Federal Reserve Bank of Minneapolis
Research Department Staff Report 487

Revised August 2014

Technical Appendix for
Quid Pro Quo: Technology Capital Transfers for Market Access in China*

Thomas J. Holmes
University of Minnesota
and Federal Reserve Bank of Minneapolis

Ellen R. McGrattan
University of Minnesota
and Federal Reserve Bank of Minneapolis

Edward C. Prescott
Arizona State University
and Federal Reserve Bank of Minneapolis

1. Introduction

This appendix provides additional details for our paper "Quid Pro Quo: Technology Capital Transfers for Market Access in China."[1] Specifically, we provide more details about features added to the model to avoid computational problems when investment rates are low, and we discuss the algorithm used to solve the model. We also discuss some results from our sensitivity analysis that are not included in the main text. For those interested in trying their own experiments, we have also made the computer codes available at www.minneapolisfed.org. Finally, we list all inputs used in the baseline model and the extensions associated with our sensitivity analyses. Since our focus is on trends in the time series, the tables in the main paper list inputs only for selected years.

2. The Model

Here, we discuss three additions to the model reported in the main text. First, we include knowledge spillovers. Our original baseline model included spillovers but the addition made only a small difference for our results. We decided to avoid distracting our readers and now only include simulations with spillovers in the sensitivity analysis. The other two additions are included to help with the computation when investment levels are near zero. Specifically, we allow for a subsidy to technology capital investment, with the functional form chosen so that it is approximately equal to zero unless investment in technology capital is close to zero. The second modification that is made for numerical tractability is the inclusion of adjustment costs on all investments. The adjustment costs avoid large initial jumps in investments. For completeness, we specify the entire model and note where the changes are made.

2.1. Multinational Problem

Multinational j maximizes worldwide dividends

$$\max \sum_t p_t \left(1-\tau_{dt}\right) D_t^j, \tag{2.1}$$

where

$$D_t^j = \sum_i \Big\{ \left(1-\tau_{p,it}\right)\left(Y_{it}^j - W_{it}L_{it}^j - \delta_T K_{T,it}^j - X_{I,it}^j - \chi_i^j X_{M,t}^j\right) - K_{T,i,t+1}^j + K_{T,it}^j \Big\} + \tau_s\left(\bar{X}_{Mt}^j/\mu_t^j\right) X_{Mt}^j, \tag{2.2}$$

[1] A separate appendix is also available with more details on our analysis of Chinese patents. The appendix and patent data are available at the Federal Reserve Bank of Minneapolis, www.minneapolisfed.org/research/sr/sr488.html, and the University of Minnesota, www.econ.umn.edu/∼holmes/research.html.

where $\chi_j^j = 1$ and $\chi_i^j = 0$ if $i \neq j$, and

$$K_{T,i,t+1}^j = (1-\delta_T) K_{T,it}^j + X_{T,it}^j - \varphi\left(X_{T,it}^j / K_{T,it}^j\right) K_{T,it}^j$$
$$K_{I,i,t+1}^j = (1-\delta_I) K_{I,it}^j + X_{I,it}^j - \varphi\left(X_{I,it}^j / K_{I,it}^j\right) K_{I,it}^j$$
$$M_{i,t+1}^j = (1-\delta_M)\left(1 - h_{it}^j\left(q_{it}^j\right)\right) M_{it}^j + g\left(\mu_t^j\right) X_{M,t}^j - \varphi\left(X_{M,t}^j / \mu_t^j\right) \mu_t^j.$$

Recall that i indexes the FDI host country, Y_i^j is output produced by j in i, W_i is the wage rate in i which is paid to labor L_i^j, $K_{T,i}^j$ is tangible capital used by j in i and $X_{T,i}^j$ is investment in this capital, $K_{I,i}^j$ is intangible capital that is specific to the production location in i and $X_{I,i}^j$ is the associated investment, M_i^j is technology capital developed by multinationals from j and used in i and X_M^j is the associated investment, μ^j is total technology capital in j's home country (defined below), τ_d is a tax on dividends, $\tau_{p,i}$ is a tax on profits earned in country i, and τ_s is a subsidy to investment in technology capital.

The three new elements in this specification of the model relative to that reported in the paper are as follows: (1) the knowledge spillover $g(\mu^j)$, (2) the subsidy τ_s, and (3) the adjustment costs $\varphi(\cdot)$. The knowledge spillover is modeled as an externality lowering the cost of technology capital investment. The argument μ_t^j is the total stock of technology capital in country j at the time t that multinationals decide how much to invest in new technology capital, namely,

$$\mu_t^j = M_{jt}^j + \tilde{M}_{jt} + \sigma_{jt}^{\frac{1}{\phi}} \sum_{\ell \neq j} q_{jt}^\ell M_{jt}^\ell$$

and depends on own capital, transferred capital, and the effective stock of foreign capital. Note that μ^j is not a choice of the firm; it is taken as given when solving the firm's maximization problem. The subsidy to innovation, τ_s, is included to ensure that all countries do a nonnegative amount of investment in technology capital. Another interpretation is that it captures the idea that countries do not want to be completely dependent on foreign innovation. Finally, the adjustment costs, $\varphi(\cdot)$, smooth out changes in investment and help avoid sharp nonnegative values at the start of some of our simulations.

Outputs are given by

$$Y_{it}^j = A_{it}^j \left(N_{it} q_{it}^j M_{it}^j\right)^\phi \left(Z_{it}^j\right)^{1-\phi}$$

$$Z_{it}^j = \left(K_{T,it}^j\right)^{\alpha_T} \left(K_{I,it}^j\right)^{\alpha_I} \left(L_{it}^j\right)^{1-\alpha_T-\alpha_I},$$

where N_i is the number of locations in country i, q_i^j is the intensity level chosen by firms in j when investing in i, M^j is the stock of technology capital from j, Z_i^j is a composite input used by

multinationals j in country i, and A_i^j is the level of technology parameter faced by multinationals j in country i.

2.2. Appropriators Problem

Appropriators in country i choose capital and labor to maximize local dividends

$$\max \sum_t p_t \left(1 - \tau_{dt}\right) \tilde{D}_{it} \tag{2.3}$$

where

$$\tilde{D}_{it} = \left(1 - \tau_{p,it}\right) \left(\tilde{Y}_{it} - W_{it}\tilde{L}_{it} - \delta_{T}\tilde{K}_{T,it} - \tilde{X}_{I,it}\right) - \tilde{K}_{T,i,t+1} + \tilde{K}_{T,it}. \tag{2.4}$$

In this case, outputs are given by

$$\tilde{Y}_{it} = A_{it}\zeta \left(N_{it}\tilde{M}_{it}\right)^{\phi} \left(\tilde{Z}_{it}\right)^{1-\phi}$$

$$\tilde{Z}_{it} = \left(\tilde{K}_{T,it}\right)^{\alpha_T} \left(\tilde{K}_{I,it}\right)^{\alpha_I} \left(\tilde{L}_{it}\right)^{1-\alpha_T-\alpha_I},$$

and the equations governing the evolution of the capital stocks are

$$\begin{aligned}
\tilde{K}_{T,i,t+1} &= \left(1 - \delta_{T}\right) \tilde{K}_{T,it} + \tilde{X}_{T,it} - \varphi\left(\tilde{X}_{T,it}/\tilde{K}_{T,it}\right) \tilde{K}_{T,it} \\
\tilde{K}_{I,i,t+1} &= \left(1 - \delta_{I}\right) \tilde{K}_{I,it} + \tilde{X}_{I,i,t+1} - \varphi\left(\tilde{X}_{I,it}/\tilde{K}_{I,it}\right) \tilde{K}_{I,it} \\
\tilde{M}_{i,t+1} &= \left(1 - \delta_{M}\right) \tilde{M}_{it} + \sum_j \left(1 - \delta_{M}\right) h_{it}^{j} \left(q_{it}^{j}\right) M_{it}^{j}.
\end{aligned}$$

Recall that $\tilde{Y}_i$ is output, W_i is the wage rate paid to labor $\tilde{L}_i$, $\tilde{K}_{T,i}$ is tangible capital and $\tilde{X}_{T,i}$ is the investment in tangible capital, $\tilde{K}_{I,i}$ is intangible capital that is specific to the production location and $\tilde{X}_{I,i}$ is the investment in intangible capital, and $\tilde{M}_i$ is transferred technology capital that is obtained in a quid pro quo arrangement and can only be used in i. Here, as in the multinational problem, we include adjustment costs on investment. Note, however, that the appropriators do not invest in technology capital themselves, just in location-specific tangible and intangible capital.

2.3. Household Problem

The household problem is unchanged. We repeat it here for completeness. Households choose sequences of consumption C_{it}, labor L_{it}, and assets B_{it+1} to solve the following problem:

$$\max \sum_t \beta^t U\left(C_{it}/N_{it}, L_{it}/N_{it}\right) N_{it}$$

subject to

$$\sum_t p_t \left[C_{it} + B_{i,t+1} - B_{it}\right]$$
$$\leq \sum_t p_t \left[(1-\tau_{l,it}) W_{it} L_{it} + (1-\tau_{d,it}) \left(D_t^i + \tilde{D}_{it}\right) + r_{bt} B_{it} + \kappa_{it}\right],$$

where τ_{li} and τ_d are tax rates on labor and company distributions, r_{bt} is the after-tax return on lending/borrowing, and L_{it} is the total labor supply to domestic and foreign multinationals and the local public firm. We also include nonbusiness labor $\bar{L}_{nb,it}$ in the total labor supply, but treat it as exogenous.

2.4. Market clearing

To close the model, we need to specify market-clearing conditions. The worldwide resource constraint is

$$\sum_i \left\{ C_{it} + \sum_j \left(X_{T,it}^j + X_{I,it}^j\right) + X_{M,t}^i + \tilde{X}_{T,it} + \tilde{X}_{I,it} + \bar{X}_{nb,it} \right\}$$
$$= \sum_{i,j} Y_{it}^j + \sum_i \tilde{Y}_{it} + \sum_i \bar{Y}_{nb,it}$$

which is the market-clearing condition for the goods market. Here, we have added terms for nonbusiness investment $\bar{X}_{nb,it}$ and nonbusiness output $\bar{Y}_{nb,it}$ that are exogenous and included so that the model and NIPA accounts are consistent.

Market clearing in asset markets occurs if $\sum_i B_{it} = 0$ and market clearing in (business) labor markets occurs if

$$L_{it} = \tilde{L}_{it} + \sum_j L_{it}^j + \bar{L}_{nb,it}, \quad i = 1, \ldots, I.$$

2.5. Computation

Computation of equilibria for the model involves finding sequences of quantities, prices, and aggregate states that satisfy the first-order conditions of the maximization problems above.[2]

The model has $3I^2 + 4I$ quantities, $I + 1$ prices, and $3I$ aggregate states that relevant for the firm problems, where I is the number of countries. The quantities include total consumption,

[2] With positive growth in the technologies and populations, we also need to detrend the variables in order to work with a stationary system of equations. When we do this, we assume a common trend growth rate of γ_A for world technology and a common trend growth rate of γ_N for population. Any idiosyncratic differences in the sequences $\{A_{it}, N_{it}\}$ are treated as fluctuations around these common trends.

total labor, total asset holdings, investment of technology capital, the distribution of tangible investments by multinationals across countries (which is I^2 values), the distribution of location-specific intangible investments by multinationals across countries (which is I^2 values), and the distribution of intensity levels across countries (which is at most I^2, but possibly lower if not all countries follow quid pro quo policies). The model prices include the world interest rate and wages in each country. The remaining states include transfers, the economy-wide technology capital stocks, and transferred technology capital. Assuming there are T periods, this means finding a fixed point over a total of $(3I^2 + 8I + 1)T$ variables, with the set of equations given by the first-order conditions of the maximization problems above. If $I = 6$ and $T = 50$, then there are 7,850 unknowns.

Solving the fixed point can be done very quickly if we distribute the problem across processors on a parallel machine. Specifically, we assign each country to a processor and pass initial guesses for the vector of prices and aggregate states.[3] Given these data, we can compute equilibrium quantities on the slave processors and then pass the answer back to the master processor. We then update the prices and aggregate states using market-clearing conditions and pass these updated variables to the processors. We iterate until we find a fixed point.

As we noted above, we have included subsidies and adjustment costs in order to ensure non-negativity of investment decisions. Given the number of investment decisions we are trying to compute, applying standard penalty function methods is difficult.

2.6. Parameter Inputs

Here, we report *all* parameter inputs for our baseline model and variations of the baseline model.

Table A1 reports parameters that are common across economies. The motivation for most of these parameters is given in the main text (Section 5.1). Two new parameter inputs are introduced with the innovation subsidies and the adjustment costs. For completeness, we repeat details in Table 3 from the main paper and include these additional parameters. For innovation subsidies, we use the following functional form:

$$\tau_s(x) = \nu_0 \exp(-\nu_1 x).$$

In all of our numerical experiments, we set $\nu_0 = .25$ and $\nu_1 = 200$. This choice implies a subsidy

[3] If there are large changes in policies over the sample of interest, it may be necessary to compute a sequence of economies, each involving only a small change in policy relative to the previous one in the sequence.

that is zero unless a country's investment in technology capital relative to total technology capital in the country is very close to zero.

For the adjustment costs, we use a quadratic cost function:

$$\varphi\left(X/K\right) = \varphi_0/2\left(X/K - \delta - \gamma_Y\right)^2$$

with $\varphi_0 = 1$, δ equal to the depreciation rate corresponding to the type of investment and γ_Y equal to the growth rate of output (which in all experiments is equal to 3 percent).

Tables 4–6 from the main paper are also repeated but differ in two ways. First, we include all years for the baseline model. Second, we provide details on the inputs used for the variations of the baseline model. The simulation results of those alternative models are reported in the Table 11 of the main paper and Table A6 in this appendix. The parameter inputs for all cases are reported in Tables A2–A5 in this appendix. Table A2 reports the relative populations, which are the same for all experiments except when we group Korea with Japan. Tables A2–A5 comprise an exhaustive list of all parameters governing TFPs, openness, intensity levels, and quid pro quo costs. These parameters are different across experiments.

3. Further Sensitivity Analysis

In this section, we discuss results of additional sensitivity analysis that is not covered in the main text. The first set of results includes variations of the baseline model with quid pro quo and the second set of results includes variations of the model without quid pro quo analyzed by McGrattan and Prescott (2010).[4]

3.1. In the Model with Quid Pro Quo and Spillovers

Here, we report on results for five additional experiments that are not included with the results of Table 11 in the main paper. Inputs for these experiments are shown in Tables A1–A5 and the results are summarized in Table A6.

The first experiment concerns our categorization of Korea. In the baseline model, Korea is included with ROW. Here, we combine Korea and Japan. The motivation for this alternative is the rise of Korean company participation in high-technology industries. As in the case of other country groupings, we subtract any FDI flows between the two countries. The results are displayed

[4] See Ellen McGrattan and Edward Prescott, Technology Capital and the U.S. Current Account, *American Economic Review*, 100(4), pages 1493–1522, 2010.

in column 2 of Table A6. When Korea is included with advanced countries, the share of FDI into China from advanced countries is slightly higher. To match the FDI inflows we have to lower the quid pro quo costs, which in turn implies more innovation in China and smaller gains because of the quid pro quo policy. The differences in results for China, however, are quantitatively small, since Korea is a relatively small country.

The second alternative model in Table A6 has five regions rather than six, with the rest of world excluded. In the baseline model, we assume that China and BRI do not require transfers of technology capital from ROW. We justified this asymmetrical treatment of ROW and the advanced countries by the fact that an increasing amount of inward FDI to China is from ROW rather than the advanced countries. In this case, we redo the analysis without ROW as a check to see whether including ROW in the analysis plays a significant quantitative role for technology transfers from the advanced countries to China and BRI.[5] The results for this five-country version of the model are summarized in column 3 of Table A6. We find quantitatively small differences in these two versions of the model.

The experiment with U.K. islands included, shown in column 4 of Table A6, assumes that net inflows from BVI and Cayman Islands—two major sources of Chinese inward FDI—are actually FDI from the advanced countries. In the baseline model, we excluded flows from BVI and the Cayman Islands, which we treated simply as round-tripping on the part of Chinese multinationals. Since these Caribbean nations do not report bilateral flows, there is no way to determine if part of the FDI is actually from elsewhere. Therefore, in this alternative model, we assume any net inflows from the islands, which are calculated as inward FDI less outward FDI, are actually from the advanced countries. The shares attributed to the United States, Western Europe, and Japan are equal to the shares of their reported inflows to China. There is not a significant difference in results between the baseline model and this alternative, even though the gross inflows from the Caribbean islands are large. The main reason is that the *net* inflows are not that large, which suggests that round-tripping may well be an important factor for China's capital flows.

In the next experiment, we lower the elasticity of the cost function $h_i^j(q)$, with the results shown in column 5 of Table A6. Recall that we used the following functional form:

$$h_{it}^{j}(q) = \min\{\bar{h}_t q \exp(-\eta(1-q)), 1\} \tag{3.1}$$

[5] Another possibility is to allow for symmetric treatment of advanced and ROW countries by China and BRI. Since the typical ROW country is less populous and has lower TFP than the advanced countries, however, the model would predict that ROW does little or no innovation in technology, instead exploiting the technology capital of the advanced countries.

with $\eta = 10$. If we set $\eta = 9$ and adjust the path of $\bar{h}_t$ to fit the observed share of China's FDI inflows from the United States, Western Europe, and Japan (as in Figure 5 of the main paper), then we find very little difference in the results. We should note, however, that the equilibrium quid pro quo costs rise as we lower η. This can be seen by comparing Panel A with Panel J in Table A5. If it is lowered too much, the range of costs are inconsistent with our estimates based on patent counts.

Thus far the experiments have all produced very small changes in capital stocks and welfare gains relative to the baseline model. In the final experiment, which allows for completely unrestricted portfolio flows, we find some deviation between the baseline and alternative model predictions with respect to capital shares and outward FDI flows (although not change in welfare). We also find, however, that the alternative model's predictions for China's consumption share of GDP is implausibly large. Recall that in the baseline model, portfolios are restricted in the case of China, BRI, and rest of world. The assumption is motivated by the fact that portfolio investments are not large in these countries and that evidence of capital controls is abundant. When we consider the opposite extreme with no capital controls on portfolios, we find that China has a larger share of technology capital by 2010—roughly 9.5 percent—and does more than twice as much outward FDI than in the baseline model (1.21 versus 0.53). These predictions are shown in the first and sixth columns of Table A6. With portfolios unrestricted and TFP projected to rise, however, the model with unrestricted portfolio flows predicts a counterfactually large consumption share in China during the transition to higher levels of TFP; the model predicts average consumption equal to roughly 1.6 times average GDP in the 1990s. This prediction is not consistent with national account estimates for China that find relatively low levels of consumption and high levels of investment and savings. Thus, a more plausible assumption is to have portfolio restrictions closer to that in the baseline model.

We also investigated the sensitivity of our results to parameter choices listed in Table A1. For all variations that we considered, we recalibrated the TFPs, degrees of openness, and QPQ costs in order to align per capita GDPs and inward FDI flows in the model and data. None of the variations we tried resulted in significantly different welfare gains or capital stocks.[6]

3.2. In the Model without Quid Pro Quo

Next, we explore a version of the model without quid pro quo extended to allow for a more general

[6] More details about these experiments can be found at our website.

parameterization of the degree of openness. The point of this exercise is to introduce barriers to FDI that arise from sources other than quid pro quo such as distance and differences in language or culture. Here, we consider a version of the model with σ_{it} replaced by $\tilde{\sigma}^j_{it} = \zeta\sigma_{it}$ if i and j are not close and $\tilde{\sigma}^j_{it} = \sigma_{it}$ if i and j are close. Specifically, we assume that the United States and Western Europe are close to each other but far from the Asian countries and vice versa. The case of $\zeta = 1$ is the model of McGrattan and Prescott. We also consider $\zeta = .95$ and $\zeta = .90$ which implies a 5 and 10 percent discount, respectively.

Figure A1 shows that shares of inward FDI to China from the technologically advanced countries fell from about 70 percent in the early 1990s to below 40 percent by 2010, implying a 30 percentage point decline. The McGrattan and Prescott model—with $\zeta = 1$—predicts a decline of roughly 4 percentage points. With a lower value for ζ, the model's prediction for this share shifts downward in all years but the overall decline between 1990 and 2010 is the same as in the McGrattan and Prescott model. This should not be surprising given that barriers such as distance and language do not change over time.

Figure A2 shows that allowing for $\zeta < 1$ does help slightly in terms of the predicted outward FDI flows from China, but even with a 10 percent discount, the model overpredicts the outflow of FDI from China by a factor of 4.

From these exercises we conclude that allowing for $\zeta < 1$ in the McGrattan and Prescott model without quid pro quo makes no headway in fitting the pattern of the declining share of FDI from the technologically advanced countries into China and little headway in accounting for the low outflows of FDI from China.

4. Future Predictions

In this section, we explore the model's predictions for China's per capita GDP and innovative activity under alternative assumptions about future policies inside and outside China. To do this, we start with the state variables in 2010 for the model with quid pro quo and knowledge spillovers described in Section 2. We then record statistics for China two decades later, assuming alternative scenarios for global patterns of quid pro quo policy, openness, and growth. Given how globally integrated our model world is, the main lesson we draw from these experiments is that our predictions *for China*, especially with regard to its rank as a technological innovator, depend critically on the policies of other countries.

The results of the experiments are summarized in Table A7. For the purpose of comparison, we run the model out to 2030 and record the statistics of interest in the first row of the table. In this simulation, TFP growth converges to U.S. levels between 2010 and 2020, and the projected per capita GDP relative to that of the United States is predicted to be 20 percent in 2030. The share of technology capital investment in GDP in that year is predicted to be 2.3 percent per year, and the share of world capital is predicted to rise to 10.5 percent.

Next, we analyze a scenario with China and BRI strengthening intellectual property protection. More specifically, we assume that quid pro quo costs are removed after 2010. The results of this experiment are shown in second row of Table A7. The main difference here relative to the baseline path is the prediction for accumulated technology capital by 2030. The model predicts a significant increase in technology capital investment by China and a world share of 18.5 percent by 2030. On the other hand, China's per capita GDP relative to the United States stays roughly around 20 percent.

Suppose instead that quid pro quo policy is continued and China further relaxes its capital controls to the point where $\sigma_{c,t} = 0.95$. In this case, we see a dramatic fall in innovative activity in China with the technology capital investment share at 0.7 percent in 2030 and the share of world technology capital at 4.5 percent. These results are reminiscent of the earlier results: the quid pro quo policy and the greater FDI openness work in opposite directions. What is noteworthy is the large range of predicted capital shares. If other countries further relax restrictions on FDI, we expect a shift in innovative activity toward China, by as much as a 50 percent increase in the investment rate if Western Europe opens up to FDI. We expect little change in China's overall GDP ranking, however.

If China's growth does not converge as in the baseline simulation but rather continues to grow at the rate seen over the period 1990–2010, we expect that China's per capita GDP will be roughly half of the U.S. level by 2030 and its share of world technology capital will be about 40 percent with an annual investment to GDP ratio of 6 percent. If, on the other hand, it is another country group that starts to grow rapidly, China's per capita GDP is predicted to remain at roughly 20 percent of the United States in 2030 and its innovative activity is predicted to fall. If it is BRI—another large emerging market—then China becomes the technological laggard with the investment to GDP ratio falling to 0.9 percent and the world share of technology capital falling to 4.1 percent by 2030.

Overall, the lesson that emerges from these experiments is that with the world more interconnected than ever, policies in one country can have a large effect on the sources of innovative activity and the volume of technology transfers around the globe.

TABLE A1

MODEL PARAMETERS COMMON ACROSS COUNTRIES AND EXPERIMENTS

Parameter	Expression	Value
Preferences		
Discount factor	β	.98
Leisure weight	ψ	1.32
Growth rates (%)		
Population	γ_N	1.0
Technology	γ_A	1.2
Income shares (%)		
Technology capital	ϕ	7.0
Tangible capital	$(1-\phi)\alpha_T$	21.4
Plant-specific intangible capital	$(1-\phi)\alpha_I$	6.5
Labor	$(1-\phi)(1-\alpha_T-\alpha_I)$	65.1
Nonbusiness sector (%)		
Fraction of time at work	$\bar{L}_{nb}$	6
Investment share	$\bar{X}_{nb}$/GDP	15
Value-added share	$\bar{Y}_{nb}$/GDP	31
Depreciation rates (%)		
Technology capital	δ_M	8.0
Tangible capital	δ_T	6.0
Plant-specific intangible capital	δ_I	0
Tax rates (%)		
Labor wedge	τ_l	34
Dividends	τ_d	28
Spillover elasticity	θ	0.05
Innovation subsidy		
Scale	ν_0	0.25
Curvature	ν_1	200
Adjustment cost scale	φ_0	1.0

NOTE.—The additional parameters included here but not reported in the main paper are those related to the innovation subsidy and adjustment costs.

Table A2

Populations Relative to the United States

	China	U.S.	W. Europe	Japan	BRI	ROW
			A. Models with Korea Included in ROW			
1990	465	100	151	49	469	172
1991	465	100	150	49	471	173
1992	465	100	148	48	473	173
1993	464	100	147	48	475	174
1994	463	100	146	47	477	174
1995	463	100	144	47	479	175
1996	462	100	143	47	481	175
1997	462	100	142	46	482	176
1998	461	100	140	46	484	176
1999	459	100	139	45	485	177
2000	458	100	138	45	487	177
2001	457	100	137	45	489	178
2002	455	100	137	44	491	179
2003	454	100	137	44	494	180
2004	453	100	136	44	495	181
2005	451	100	136	43	497	182
2006	450	100	135	43	499	182
2007	448	100	135	42	500	183
2008	446	100	134	42	501	184
2009	444	100	134	42	503	184
2010	442	100	133	41	505	185
2011	442	100	133	41	505	185
2012	442	100	133	41	505	185
2013	442	100	133	41	505	185
2014	442	100	133	41	505	185
2015	442	100	133	41	505	185
			B. Models with Korea and Japan Combined			
1990	465	100	151	67	469	155
1991	465	100	150	66	471	156
1992	465	100	148	65	473	156
1993	464	100	147	65	475	157
1994	463	100	146	64	477	157
1995	463	100	144	64	479	158
1996	462	100	143	64	481	158
1997	462	100	142	63	482	159
1998	461	100	140	63	484	159
1999	459	100	139	62	485	160
2000	458	100	138	62	487	161

See notes at the end of the table.

TABLE A2

POPULATIONS RELATIVE TO THE UNITED STATES

	China	U.S.	W. Europe	Japan	BRI	ROW
			B. Models with Korea and Japan Combined, Cont.			
2001	457	100	137	61	489	162
2002	455	100	137	61	491	163
2003	454	100	137	61	494	164
2004	453	100	136	60	495	165
2005	451	100	136	60	497	165
2006	450	100	135	59	499	166
2007	448	100	135	59	500	167
2008	446	100	134	58	501	167
2009	444	100	134	58	503	168
2010	442	100	133	57	505	169
2011	442	100	133	57	505	169
2012	442	100	133	57	505	169
2013	442	100	133	57	505	169
2014	442	100	133	57	505	169
2015	442	100	133	57	505	169

NOTE.—Source of the data is the World Bank, World Development Indicators database.

Table A3

Total Factor Productivities Relative to United States

	China	U.S.	W. Europe	Japan	BRI	ROW
			A. Model with Quid Pro Quo (Baseline)			
1990	13.5	100	80.5	92.4	20.0	34.0
1991	13.9	100	80.5	92.3	20.0	34.2
1992	14.4	100	80.5	92.0	20.0	34.5
1993	15.0	100	80.5	91.3	20.0	34.7
1994	15.6	100	80.5	90.2	20.0	35.0
1995	16.3	100	80.6	89.2	20.0	35.2
1996	17.0	100	80.6	88.5	20.0	35.5
1997	17.8	100	80.6	88.2	20.0	35.7
1998	18.6	100	80.6	88.1	20.0	36.0
1999	19.4	100	80.6	88.0	20.0	36.2
2000	20.3	100	80.6	88.0	20.1	36.4
2001	21.2	100	80.6	88.0	20.2	36.7
2002	22.0	100	80.6	88.0	20.5	36.9
2003	22.9	100	80.7	88.0	20.9	37.1
2004	23.7	100	80.7	88.0	21.3	37.4
2005	24.5	100	80.7	88.0	21.5	37.6
2006	25.3	100	80.7	88.0	21.7	37.8
2007	26.0	100	80.7	88.0	21.7	38.0
2008	26.6	100	80.7	88.0	21.7	38.2
2009	27.2	100	80.7	88.0	21.7	38.4
2010	27.8	100	80.7	88.0	21.7	38.6
2011	28.3	100	80.7	88.0	21.7	38.8
2012	28.7	100	80.8	88.0	21.7	39.0
2013	29.1	100	80.8	88.0	21.7	39.2
2014	29.4	100	80.8	88.0	21.7	39.4
2015	29.7	100	80.8	88.0	21.7	39.5
			B. Model without Quid Pro Quo			
1990	11.9	100	80.5	92.4	20.0	33.8
1991	12.0	100	80.5	92.3	20.0	34.0
1992	12.2	100	80.5	92.0	20.0	34.3
1993	12.5	100	80.5	91.3	20.0	34.6
1994	12.8	100	80.5	90.2	20.0	34.9
1995	13.2	100	80.6	89.2	20.0	35.2
1996	13.6	100	80.6	88.5	20.0	35.5
1997	14.2	100	80.6	88.2	20.0	35.8
1998	14.9	100	80.6	88.1	20.0	36.1
1999	15.7	100	80.6	88.0	20.0	36.4
2000	16.6	100	80.6	88.0	20.0	36.6
2001	17.6	100	80.6	88.0	20.1	36.9

See notes at the end of the table.

Table A3

Total Factor Productivities Relative to United States, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			B. Model without Quid Pro Quo, Cont.			
2002	18.7	100	80.6	88.0	20.3	37.2
2003	19.9	100	80.7	88.0	20.5	37.4
2004	21.1	100	80.7	88.0	20.7	37.7
2005	22.4	100	80.7	88.0	20.9	38.0
2006	23.6	100	80.7	88.0	21.0	38.2
2007	24.7	100	80.7	88.0	21.0	38.5
2008	25.7	100	80.7	88.0	21.0	38.7
2009	26.6	100	80.7	88.0	21.0	38.9
2010	27.4	100	80.7	88.0	21.0	39.2
2011	28.1	100	80.7	88.0	21.0	39.4
2012	28.7	100	80.8	88.0	21.0	39.6
2013	29.1	100	80.8	88.0	21.0	39.8
2014	29.5	100	80.8	88.0	21.0	40.1
2015	29.8	100	80.8	88.0	21.0	40.3
			C. Baseline with Knowledge Spillovers			
1990	13.5	100	80.5	92.4	20.0	34.0
1991	13.9	100	80.5	92.3	20.0	34.2
1992	14.4	100	80.5	92.0	20.0	34.5
1993	15.0	100	80.5	91.3	20.0	34.7
1994	15.6	100	80.5	90.2	20.0	35.0
1995	16.3	100	80.6	89.2	20.0	35.2
1996	17.0	100	80.6	88.5	20.0	35.5
1997	17.8	100	80.6	88.2	20.0	35.7
1998	18.6	100	80.6	88.1	20.0	36.0
1999	19.4	100	80.6	88.0	20.0	36.2
2000	20.3	100	80.6	88.0	20.1	36.4
2001	21.2	100	80.6	88.0	20.2	36.7
2002	22.0	100	80.6	88.0	20.5	36.9
2003	22.9	100	80.7	88.0	20.9	37.1
2004	23.7	100	80.7	88.0	21.3	37.4
2005	24.5	100	80.7	88.0	21.5	37.6
2006	25.3	100	80.7	88.0	21.7	37.8
2007	26.0	100	80.7	88.0	21.7	38.0
2008	26.6	100	80.7	88.0	21.7	38.2
2009	27.2	100	80.7	88.0	21.7	38.4
2010	27.8	100	80.7	88.0	21.7	38.6
2011	28.3	100	80.7	88.0	21.7	38.8
2012	28.7	100	80.8	88.0	21.7	39.0

See notes at the end of the table.

Table A3

Total Factor Productivities Relative to United States, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			C. Baseline with Knowledge Spillovers, Cont.			
2013	29.1	100	80.8	88.0	21.7	39.2
2014	29.4	100	80.8	88.0	21.7	39.4
2015	29.7	100	80.8	88.0	21.7	39.5
			D. Baseline with Quid Pro Quo Policy Fixed			
1990	13.5	100	80.5	92.4	20.0	34.0
1991	13.9	100	80.5	92.3	20.0	34.2
1992	14.4	100	80.5	92.0	20.0	34.5
1993	15.0	100	80.5	91.3	20.0	34.7
1994	15.6	100	80.5	90.2	20.0	35.0
1995	16.3	100	80.6	89.2	20.0	35.2
1996	17.0	100	80.6	88.5	20.0	35.5
1997	17.8	100	80.6	88.2	20.0	35.7
1998	18.6	100	80.6	88.1	20.0	36.0
1999	19.4	100	80.6	88.0	20.0	36.2
2000	20.3	100	80.6	88.0	20.1	36.4
2001	21.2	100	80.6	88.0	20.2	36.7
2002	22.0	100	80.6	88.0	20.5	36.9
2003	22.9	100	80.7	88.0	20.9	37.1
2004	23.7	100	80.7	88.0	21.3	37.4
2005	24.5	100	80.7	88.0	21.5	37.6
2006	25.3	100	80.7	88.0	21.7	37.8
2007	26.0	100	80.7	88.0	21.7	38.0
2008	26.6	100	80.7	88.0	21.7	38.2
2009	27.2	100	80.7	88.0	21.7	38.4
2010	27.8	100	80.7	88.0	21.7	38.6
2011	28.3	100	80.7	88.0	21.7	38.8
2012	28.7	100	80.8	88.0	21.7	39.0
2013	29.1	100	80.8	88.0	21.7	39.2
2014	29.4	100	80.8	88.0	21.7	39.4
2015	29.7	100	80.8	88.0	21.7	39.5
			E. Baseline with Korea and Japan Combined			
1990	13.7	100	80.5	85.0	20.0	32.2
1991	14.1	100	80.5	85.0	20.0	32.5
1992	14.7	100	80.5	84.9	20.0	32.7
1993	15.2	100	80.5	84.7	20.0	32.9
1994	15.8	100	80.5	84.5	20.0	33.1
1995	16.5	100	80.6	84.3	20.0	33.4

See notes at the end of the table.

Table A3

Total Factor Productivities Relative to United States, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			E. Baseline with Korea and Japan Combined, Cont.			
1996	17.2	100	80.6	84.1	20.0	33.6
1997	18.0	100	80.6	84.0	20.0	33.8
1998	18.8	100	80.6	84.0	20.0	34.0
1999	19.6	100	80.6	84.0	20.0	34.2
2000	20.5	100	80.6	84.0	20.1	34.4
2001	21.4	100	80.6	84.0	20.2	34.7
2002	22.3	100	80.6	84.0	20.5	34.9
2003	23.1	100	80.7	84.0	20.9	35.1
2004	23.9	100	80.7	84.0	21.3	35.3
2005	24.7	100	80.7	84.0	21.5	35.5
2006	25.5	100	80.7	84.0	21.7	35.7
2007	26.2	100	80.7	84.0	21.7	35.8
2008	26.8	100	80.7	84.0	21.7	36.0
2009	27.4	100	80.7	84.0	21.7	36.2
2010	28.0	100	80.7	84.0	21.7	36.4
2011	28.5	100	80.7	84.0	21.7	36.6
2012	28.9	100	80.8	84.0	21.7	36.7
2013	29.3	100	80.8	84.0	21.7	36.9
2014	29.6	100	80.8	84.0	21.7	37.1
2015	29.9	100	80.8	84.0	21.7	37.2
			F. Baseline without Rest of World			
1990	13.7	100	80.5	92.4	20.0	–
1991	14.1	100	80.5	92.3	20.0	–
1992	14.6	100	80.5	92.0	20.0	–
1993	15.2	100	80.5	91.3	20.0	–
1994	15.8	100	80.5	90.2	20.0	–
1995	16.4	100	80.6	89.2	20.0	–
1996	17.1	100	80.6	88.5	20.0	–
1997	17.9	100	80.6	88.2	20.0	–
1998	18.7	100	80.6	88.1	20.0	–
1999	19.6	100	80.6	88.0	20.0	–
2000	20.4	100	80.6	88.0	20.1	–
2001	21.3	100	80.6	88.0	20.2	–
2002	22.1	100	80.6	88.0	20.5	–
2003	23.0	100	80.7	88.0	20.9	–
2004	23.8	100	80.7	88.0	21.3	–
2005	24.6	100	80.7	88.0	21.5	–

See notes at the end of the table.

Table A3

Total Factor Productivities Relative to United States, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			F. Baseline without Rest of World, Cont.			
2006	25.3	100	80.7	88.0	21.7	–
2007	26.0	100	80.7	88.0	21.7	–
2008	26.7	100	80.7	88.0	21.7	–
2009	27.3	100	80.7	88.0	21.7	–
2010	27.8	100	80.7	88.0	21.7	–
2011	28.3	100	80.7	88.0	21.7	–
2012	28.7	100	80.8	88.0	21.7	–
2013	29.1	100	80.8	88.0	21.7	–
2014	29.4	100	80.8	88.0	21.7	–
2015	29.7	100	80.8	88.0	21.7	–
			G. Baseline with UK Island Flows Reallocated			
1990	13.5	100	80.5	92.4	20.0	34.0
1991	13.9	100	80.5	92.3	20.0	34.2
1992	14.4	100	80.5	92.0	20.0	34.5
1993	15.0	100	80.5	91.3	20.0	34.7
1994	15.6	100	80.5	90.2	20.0	35.0
1995	16.3	100	80.6	89.2	20.0	35.2
1996	17.0	100	80.6	88.5	20.0	35.5
1997	17.8	100	80.6	88.2	20.0	35.7
1998	18.6	100	80.6	88.1	20.0	36.0
1999	19.4	100	80.6	88.0	20.0	36.2
2000	20.3	100	80.6	88.0	20.1	36.4
2001	21.2	100	80.6	88.0	20.2	36.7
2002	22.0	100	80.6	88.0	20.5	36.9
2003	22.9	100	80.7	88.0	20.9	37.1
2004	23.7	100	80.7	88.0	21.3	37.4
2005	24.5	100	80.7	88.0	21.5	37.6
2006	25.3	100	80.7	88.0	21.7	37.8
2007	26.0	100	80.7	88.0	21.7	38.0
2008	26.6	100	80.7	88.0	21.7	38.2
2009	27.2	100	80.7	88.0	21.7	38.4
2010	27.8	100	80.7	88.0	21.7	38.6
2011	28.3	100	80.7	88.0	21.7	38.8
2012	28.7	100	80.8	88.0	21.7	39.0
2013	29.1	100	80.8	88.0	21.7	39.2
2014	29.4	100	80.8	88.0	21.7	39.4
2015	29.7	100	80.8	88.0	21.7	39.5

See notes at the end of the table.

Table A3

Total Factor Productivities Relative to United States, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			H. Baseline with Lower Chinese Profit Tax			
1990	13.4	100	80.5	92.4	20.0	34.0
1991	13.8	100	80.5	92.3	20.0	34.2
1992	14.3	100	80.5	92.0	20.0	34.5
1993	14.8	100	80.5	91.3	20.0	34.7
1994	15.4	100	80.5	90.2	20.0	35.0
1995	16.1	100	80.6	89.2	20.0	35.2
1996	16.8	100	80.6	88.5	20.0	35.5
1997	17.5	100	80.6	88.2	20.0	35.7
1998	18.3	100	80.6	88.1	20.0	36.0
1999	19.1	100	80.6	88.0	20.0	36.2
2000	19.9	100	80.6	88.0	20.1	36.4
2001	20.8	100	80.6	88.0	20.2	36.7
2002	21.6	100	80.6	88.0	20.5	36.9
2003	22.4	100	80.7	88.0	20.9	37.1
2004	23.2	100	80.7	88.0	21.3	37.4
2005	24.0	100	80.7	88.0	21.5	37.6
2006	24.7	100	80.7	88.0	21.7	37.8
2007	25.4	100	80.7	88.0	21.7	38.0
2008	26.0	100	80.7	88.0	21.7	38.2
2009	26.6	100	80.7	88.0	21.7	38.4
2010	27.1	100	80.7	88.0	21.7	38.6
2011	27.6	100	80.7	88.0	21.7	38.8
2012	28.0	100	80.8	88.0	21.7	39.0
2013	28.4	100	80.8	88.0	21.7	39.2
2014	28.7	100	80.8	88.0	21.7	39.4
2015	29.0	100	80.8	88.0	21.7	39.5
			I. Baseline with Unrestricted Portfolios			
1990	19.1	100	80.7	92.9	24.0	40.0
1991	19.9	100	80.7	92.8	24.1	40.2
1992	20.7	100	80.7	92.4	24.3	40.3
1993	21.7	100	80.7	91.7	24.4	40.5
1994	22.6	100	80.7	90.5	24.6	40.7
1995	23.5	100	80.7	89.3	24.7	40.9
1996	24.5	100	80.8	88.6	24.9	41.0
1997	25.3	100	80.8	88.2	25.0	41.2
1998	26.1	100	80.8	88.1	25.2	41.4

See notes at the end of the table.

Table A3

Total Factor Productivities Relative to United States, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			I. Baseline with Unrestricted Portfolios, Cont.			
1999	26.8	100	80.8	88.0	25.3	41.5
2000	27.4	100	80.8	88.0	25.5	41.7
2001	27.9	100	80.8	88.0	25.6	41.9
2002	28.4	100	80.8	88.0	25.8	42.0
2003	28.8	100	80.9	88.0	25.9	42.2
2004	29.0	100	80.9	88.0	26.1	42.4
2005	29.3	100	80.9	88.0	26.2	42.5
2006	29.5	100	80.9	88.0	26.3	42.7
2007	29.6	100	80.9	88.0	26.5	42.8
2008	29.8	100	80.9	88.0	26.6	43.0
2009	29.9	100	80.9	88.0	26.8	43.1
2010	29.9	100	81.0	88.0	26.9	43.2
2011	30.0	100	81.0	88.0	27.0	43.4
2012	30.0	100	81.0	88.0	27.2	43.5
2013	30.1	100	81.0	88.0	27.3	43.6
2014	30.1	100	81.0	88.0	27.4	43.8
2015	30.1	100	81.0	88.0	27.5	43.9
			J. Baseline with Lower Elasticity of $h_i^j(q)$			
1990	13.9	100	80.5	92.4	20.0	34.0
1991	14.3	100	80.5	92.3	20.0	34.2
1992	14.8	100	80.5	92.0	20.0	34.5
1993	15.4	100	80.5	91.3	20.0	34.7
1994	16.0	100	80.5	90.2	20.0	35.0
1995	16.6	100	80.6	89.2	20.0	35.2
1996	17.4	100	80.6	88.5	20.0	35.5
1997	18.1	100	80.6	88.2	20.0	35.7
1998	18.9	100	80.6	88.1	20.0	36.0
1999	19.7	100	80.6	88.0	20.0	36.2
2000	20.6	100	80.6	88.0	20.1	36.4
2001	21.4	100	80.6	88.0	20.2	36.7
2002	22.3	100	80.6	88.0	20.5	36.9
2003	23.1	100	80.7	88.0	20.9	37.1
2004	23.9	100	80.7	88.0	21.3	37.4
2005	24.7	100	80.7	88.0	21.5	37.6
2006	25.4	100	80.7	88.0	21.7	37.8
2007	26.1	100	80.7	88.0	21.7	38.0
2008	26.8	100	80.7	88.0	21.7	38.2
2009	27.3	100	80.7	88.0	21.7	38.4

See notes at the end of the table.

Table A3

Total Factor Productivities Relative to United States, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			J. Baseline with Lower Elasticity of $h_i^j(q)$, Cont.			
2010	27.9	100	80.7	88.0	21.7	38.6
2011	28.3	100	80.7	88.0	21.7	38.8
2012	28.8	100	80.8	88.0	21.7	39.0
2013	29.1	100	80.8	88.0	21.7	39.2
2014	29.5	100	80.8	88.0	21.7	39.4
2015	29.7	100	80.8	88.0	21.7	39.5
			K. Baseline with TFP Transfer Discount			
1990	13.5	100	80.5	92.4	20.0	34.0
1991	13.9	100	80.5	92.3	20.0	34.2
1992	14.4	100	80.5	92.0	20.0	34.5
1993	15.0	100	80.5	91.3	20.0	34.7
1994	15.6	100	80.5	90.2	20.0	35.0
1995	16.3	100	80.6	89.2	20.0	35.2
1996	17.0	100	80.6	88.5	20.0	35.5
1997	17.8	100	80.6	88.2	20.0	35.7
1998	18.6	100	80.6	88.1	20.0	36.0
1999	19.4	100	80.6	88.0	20.0	36.2
2000	20.3	100	80.6	88.0	20.1	36.4
2001	21.2	100	80.6	88.0	20.2	36.7
2002	22.0	100	80.6	88.0	20.5	36.9
2003	22.9	100	80.7	88.0	20.9	37.1
2004	23.7	100	80.7	88.0	21.3	37.4
2005	24.5	100	80.7	88.0	21.5	37.6
2006	25.3	100	80.7	88.0	21.7	37.8
2007	26.0	100	80.7	88.0	21.7	38.0
2008	26.6	100	80.7	88.0	21.7	38.2
2009	27.2	100	80.7	88.0	21.7	38.4
2010	27.8	100	80.7	88.0	21.7	38.6
2011	28.3	100	80.7	88.0	21.7	38.8
2012	28.7	100	80.8	88.0	21.7	39.0
2013	29.1	100	80.8	88.0	21.7	39.2
2014	29.4	100	80.8	88.0	21.7	39.4
2015	29.7	100	80.8	88.0	21.7	39.5
			L. Baseline with No QPQ in BRI			
1990	13.4	100	80.5	92.4	20.0	34.0
1991	13.8	100	80.5	92.3	20.0	34.2
1992	14.3	100	80.5	92.0	20.0	34.5

See notes at the end of the table.

Table A3

Total Factor Productivities Relative to United States, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			L. Baseline with No QPQ in BRI, Cont.			
1993	14.9	100	80.5	91.3	20.0	34.7
1994	15.5	100	80.5	90.2	20.0	35.0
1995	16.1	100	80.6	89.2	20.0	35.2
1996	16.9	100	80.6	88.5	20.0	35.5
1997	17.6	100	80.6	88.2	20.0	35.7
1998	18.4	100	80.6	88.1	20.0	36.0
1999	19.2	100	80.6	88.0	20.0	36.2
2000	20.1	100	80.6	88.0	20.1	36.4
2001	20.9	100	80.6	88.0	20.2	36.7
2002	21.8	100	80.6	88.0	20.5	36.9
2003	22.6	100	80.7	88.0	20.9	37.1
2004	23.4	100	80.7	88.0	21.3	37.4
2005	24.2	100	80.7	88.0	21.5	37.6
2006	24.9	100	80.7	88.0	21.7	37.8
2007	25.6	100	80.7	88.0	21.7	38.0
2008	26.3	100	80.7	88.0	21.7	38.2
2009	26.8	100	80.7	88.0	21.7	38.4
2010	27.4	100	80.7	88.0	21.7	38.6
2011	27.8	100	80.7	88.0	21.7	38.8
2012	28.3	100	80.8	88.0	21.7	39.0
2013	28.6	100	80.8	88.0	21.7	39.2
2014	29.0	100	80.8	88.0	21.7	39.4
2015	29.2	100	80.8	88.0	21.7	39.5

Note: TFP parameters are chosen to align trends in data and model. See text for details.

Table A4

Degree of Openness to Foreign Direct Investment

	China	U.S.	W. Europe	Japan	BRI	ROW
			A. Model with Quid Pro Quo (Baseline)			
1990	.667	.849	.852	.689	.654	.775
1991	.671	.849	.852	.689	.654	.775
1992	.678	.849	.852	.689	.655	.775
1993	.688	.849	.852	.689	.655	.775
1994	.701	.849	.852	.689	.655	.775
1995	.717	.849	.852	.689	.656	.776
1996	.736	.849	.852	.690	.658	.776
1997	.754	.850	.852	.690	.660	.776
1998	.770	.850	.852	.691	.664	.777
1999	.783	.851	.852	.692	.670	.778
2000	.793	.852	.853	.694	.679	.780
2001	.800	.853	.853	.697	.692	.783
2002	.804	.855	.854	.700	.709	.787
2003	.807	.857	.854	.705	.732	.792
2004	.808	.860	.855	.710	.757	.798
2005	.809	.863	.856	.716	.782	.804
2006	.810	.865	.856	.720	.805	.809
2007	.810	.867	.857	.724	.822	.813
2008	.811	.868	.857	.727	.835	.816
2009	.811	.869	.858	.729	.844	.818
2010	.811	.870	.858	.730	.850	.819
2011	.811	.870	.858	.731	.854	.820
2012	.811	.871	.858	.731	.856	.820
2013	.811	.871	.858	.732	.858	.820
2014	.811	.871	.858	.732	.859	.821
2015	.811	.871	.858	.732	.859	.821
			B. Model without Quid Pro Quo			
1990	.623	.815	.815	.680	.684	.760
1991	.688	.815	.815	.680	.684	.760
1992	.731	.815	.815	.680	.684	.760
1993	.751	.815	.815	.680	.684	.760
1994	.760	.815	.815	.680	.685	.760
1995	.763	.815	.815	.680	.685	.760
1996	.764	.816	.815	.681	.686	.761
1997	.765	.816	.815	.681	.687	.761
1998	.765	.816	.816	.682	.689	.762
1999	.765	.817	.816	.683	.692	.763
2000	.765	.819	.817	.684	.696	.764
2001	.765	.821	.818	.686	.703	.766

See notes at the end of the table.

Table A4

Degree of Openness to Foreign Direct Investment, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			B. Model without Quid Pro Quo, Cont.			
2002	.765	.823	.819	.689	.712	.769
2003	.765	.827	.821	.692	.723	.772
2004	.765	.831	.823	.697	.736	.776
2005	.765	.834	.824	.701	.749	.781
2006	.765	.838	.826	.704	.760	.784
2007	.765	.840	.827	.707	.769	.787
2008	.765	.842	.828	.709	.776	.789
2009	.765	.844	.829	.710	.780	.790
2010	.765	.845	.829	.711	.783	.791
2011	.765	.845	.830	.712	.785	.792
2012	.765	.845	.830	.712	.786	.792
2013	.765	.846	.830	.713	.787	.793
2014	.765	.846	.830	.713	.787	.793
2015	.765	.846	.830	.713	.788	.793
			C. Baseline with Knowledge Spillovers			
1990	.667	.849	.852	.689	.654	.775
1991	.672	.849	.852	.689	.654	.775
1992	.678	.849	.852	.689	.655	.775
1993	.688	.849	.852	.689	.655	.775
1994	.701	.849	.852	.689	.655	.775
1995	.717	.849	.852	.689	.656	.775
1996	.736	.849	.852	.690	.658	.776
1997	.755	.850	.852	.690	.660	.776
1998	.771	.850	.852	.691	.664	.777
1999	.784	.851	.853	.692	.670	.778
2000	.794	.852	.853	.693	.679	.780
2001	.800	.853	.853	.696	.692	.783
2002	.805	.855	.854	.699	.709	.787
2003	.808	.858	.855	.704	.732	.792
2004	.809	.861	.856	.708	.757	.797
2005	.810	.863	.857	.713	.782	.802
2006	.811	.866	.858	.717	.805	.807
2007	.811	.868	.859	.721	.822	.811
2008	.812	.869	.859	.723	.835	.814
2009	.812	.870	.859	.725	.844	.816
2010	.812	.871	.860	.726	.850	.817
2011	.812	.871	.860	.727	.854	.818
2012	.812	.872	.860	.727	.856	.818

See notes at the end of the table.

Table A4

Degree of Openness to Foreign Direct Investment, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			C. Baseline with Knowledge Spillovers, Cont.			
2013	.812	.872	.860	.728	.858	.819
2014	.812	.872	.860	.728	.859	.819
2015	.812	.872	.860	.728	.859	.819
			D. Baseline with Quid Pro Quo Policy Fixed			
1990	.667	.849	.852	.689	.654	.775
1991	.671	.849	.852	.689	.654	.775
1992	.677	.849	.852	.689	.654	.775
1993	.686	.849	.852	.689	.655	.775
1994	.698	.849	.852	.689	.655	.775
1995	.713	.849	.852	.689	.656	.775
1996	.730	.849	.852	.690	.657	.776
1997	.747	.850	.852	.690	.660	.776
1998	.762	.850	.852	.691	.663	.777
1999	.774	.851	.852	.692	.668	.778
2000	.783	.852	.853	.693	.677	.780
2001	.789	.853	.853	.696	.688	.782
2002	.793	.855	.853	.699	.705	.786
2003	.796	.857	.854	.704	.725	.790
2004	.797	.859	.854	.708	.748	.795
2005	.798	.862	.855	.713	.772	.800
2006	.799	.864	.856	.717	.792	.804
2007	.799	.866	.856	.721	.809	.808
2008	.800	.867	.856	.723	.820	.810
2009	.800	.868	.857	.725	.829	.812
2010	.800	.869	.857	.726	.834	.813
2011	.800	.869	.857	.727	.837	.814
2012	.800	.870	.857	.727	.840	.814
2013	.800	.870	.857	.728	.841	.815
2014	.800	.870	.857	.728	.842	.815
2015	.800	.870	.857	.728	.842	.815
			E. Baseline with Korea and Japan Combined			
1990	.667	.849	.852	.689	.654	.775
1991	.672	.849	.852	.689	.654	.775
1992	.678	.849	.852	.689	.655	.775
1993	.688	.849	.852	.689	.655	.775
1994	.701	.849	.852	.689	.655	.775
1995	.718	.849	.852	.689	.656	.775

See notes at the end of the table.

Table A4

Degree of Openness to Foreign Direct Investment, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			E. Baseline with Korea and Japan Combined, Cont.			
1996	.737	.849	.852	.690	.658	.776
1997	.756	.850	.852	.691	.660	.776
1998	.773	.850	.852	.692	.664	.777
1999	.786	.851	.852	.693	.670	.778
2000	.796	.852	.853	.696	.679	.779
2001	.802	.853	.853	.700	.692	.781
2002	.807	.855	.854	.705	.709	.784
2003	.809	.857	.855	.711	.732	.787
2004	.811	.860	.855	.718	.757	.792
2005	.812	.863	.856	.726	.782	.796
2006	.813	.865	.857	.732	.805	.799
2007	.813	.867	.858	.737	.822	.802
2008	.814	.868	.858	.741	.835	.804
2009	.814	.869	.858	.744	.844	.805
2010	.814	.870	.859	.745	.850	.806
2011	.814	.870	.859	.746	.854	.807
2012	.814	.871	.859	.747	.856	.807
2013	.814	.871	.859	.747	.858	.808
2014	.814	.871	.859	.748	.859	.808
2015	.814	.871	.859	.748	.859	.808
			F. Baseline without Rest of World			
1990	.671	.849	.852	.689	.654	–
1991	.676	.849	.852	.689	.654	–
1992	.684	.849	.852	.689	.655	–
1993	.695	.849	.852	.689	.655	–
1994	.711	.849	.852	.689	.656	–
1995	.730	.849	.852	.689	.657	–
1996	.752	.850	.852	.690	.658	–
1997	.775	.850	.853	.690	.661	–
1998	.794	.851	.853	.691	.666	–
1999	.810	.852	.854	.693	.673	–
2000	.821	.853	.854	.695	.683	–
2001	.829	.856	.856	.698	.699	–
2002	.834	.859	.858	.703	.720	–
2003	.838	.863	.860	.708	.746	–
2004	.840	.867	.862	.714	.776	–
2005	.841	.871	.865	.721	.807	–

See notes at the end of the table.

Table A4

Degree of Openness to Foreign Direct Investment, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			F. Baseline without Rest of World, Cont.			
2006	.842	.875	.867	.726	.833	–
2007	.842	.878	.869	.731	.854	–
2008	.843	.881	.870	.734	.870	–
2009	.843	.882	.871	.736	.880	–
2010	.843	.883	.872	.738	.887	–
2011	.843	.884	.872	.738	.892	–
2012	.843	.884	.873	.739	.895	–
2013	.843	.885	.873	.739	.896	–
2014	.843	.885	.873	.740	.897	–
2015	.843	.885	.873	.740	.898	–
			G. Baseline with UK Island Flows Reallocated			
1990	.677	.849	.852	.689	.654	.775
1991	.687	.849	.852	.689	.654	.775
1992	.700	.849	.852	.689	.654	.775
1993	.717	.849	.852	.689	.655	.775
1994	.736	.849	.852	.689	.655	.775
1995	.756	.849	.852	.689	.656	.775
1996	.773	.849	.852	.690	.658	.776
1997	.786	.850	.852	.690	.660	.776
1998	.796	.850	.852	.691	.663	.777
1999	.803	.851	.853	.692	.669	.778
2000	.808	.852	.853	.693	.678	.780
2001	.810	.853	.853	.696	.690	.783
2002	.812	.855	.854	.699	.708	.787
2003	.813	.858	.855	.704	.729	.792
2004	.814	.861	.856	.708	.754	.797
2005	.814	.863	.857	.713	.778	.802
2006	.815	.866	.858	.717	.799	.807
2007	.815	.868	.859	.721	.817	.811
2008	.815	.869	.859	.723	.829	.814
2009	.815	.870	.859	.725	.838	.816
2010	.815	.871	.860	.726	.844	.817
2011	.815	.871	.860	.727	.847	.818
2012	.815	.872	.860	.727	.849	.818
2013	.815	.872	.860	.728	.851	.819
2014	.815	.872	.860	.728	.852	.819
2015	.815	.872	.860	.728	.852	.819

See notes at the end of the table.

Table A4

Degree of Openness to Foreign Direct Investment, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			H. Baseline with Lower Chinese Profit Tax			
1990	.666	.849	.852	.689	.654	.775
1991	.670	.849	.852	.689	.654	.775
1992	.676	.849	.852	.689	.654	.775
1993	.685	.849	.852	.689	.655	.775
1994	.696	.849	.852	.689	.655	.775
1995	.711	.849	.852	.689	.656	.775
1996	.728	.849	.852	.690	.658	.776
1997	.744	.850	.852	.690	.660	.776
1998	.759	.850	.852	.691	.663	.777
1999	.770	.851	.852	.692	.669	.778
2000	.779	.852	.853	.693	.677	.780
2001	.785	.853	.853	.696	.690	.783
2002	.789	.855	.854	.699	.707	.786
2003	.791	.857	.855	.704	.728	.791
2004	.793	.860	.855	.708	.752	.796
2005	.794	.863	.856	.713	.777	.801
2006	.794	.865	.857	.717	.798	.806
2007	.794	.867	.858	.721	.815	.809
2008	.795	.868	.858	.723	.828	.812
2009	.795	.869	.858	.725	.836	.814
2010	.795	.870	.859	.726	.842	.815
2011	.795	.870	.859	.727	.845	.816
2012	.795	.871	.859	.727	.847	.816
2013	.795	.871	.859	.728	.849	.817
2014	.795	.871	.859	.728	.850	.817
2015	.795	.871	.859	.728	.850	.817
			I. Baseline with Unrestricted Portfolios			
1990	.633	.822	.830	.689	.690	.790
1991	.681	.822	.830	.689	.690	.790
1992	.722	.822	.830	.689	.690	.790
1993	.753	.822	.830	.689	.691	.790
1994	.775	.822	.830	.689	.691	.790
1995	.789	.823	.830	.689	.692	.791
1996	.799	.823	.831	.690	.693	.791
1997	.804	.823	.831	.690	.695	.791
1998	.808	.824	.831	.691	.699	.792
1999	.810	.826	.832	.692	.704	.794

See notes at the end of the table.

Table A4

Degree of Openness to Foreign Direct Investment, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			I. Baseline with Unrestricted Portfolios, Cont.			
2000	.812	.828	.833	.694	.712	.796
2001	.813	.831	.835	.697	.724	.799
2002	.813	.836	.838	.701	.740	.803
2003	.814	.841	.841	.706	.761	.808
2004	.814	.847	.845	.711	.783	.814
2005	.814	.854	.848	.717	.806	.819
2006	.814	.859	.851	.722	.827	.824
2007	.814	.864	.854	.726	.843	.828
2008	.814	.867	.856	.729	.855	.831
2009	.814	.869	.857	.731	.863	.833
2010	.814	.871	.858	.732	.868	.835
2011	.814	.872	.858	.733	.872	.836
2012	.814	.872	.858	.733	.874	.836
2013	.814	.872	.859	.734	.875	.836
2014	.814	.873	.859	.734	.876	.837
2015	.814	.873	.859	.734	.876	.837
			J. Baseline with Lower Elasticity of $h_i^j(q)$			
1990	.667	.849	.852	.689	.654	.775
1991	.672	.849	.852	.689	.654	.775
1992	.678	.849	.852	.689	.655	.775
1993	.688	.849	.852	.689	.655	.775
1994	.702	.849	.852	.689	.655	.775
1995	.719	.849	.852	.689	.656	.775
1996	.738	.849	.852	.690	.658	.776
1997	.756	.850	.852	.690	.660	.776
1998	.773	.850	.852	.691	.664	.777
1999	.787	.851	.853	.692	.669	.778
2000	.797	.852	.853	.693	.678	.780
2001	.803	.853	.853	.696	.691	.783
2002	.808	.855	.854	.699	.709	.787
2003	.810	.858	.855	.704	.731	.792
2004	.812	.861	.856	.708	.756	.797
2005	.813	.864	.857	.713	.781	.802
2006	.814	.867	.858	.717	.803	.807
2007	.814	.869	.859	.721	.821	.811
2008	.815	.870	.859	.723	.834	.814
2009	.815	.871	.859	.725	.843	.816

See notes at the end of the table.

Table A4

Degree of Openness to Foreign Direct Investment, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			J. Baseline with Lower Elasticity of $h_i^j(q)$, Cont.			
2010	.815	.872	.860	.726	.848	.817
2011	.815	.872	.860	.727	.852	.818
2012	.815	.873	.860	.727	.854	.818
2013	.815	.873	.860	.728	.856	.819
2014	.815	.873	.860	.728	.857	.819
2015	.815	.873	.860	.728	.857	.819
			K. Baseline with TFP Transfer Discount			
1990	.667	.849	.852	.689	.654	.775
1991	.672	.849	.852	.689	.654	.775
1992	.678	.849	.852	.689	.655	.775
1993	.688	.849	.852	.689	.655	.775
1994	.701	.849	.852	.689	.655	.775
1995	.718	.849	.852	.689	.656	.775
1996	.736	.849	.852	.690	.658	.776
1997	.755	.850	.852	.690	.660	.776
1998	.772	.850	.852	.691	.664	.777
1999	.785	.851	.852	.692	.670	.778
2000	.795	.851	.852	.694	.679	.780
2001	.801	.853	.853	.696	.692	.783
2002	.806	.854	.853	.700	.709	.787
2003	.809	.857	.854	.704	.732	.792
2004	.810	.859	.854	.709	.757	.797
2005	.811	.861	.854	.714	.782	.802
2006	.812	.864	.855	.719	.805	.807
2007	.812	.865	.855	.722	.822	.811
2008	.813	.867	.856	.725	.835	.814
2009	.813	.867	.856	.727	.844	.816
2010	.813	.868	.856	.728	.850	.817
2011	.813	.868	.856	.729	.854	.818
2012	.813	.869	.856	.729	.856	.818
2013	.813	.869	.856	.730	.858	.819
2014	.813	.869	.856	.730	.859	.819
2015	.813	.869	.856	.730	.859	.819
			L. Baseline with No QPQ in BRI			
1990	.662	.849	.852	.689	.654	.775
1991	.664	.849	.852	.689	.654	.775

See notes at the end of the table.

Table A4

Degree of Openness to Foreign Direct Investment, Cont.

	China	U.S.	W. Europe	Japan	BRI	ROW
			L. Baseline with No QPQ in BRI, Cont.			
1992	.666	.849	.852	.689	.654	.775
1993	.670	.849	.852	.689	.655	.775
1994	.676	.849	.852	.689	.655	.775
1995	.684	.849	.852	.689	.656	.775
1996	.696	.849	.852	.690	.657	.776
1997	.710	.849	.852	.690	.658	.776
1998	.727	.850	.852	.691	.661	.777
1999	.743	.850	.852	.692	.665	.778
2000	.757	.851	.852	.694	.672	.779
2001	.769	.852	.852	.696	.681	.781
2002	.777	.853	.852	.700	.694	.784
2003	.783	.854	.852	.704	.711	.787
2004	.787	.856	.851	.709	.729	.792
2005	.789	.858	.851	.714	.747	.796
2006	.791	.859	.851	.719	.764	.799
2007	.792	.860	.851	.722	.777	.802
2008	.792	.861	.851	.725	.786	.804
2009	.792	.862	.851	.727	.793	.805
2010	.793	.862	.851	.728	.797	.806
2011	.793	.863	.851	.729	.800	.807
2012	.793	.863	.851	.729	.801	.807
2013	.793	.863	.851	.730	.802	.808
2014	.793	.863	.851	.730	.803	.808
2015	.793	.863	.851	.730	.803	.808

Note.—Degree of openness parameters are chosen to align trends in data and model.

Table A5

Intensity Levels and Quid Pro Quo Costs

	FDI of Advanced Countries in China			FDI of Advanced Countries in BRI			FDI of China in BRI			FDI of BRI in China		
	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$
					A. Model with Quid Pro Quo (Baseline)							
1990	.21	.002	.027	.29	.006	.077	.34	.011	.144	.24	.003	.040
1991	.26	.004	.049	.30	.006	.083	.32	.008	.104	.28	.005	.066
1992	.28	.005	.069	.31	.007	.092	.31	.007	.095	.30	.006	.085
1993	.30	.007	.089	.31	.008	.102	.31	.007	.095	.31	.008	.101
1994	.32	.008	.111	.32	.009	.112	.31	.007	.098	.33	.009	.117
1995	.34	.010	.135	.33	.009	.120	.31	.008	.101	.34	.010	.135
1996	.35	.012	.160	.33	.010	.127	.32	.008	.103	.35	.012	.155
1997	.37	.015	.196	.34	.010	.134	.31	.008	.103	.36	.014	.184
1998	.38	.019	.240	.34	.011	.140	.31	.008	.103	.38	.017	.220
1999	.40	.023	.284	.34	.011	.148	.31	.008	.105	.39	.020	.257
2000	.41	.026	.325	.35	.012	.157	.32	.008	.110	.40	.023	.290
2001	.41	.029	.361	.35	.013	.170	.32	.009	.119	.40	.026	.319
2002	.42	.032	.393	.35	.015	.189	.33	.010	.134	.40	.027	.342
2003	.42	.034	.422	.36	.017	.215	.33	.012	.154	.40	.029	.362
2004	.41	.036	.448	.36	.019	.248	.34	.014	.181	.40	.030	.378
2005	.41	.038	.473	.36	.022	.287	.34	.016	.213	.39	.031	.393
2006	.40	.040	.497	.36	.026	.327	.34	.019	.248	.38	.032	.409
2007	.38	.041	.520	.36	.029	.368	.33	.022	.285	.37	.033	.425
2008	.37	.043	.541	.35	.032	.407	.33	.025	.321	.35	.035	.443
2009	.36	.044	.559	.34	.034	.440	.32	.027	.355	.34	.036	.461
2010	.35	.044	.573	.33	.036	.467	.32	.029	.384	.33	.037	.479
2011	.34	.045	.583	.33	.037	.486	.31	.031	.407	.33	.038	.495
2012	.33	.045	.588	.32	.038	.499	.31	.032	.426	.32	.039	.509
2013	.33	.045	.591	.32	.039	.508	.31	.033	.441	.32	.040	.520
2014	.33	.045	.590	.31	.039	.513	.30	.034	.454	.32	.040	.528
2015	.32	.045	.589	.31	.039	.517	.30	.035	.464	.32	.041	.535
					B. Model without Quid Pro Quo							
1990	1	0	0	1	0	0	1	0	0	1	0	0
1991	1	0	0	1	0	0	1	0	0	1	0	0
1992	1	0	0	1	0	0	1	0	0	1	0	0
1993	1	0	0	1	0	0	1	0	0	1	0	0
1994	1	0	0	1	0	0	1	0	0	1	0	0
1995	1	0	0	1	0	0	1	0	0	1	0	0
1996	1	0	0	1	0	0	1	0	0	1	0	0

See notes at the end of the table.

Table A5

Intensity Levels and Quid Pro Quo Costs, Cont.

	FDI of Advanced Countries in China			in BRI			FDI of China in BRI			FDI of BRI in China		
	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$
					B. Model with Quid Pro Quo, Cont.							
1997	1	0	0	1	0	0	1	0	0	1	0	0
1998	1	0	0	1	0	0	1	0	0	1	0	0
1999	1	0	0	1	0	0	1	0	0	1	0	0
2000	1	0	0	1	0	0	1	0	0	1	0	0
2001	1	0	0	1	0	0	1	0	0	1	0	0
2002	1	0	0	1	0	0	1	0	0	1	0	0
2003	1	0	0	1	0	0	1	0	0	1	0	0
2004	1	0	0	1	0	0	1	0	0	1	0	0
2005	1	0	0	1	0	0	1	0	0	1	0	0
2006	1	0	0	1	0	0	1	0	0	1	0	0
2007	1	0	0	1	0	0	1	0	0	1	0	0
2008	1	0	0	1	0	0	1	0	0	1	0	0
2009	1	0	0	1	0	0	1	0	0	1	0	0
2010	1	0	0	1	0	0	1	0	0	1	0	0
2011	1	0	0	1	0	0	1	0	0	1	0	0
2012	1	0	0	1	0	0	1	0	0	1	0	0
2013	1	0	0	1	0	0	1	0	0	1	0	0
2014	1	0	0	1	0	0	1	0	0	1	0	0
2015	1	0	0	1	0	0	1	0	0	1	0	0
					C. Baseline with Knowledge Spillovers							
1990	.23	.002	.024	.31	.006	.075	.37	.011	.138	.25	.002	.034
1991	.28	.004	.048	.32	.006	.082	.33	.007	.094	.30	.005	.063
1992	.31	.005	.069	.33	.007	.090	.33	.006	.085	.32	.006	.083
1993	.33	.007	.091	.34	.008	.099	.32	.006	.084	.34	.008	.100
1994	.35	.009	.113	.34	.008	.107	.33	.007	.086	.35	.009	.118
1995	.36	.011	.139	.35	.009	.115	.33	.007	.089	.36	.011	.138
1996	.38	.013	.167	.35	.009	.121	.33	.007	.093	.38	.013	.160
1997	.39	.016	.197	.36	.010	.127	.33	.007	.097	.39	.015	.185
1998	.41	.019	.231	.36	.010	.134	.34	.008	.101	.40	.017	.213
1999	.42	.022	.268	.36	.011	.141	.34	.008	.105	.41	.020	.243
2000	.43	.025	.305	.37	.012	.150	.34	.009	.111	.42	.022	.272
2001	.43	.028	.340	.37	.013	.163	.34	.009	.120	.42	.024	.300
2002	.43	.030	.372	.37	.014	.182	.35	.010	.135	.42	.026	.324
2003	.43	.033	.403	.38	.017	.209	.35	.012	.156	.42	.028	.345

See notes at the end of the table.

Table A5

Intensity Levels and Quid Pro Quo Costs, Cont.

	FDI of Advanced Countries in China			in BRI			FDI of China in BRI			FDI of BRI in China		
	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$
C. Baseline with Knowledge Spillovers, Cont.												
2004	.43	.035	.432	.38	.019	.243	.36	.014	.183	.41	.029	.364
2005	.42	.037	.460	.38	.022	.283	.36	.017	.216	.40	.031	.384
2006	.41	.039	.488	.37	.026	.325	.35	.020	.252	.39	.032	.405
2007	.39	.041	.515	.36	.029	.367	.34	.022	.289	.38	.034	.427
2008	.38	.043	.540	.35	.032	.406	.33	.025	.325	.36	.035	.451
2009	.36	.044	.560	.34	.034	.440	.33	.027	.357	.35	.037	.474
2010	.35	.045	.575	.33	.036	.466	.32	.029	.386	.34	.038	.493
2011	.34	.045	.586	.33	.037	.485	.31	.031	.409	.33	.039	.511
2012	.33	.046	.592	.32	.038	.498	.31	.032	.427	.33	.040	.524
2013	.33	.046	.594	.32	.039	.507	.31	.033	.442	.32	.041	.535
2014	.33	.046	.594	.31	.039	.513	.31	.034	.454	.32	.041	.542
2015	.32	.045	.593	.31	.039	.516	.30	.035	.463	.32	.042	.549
D. Baseline with Quid Pro Quo Policy Fixed												
1990	.21	.002	.026	.29	.005	.074	.34	.011	.139	.24	.003	.039
1991	.26	.003	.048	.30	.006	.080	.31	.008	.100	.28	.005	.064
1992	.28	.005	.068	.30	.007	.089	.31	.007	.092	.30	.006	.082
1993	.30	.007	.087	.31	.007	.099	.31	.007	.091	.31	.007	.096
1994	.32	.008	.108	.32	.008	.108	.31	.007	.093	.32	.008	.111
1995	.33	.010	.129	.32	.009	.115	.31	.007	.095	.33	.010	.127
1996	.35	.012	.153	.33	.009	.121	.31	.007	.096	.34	.011	.145
1997	.36	.015	.188	.33	.010	.127	.31	.007	.094	.36	.014	.175
1998	.38	.018	.231	.34	.010	.132	.31	.007	.093	.37	.017	.210
1999	.39	.022	.271	.34	.011	.138	.31	.007	.094	.39	.019	.244
2000	.41	.025	.307	.34	.011	.145	.31	.007	.097	.40	.022	.274
2001	.41	.027	.336	.35	.012	.156	.32	.008	.104	.40	.024	.298
2002	.42	.029	.360	.36	.013	.170	.32	.009	.115	.41	.025	.316
2003	.42	.031	.378	.36	.015	.189	.33	.010	.131	.41	.026	.329
2004	.43	.032	.391	.37	.017	.212	.35	.012	.151	.41	.027	.337
2005	.43	.032	.401	.38	.019	.237	.36	.013	.172	.41	.028	.343
2006	.43	.033	.407	.39	.021	.261	.37	.015	.194	.42	.028	.347
2007	.43	.033	.411	.40	.023	.282	.38	.017	.215	.42	.028	.350
2008	.43	.033	.413	.40	.024	.299	.38	.019	.234	.42	.028	.352
2009	.43	.034	.414	.41	.025	.314	.39	.020	.252	.42	.029	.354
2010	.43	.034	.413	.41	.026	.326	.39	.021	.267	.42	.029	.356

See notes at the end of the table.

Table A5

Intensity Levels and Quid Pro Quo Costs, Cont.

	FDI of Advanced Countries in China			in BRI			FDI of China in BRI			FDI of BRI in China		
	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$
D. Baseline with Quid Pro Quo Policy Fixed, Cont.												
2011	.43	.034	.414	.41	.027	.334	.40	.022	.280	.42	.029	.360
2012	.43	.034	.413	.41	.027	.341	.40	.023	.291	.42	.029	.363
2013	.43	.033	.413	.42	.028	.346	.40	.024	.300	.42	.030	.367
2014	.43	.033	.412	.42	.028	.350	.41	.025	.309	.42	.030	.371
2015	.43	.033	.411	.42	.029	.353	.41	.025	.316	.42	.030	.375
E. Baseline with Korea and Japan Combined												
1990	.21	.002	.025	.29	.006	.074	.35	.011	.141	.24	.003	.038
1991	.26	.003	.047	.30	.006	.079	.32	.008	.099	.28	.005	.064
1992	.29	.005	.066	.31	.007	.087	.31	.007	.089	.30	.006	.083
1993	.31	.006	.086	.32	.007	.096	.31	.007	.089	.32	.007	.098
1994	.32	.008	.107	.32	.008	.106	.31	.007	.092	.33	.009	.114
1995	.34	.010	.130	.33	.009	.115	.31	.007	.096	.34	.010	.131
1996	.35	.012	.155	.33	.009	.123	.32	.007	.099	.35	.012	.150
1997	.37	.015	.188	.34	.010	.130	.32	.008	.100	.36	.014	.176
1998	.39	.018	.230	.34	.011	.136	.32	.008	.100	.38	.017	.210
1999	.40	.022	.273	.35	.011	.144	.32	.008	.101	.39	.019	.245
2000	.41	.025	.313	.35	.012	.153	.32	.008	.106	.40	.022	.277
2001	.42	.028	.349	.35	.013	.166	.32	.009	.115	.40	.024	.304
2002	.42	.031	.380	.36	.014	.184	.33	.010	.129	.41	.026	.326
2003	.42	.033	.407	.37	.016	.210	.34	.011	.148	.41	.028	.344
2004	.42	.035	.431	.37	.019	.242	.34	.013	.174	.40	.029	.358
2005	.41	.037	.454	.37	.022	.278	.35	.016	.204	.40	.030	.372
2006	.41	.038	.476	.37	.025	.317	.35	.018	.237	.39	.031	.386
2007	.39	.040	.496	.37	.028	.356	.34	.021	.271	.38	.032	.400
2008	.38	.041	.515	.36	.031	.392	.34	.024	.305	.36	.033	.417
2009	.37	.042	.531	.35	.033	.422	.33	.026	.336	.35	.034	.434
2010	.36	.042	.543	.34	.035	.446	.33	.028	.362	.35	.035	.451
2011	.35	.043	.552	.34	.036	.463	.32	.029	.384	.34	.036	.466
2012	.35	.043	.557	.33	.037	.475	.32	.031	.401	.33	.037	.479
2013	.34	.043	.559	.33	.037	.483	.32	.032	.415	.33	.038	.490
2014	.34	.043	.559	.33	.037	.488	.32	.032	.427	.33	.038	.498
2015	.34	.043	.557	.33	.038	.491	.32	.033	.437	.33	.039	.505

See notes at the end of the table.

Table A5

Intensity Levels and Quid Pro Quo Costs, Cont.

	FDI of Advanced Countries in China			in BRI			FDI of China in BRI			FDI of BRI in China		
	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$
F. Baseline without Rest of World												
1990	.19	.001	.020	.26	.004	.054	.32	.009	.115	.22	.002	.031
1991	.24	.003	.038	.27	.004	.060	.29	.006	.079	.26	.004	.054
1992	.27	.004	.055	.28	.005	.068	.29	.005	.071	.28	.005	.070
1993	.29	.005	.072	.29	.006	.078	.29	.005	.071	.30	.006	.082
1994	.31	.007	.092	.30	.007	.087	.29	.005	.073	.31	.007	.096
1995	.32	.009	.115	.31	.007	.096	.29	.006	.074	.32	.009	.112
1996	.34	.011	.140	.32	.008	.103	.29	.006	.076	.33	.010	.131
1997	.36	.014	.176	.32	.008	.110	.29	.006	.075	.35	.012	.159
1998	.38	.017	.221	.32	.009	.117	.29	.006	.074	.37	.015	.194
1999	.39	.021	.267	.33	.010	.124	.29	.006	.075	.38	.018	.231
2000	.40	.025	.309	.33	.010	.134	.29	.006	.079	.39	.021	.264
2001	.41	.028	.348	.34	.011	.147	.30	.006	.087	.39	.023	.293
2002	.41	.031	.382	.34	.013	.166	.30	.007	.099	.40	.025	.318
2003	.41	.033	.412	.35	.015	.192	.31	.009	.116	.40	.027	.339
2004	.41	.035	.439	.36	.018	.225	.32	.011	.140	.39	.029	.357
2005	.40	.037	.465	.36	.021	.264	.32	.013	.169	.39	.030	.375
2006	.40	.039	.490	.36	.024	.305	.32	.015	.201	.38	.031	.392
2007	.38	.041	.514	.35	.027	.347	.32	.018	.236	.36	.032	.409
2008	.37	.042	.536	.34	.030	.387	.32	.021	.272	.35	.033	.427
2009	.36	.043	.554	.34	.033	.423	.31	.023	.306	.34	.034	.445
2010	.35	.044	.568	.33	.035	.451	.31	.025	.337	.33	.036	.462
2011	.34	.045	.578	.32	.036	.472	.30	.027	.363	.32	.037	.479
2012	.33	.045	.584	.32	.037	.487	.30	.029	.385	.32	.038	.493
2013	.33	.045	.586	.32	.038	.497	.30	.030	.404	.32	.038	.505
2014	.33	.045	.586	.31	.038	.504	.30	.031	.420	.31	.039	.515
2015	.32	.045	.585	.31	.038	.508	.30	.032	.433	.31	.040	.523
G. Baseline with UK Island Flows Reallocated												
1990	.21	.002	.027	.29	.006	.075	.34	.011	.138	.24	.003	.040
1991	.26	.004	.051	.30	.006	.081	.31	.008	.100	.28	.005	.068
1992	.29	.005	.073	.30	.007	.090	.31	.007	.092	.30	.007	.089
1993	.31	.007	.096	.31	.008	.100	.31	.007	.091	.32	.008	.107
1994	.33	.009	.122	.32	.008	.109	.31	.007	.094	.33	.010	.127
1995	.35	.012	.150	.33	.009	.117	.31	.007	.097	.34	.011	.148
1996	.36	.014	.177	.33	.009	.124	.31	.007	.099	.36	.013	.169

See notes at the end of the table.

Table A5

Intensity Levels and Quid Pro Quo Costs, Cont.

	FDI of Advanced Countries in China			FDI of Advanced Countries in BRI			FDI of China in BRI			FDI of BRI in China		
	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$
G. Baseline with UK Island Flows Reallocated, Cont.												
1997	.37	.016	.209	.33	.010	.130	.31	.008	.100	.37	.015	.194
1998	.39	.020	.246	.34	.010	.135	.31	.008	.100	.38	.018	.225
1999	.40	.023	.284	.34	.011	.142	.31	.008	.101	.39	.020	.256
2000	.41	.026	.319	.34	.012	.150	.32	.008	.106	.40	.023	.284
2001	.41	.028	.348	.35	.013	.162	.32	.009	.114	.40	.025	.308
2002	.42	.030	.374	.36	.014	.178	.33	.010	.127	.41	.026	.327
2003	.42	.032	.395	.36	.016	.200	.34	.011	.145	.41	.027	.342
2004	.42	.033	.413	.37	.018	.228	.35	.013	.168	.41	.028	.353
2005	.42	.035	.429	.38	.020	.259	.35	.015	.194	.40	.029	.363
2006	.41	.036	.444	.38	.023	.290	.36	.017	.221	.40	.030	.373
2007	.41	.037	.457	.38	.025	.320	.36	.019	.249	.39	.030	.382
2008	.40	.038	.469	.38	.027	.347	.36	.022	.276	.39	.031	.392
2009	.39	.038	.479	.37	.029	.371	.36	.024	.301	.38	.032	.402
2010	.39	.039	.486	.37	.031	.391	.35	.025	.324	.37	.032	.412
2011	.38	.039	.493	.36	.032	.406	.35	.027	.342	.37	.033	.422
2012	.38	.039	.497	.36	.033	.417	.35	.028	.358	.36	.034	.431
2013	.37	.039	.498	.36	.033	.425	.35	.029	.370	.36	.034	.440
2014	.37	.039	.498	.36	.034	.430	.35	.030	.381	.36	.035	.446
2015	.37	.039	.497	.36	.034	.434	.35	.030	.390	.36	.035	.452
H. Baseline with Lower Chinese Profit Tax												
1990	.21	.002	.025	.29	.006	.074	.35	.012	.151	.23	.003	.037
1991	.25	.003	.048	.30	.006	.081	.32	.008	.104	.28	.005	.065
1992	.28	.005	.068	.30	.007	.090	.31	.007	.095	.30	.006	.083
1993	.30	.007	.089	.31	.008	.099	.31	.007	.094	.31	.007	.099
1994	.32	.008	.111	.32	.008	.108	.31	.007	.096	.32	.009	.115
1995	.33	.010	.134	.32	.009	.116	.31	.007	.099	.33	.010	.132
1996	.35	.012	.157	.33	.009	.123	.31	.008	.101	.34	.012	.149
1997	.36	.015	.191	.33	.010	.130	.31	.007	.099	.35	.014	.177
1998	.37	.019	.235	.33	.010	.136	.30	.007	.098	.37	.017	.214
1999	.38	.022	.279	.33	.011	.144	.30	.007	.099	.37	.020	.251
2000	.39	.025	.319	.33	.012	.153	.30	.008	.103	.38	.023	.285
2001	.39	.028	.353	.33	.013	.166	.30	.008	.111	.38	.025	.312
2002	.39	.030	.379	.33	.014	.184	.30	.009	.123	.38	.026	.332

See notes at the end of the table.

Table A5

Intensity Levels and Quid Pro Quo Costs, Cont.

	FDI of Advanced Countries in China			FDI of Advanced Countries in BRI			FDI of China in BRI			FDI of BRI in China		
	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$
					H. Baseline with Lower Chinese Profit Tax, Cont.							
2003	.39	.032	.397	.34	.016	.207	.31	.011	.139	.38	.027	.345
2004	.39	.033	.409	.34	.018	.234	.31	.012	.159	.38	.028	.352
2005	.39	.033	.419	.35	.021	.263	.32	.014	.177	.38	.028	.358
2006	.39	.035	.438	.36	.023	.291	.32	.015	.191	.38	.030	.373
2007	.40	.039	.482	.36	.025	.315	.33	.015	.197	.39	.032	.409
2008	.41	.042	.524	.37	.026	.335	.33	.016	.207	.39	.035	.444
2009	.41	.042	.527	.37	.028	.351	.34	.018	.230	.39	.036	.448
2010	.40	.041	.512	.37	.029	.363	.35	.020	.255	.39	.035	.439
2011	.40	.040	.497	.38	.029	.373	.35	.022	.279	.39	.034	.430
2012	.40	.039	.484	.38	.030	.380	.36	.023	.299	.39	.034	.424
2013	.40	.038	.473	.38	.030	.385	.36	.025	.317	.39	.033	.420
2014	.39	.037	.465	.38	.031	.389	.37	.026	.332	.39	.033	.419
2015	.39	.037	.459	.38	.031	.393	.37	.027	.344	.39	.033	.419
					I. Baseline with Unrestricted Portfolios							
1990	.39	.002	.023	.52	.009	.103	.52	.008	.097	.38	.002	.021
1991	.42	.003	.032	.52	.008	.100	.53	.010	.114	.42	.003	.031
1992	.45	.004	.044	.52	.008	.098	.54	.011	.129	.45	.004	.045
1993	.47	.005	.058	.51	.008	.097	.55	.012	.138	.48	.005	.061
1994	.49	.006	.075	.51	.008	.096	.55	.012	.139	.50	.007	.080
1995	.51	.008	.093	.51	.008	.097	.54	.012	.137	.52	.008	.101
1996	.53	.010	.114	.51	.008	.098	.54	.011	.134	.53	.010	.124
1997	.54	.011	.135	.51	.008	.100	.54	.011	.132	.55	.012	.148
1998	.55	.013	.158	.51	.009	.103	.53	.011	.132	.56	.015	.172
1999	.55	.015	.181	.51	.009	.107	.53	.011	.133	.56	.017	.197
2000	.56	.017	.205	.51	.009	.114	.52	.011	.137	.56	.019	.223
2001	.56	.019	.230	.50	.010	.123	.51	.012	.144	.56	.021	.249
2002	.55	.022	.256	.49	.011	.137	.51	.013	.155	.55	.023	.276
2003	.54	.024	.284	.48	.013	.155	.49	.014	.173	.54	.026	.305
2004	.52	.026	.314	.47	.015	.179	.48	.016	.195	.52	.028	.335
2005	.50	.029	.345	.45	.017	.209	.46	.018	.223	.50	.031	.367
2006	.47	.031	.378	.43	.020	.242	.44	.021	.255	.48	.033	.400
2007	.44	.034	.411	.41	.022	.277	.41	.023	.289	.45	.035	.433
2008	.42	.036	.445	.39	.025	.313	.39	.026	.324	.42	.038	.467

See notes at the end of the table.

Table A5

Intensity Levels and Quid Pro Quo Costs, Cont.

	FDI of Advanced Countries in China			FDI of Advanced Countries in BRI			FDI of China in BRI			FDI of BRI in China		
	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$
					I. Baseline with Unrestricted Portfolios, Cont.							
2009	.39	.038	.477	.37	.027	.348	.37	.028	.358	.40	.040	.499
2010	.37	.040	.507	.35	.030	.381	.35	.030	.391	.37	.042	.529
2011	.35	.042	.534	.33	.032	.410	.33	.032	.421	.36	.043	.556
2012	.34	.043	.556	.32	.033	.435	.32	.034	.446	.34	.045	.578
2013	.33	.044	.572	.31	.034	.455	.31	.035	.466	.33	.046	.595
2014	.32	.044	.583	.30	.035	.471	.31	.036	.482	.32	.046	.607
2015	.32	.045	.590	.30	.036	.482	.30	.037	.495	.32	.047	.614
					J. Baseline with Lower Elasticity of $h_i^j(q)$							
1990	.23	.002	.028	.31	.006	.075	.36	.011	.134	.26	.003	.042
1991	.27	.004	.048	.31	.007	.080	.33	.008	.099	.30	.005	.066
1992	.30	.005	.066	.32	.007	.087	.33	.008	.091	.32	.007	.082
1993	.32	.007	.084	.33	.008	.097	.33	.008	.092	.33	.008	.096
1994	.34	.009	.104	.34	.009	.106	.33	.008	.095	.34	.009	.110
1995	.35	.011	.125	.35	.010	.115	.33	.008	.099	.35	.011	.125
1996	.37	.013	.149	.35	.010	.122	.33	.008	.101	.37	.012	.144
1997	.39	.016	.184	.36	.011	.129	.33	.008	.102	.38	.015	.172
1998	.41	.020	.224	.36	.011	.135	.33	.009	.102	.40	.018	.205
1999	.42	.023	.265	.36	.012	.142	.34	.009	.105	.41	.021	.238
2000	.43	.027	.301	.37	.013	.151	.34	.009	.110	.42	.023	.267
2001	.44	.030	.334	.37	.014	.164	.34	.010	.119	.42	.026	.292
2002	.44	.032	.363	.38	.016	.182	.35	.011	.134	.43	.028	.312
2003	.44	.035	.389	.38	.018	.207	.36	.013	.154	.43	.029	.329
2004	.44	.037	.412	.39	.021	.239	.36	.015	.181	.42	.030	.343
2005	.43	.038	.435	.39	.024	.275	.37	.018	.212	.41	.031	.357
2006	.42	.040	.457	.39	.027	.314	.37	.021	.245	.40	.032	.371
2007	.41	.042	.478	.38	.030	.352	.36	.024	.281	.39	.033	.387
2008	.40	.043	.498	.37	.033	.388	.35	.027	.315	.38	.035	.405
2009	.38	.044	.515	.36	.036	.419	.35	.029	.346	.36	.036	.424
2010	.37	.045	.528	.36	.038	.443	.34	.031	.373	.36	.037	.441
2011	.36	.046	.538	.35	.039	.460	.33	.033	.394	.35	.039	.458
2012	.36	.046	.544	.34	.040	.472	.33	.034	.410	.34	.040	.471
2013	.35	.046	.547	.34	.040	.480	.33	.035	.424	.34	.040	.482
2014	.35	.046	.548	.34	.040	.484	.33	.036	.435	.34	.041	.491
2015	.35	.046	.547	.34	.041	.488	.33	.037	.444	.34	.042	.499

See notes at the end of the table.

Table A5

Intensity Levels and Quid Pro Quo Costs, Cont.

	FDI of Advanced Countries in China			FDI of Advanced Countries in BRI			FDI of China in BRI			FDI of BRI in China		
	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$
K. Baseline with TFP Transfer Discount												
1990	.23	.002	.035	.30	.006	.081	.34	.010	.136	.26	.004	.049
1991	.26	.004	.054	.31	.007	.091	.32	.009	.114	.28	.005	.069
1992	.29	.005	.072	.31	.008	.100	.32	.008	.109	.30	.006	.084
1993	.30	.007	.090	.32	.008	.109	.32	.008	.109	.31	.007	.098
1994	.32	.008	.107	.33	.009	.117	.32	.008	.111	.32	.008	.111
1995	.33	.010	.130	.33	.009	.124	.32	.008	.110	.33	.010	.130
1996	.35	.013	.168	.33	.010	.130	.32	.008	.107	.35	.013	.163
1997	.37	.017	.212	.34	.010	.135	.32	.008	.105	.37	.016	.201
1998	.39	.020	.256	.34	.011	.140	.32	.008	.106	.38	.019	.240
1999	.40	.024	.297	.34	.011	.147	.32	.008	.109	.39	.022	.276
2000	.41	.027	.334	.34	.012	.156	.32	.009	.116	.40	.025	.307
2001	.41	.030	.367	.35	.013	.169	.32	.010	.127	.40	.027	.333
2002	.41	.032	.396	.35	.015	.187	.33	.011	.143	.40	.028	.355
2003	.41	.034	.422	.36	.017	.213	.34	.013	.166	.40	.030	.374
2004	.41	.036	.448	.36	.019	.247	.34	.015	.195	.40	.031	.391
2005	.40	.038	.473	.36	.022	.286	.34	.018	.229	.39	.032	.408
2006	.39	.040	.499	.35	.026	.327	.34	.021	.267	.37	.034	.425
2007	.37	.041	.524	.35	.029	.370	.33	.024	.306	.36	.035	.443
2008	.36	.043	.547	.34	.032	.410	.32	.026	.345	.35	.036	.461
2009	.35	.044	.568	.33	.034	.446	.32	.029	.382	.33	.037	.480
2010	.34	.045	.583	.32	.036	.476	.31	.031	.414	.32	.038	.497
2011	.33	.046	.595	.31	.038	.498	.30	.033	.439	.32	.039	.514
2012	.32	.046	.602	.31	.039	.513	.30	.034	.459	.31	.040	.528
2013	.32	.046	.606	.31	.039	.524	.30	.036	.475	.31	.041	.539
2014	.31	.046	.607	.30	.040	.531	.30	.036	.488	.31	.041	.548
2015	.31	.046	.607	.30	.040	.536	.30	.037	.498	.30	.042	.556
L. Baseline with No QPQ in BRI												
1990	.47	.002	.029	1	0	0	1	0	0	.48	.003	.030
1991	.50	.003	.040	1	0	0	1	0	0	.50	.003	.041
1992	.52	.004	.048	1	0	0	1	0	0	.52	.004	.049
1993	.52	.004	.053	1	0	0	1	0	0	.52	.005	.054
1994	.54	.006	.065	1	0	0	1	0	0	.54	.006	.066
1995	.56	.007	.085	1	0	0	1	0	0	.56	.007	.086

See notes at the end of the table.

TABLE A5

INTENSITY LEVELS AND QUID PRO QUO COSTS, CONT.

	FDI of Advanced Countries in China			in BRI			FDI of China in BRI			FDI of BRI in China		
	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$	q	$h(q)$	$h'(q)$
						L. Baseline with No QPQ in BRI, Cont.						
1996	.58	.009	.106	1	0	0	1	0	0	.58	.009	.107
1997	.60	.011	.128	1	0	0	1	0	0	.60	.011	.130
1998	.61	.013	.151	1	0	0	1	0	0	.61	.013	.153
1999	.62	.015	.173	1	0	0	1	0	0	.63	.015	.176
2000	.63	.017	.195	1	0	0	1	0	0	.63	.017	.198
2001	.64	.019	.215	1	0	0	1	0	0	.64	.019	.218
2002	.64	.020	.234	1	0	0	1	0	0	.65	.020	.236
2003	.65	.022	.251	1	0	0	1	0	0	.65	.022	.252
2004	.64	.023	.266	1	0	0	1	0	0	.64	.023	.267
2005	.64	.024	.281	1	0	0	1	0	0	.64	.024	.280
2006	.63	.026	.297	1	0	0	1	0	0	.63	.025	.295
2007	.61	.027	.313	1	0	0	1	0	0	.61	.027	.310
2008	.59	.028	.330	1	0	0	1	0	0	.59	.028	.326
2009	.57	.030	.349	1	0	0	1	0	0	.57	.029	.343
2010	.54	.031	.368	1	0	0	1	0	0	.54	.031	.362
2011	.51	.033	.389	1	0	0	1	0	0	.51	.032	.381
2012	.49	.034	.408	1	0	0	1	0	0	.49	.033	.400
2013	.47	.035	.426	1	0	0	1	0	0	.46	.034	.417
2014	.45	.036	.440	1	0	0	1	0	0	.44	.035	.431
2015	.43	.036	.450	1	0	0	1	0	0	.43	.036	.441

NOTE.—Quid pro quo costs are chosen to align trends in data and model.

TABLE A6

RESULTS FOR ALTERNATIVE MODEL SPECIFICATIONS

		Variations of the Baseline Model				
	Baseline Model	Combine Korea and Japan	Exclude Rest of World	Include UK Islands	Lower QPQ Cost Elasticity	Relax Portfolio Constraints
2010 Values for China:						
% Share of world technology capital	6.1	6.0	7.2	6.4	6.2	9.5
Capital-GDP ratios						
Nontransferred capital	.12	.12	.12	.13	.12	.19
Transferred capital	.35	.35	.34	.33	.35	.28
Cumulated outward to inward FDI	.53	.43	.52	.57	.53	1.21
Policy analysis:						
%Welfare due to QPQ						
China	4.69	4.65	4.13	4.25	4.68	4.16
United States	−.45	−.46	−.65	−.44	−.46	−.40
Nontransferred capital ratio						
China	.43	.43	.49	.48	.43	.52
United States	.96	.96	.93	.95	.96	.98
Total capital ratio						
China	1.46	1.48	1.62	1.47	1.44	1.21
United States	.96	.96	.93	.95	.96	.98

NOTE.—Results for the baseline model are also shown in Tables 9–12 and Figure 6 in the main text. The experiments are as follows: "Combine Korea and Japan" has Korea with Japan rather than ROW; "Exclude Rest of World" includes only the five non-ROW countries; "Include UK Islands" includes net inflows to China from the UK islands with advanced country flows; "Lower QPQ Cost Elasticity" uses an elasticity of $\nu = 9$ for the $h^j_{it}(q)$ cost function and an alternative path for $\bar{h}_t$ that ensures inward FDI shares to China are consistent with the data (see equation A.1 and Figure 5 in the main text); and "Relax Portfolio Constraints" relaxes all restrictions on borrowing and lending. The same procedure for choosing parameters in the baseline model is applied in both variations on the baseline. See Tables A1–A5 for parameter inputs.

Table A7

Predictions for China in 2030, Alternative Future Scenarios, Model with Quid Pro Quo and Knowledge Spillovers

Future path:	Per Capita GDP Relative to the U.S. (%)	Investment in Technology Capital Relative to GDP (%)	Share of World Proprietary Technology Capital (%)
Baseline continued	20.0	2.3	10.5
Quid pro quo discontinued	19.6	5.4	18.5
Quid pro quo continued and openness reaches 95% by 2030			
In China	20.3	0.7	4.5
In BRI	19.9	2.3	10.2
In ROW	19.9	2.4	10.7
In Western Europe	20.0	3.5	14.5
In Japan	19.7	2.7	11.9
In United States	19.4	3.3	13.9
High TFP growth, 2010–2030			
In China	50.2	6.0	39.6
In BRI	20.3	0.9	4.1
In ROW	19.9	2.2	7.5
TFP reaches U.S. level by 2030			
In Western Europe	19.1	1.8	7.5
In Japan	19.7	2.2	10.0

Note.—In all simulations, the state variables are taken from the baseline simulation for the year 2010. The "Quid pro quo discontinued" simulation assumes there are no quid pro quo transfers in any country starting in 2011. Simulations listed under "Quid pro quo continued" assume all parameters are the same as in the baseline except the paths for TFP $A_{c,t}$ or the degree of openness $\sigma_{c,t}$. In the case of "Openness reaches 95%" and "TFP reaches U.S. level by 2030," we use gradually increasing paths for the openness and TFP parameters, respectively. For the "High TFP growth" simulations, we use the same annual growth rate in TFP between 2010 and 2030 as that used for China over the period 1990–2010. Additional details for these simulations can be found at our website.

Figure A1. Share of Inward FDI to China from the United States, Western Europe, and Japan

Model without Quid Pro Quo

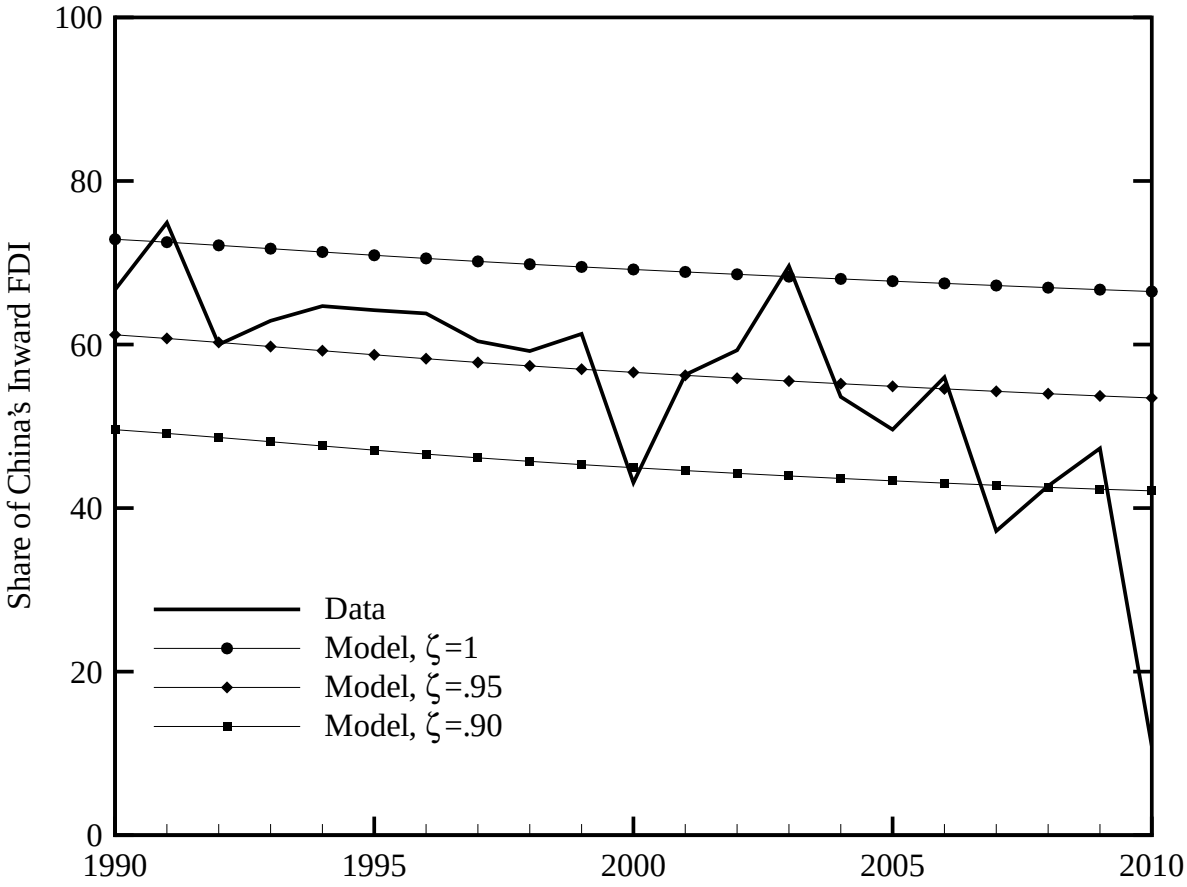

FIGURE A2. CUMULATIVE OUTWARD FDI RELATIVE TO TREND GDP,
Normalized by 2010 Estimate of Inward FDI to China

Model without Quid Pro Quo