2) have the total population, (3) and (4) have workers who are employed at the same firm during their entire tenure in the database.

Table 8: LOW TECHNOLOGY INDUSTRIES ONLY

	1	2	3	4
VARIABLES	Base	Base	Single Firm	Single Firm
Panel A : Equation 2				
Chinese Import Share	-0.229	-0.570	-0.228	-0.575
	(0.258)	(0.443)	(0.335)	(0.507)
Chinese Import Share*College		1.903*		1.964
		(1.068)		(1.140)
R-squared	0.815	0.815	0.825	0.825
MarginalEff		1.333*		1.389*
StdErr		(0.685)		(0.757)
Panel B : Equation 3				
Chinese Import Share	-0.203	-0.556	-0.141	-0.486
	(0.335)	(0.494)	(0.324)	(0.488)
Chinese Import Share*College		1.862*		1.953*
		(1.028)		(1.121)
Firm Size : 10-49	0.0223***	0.0223***	0.0211***	0.0211***
	(0.00321)	(0.00324)	(0.00395)	(0.00399)
50-249	0.0347***	0.0347***	0.0336***	0.0336***
	(0.00567)	(0.00568)	(0.00754)	(0.00755)
250-499	0.0407***	0.0406***	0.0368***	0.0366***
	(0.00884)	(0.00879)	(0.0111)	(0.0111)
500+	0.0434***	0.0434***	0.0407***	0.0405***
	(0.0114)	(0.0113)	(0.0141)	(0.0140)
log Capital Intensity	-0.000693	-0.000787	-0.000518	-0.000536
	(0.00186)	(0.00193)	(0.00195)	(0.00199)
log Sales	0.0320***	0.0319***	0.0396***	0.0395***
	(0.00608)	(0.00606)	(0.00786)	(0.00784)
Observations	6,182,541	6,182,541	4,026,595	4,026,595
R-squared	0.845	0.845	0.826	0.826
Min Employee	5	5	5	5
NoFirms	10414	10414	5592	5592
MarginalEff		1.306*		1.467*
StdErr		(0.667)		(0.743)

*** p<0.01, ** p<0.05, * p<0.10.

Note: All columns have year and person fixed effects in Panel A and year and person-firm match fixed effects in Panel B, and include Age, Age^2 and Age^3 as covariates. Robust standard errors are reported in parenthesis, and are adjusted for clustering at the industry level. Sample includes manufacturing workers working in industries excluding Manufacture of office machinery and computers, Manufacture of electrical machinery and apparatus not elsewhere classified, and Manufacture of radio, television, and communication equipment and apparatus born between years 1920 and 1991 earning a real (in 2010 SEK) income of 120,000SEK working for at least two years in manufacturing firms with more than 5 employees and values above zero for sales and capital intensity. Firm Size categories follow Eurostat classification as microfirms (less than 10 employees), small firms (10 to 49), medium size firms (50 to 249), and large firms (250+) with the addition of very large firms of larger than 500 employees. In this table, reference firms by size are microfirms of size equal or larger than 5, but less than 10 employees. Columns (1) and (2) have the total population, (3) and (4) have workers who are employed at the same firm during their entire tenure in the database.

Table 9: CHINESE IMPORTS AS A SHARE OF FINNISH APPARENT CONSUMPTION - EQ 8

VARIABLES	(1) Base	(2) Base	(3) 2SLS	(4) 2SLS
Chinese Import Share	0.1111	-0.1510	0.5063	-0.4914
	(0.1060)	(0.0434)	(0.3857)	(0.1839)
Chinese Import Share*College		0.6560		2.3536
		(0.1401)		(0.4802)
Firm Size : 10-49	0.0198	0.0200	0.0204	0.0215
	(0.0025)	(0.0025)	(0.0025)	(0.0021)
50-249	0.0298	0.0302	0.0309	0.0322
	(0.0046)	(0.0045)	(0.0041)	(0.0040)
250-499	0.0342	0.0346	0.0369	0.0385
	(0.0065)	(0.0064)	(0.0055)	(0.0060)
500+	0.0374	0.0380	0.0419	0.0441
	(0.0082)	(0.0081)	(0.0069)	(0.0079)
log Capital Intensity	-0.0041	-0.0041	-0.0023	-0.0025
	(0.0029)	(0.0028)	(0.0020)	(0.0027)
log Sales	0.0278	0.0275	0.0211	0.0199
	(0.0053)	(0.0052)	(0.0038)	(0.0044)
Observations	6,832,039	6,832,039	6,367,949	6,367,949
R-squared	0.8236	0.8238	0.8279	0.8281
No of Firms	11,020	11,020	10,654	10,654
Individuals	913,446	913,446	888,355	888,355
Marginal Effect		0.5050		1.8622
Std Err		(0.1341)		(0.5664)

Note: All columns have year, person, and firm fixed effects. Sample includes only manufacturing workers born between years 1920 and 1991 earning a real (in 2010 SEK) income of 120,000SEK working for at least two years in manufacturing firms with more than 5 employees and values above zero for sales and capital intensity. Firm Size categories follow Eurostat classification as microfirms (less than 10 employees), small firms (10 to 49), medium size firms (50 to 249), and large firms (250+) with the addition of very large firms of larger than 500 employees. In this table, reference firms by size are microfirms of size equal or larger than 5, but less than 10 employees. Columns 1 and 2 have standard errors obtained from standard deviations of the relevant coefficients after 100 repetitions of the regression following a bootstrap sampling, and are reported in parenthesis. Columns 3 and 4 report bootstrap standard errors obtained from 50 replications with replacement based on 10654 possible firm clusters in parenthesis. Since the SITC Rev.3 classification is only available until 2008 for Sweden, Columns 3 and 4 have one year less of observations. In Food, Tobacco, Electrical Machinery and Radio, Television, Communication Equipment industries 2008 values are not reported and are imputed using the 2006-2007 growth rate over the 2007 values.

A Data

Table A.1: DATA DESCRIPTION

Firm Data	
Total Wages	Sum of personnel costs for the year (Summa personalkostnader)
Total Sales	Sum of revenues for the year (Nettomsättning)
Capital (K)	Sum of the following reported tangible assets for the year: Land and Buildings Machinery and Equipment Ongoing Construction and Advance payments for tangible fixed assets
Total Employees (N)	Total employees (Antal Anställda)
Capital Intensity	Calculated as K/N
Industry Classification	Industry Codes are reported in four different systems (SNI1969, 1992, 2002, 2007) which all have been converted to SNI2002 at the 5-digit and 2-digit level
Business Register	
Legal Form	Classification by type of legal entity
Controlling Ownership	Standard Classification by ownership control
Employee Data	
Annual Wage	Taxed wage income (Kontant Bruttolön)
Age	As reported
Gender	As reported
Level of Highest Education	Under the old SUN code, the following categories: Pre High School Some High School without a diploma High School diploma Less than 2 years of University More than 2 years of University, includes those with diploma Postgraduate Studies
Targeted Field of Education	Targeted diploma subject

Notes: **Firm Data** source is Account Statistics (FEK). Data for 1980-1996 are for a sample of companies. Data comes with a 2 year lag. Only non-imputed companies included. **Business Register** data is sourced from the Business Register Database (Fretagsregistret). Data available from 1980 onwards. **Employee Data** source is Register Based Labor Statistics (RAMS). Data available from 1985 onwards. Each individual is linked to a firm, and a plant where applicable.

Table A.2: SAMPLE SELECTION AND DATA HANDLING

Firm Data:	
Total Employees	Sample only includes firms who have never had fewer than 5 employees. For some of the regressions, the firms are categorized into size groups following Eurostat classification as microfirms (less than 10 employees), small firms (10 to 49), medium size firms (50 to 249), and large firms (250+). I augment this scale with the addition of a fifth group of very large firms of larger than 500 employees.
Business Register:	
Legal Form	I pool together firms that fall under the following legal forms: (i) Limited Partnerships (Handelsbolag), (ii) Limited Liability Companies other than banking and insurance companies. (Aktiebolag)
Controlling Ownership	Sample only contains Institutional Units Controlled by private Swedish entities, composed of the following two types of firm control: (i) Independent Institutional Units Controlled by Private Swedish Entities (ii) Institutional Units Belonging to a Group Controlled by Private Swedish Entities.
Employee Data:	
Annual Wage	I only look at individuals who have earned at least 120,000SEK ($\approx$ \$16,250) annually to exclude part-time workers.
Age	Sample is restricted to workers born between years 1920 and 1992.
Education	I exclude workers whose education levels are unknown. While in the data is available in 5 level detail for educational attainment, the individuals are grouped into the following three educational groups: less than high school diploma, high school diploma holders, and at least some college based on the more detailed classification.

Table A.3: CHINESE IMPORT MEASURE CORRELATIONS, 1996-2008

	(1) Swe A.C.	(2) Fin A.C.	(3) log Chinese Exports	(4) Fin Total Imports
Chinese Import Share Swe A.C.	1.0000			
Chinese Import Share Fin A.C.	0.6592	1.0000		
log Chinese Exports to RoW	0.4560	0.5678	1.0000	
Chinese Import share Fin total Imports	0.7426	0.8346	0.5951	1.0000

Table A.4: CONVERSION OF SITC PRODUCT CLASSIFICATIONS UNDER UN COMTRADE TO SWEDISH INDUSTRY CODES SNI FOR MANUFACTURING INDUSTRIES.

SITC	SITC Name	SNI	SNI Name
1 4 6 7 9 11	Meat and meat preparations Cereals and cereal preparations Sugars, Sugar preparations and honey Coffee, tea, cocoa, spices, and manufactures thereof Miscellaneous edible products and preparations Beverages	15	Manufacture of food products and beverages
12	Tobacco and tobacco manufactures	16	Manufacture of tobacco products
65	Textile yarn, fabrics, made-up articles, n.e.s., and related products	17	Manufacture of textiles
84 85	Articles of apparel and clothing accessories Footwear	18	Manufacture of wearing apparel; dressing and dyeing of fur
61	Leather, leather manufactures, n.e.s., and dressed furskins	19	Tanning and dressing of leather; manufacture of luggage, handbags, saddlery, harness and footwear
63	Cork and wood manufactures (excluding furniture)	20	Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
64	Paper, paperboard and articles of paper pulp, of paper or of paperboard	21	Manufacture of pulp, paper and paper products
892 898	Printed matter Musical instruments and parts and accessories thereof; records, tapes and other sound or similar recordings	22	Publishing, printing and reproduction of recorded media
325 33	Coke and semi-coke (including char) of coal, of lignite or of peat, whether or not agglomerated; retort carbon Petroleum, petroleum products and related materials	23	Manufacture of coke, refined petroleum products and nuclear fuel
5 excl 57&58	Chemicals and related products, n.e.s.	24	Manufacture of chemicals and chemical products
62 57 58	Rubber manufactures, n.e.s. Plastics in primary forms Plastics in non-primary forms	25	Manufacture of rubber and plastic products
66	Non-metallic mineral manufactures, n.e.s.	26	Manufacture of other non-metallic mineral products
67 68	Iron and steel Non-ferrous metals	27	Manufacture of basic metals
69	Manufactures of metals, n.e.s.	28	Manufacture of fabricated metal products, except machinery and equipment
74	General industrial machinery and equipment, n.e.s., and machine parts, n.e.s.	29	Manufacture of machinery and equipment n.e.c.
75	Office machines and automatic data-processing machines	30	Manufacture of office machinery and computers
77	Electrical machinery, apparatus and appliances, n.e.s., and electrical parts thereof	31	Manufacture of electrical machinery and apparatus n.e.c.
76	Telecommunications and sound-recording and reproducing apparatus and equipment	32	Manufacture of radio, television and communication equipment and apparatus
88 872	Photographic apparatus, equipment and supplies and optical goods, n.e.s.; watches and clocks Instruments and appliances, n.e.s., for medical, surgical, dental or veterinary purposes	33	Manufacture of medical, precision and optical instruments, watches and clocks
78	Road vehicles (including air-cushion vehicles)	34	Manufacture of motor vehicles, trailers and semi-trailers
79	Other transport equipment	35	Manufacture of other transport equipment
82	Furniture, and parts thereof; bedding, mattresses, mattress supports, cushions and similar stuffed furnishings	36	Manufacture of furniture; manufacturing n.e.c.
—	—	37	Recycling

Notes: The Product level trade information in UN Comtrade does not allow for the identification of the Recycling industry to match the Swedish industry category.

B Tables

Table B.1: CHINESE IMPORTS AS A SHARE OF FINNISH APPARENT CONSUMPTION USING FIRST INDUSTRY - EQ 8

VARIABLES	(1) Base	(2) Base
Chinese Import Share	0.1545	-0.1367
	(0.1216)	(0.0445)
Chinese Import Share*College		0.7219
		(0.1261)
Firm Size : 10-49	0.0196	0.0198
	(0.0021)	(0.0022)
50-249	0.0296	0.0298
	(0.0039)	(0.0042)
250-499	0.0338	0.0349
	(0.0061)	(0.0068)
500+	0.0368	0.0375
	(0.0083)	(0.0084)
log Capital Intensity	-0.0040	-0.0039
	(0.0025)	(0.0023)
log Sales	0.0281	0.0280
	(0.0045)	(0.0054)
Observations	6,829,634	6,829,634
R-squared	0.8236	0.8239
Min Employee	5	5
NoFirms	11009	11009
Individuals	913,093	913,093
Marginal Effect		0.5852
Std Err		(0.1447)

Note: All columns have year, person, and firm fixed effects, bootstrap standard errors from 100 replications are reported in parenthesis. The replications take into account 11009 clusters of firms. Sample includes only manufacturing workers born between years 1920 and 1991 earning a real (in 2010 SEK) income of 120,000SEK working for at least two years in manufacturing firms with more than 5 employees and values above zero for sales and capital intensity who are assigned the industry in their first year in business throughout their presence. Firm Size categories follow Eurostat classification as microfirms (less than 10 employees), small firms (10 to 49), medium size firms (50 to 249), and large firms (250+) with the addition of very large firms of larger than 500 employees. In this table, reference firms by size are microfirms of size equal or larger than 5, but less than 10 employees.

Table B.2: CHINESE IMPORTS AS A SHARE OF TOTAL FINNISH IMPORTS

VARIABLES	(1) Base	(2) Base	(3) Single Firm	(4) Single Firm
Panel A : Equation 2				
Chinese Import Share	0.00125*	-0.00121	0.00178**	-0.000462
	(0.000713)	(0.000863)	(0.000801)	(0.000851)
Chinese Import Share*College		0.00481***		0.00416***
		(0.00111)		(0.000836)
R-squared	0.820	0.821	0.829	0.830
MarginalEff		0.00359***		0.00370***
StdErr		(0.000543)		(0.000483)
Panel B : Equation 3				
Chinese Import Share	0.00150**	-0.000444	0.00168**	-0.000529
	(0.000712)	(0.000808)	(0.000749)	(0.000812)
Chinese Import Share*College		0.00365***		0.00411***
		(0.000811)		(0.000824)
Firm Size : 10-49	0.0225***	0.0230***	0.0212***	0.0217***
	(0.00291)	(0.00293)	(0.00387)	(0.00391)
50-249	0.0347***	0.0355***	0.0329***	0.0338***
	(0.00482)	(0.00486)	(0.00710)	(0.00715)
250-499	0.0411***	0.0418***	0.0361***	0.0369***
	(0.00759)	(0.00754)	(0.0103)	(0.0103)
500+	0.0451***	0.0460***	0.0405***	0.0416***
	(0.0101)	(0.00989)	(0.0131)	(0.0130)
log Capital Intensity	-0.00338	-0.00367	-0.00308	-0.00312
	(0.00305)	(0.00315)	(0.00327)	(0.00345)
log Sales	0.0306***	0.0302***	0.0395***	0.0392***
	(0.00487)	(0.00487)	(0.00691)	(0.00701)
Observations	6,832,039	6,832,039	4,258,869	4,258,869
R-squared	0.852	0.852	0.830	0.830
Min Employee	5	5	5	5
No of Firms	11020	11020	5638	5638
MarginalEff		0.00321***		0.00359***
StdErr		(0.000460)		(0.000495)

*** p<0.01, ** p<0.05, * p<0.10.

Note: All columns have year and person fixed effects in Panel A and year and firm-person match fixed effects in Panel B and include *Age*, Age^2 and Age^3 as covariates. Robust standard errors are reported in parenthesis, and are adjusted for clustering at the industry level. Sample includes only manufacturing workers born between years 1920 and 1991 earning a real (in 2010 SEK) income of 120,000SEK working for at least two years in manufacturing firms with more than 5 employees and values above zero for sales and capital intensity. Firm Size categories follow Eurostat classification as microfirms (less than 10 employees), small firms (10 to 49), medium size firms (50 to 249), and large firms (250+) with the addition of very large firms of larger than 500 employees. In this table, reference firms by size are microfirms of size equal or larger than 5, but less than 10 employees. Columns (1) and (2) have the total population, (3) and (4) have workers who are employed at the same firm during their entire tenure in the database.

Table B.3: CHINESE EXPORTS AS A SHARE OF WORLD GDP - EQUATION 2

VARIABLES	(1) Base	(2) Base	(3) Single Firm	(4) Single Firm
Panel A : Equation 2				
Chinese Import Share	0.00161	-0.00173	-0.000248	-0.00369
	(0.00437)	(0.00416)	(0.00847)	(0.00780)
Chinese Import Share*College		0.0118***		0.0148***
		(0.00237)		(0.00357)
R-squared	0.820	0.820	0.829	0.829
MarginalEff		0.0101**		0.0111
StdErr		(0.00483)		(0.00922)
Panel B : Equation 3				
Chinese Import Share	-0.00342	-0.00696	-0.00550	-0.00878
	(0.00688)	(0.00637)	(0.00786)	(0.00734)
Chinese Import Share*College		0.0137***		0.0145***
		(0.00292)		(0.00349)
Firm Size : 10-49	0.0224***	0.0225***	0.0212***	0.0213***
	(0.00301)	(0.00300)	(0.00399)	(0.00398)
50-249	0.0343***	0.0346***	0.0326***	0.0328***
	(0.00507)	(0.00504)	(0.00731)	(0.00729)
250-499	0.0401***	0.0405***	0.0351***	0.0355***
	(0.00777)	(0.00771)	(0.0105)	(0.0104)
500+	0.0440***	0.0445***	0.0395***	0.0400***
	(0.0101)	(0.00995)	(0.0132)	(0.0130)
log Capital Intensity	-0.00427	-0.00401	-0.00419	-0.00381
	(0.00352)	(0.00331)	(0.00401)	(0.00370)
log Sales	0.0314***	0.0310***	0.0404***	0.0401***
	(0.00481)	(0.00482)	(0.00691)	(0.00692)
Observations	6,832,039	6,832,039	4,258,869	4,258,869
R-squared	0.852	0.852	0.830	0.830
Min Employee	5	5	5	5
No of Firms	11020	11020	5693	5693
MarginalEff		0.00671		0.00571
StdErr		(0.00735)		(0.00848)

*** p<0.01, ** p<0.05, * p<0.10.

Note: All columns have year and person fixed effects for Panel A, and year and firm-person match fixed effects for Panel B, and include Age, Age^2 and Age^3 as covariates. Robust standard errors are reported in parenthesis, and are adjusted for clustering at the industry level. Sample includes only manufacturing workers born between years 1920 and 1991 earning a real (in 2010 SEK) income of 120,000SEK working for at least two years in manufacturing firms with more than 5 employees and values above zero for sales and capital intensity. Firm Size categories follow Eurostat classification as microfirms (less than 10 employees), small firms (10 to 49), medium size firms (50 to 249), and large firms (250+) with the addition of very large firms of larger than 500 employees. In this table, reference firms by size are microfirms of size equal or larger than 5, but less than 10 employees. Columns (1) and (2) have the total population, (3) and (4) have workers who are employed at the same firm during their entire tenure in the database.

Table B.4: IV STRATEGY - FIRST STAGE AND REDUCED FORM REGRESSIONS

VARIABLES	(1) 1st Stage(a)	(2) 1st Stage(b)	(3) log Wage	(4) 1st Stage(a)	(5) 1st Stage(b)	(6) log Wage
Panel A : Equation 2						
Finnish CMP	0.237**	-0.0124***	1.031***	0.211*	-0.0120**	1.132**
	(0.0869)	(0.00388)	(0.314)	(0.105)	(0.00456)	(0.470)
Finnish CMP*Coll	-0.00655	0.280***	0.639**	0.000205	0.259**	0.546
	(0.0460)	(0.0930)	(0.302)	(0.0582)	(0.121)	(0.370)
R-squared	0.821	0.865	0.784	0.855	0.890	0.799
MarginalEff			1.670***			1.678**
StdErr			(0.520)			(0.703)
Panel B : Equation 3						
Finnish CMP	0.216**	-0.0132**	1.123**	0.210*	-0.0127**	1.132**
	(0.100)	(0.00538)	(0.435)	(0.105)	(0.00518)	(0.470)
Finnish CMP*Coll	-0.00479	0.262**	0.470	-0.000487	0.259**	0.546
	(0.0547)	(0.110)	(0.308)	(0.0572)	(0.120)	(0.370)
Firm Size : 10-49	0.000556	-6.22e-05		0.000498	-2.35e-05	
	(0.000377)	(0.000115)		(0.000357)	(9.72e-05)	
50-249	0.000177	-0.000242		-0.000104	-0.000193	
	(0.000964)	(0.000253)		(0.00105)	(0.000258)	
250-499	0.000103	-0.000336		-0.000115	-0.000240	
	(0.00110)	(0.000355)		(0.00107)	(0.000334)	
500+	0.00132	-6.08e-05		0.00103	0.000171	
	(0.00154)	(0.000304)		(0.00108)	(0.000241)	
log Capital Intensity	-0.00150	-0.000533		-0.000855	-0.000578	
	(0.00109)	(0.000491)		(0.000892)	(0.000556)	
log Sales	-0.000699	0.000167		-0.000582	6.37e-05	
	(0.000951)	(0.000225)		(0.000707)	(0.000169)	
Observations	6,367,949	6,367,949	6,367,949	4,017,483	4,017,483	4,017,483
R-squared	0.880	0.911	0.828	0.856	0.891	0.799
NoFirms	10654	10654	10654	5623	5623	5623
MarginalEff			1.593**			1.678**
StdErr			(0.597)			(0.703)

*** p<0.01, ** p<0.05, * p<0.10.

Note: All columns have year and person fixed effects for Panel A, and year and firm-person match fixed effects for Panel B, robust standard errors are reported in parenthesis, and are adjusted for clustering at the industry level. Columns (1), (2), (4) and (5) control for Age, Age^2 and Age^3. Sample includes only manufacturing workers born between years 1920 and 1991 earning a real (in 2010 SEK) income of 120,000SEK working for at least two years in manufacturing firms with more than 5 employees and values above zero for sales and capital intensity. Columns (1) through (3) have the total population, (4) through (6) have workers who are employed at the same firm during their entire tenure in the database. First Stages (a) have Swedish share of Chinese Imports over Swedish Apparent Consumption as the dependent variable, (b) have this measure interacted with the college dummy as the dependent variable. Columns (3) and (6) present the reduced form regressions where log wage is regressed only on the two instruments. The SITC Rev.3 classification is only available until 2008 for Sweden. In Food, Tobacco, Electrical Machinery and Radio, Television, Communication Equipment industries 2008 values are not reported and are imputed using the 2006-2007 growth rate over the 2007 values.

C Figures

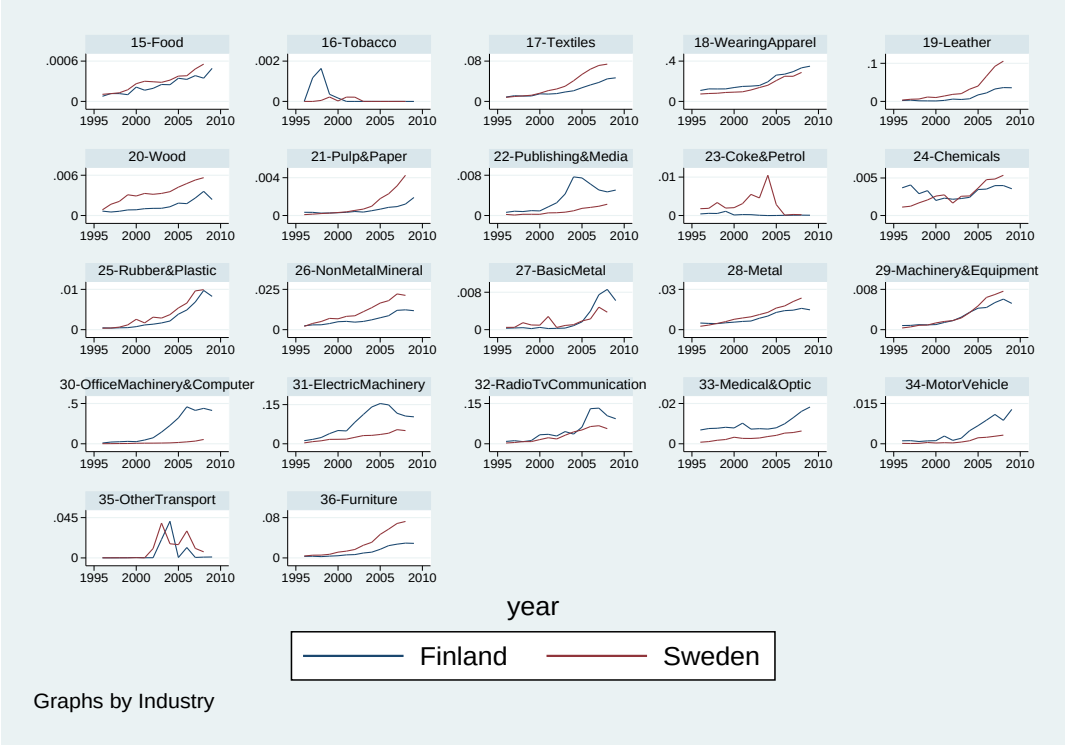

Figure C.1: Swedish and Finish Imports from China as a share of respective apparent consumptions, by industry, individual scales