

# Domestic Entry Costs Matter More for the Skill Premium: A Comparative Analysis of Export and Domestic Entry Costs in a Model with Skill Flexibility

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## Abstract

This paper develops a small open economy model with skill flexibility and quantitatively compares the relative importance of export and domestic entry costs for the skill premium. Motivated by Lazear (2005, 2012), skill is defined as flexibility, i.e., the ability to handle the diversity of inputs. Flexibility is measured by fixed labor setup costs based on Mitchell (2005). Higher skill level reflects a greater flexibility to handle input diversity, which translates into lower setup costs. The mechanism is that when export and/or domestic entry costs fall, the variety of intermediate inputs produced expands, raising demand for flexible high-skilled labor. In a model calibrated to the U.S. data (1985–2000) that incorporates technological change, we quantitatively show that most of the rise in the skill premium is accounted for by falling domestic entry costs, not falling export entry costs or technological change.

**Keywords:** Domestic entry costs, Export entry costs, Input variety, Skill flexibility, Skill premium

**JEL Classifications:** F12, F16, J24, J31, L51

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# 1 Introduction

The increased skill premium is one of the important issues in economics. There are studies (e.g., Kurokawa, 2010 and 2020; Atolia and Kurokawa, 2021) which theoretically or quantitatively show that as an alternative to technological change, a decrease in domestic entry costs is also an important factor that can increase the skill premium. Recent trade studies, however, emphasize that export entry costs too are important as entry costs (e.g., Melitz, 2003). This casts a doubt on the skill premium studies that focus on only domestic entry costs.

We now raise the question: How robust are the past results about the effect of domestic entry costs on the skill premium to the inclusion of export entry costs in the model? To answer this question, we develop a small open economy model with skill flexibility and quantitatively compares the relative importance of export and domestic entry costs for the skill premium.

The structure of the model is as follows: It is a small open economy. There are two types of labor: low- and high-skilled labor. There are two types of domestic goods: low- and high-skill type good. Each type of domestic good is differentiated and produced by a continuum of firms. High-skill (low-skill) type of domestic good requires, as input, both domestic and imported goods and high-skilled (low-skilled) labor. Domestic goods are also exported. Motivated by Lazear (2005, 2012), skill is defined as flexibility, i.e., the ability to handle the diversity of inputs. Flexibility is measured by fixed labor setup costs based on Mitchell (2005). Higher skill level reflects a greater flexibility to handle input diversity, which translates into lower setup costs. The mechanism is that when export and/or domestic entry costs fall, the variety of intermediate inputs produced expands, raising demand for flexible high-skilled labor.

In a model calibrated to the U.S. data (1985–2000) that incorporates technological change, we quantitatively show how much of the rise in the skill premium is accounted for by domestic entry costs, export entry costs, and technology. Our quantitative analysis shows that most of the increase in skill premium is accounted for by falling domestic entry costs, not falling export entry costs or technological change.

Of course, as mentioned above there are studies that theoretically or quantitatively show that as an alternative to technological change, entry costs are also an important factor that can increase the skill premium. Kurokawa (2010) theoretically shows, in a closed economy model, that a decrease in domestic entry costs can increase the skill premium via an increase

in the diversity of inputs. Kurokawa (2020) extends the model to a two country model to theoretically show that a decrease in domestic entry costs can increase the skill premium in both of the trading countries via an increase in the diversity of inputs in both countries. Atolia and Kurokawa (2021) develop a skill flexibility model with several types of labor and investigate the quantitative importance of domestic entry costs for the wage income distribution, such as below-top and within-top skewness. Our paper is the most closely related to Atolia and Kurokawa (2020) among these three studies. However, our model goes further and includes export entry costs that are important as entry costs in the recent literature but not taken into account by any of these three studies. We show that domestic entry costs have a greater effect on the skill premium than export entry costs and thus past results about the effect of domestic entry costs on the skill premium are robust to the inclusion of export entry costs in the model.

The rest of this paper is organized as follows: We develop our model in Section 2. Section 3 explains our calibration. In Section 4, we conduct our numerical experiments. Section 5 concludes.

## 2 The Model

Consider a small open economy that has two types of labor: low- and high-skilled labor. The endowment of low- and high-skilled labor is  $L$  and  $H$ . This economy produces two types of goods: low- and high-skill type good. Each type  $i$  good is produced by  $n_i$  firms,  $i = L, H$ . It also imports a foreign good, which is produced by  $n^*$  foreign firms. The production of type  $i$  domestic good requires, as input, both domestic and imported goods and type  $i$  labor. Besides, domestic goods are also exported. Both domestic and imported goods are consumed.

Types of labor differ in their flexibility to handle the diversity of inputs, which is measured by setup costs  $a_i$ , as it is in Mitchell (2005). Higher skill level reflects a greater flexibility to handle input diversity, which translates into lower setup costs  $a_i$  so that  $a_L > a_H$ . This is consistent with the evidence that workers who have a high-skill position, such as CEOs and managing directors, are ‘generalists’ (Lazear, 2005, 2012) who are competent in many skills, i.e., are highly flexible.

First, we set up and solve the consumer’s problem. A representative consumer in the

country solves the problem of maximizing

$$u = c, \quad (1)$$

subject to<sup>1</sup>

$$\begin{aligned} qc &\leq w_L L + w_H H - NX, \\ c &\geq 0, \end{aligned} \quad (2)$$

where  $c$  is the consumption of the final good,  $q$  is its price,  $w_L$  and  $w_H$  are the wages for the low- and the high-skilled labor, and  $NX$  is net exports.

By assuming the symmetry of type  $i$  firms and also the symmetry of foreign firms, the final good is a CES aggregate of different goods given by

$$c = (n_L(c_{zL})^\rho + n_H(c_{zH})^\rho + n^*(c_{z^*})^\rho)^{\frac{1}{\rho}}, \quad (3)$$

where parameter  $\rho$ ,  $\rho < 1$ , governs the elasticity of substitution,  $1/(1 - \rho)$ , between any two goods,  $c_{zL}$  is the consumption of a type  $L$  domestic good produced by firm  $z$ ,  $z \in D_L = [0, n_L]$ ,  $c_{zH}$  is the consumption of a type  $H$  domestic good produced by firm  $z$ ,  $z \in D_H = [n_L, n_L + n_H]$ , and  $c_{z^*}$  is the consumption of an imported good produced by foreign firm  $z^*$ ,  $z^* \in D^* = [n_L + n_H, n_L + n_H + n^*]$ , which are given by

$$c_{zi} = \left(\frac{q_{zi}}{q}\right)^{-\frac{1}{1-\rho}} c = \left(\frac{q_{zi}}{q}\right)^{-\frac{1}{1-\rho}} \frac{(w_L L + w_H H - NX)}{q}, \quad z \in D_i, i = L, H, \quad (4)$$

$$c_{z^*} = \left(\frac{q_{z^*}}{q}\right)^{-\frac{1}{1-\rho}} c = \left(\frac{q_{z^*}}{q}\right)^{-\frac{1}{1-\rho}} \frac{(w_L L + w_H H - NX)}{q}, \quad z^* \in D^*, \quad (5)$$

wherein  $q_{zi}$  is the domestic price of type  $i$  domestic good  $z$ ,  $q_{z^*}$  is the world price of imported good  $z^*$ , and  $q$  is the exact consumption-based price index of the prices of individual goods:

$$q = \left[ n_L(q_{zL})^{-\frac{\rho}{1-\rho}} + n_H(q_{zH})^{-\frac{\rho}{1-\rho}} + n^*(q_{z^*})^{-\frac{\rho}{1-\rho}} \right]^{-\frac{1-\rho}{\rho}}. \quad (6)$$

Given the small open economy setting, we assume that the world price of the foreign good  $q_{z^*}$  and the number of foreign firms  $n^*$  are exogenously given.

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<sup>1</sup>As will be shown later, we consider the long-run economy where the profit of each firm becomes zero, and thus there is no profit in the consumer's budget.

Next, we set up and solve the firm's problem. The technology for producing each type of goods exhibits increasing returns to scale because of the presence of fixed costs. Specifically, every firm  $z$ ,  $z \in D_i, i = L, H$ , has the production function

$$y_{zi} = \max \left[ A \{ a_{xi} (x_{zi})^\varepsilon + (1 - a_{xi}) (l_{iz} - a_i)^\varepsilon \}^{1/\varepsilon} - (F^D + F^X), 0 \right], \quad (7)$$

where  $0 < a_{xi} < 1$  are share parameters;  $A > 0$  is a TFP parameter; and an increase in  $A$  captures technological change. Also,  $l_{iz}$  refers to type  $i$  labor used in the production of firm  $z$ ,  $z \in D_i$ , and  $x_{zi}$  is the combination of all goods used in the production of firm  $z$ ,  $z \in D_i, i = L, H$ , which is given by

$$x_{zi} = (n_L (x_{z'L,zi}^L)^\rho + n_H (x_{z'H,zi}^H)^\rho + n^* (x_{z'^*,zi}^*)^\rho)^{\frac{1}{\rho}}, \quad (8)$$

and  $F^D$  and  $F^X$  are, respectively, the levels of domestic and export fixed costs in terms of output, which are common across firms. As mentioned above, firms also face setup costs for labor  $a_i$ . One might think of  $a_i$  as training costs that depend on labor type  $i$ . Thus, total fixed costs consist of fixed costs of entry  $F^D$  and  $F^X$  in terms of output and setup costs  $a_i$ .

We solve firm  $z$ 's problem. Let  $\tilde{c}_{zi}(q, w_i; y_{zi} + (F^D + F^X), a_i)$  be the solution to the cost minimization problem for firm  $z$ ,  $z \in D_i, i = L, H$ . As each output is produced using a nested-CES technology with a composite input made from goods and low-skilled or high-skilled labor as inputs, the cost function can be written as follows:

$$\begin{aligned} & \tilde{c}_{zi}(q, w_i; y_{zi} + (F^D + F^X), a_i) \\ &= w_i a_i + \frac{1}{A} \left( a_{xi}^{\frac{1}{1-\varepsilon}} (q)^{-\frac{\varepsilon}{1-\varepsilon}} + (1 - a_{xi})^{\frac{1}{1-\varepsilon}} (w_i)^{-\frac{\varepsilon}{1-\varepsilon}} \right)^{-\frac{1-\varepsilon}{\varepsilon}} (y_{zi} + (F^D + F^X)), \end{aligned} \quad (9)$$

where  $i = L, H$ .

Thus we can write  $\tilde{c}_{zi}(\cdot)$  as a linear function of  $y_{zi} + (F^D + F^X)$ :

$$\tilde{c}_{zi}(q, w_i; y_{zi} + (F^D + F^X), a_i) = G_{1i} + G_{2i} (y_{zi} + (F^D + F^X)), \quad z \in D_i, \quad (10)$$

where  $G_{1i}, G_{2i} > 0$  are independent of firm's choices. The profit maximization for domestic

firm  $z \in D_i$  implies the mark-up pricing rule:

$$q_{zi} = \frac{G_{2i}}{\rho}, \quad z \in D_i. \quad (11)$$

Further, by the zero profit condition for  $z \in D_i$ :

$$\pi_{zi} = \frac{G_{2i}}{\rho} y_{zi} - G_{1i} - G_{2i} (y_{zi} + (F^D + F^X)) = 0, \quad (12)$$

we obtain

$$y_{zi} = \frac{\rho}{1-\rho} \left[ (F^D + F^X) + \frac{G_{1i}}{G_{2i}} \right], \quad z \in D_i. \quad (13)$$

Here, we show the CES-aggregated price index of the prices of exported goods  $q_x$ :

$$q_x = \left( n_L (q_{zL})^{-\frac{\rho}{1-\rho}} + n_H (q_{zH})^{-\frac{\rho}{1-\rho}} \right)^{-\frac{1-\rho}{\rho}}. \quad (14)$$

Finally, we close the set up of the model by assuming that the trade can be unbalanced, which implies

$$\begin{aligned} & n^* q_{z^*} \left[ c_{z^*} + n_H \left( \frac{q_{z^*}}{q} \right)^{-\frac{1}{1-\rho}} x_{zH} + n_L \left( \frac{q_{z^*}}{q} \right)^{-\frac{1}{1-\rho}} x_{zL} \right] \\ &= -NX + n_H q_{zH} \left[ y_{zH} - c_{zH} - n_H \left( \frac{q_{zH}}{q} \right)^{-\frac{1}{1-\rho}} x_{zH} - n_L \left( \frac{q_{zH}}{q} \right)^{-\frac{1}{1-\rho}} x_{zL} \right] \\ & \quad + n_L q_{zL} \left[ y_{zL} - c_{zL} - n_H \left( \frac{q_{zL}}{q} \right)^{-\frac{1}{1-\rho}} x_{zH} - n_L \left( \frac{q_{zL}}{q} \right)^{-\frac{1}{1-\rho}} x_{zL} \right]. \end{aligned} \quad (15)$$

Note that the left hand side of this equation is the value of imported goods. The last two terms on the right hand side are the value of exported goods. In particular, the last two terms in square brackets on left and right hand sides respectively represent the quantities of a typical imported and domestic good used in the domestic production.

**Definition 1** An *equilibrium* for this small open economy, given  $q_{z^*}$  and  $n^*$ , is a vector of prices  $\{q, q_{zL}, q_{zH}, w_L, w_H\}$ , quantities  $\{c, c_{zL}, c_{zH}, c_{z^*}, y_{zL}, y_{zH}, x_{zL}, x_{zH}, l_{Lz}, l_{Hz}\}$ , and an interval  $D_L + D_H = [0, n_L + n_H]$ , such that,

1. Given the prices, the consumption plans  $\{c, c_{zL}, c_{zH}, c_{z^*}\}$  maximize consumer's utility;

2. *Given the factor prices, the price  $q_{zi}$  and production plans of the firm  $z \in D_i$  maximize profits and minimize costs;*
3. *Every firm  $z \in D_i$  earns zero profits;*
4. *The trade can be unbalanced; and*
5. *The factor markets clear,*

$$\int_{D_H} l_{Hz} dz = H, \quad (16)$$

$$\int_{D_L} l_{Lz} dz = L. \quad (17)$$

### 3 Calibration

In this section, we describe the calibration of the model. Table 1 shows the values of the parameters chosen or calibrated based on empirical evidence.

[Table 1 here]

First, we choose the values of the two substitution parameters,  $\rho$  and  $\varepsilon$ , based on the available evidence. We choose  $\rho = 5/6$ , which implies a 20 percent markup for the monopolistically competitive firms. This is in accordance with the evidence relating to manufacturing industries in OECD countries presented by Martins et al. (1996). We also choose  $\varepsilon = 1/6$  so that the elasticity of substitution between inputs and labor,  $1/(1 - \varepsilon)$ , is 1.2. This is compatible with Rotemberg and Woodford's (1992) estimate.<sup>2</sup>

Next, by normalizing  $q = A = F^D + F^X = 1$  and  $L = 100$ , we calibrate the values of the other parameters based on the available evidence and the 1985-2000 U.S. data. The intermediate input share parameters are calibrated at  $a_{XH} = 0.539$  and  $a_{XL} = 0.599$  so that the share of intermediate goods in gross output is 50%, which is compatible with the evidence for U.S. manufacturing provided by Jorgenson et al. (1987). The values of set up costs are calibrated at  $a_H = 0.3183$  and  $a_L = 7.146$  so that the share of fixed labor costs in total labor costs is 14%, which is estimated by Bartelsman et al. (2013) and consistent with U.S. manufacturing facts. The export and domestic entry costs are  $F^X = 44/144$  and  $F^D = 100/144$  to be consistent with the ratio of export to domestic

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<sup>2</sup>Basu (1995) notes that this elasticity of 1.2 looks relatively high but is not surprising if service inputs are included. In fact, in our model, there is no distinction between manufactured or service inputs.

entry costs of 44/100 presented by Hamano (2025).<sup>3</sup> The number of foreign firms or variety is calibrated at  $n^* = 4.515$  to be consistent with the evidence that the ratio of the variety of manufactured imports to that of manufactured exports is 91/149 in U.S. trade with Mexico in 1987, which is calculated based on Kehoe and Ruhl (2013). Here, we count the variety of traded goods by the number of goods that are not included in what Kehoe and Ruhl (2013) call the least traded goods (non-traded goods).<sup>4</sup> The import price is calibrated at  $q_z^* = 2.019$  to be consistent with the imports/gross output ratio of 0.143 in U.S. manufacturing in 1985 obtained from the Bureau of Economic Analysis (BEA) data. Given  $L = 100$ , the value of the high-skilled endowment is calibrated at  $H = 43.802$  so that  $(w_H H / w_L L) / (w_H / w_L) = 0.682 / 1.557$  in U.S. manufacturing in 1985 obtained from the Annual Survey of Manufactures (ASM) data.

## 4 Numerical Experiments

In this section, we quantify the ability of the model to reproduce the change in the U.S. skill premium over 1985–2000. In our benchmark numerical experiment, we change both domestic and export entry costs that are our main interest and change TFP—technological change that is the central hypothesis in the literature explaining the increase in skill premium, so that the model captures actual changes in real gross output, domestic entry costs, and the skill premium in the U.S. over 1985–2000. Next, to decompose the contributions of each factor, we also conduct four counterfactual experiments allowing for (1) a change in only TFP, (2) changes in both domestic and entry costs, (3) a change in only domestic entry costs, and (4) a change in only export entry costs. In each experiment, we see how our calibrated model can quantitatively capture the fact on U.S. skill premium.

### 4.1 Benchmark Numerical Experiment

We begin with the benchmark numerical experiment. We increase the TFP parameter  $A$  by 7.3%, decrease domestic entry costs  $F^D$  by 54.496%, and decrease export entry costs  $F^X$  by 17%, so that the model captures actual changes in real gross output, domestic entry costs, and the skill premium over 1985–2000 in the U.S.

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<sup>3</sup>Hamano (2025) calibrates the fixed export cost to ensure that 21% of firms export in U.S. manufacturing (Bernard et al., 2003).

<sup>4</sup>See Kehoe and Ruhl (2013) for the detailed procedure used to measure the least traded goods.



The model produces the 42.747% increase in the real gross output, which is in accordance with the BEA and St. Louis Fed data. The real gross output is measured by the nominal gross output/PPI ratio, where the gross output data are from the BEA and the PPI data are from St. Louis Fed. The domestic entry costs  $F^D$  decrease by 54.496%, which is consistent with Nicoletti et al. (2001). Nicoletti et al. (2001) construct product market regulatory indicators, which cover the following regulatory dimensions: barriers to entry, public ownership, vertical integration, market structure, and price controls. Note that we adjust their regulatory indicator change over 20 years (1978–1998) to that over 15 years.<sup>5</sup> The skill premium  $w_H/w_L$  increases by 13.809% as shown by the ASM data. The skill premium is measured by the relative wage of non-production to production workers.

The resulting change in skill premium is shown in the column “All” in Table 2. As mentioned above, it increases by 13.809% as in the data, accounting for 100 % of the data.

[Table 2 here]

## 4.2 Decomposition

In this section, we separate the contributions of (1) TFP, (2) both entry costs, (3) domestic entry costs, and (4) export entry costs to the overall quantitative performance of the model.

### 4.2.1 Counterfactual Experiment 1: TFP

In order to assess the contribution of technological change in the above change in skill premium, we now only change the TFP parameter,  $A$ . Specifically, keeping both entry costs,  $F^D$  and  $F^X$ , unchanged at the initial values, we increase the TFP parameter,  $A$ , by 7.3% as in the benchmark experiment. The resulting change in skill premium shown in the column “TFP” in Table 2 indicates that the skill premium increases by 1.413%, which accounts for 10.232% of the actual 13.809% increase. Comparing the result of this counterfactual experiment with that of the benchmark experiment indicates that technological change does not have quantitatively important impact on the skill premium.

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<sup>5</sup>The product market regulatory index by Nicoletti et al. (2001) indicates the 65% reduction of entry costs in the U.S. over 20 years (1978-1998). We calculate  $(35/100)^{(15/20)}$  and obtain the 54.496% reduction over 15 years.

### 4.2.2 Counterfactual Experiment 2: Both Entry Costs

In order to assess the overall contribution of entry costs in generating the increase in skill premium in the benchmark experiment, we change both entry costs,  $F^D$  and  $F^X$ . Specifically, we keep the TFP parameter,  $A$ , unchanged at the initial level 1, and decrease domestic entry costs,  $F^D$ , by 54.496%, and export entry costs,  $F^X$ , by 17% as in the benchmark experiment. The resulting change in skill premium shown in the column “Both Entry Costs” in Table 2 indicates that the skill premium increases by 11.625%, which accounts for 84.184% of the actual 13.809% increase. Comparing the result of this counterfactual experiment 2 with that of counterfactual experiment 1 reveals that the overall impact of entry costs is quantitatively much more important than that of the technological change.

### 4.2.3 Counterfactual Experiment 3: Domestic Entry Costs

In this and next counterfactual experiments, we decompose the contributions of domestic and export entry costs to the above change in skill premium caused by both entry costs. In this experiment, we change only the domestic entry costs,  $F^D$ . Specifically, we keep the TFP parameter,  $A$ , and the export entry costs,  $F^X$ , unchanged at the initial levels, and decrease domestic entry costs,  $F^D$ , by 54.496% as in the benchmark experiment. The resulting change in skill premium shown in the column “Domestic Entry Costs” in Table 2 indicates that the skill premium increases by 9.634%, which accounts for 69.766% of the actual 13.809% increase. Comparing the result of this counterfactual experiment 3 with that of counterfactual experiment 2 reveals that the impact of the domestic entry costs is 82.873% of the 11.625% increase in skill premium caused by both entry costs.

### 4.2.4 Counterfactual Experiment 4: Export Entry Costs

In this experiment, we change only the export entry costs,  $F^X$ . Specifically, we keep the TFP parameter,  $A$ , and the domestic entry costs,  $F^D$ , unchanged at the initial levels, and decrease export entry costs,  $F^X$ , by 17% as in the benchmark experiment. The resulting change in skill premium shown in the column “Export Entry Costs” in Table 2 indicates that the skill premium increases by 0.963%, which accounts for 6.974% of the actual 13.809% increase. Comparing the result of this counterfactual experiment 4 with that of counterfactual experiment 3 reveals that the impact of the export entry costs is quantitatively much less important than that of the domestic entry costs. It is only 8.284% of the 11.625% increase in skill premium caused by both entry costs.

### 4.3 Sensitivity Analysis

Here, we do three sensitivity analysis experiments regarding (a) the share of labor fixed costs in total labor costs, (b) the ratio of export entry costs to domestic entry costs,  $F^X/F^D$ , and (c) the size of the decrease in domestic entry costs,  $F^D$ .

First, we do sensitivity analysis experiments regarding (a) the share of labor fixed costs in total labor costs. In the benchmark experiment, we have set the share of labor fixed costs in total labor costs at 14%, which is estimated by Bartelsman et al. (2013). We now set it at 20%, which is from Ramey (1991) and based on U.S. manufacturing evidence.

Second, we do sensitivity analysis experiments regarding (b) the ratio of export entry costs to domestic entry costs,  $F^X/F^D$ . The benchmark experiment has set the ratio of export entry costs to domestic entry costs,  $F^X/F^D$ , at 44%, which is presented by Hamano (2025). It is now set at 23.5%, which is from Ghironi and Melitz (2005).<sup>6</sup> It is worth noting that in the benchmark experiment, we have chosen 44% (not 23.5%) to give the maximum chance for export entry costs to account for the increase in the skill premium.

Third, we do sensitivity analysis experiments regarding (c) the size of the decrease in domestic entry costs,  $F^D$ . We have set the size of the decrease in domestic entry costs,  $F^D$  at the 54.496% reduction in the benchmark experiment. Here, we set it at the 81.806% reduction, which is from Ebell and Haefke (2009). Ebell and Haefke (2009) measure entry costs using the product market regulatory data on entry fees and entry delay. We adjust their entry cost change over 19 years (1978–1997) to that over 15 years.<sup>7</sup> It is again worth noting that in the benchmark experiment, we have chosen 54.496% (not 81.806%) to give the maximum chance for export entry costs to account for the increase in the skill premium.

Though we do not report the results of these three experiments here, as expected domestic entry costs remain dominant, and export entry costs have little or no impacts in all these sensitivity analysis experiments.

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<sup>6</sup>Ghironi and Melitz (2005) calibrate the fixed export cost to match the 21% of exporting plants in U.S. manufacturing (Bernard et al., 2003).

<sup>7</sup>The product market regulatory data by Ebell and Haefke (2009) indicate the 88.45% reduction of entry costs in the U.S. over 19 years (1978–1997). We calculate  $(11.55/100)^{(15/19)}$  and obtain the 81.806% reduction over 15 years.

## 5 Conclusion

This paper has developed a small open economy model with skill flexibility. Under the assumption that high-skilled labor is more flexible in handling input diversity than low-skilled labor, when export and/or domestic entry costs fall, the variety of intermediate inputs produced expands, raising demand for flexible high-skilled labor. In a model calibrated to the U.S. data over 1985–2000, our numerical experiments have shown that most of the increase in the U.S. skill premium during the period is accounted for by the decrease in domestic entry costs, while export entry costs and TFP (technological change) are comparable, but both are quantitatively much less important. The results are robust to sensitivity analysis.

This paper has focused on inequality between high- and low-skilled labor. A next step is extending the model to a model with several types of labor and compare the quantitative importance of export vs. domestic entry costs for the wage income distribution, such as below-top and within-top skewness.

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Table 1: The parameterization of the model

Parameter values	Targets	Based on
$\rho = 5/6$	20% markup	Martins et al. (1996)
$\varepsilon = 1/6$	Elasticity of substitution of 1.2 between intermediate inputs and labor	Rotemberg and Woodford (1992)
$a_{XH}=0.539$ & $a_{XL}=0.599$	50% share of intermediate goods in gross output	Jorgenson et al. (1987)
$a_H=0.3183$ & $a_L=7.146$	14% share of fixed labor costs in total labor costs	Bartelsman et al. (2013)
$F^X=44/144$ & $F^D=100/144$	Export entry costs/domestic entry costs: 44/100	Hamano (2025)
$n^*=4.515$	Import variety/domestic variety in 1987: 91/149	Authors' calculation based on Kehoe and Ruhl (2013)
$q_z^*=2.019$ ( <i>import price</i> )	Imports/gross output in 1985: 0.143	Authors' calculation based on BEA
$H=43.802$	$(w_H H/w_L L)/(w_H/w_L)$ in 1985: 0.682/1.557	Authors' calculation based on ASM

Normalizations:  $q=1$ ;  $L=100$ ;  $A=1$ ;  $F^D+F^X=1$

Table 2: The data and the results for numerical experiments

	Data	(1) All	(2) TFP	(3) Both	(4) Domestic	(5) Export
	1985-2000			Entry Costs	Entry Costs	Entry Costs
$w_H/w_L$ initial	1.557	1.557	1.557	1.557	1.557	1.557
$w_H/w_L$ final	1.772	1.772	1.579	1.738	1.707	1.572
% change	13.809% $\uparrow$	13.809% $\uparrow$	1.413% $\uparrow$	11.625% $\uparrow$	9.634% $\uparrow$	0.963% $\uparrow$
(1) = 100%		100%	10.232%	84.184%	69.766%	6.974%
(3) = 100%				100%	<b>82.873%</b>	<b>8.284%</b>