DISCUSSION PAPER SERIES

DP21294

# SERVICES ACROSS BORDERS: HOW FIRMS ORGANIZE REMOTE WORK AT SCALE

Megha Patnaik

INTERNATIONAL TRADE AND REGIONAL ECONOMICS

CEPR

*ISSN 0265-8003*

# SERVICES ACROSS BORDERS: HOW FIRMS ORGANIZE REMOTE WORK AT SCALE

*Megha Patnaik*

Discussion Paper DP21294
Published 15 March 2026
Submitted 14 March 2026

Centre for Economic Policy Research
187 boulevard Saint-Germain, 75007 Paris, France
2 Coldbath Square, London EC1R 5HL
Tel: +44 (0)20 7183 8801
www.cepr.org

# SERVICES ACROSS BORDERS: HOW FIRMS ORGANIZE REMOTE WORK AT SCALE


## Abstract

Remote work has transformed the globalization of services, moving beyond arm's-length trade toward complex within-firm reorganization. Over the past two decades, multinational firms have increasingly established Global Capability Centers (GCCs) — large captive offshore service units through which knowledge-intensive tasks are performed at scale. We develop a model of heterogeneous service firms in which the scale and organization of remote work are endogenous choices. Adapting the logic of Helpman et al. (2004) to the services context, firms trade off the variable cost savings of remote labor against the fixed costs of coordination and organizational capacity. Moderately productive firms reorganize through partial outsourcing, while only the most productive firms exceed a unique adoption threshold and establish GCCs, which offer the lowest variable costs but require the highest fixed investments. A general equilibrium extension characterizes a "self-limiting expansion" mechanism: the growth of large-scale remote work raises offshore labor demand and wages, endogenously tightening the productivity requirements for further adoption. The paper provides a unified framework connecting remote work to theories of multinational firms and positions GCCs as the services analogue of horizontal foreign direct investment.



JEL Classification: F23, F12, D24

Keywords:



Megha Patnaik - meghapatnaik@gmail.com
*LUISS Guido Carli and CEPR*

# Services Across Borders: How Firms Organize Remote Work at Scale

Megha Patnaik*

**Abstract**

Remote work has transformed the globalization of services, moving beyond arm's-length trade toward complex within-firm reorganization. Over the past two decades, multinational firms have increasingly established Global Capability Centers (GCCs)—large captive offshore service units through which knowledge-intensive tasks are performed at scale. We develop a model of heterogeneous service firms in which the scale and organization of remote work are endogenous choices. Adapting the logic of Helpman et al. (2004) to the services context, firms trade off the variable cost savings of remote labor against the fixed costs of coordination and organizational capacity. Moderately productive firms reorganize through partial outsourcing, while only the most productive firms exceed a unique adoption threshold ($\bar{\varphi}_{OG}$) and establish GCCs, which offer the lowest variable costs but require the highest fixed investments. A general equilibrium extension characterizes a "self-limiting expansion" mechanism: the growth of large-scale remote work raises offshore labor demand and wages, endogenously tightening the productivity requirements for further adoption. The paper provides a unified framework connecting remote work to theories of multinational firms and positions GCCs as the services analogue of horizontal foreign direct investment.

**JEL Codes:** F23, F12, D24
**Keywords:** remote work, Global Capability Centers, heterogeneous firms, offshoring

*LUISS Guido Carli and CEPR. Email: mpatnaik@luiss.it.

# 1 Introduction

Remote work is reshaping the geography of service production. Rather than relocating entire firms or exporting final outputs, multinational companies increasingly reorganize production by distributing service tasks across geographically dispersed teams. Recent cross-country evidence confirms that remote work has stabilized as a permanent feature of the global economy, with approximately one-quarter of workdays now performed remotely across advanced economies (Aksoy et al., 2025; Bloom et al., 2023).A central manifestation of this transformation is the rapid rise of Global Capability Centers (GCCs): captive offshore units through which firms perform knowledge-intensive service activities at scale. For example, in India alone, GCCs are projected to contribute 3.5 percent of GDP by 2030 (Government of India, 2024), underscoring the growing economic significance of this organizational form.

While the globalization of manufacturing has been extensively studied, much less is understood about how firms organize geographically dispersed service work. Existing models of offshoring typically treat remote work as a marginal cost adjustment rather than a discrete organizational choice. Yet observed patterns suggest that the adoption of remote work is highly uneven across firms: while most firms rely on co-located production or limited hybrid arrangements, only a small set of highly productive firms establish large-scale offshore service units such as GCCs. The key organizational question is no longer simply where to sell products, but how to coordinate workers located in different countries to produce services.

This paper develops a model of heterogeneous service firms in which the scale of remote work is an endogenous organizational choice. Firms trade off the variable-cost savings of offshore labor against the fixed costs of coordination and organizational capacity. A key distinction from existing models of multinational production is that firms do not establish offshore units to serve foreign consumers; instead, they reorganize internal production by relocating specific tasks to lower-wage locations while continuing to supply the same markets (Antràs and Helpman, 2004; Antràs et al., 2024). The central mechanism is that remote work scales with firm productivity because managing geographically dispersed teams requires organizational capacity that increases with firm size (Fort, 2017). This generates productivity-based sorting across organizational modes: in manufacturing, the most productive firms replicate production abroad through horizontal foreign direct investment; in services, the analogous organizational form is the creation of large-scale captive offshore units, the organizational form we analyze as Global Capability Centers.

The model yields two main results. First, the trade-off between variable-cost savings from offshore labor and the fixed coordination costs required to manage distributed teams generates sharp sorting by productivity. There exist two unique productivity thresholds, $\bar{\varphi}_{DO}$ and $\bar{\varphi}_{OG}$, that partition firms into three organizational regimes: firms below $\bar{\varphi}_{DO}$ produce domestically, firms between the two thresholds outsource a subset of standardized tasks, and firms above $\bar{\varphi}_{OG}$ establish captive GCCs. Improvements in coordination technology (such as the managerial innovations documented by Barrero et al. (2023) during the pandemic) lower $\bar{\varphi}_{OG}$ and expand the set of firms operating at scale offshore, providing a direct link between the permanent reduction in coordination costs documented empirically (Aksoy et al., 2025) and the observed expansion of Global Capability Centers.

Second, a general equilibrium extension identifies a self-limiting mechanism governing the expansion of remote work. As more firms establish GCCs, aggregate demand for offshore labor rises, pushing up wages in offshore locations, consistent with the wage effects of offshoring documented by Hummels et al. (2014). Because the GCC cost bundle loads more heavily on offshore wages than the outsourcing cost bundle, rising wages disproportionately erode the variable-cost advantage of large-scale remote production, endogenously tightening the productivity threshold and concentrat-

ing GCC adoption among increasingly productive firms.

The paper makes three contributions to the literature on international production. First, it extends heterogeneous-firm models of multinational production (Melitz, 2003; Helpman et al., 2004; Antràs and Yeaple, 2014; Antràs and Chor, 2022) from market-access decisions to the internal organization of remote service work, positioning Global Capability Centers as the services analogue of horizontal foreign direct investment (Brainard, 1997; Yeaple, 2009). Second, while theories of global sourcing and firm boundaries (Antràs, 2003; Antràs and Helpman, 2004; Grossman and Helpman, 2005) focus on make-or-buy decisions under incomplete contracting, and models of task-based trade (Grossman and Rossi-Hansberg, 2008) treat offshoring as a continuous cost reduction, our framework characterizes GCCs as a discrete organizational mode and derives sharp sorting patterns across domestic production, partial outsourcing, and large-scale captive offshoring. The convex coordination costs that drive this sorting are consistent with evidence that service outsourcing scales with firm complexity (Berlingieri and Pisch, 2022) and that offshoring generates productivity-based sorting across firms (Maczulskij and Kässi, 2024). Third, the paper embeds the growing empirical literature on remote work, including evidence on task feasibility (Dingel and Neiman, 2020; Blinder and Krueger, 2013), the productivity–coordination trade-off (Bloom et al., 2015), the permanent reduction in remote coordination costs (Barrero et al., 2023; Aksoy et al., 2025), and the emergence of cross-border "telemigration" (Baldwin, 2023), into a unified framework that links micro-level organizational choices to the global structure of service production.

The paper proceeds as follows. Section 2 describes the model and derives the sorting result. Section 3 provides numerical illustrations. Section 4 characterizes the general equilibrium with endogenous offshore wages. Section 5 concludes.

# 2 Model

## 2.1 Environment

A representative consumer has CES preferences over a continuum of differentiated services with elasticity of substitution $\sigma > 1$. Given these preferences, the revenue of a firm charging price $p$ is

$$r(p) = Ap^{1-\sigma}, \tag{1}$$

where $A$ is a demand shifter that depends on aggregate variables and is taken as given by individual firms.

## 2.2 Technology

There are two locations: a high-wage home country ($H$) and a lower-wage offshore location ($L$), with wages $w_H > w_L$. Labor is the only factor of production and is immobile across locations.

Producing one unit of service output requires $1/\varphi$ units of effective labor, where $\varphi$ is firm-specific productivity. Firms enter by paying a sunk cost $f_e$, after which they draw $\varphi$ from a distribution $G(\varphi)$ with density $\mu(\varphi)$ on $[0, \infty)$. After observing $\varphi$, each firm chooses an organizational mode.

Service production can be decomposed into tasks. A share $\alpha \in [0, 1]$ of tasks may be performed remotely by offshore workers, with the remainder performed by co-located workers at home. The feasible remote share is bounded above by the nature of the tasks involved (Dingel and Neiman, 2020; Blinder and Krueger, 2013). Coordination costs are convex in the scale of remote work (Fort, 2017).

### 2.3 Profits

We model the convexity of coordination costs by restricting firms to three organizational modes $k \in \{D, O, G\}$ (domestic production, partial outsourcing, and Global Capability Centers), each characterized by a remote task share $\alpha_k$, a coordination cost factor $\tau_k \geq 1$, and a fixed organizational cost $f_k$. The parameters satisfy

$$0 = \alpha_D < \alpha_O < \alpha_G \leq 1, \qquad 1 = \tau_D \leq \tau_O \leq \tau_G, \qquad 0 = f_D < f_O < f_G. \tag{2}$$

Higher remote shares lower wage costs but raise both the coordination factor and the fixed organizational investment required. The parameter $\tau_k$ can be interpreted as the residual coordination overhead after the organizational investments captured by $f_k$.

Under mode $k$, the marginal cost of a firm with productivity $\varphi$ is

$$c_k(\varphi) = \frac{\tau_k \left[(1-\alpha_k)w_H + \alpha_k w_L\right]}{\varphi}. \tag{3}$$

Define the *cost-bundle efficiency* of mode $k$ as

$$\Omega_k \equiv \frac{1}{\tau_k \left[(1-\alpha_k)w_H + \alpha_k w_L\right]}, \tag{4}$$

so that $c_k(\varphi) = 1/(\varphi\,\Omega_k)$. Higher $\Omega_k$ corresponds to lower marginal cost. Under monopolistic competition, each firm charges a constant markup over marginal cost, $p_k(\varphi) = \frac{\sigma}{\sigma-1} c_k(\varphi)$, yielding revenue $r_k(\varphi) = A\left(\frac{\sigma-1}{\sigma}\right)^{\sigma-1} (\varphi\,\Omega_k)^{\sigma-1}$ and operating profits equal to a fraction $1/\sigma$ of revenue. Absorbing the resulting constants into the demand shifter $A$, operating profits under mode $k$ are

$$\pi_k(\varphi) = A\,(\varphi\,\Omega_k)^{\sigma-1} - f_k. \tag{5}$$

Profits are increasing in $\varphi$ and linear in $\varphi^{\sigma-1}$, with slope $A\Omega_k^{\sigma-1}$. A firm chooses the mode $k$ that yields the highest non-negative profit.

### 2.4 Optimal Organizational Choice

The following assumption ensures that modes with higher remote shares offer lower effective marginal costs.

**Assumption 1.** $\Omega_G > \Omega_O > \Omega_D$.

This requires that the wage savings from offshoring a larger share of tasks outweigh the associated increase in coordination costs. When this condition fails (for instance, if $\tau_G$ is sufficiently large relative to $\tau_O$), the GCC mode is dominated and never chosen.

Under Assumption 1, the profit functions $\pi_D$, $\pi_O$, and $\pi_G$ satisfy a single-crossing property: because $\Omega_G > \Omega_O > \Omega_D$ and $f_G > f_O > f_D$, higher-$\Omega$ modes have steeper profit functions but higher fixed costs. This generates unique productivity thresholds.

**Proposition 1** (Sorting by Productivity)**.** *Under Assumption 1, there exist unique thresholds $\bar{\varphi}_{DO}$ and $\bar{\varphi}_{OG}$, with $\bar{\varphi}_{DO} < \bar{\varphi}_{OG}$, such that:*

1. *Firms with $\varphi < \bar{\varphi}_{DO}$ produce domestically (mode $D$).*
2. *Firms with $\bar{\varphi}_{DO} \leq \varphi < \bar{\varphi}_{OG}$ outsource (mode $O$).*

*3. Firms with $\varphi \geq \bar{\varphi}_{OG}$ establish a GCC (mode G).*

*The thresholds are*

$$\bar{\varphi}_{DO} = \left[ \frac{f_O}{A\left(\Omega_O^{\sigma-1} - \Omega_D^{\sigma-1}\right)} \right]^{\frac{1}{\sigma-1}}, \qquad \bar{\varphi}_{OG} = \left[ \frac{f_G - f_O}{A\left(\Omega_G^{\sigma-1} - \Omega_O^{\sigma-1}\right)} \right]^{\frac{1}{\sigma-1}}. \tag{6}$$

Each threshold solves $\pi_j(\varphi) = \pi_k(\varphi)$ for adjacent modes. Since $\Omega_k > \Omega_j$ implies that $\pi_k$ is steeper than $\pi_j$ in $\varphi^{\sigma-1}$, and $f_k > f_j$, each pair of profit functions crosses exactly once. Ordering requires

$$\frac{f_O}{\Omega_O^{\sigma-1} - \Omega_D^{\sigma-1}} < \frac{f_G - f_O}{\Omega_G^{\sigma-1} - \Omega_O^{\sigma-1}}, \tag{7}$$

which ensures $\bar{\varphi}_{DO} < \bar{\varphi}_{OG}$ so that the outsourcing regime is not skipped.[1]

The sorting result parallels Helpman et al. (2004), where the least productive firms serve only the domestic market, moderately productive firms export, and the most productive firms engage in FDI. Here the object of choice is not market access but the organization of production: the least productive firms produce domestically, moderately productive firms outsource tasks offshore, and the most productive firms establish captive offshore units.

# 3 Numerical Illustration

This section illustrates the model's main mechanisms numerically. The exercises are not intended as quantitative calibration; parameter values are chosen to satisfy the ordering assumptions of the model and to highlight how organizational choices vary with productivity, coordination costs, and general-equilibrium wage adjustments.

## 3.1 Sorting by Productivity

We begin by illustrating the model's core sorting result. Using the profit functions derived in Section 2, we compute firms' profits under domestic production, partial outsourcing, and Global Capability Centers as a function of productivity. Fixed and coordination costs increase across organizational modes, while variable costs decline due to greater reliance on lower-wage remote labor.

Figure 1(a) plots firms' optimal organizational choice as productivity varies. Less productive firms produce domestically, relying entirely on co-located workers at home. Firms with intermediate productivity outsource a subset of standardized tasks to lower-wage locations, reducing variable costs while incurring moderate coordination costs. Only the most productive firms establish Global Capability Centers, which enable remote work at scale despite high fixed and coordination costs. The figure illustrates the sharp productivity cutoffs that govern organizational choice and mirrors the sorting patterns familiar from heterogeneous-firm models of exports and foreign direct investment.

## 3.2 Coordination Technology

We next examine how improvements in coordination technologies affect the scale of remote work. Holding wages fixed, we vary the coordination cost associated with Global Capability Centers and

[1] When this condition fails, firms sort directly from domestic production to GCCs, and the outsourcing mode is never chosen.

compute the resulting productivity cutoff and share of firms operating GCCs.

Figure 1(b) shows that reductions in coordination costs lead to an expansion of Global Capability Centers and an increase in the average scale of remote work. As coordination becomes less costly, firms that were previously indifferent between partial outsourcing and large-scale remote production switch to establishing GCCs. This exercise illustrates Proposition 2: the expansion of remote work operates primarily through the extensive margin of organizational choice.

### 3.3 Wage Feedback

Figure 1(c) plots the equilibrium relationship between the offshore wage $w_L$ and the share of firms operating GCCs. As $w_L$ rises (whether due to exogenous labor supply shifts or endogenous demand pressure from GCC expansion), the adoption threshold $\bar{\varphi}_{OG}$ tightens and fewer firms operate GCCs. The curve represents the equilibrium wage–adoption schedule implied by the labor-market-clearing condition rather than the path of equilibria following a change in coordination technology. The figure illustrates the self-limiting mechanism formalized in Proposition 3: the expansion of Global Capability Centers raises offshore labor demand and wages, which endogenously restricts further adoption to increasingly productive firms.

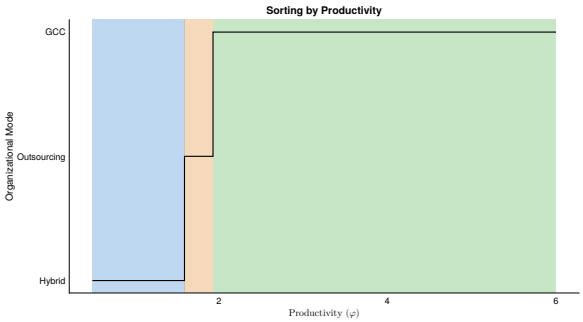
### 3.4 Substitution Across Organizational Modes

Finally, we illustrate substitution across organizational forms by increasing the fixed cost associated with Global Capability Centers, holding other parameters constant. This exercise can be interpreted as capturing increases in regulatory, compliance, or managerial burdens associated with operating large-scale remote service units.

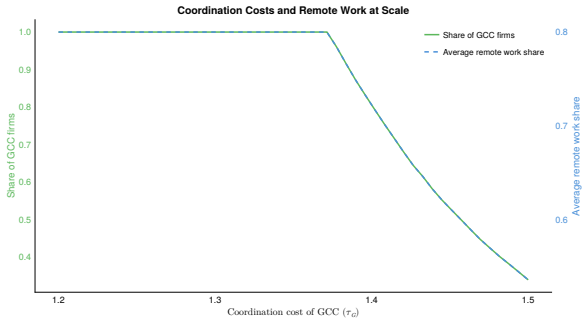
Figure 1(d) shows that higher fixed costs reduce the share of firms operating Global Capability Centers, but do not eliminate remote work altogether. Instead, firms substitute toward domestic production and partial outsourcing. Under the baseline parameterization, the outsourcing mode plays a limited role, so the reallocation flows predominantly from GCCs into domestic production. This result highlights that increases in the cost of large-scale remote production primarily reallocate activity across organizational modes rather than reversing the globalization of services entirely.

Figure 1: Numerical illustration of model mechanisms.

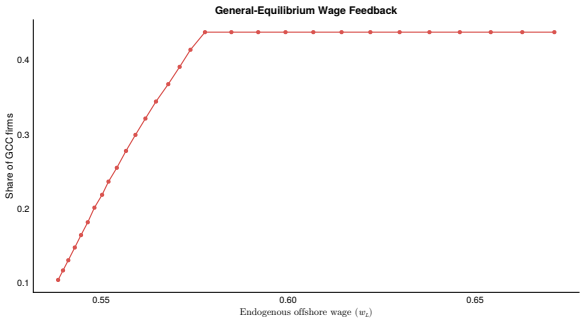
(a) Sorting by productivity



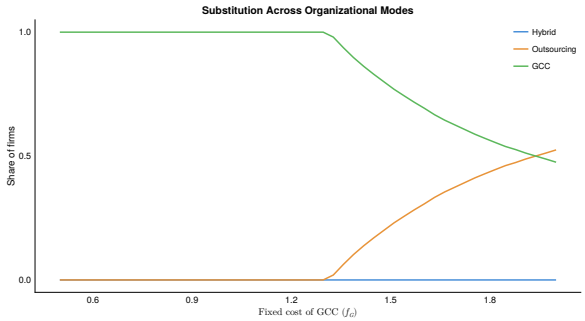

(b) Coordination costs and remote work




(c) General-equilibrium wage feedback




(d) Substitution across organizational modes




*Notes:* Baseline parameters: $\sigma = 4$, $A = 0.1$, $w_H = 1.0$, $w_L = 0.4$, $\alpha_D = 0$, $\alpha_O = 0.4$, $\alpha_G = 0.8$, $\tau_D = 1.0$, $\tau_O = 1.15$, $\tau_G = 1.35$, $f_D = 0$, $f_O = 0.2$, $f_G = 1.2$. $N = 10{,}000$ firms with productivity drawn from a Pareto(2.5) distribution with lower bound 1. Panel (a) plots optimal organizational mode for $\varphi \in [0.5, 6.0]$. Panel (b) varies $\tau_G$ from 1.20 to 1.50, holding the offshore wage fixed (partial equilibrium). Panel (c) solves for the equilibrium offshore wage by bisection over the excess-demand function with inelastic labor supply $L_L^S = 0.35$, for $\tau_G \in [1.10, 1.40]$. Panel (d) varies $f_G$ from 0.5 to 2.0, holding the offshore wage fixed.

# 4 General Equilibrium

## 4.1 Offshore Labor Demand

The demand for offshore labor by a firm with productivity $\varphi$ operating in organizational mode $k$ follows from Shephard's Lemma:

$$\ell_k(\varphi) = \frac{\alpha_k \tau_k}{\varphi} y_k(\varphi) \tag{8}$$

The demand for offshore labor is proportional to the share of remote tasks $\alpha_k$ and the coordination overhead $\tau_k$. Under CES demand, equilibrium output satisfies $y_k(\varphi) \propto \varphi^{\sigma}$, so that total offshore labor demand $\ell_k(\varphi) \propto \varphi^{\sigma-1}$ is increasing in firm productivity. More productive firms produce at larger scale and therefore generate greater offshore labor demand. GCC firms, which combine high remote shares $\alpha_G$ with large scale, exert the greatest pressure on offshore labor markets.

### 4.2 Coordination Technology and GCC Adoption

**Proposition 2** (Coordination Technology and GCC Adoption)**.** *Holding wages fixed, a reduction in the coordination cost parameter $\tau_G$ lowers the productivity threshold $\bar{\varphi}_{OG}$ required for GCC adoption and increases the share of firms operating Global Capability Centers.*

To see this, note that $\bar{\varphi}_{OG}$ depends on $\tau_G$ through the cost-bundle efficiency $\Omega_G = 1/[\tau_G((1-\alpha_G)w_H + \alpha_G w_L)]$. A reduction in $\tau_G$ raises $\Omega_G$ while leaving $\Omega_O$ unchanged, increasing the denominator $\Omega_G^{\sigma-1} - \Omega_O^{\sigma-1}$ in the cutoff expression. This lowers $\bar{\varphi}_{OG}$, so that more firms satisfy $\varphi > \bar{\varphi}_{OG}$ and switch from outsourcing to GCC production.

### 4.3 Labor Market Clearing

The offshore wage $w_L$ is determined endogenously by the labor market clearing condition. Let $L_L^S(w_L)$ be the labor supply in the offshore location and $L_L^D$ be the aggregate labor demand from firms in modes $k \in \{O, G\}$. The equilibrium wage $w_L^*$ satisfies:

$$L_L^S(w_L) = \int_{\bar{\varphi}_{DO}}^{\bar{\varphi}_{OG}} \ell_O(\varphi)\mu(\varphi)d\varphi + \int_{\bar{\varphi}_{OG}}^{\infty} \ell_G(\varphi)\mu(\varphi)d\varphi \tag{9}$$

The equilibrium is jointly determined by three conditions: (i) the two indifference conditions defining the cutoffs $\bar{\varphi}_{DO}(w_L)$ and $\bar{\varphi}_{OG}(w_L)$, which depend on the offshore wage through the cost bundles $\Omega_k$; (ii) the labor market clearing condition above, where the limits of integration and firm-level labor demands depend on both cutoffs and $w_L$; and (iii) a free-entry condition that pins down the mass of active firms. These conditions jointly determine $(w_L, \bar{\varphi}_{DO}, \bar{\varphi}_{OG})$. The simultaneity between $w_L$ and the cutoffs (since $w_L$ determines $\bar{\varphi}_{OG}$ and $\bar{\varphi}_{OG}$ determines the limits of integration for labor demand) is the source of the feedback mechanism formalized below.

### 4.4 Wage Feedback Mechanism

The feedback mechanism formalized below, in which expanded offshoring raises offshore wages and endogenously constrains further adoption, is consistent with evidence from Hummels et al. (2014), who document significant wage effects of offshoring using matched worker-firm data, and relates to the firm-level adjustment dynamics analyzed by Jiang (2024).

**Proposition 3** (Wage Feedback and GCC Adoption)**.** *Suppose offshore labor supply is upward sloping so that $L_L^S(w_L)$ is increasing in $w_L$. An increase in offshore labor demand generated by additional GCC adoption raises the equilibrium offshore wage $w_L$. Since the productivity cutoff $\bar{\varphi}_{OG}$ depends on the offshore wage through the cost bundle*

$$\Omega_k = \frac{1}{\tau_k[(1-\alpha_k)w_H + \alpha_k w_L]},$$

*a higher offshore wage increases the productivity threshold required for GCC adoption. Consequently, the equilibrium share of firms operating Global Capability Centers is decreasing in the offshore wage.*

To see this, note that an increase in GCC adoption raises offshore labor demand. With an upward-sloping labor supply curve, the equilibrium wage $w_L$ must increase to restore labor market clearing. A higher offshore wage raises the effective marginal cost of remote labor in the cost bundle $(1-\alpha_k)w_H + \alpha_k w_L$. Because $\alpha_G > \alpha_O$, the offshore wage enters the GCC cost bundle with a larger

weight than it enters the outsourcing cost bundle, so $\Omega_G$ falls faster than $\Omega_O$ as $w_L$ rises, shrinking the variable-cost advantage $\Omega_G^{\sigma-1} - \Omega_O^{\sigma-1}$. From the cutoff condition, a smaller denominator raises $\bar{\varphi}_{OG}$, and fewer firms satisfy $\varphi > \bar{\varphi}_{OG}$.

# 5 Conclusion

This paper develops a model of heterogeneous service firms in which the scale of remote work is an endogenous organizational choice. The trade-off between variable-cost savings from offshore labor and fixed coordination costs generates productivity-based sorting across domestic production, partial outsourcing, and Global Capability Centers. A general-equilibrium wage feedback mechanism endogenously limits the expansion of large-scale remote production. The analysis positions GCCs as the services analogue of horizontal foreign direct investment in manufacturing.

The model generates several testable predictions for future empirical work: the scale of remote work should be increasing in firm productivity (Proposition 1); improvements in coordination technologies should expand GCC adoption (Proposition 2); and the expansion of offshore service centers should raise offshore wages, concentrating GCC adoption among increasingly productive firms (Proposition 3). Bringing these predictions to the data, using detailed firm-level records on multinational service production and GCC expansion across countries, is a natural avenue for future research.

## References


Aksoy, C. G., Bloom, N., Davis, S. J., Lenz, M., and Zhestkova, Y. (2025). The global persistence of work from home. *Proceedings of the National Academy of Sciences*, 122(4).

Antràs, P. (2003). Firms, contracts, and trade structure. *Quarterly Journal of Economics*, 118(4):1375–1418.

Antràs, P. and Chor, D. (2022). Global value chains. In Gopinath, G., Helpman, E., and Rogoff, K., editors, *Handbook of International Economics*, volume 5, pages 297–376. Elsevier.

Antràs, P., Fadeev, E., Fort, T. C., and Tintelnot, F. (2024). Export-platform FDI: Cannibalization or complementarity? Working Paper 32413, National Bureau of Economic Research.

Antràs, P. and Helpman, E. (2004). Global sourcing. *Journal of Political Economy*, 112(3):552–580.

Antràs, P. and Yeaple, S. R. (2014). Multinational firms and the structure of international trade. In Gopinath, G., Helpman, E., and Rogoff, K., editors, *Handbook of International Economics*, volume 4, pages 55–130. Elsevier.

Baldwin, R. (2023). Globotics and development: When manufacturing is jobless and services are tradable. *World Trade Review*, 22(3–4):350–376.

Barrero, J. M., Bloom, N., and Davis, S. J. (2023). The evolution of work from home. *Journal of Economic Perspectives*, 37(4):23–49.

Berlingieri, G. and Pisch, F. (2022). Managing export complexity: The role of service outsourcing. Discussion Paper 1843, Centre for Economic Performance, LSE.

Blinder, A. S. and Krueger, A. B. (2013). Alternative measures of offshorability: A survey approach. *Journal of Labor Economics*, 31(S1):S97–S128.

Bloom, N., Davis, S. J., Hansen, S., Pierri, N., and Rauch, F. (2023). Remote work across jobs, companies, and space. Working Paper 31007, National Bureau of Economic Research.

Bloom, N., Liang, J., Roberts, J., and Ying, Z. J. (2015). Does working from home work? evidence from a chinese experiment. *Quarterly Journal of Economics*, 130(1):165–218.

Brainard, S. L. (1997). An empirical assessment of the proximity-concentration trade-off between multinational sales and trade. *American Economic Review*, 87(4):520–544.

Dingel, J. I. and Neiman, B. (2020). How many jobs can be done at home? *Journal of Public Economics*, 189:104235.

Fort, T. C. (2017). Technology and production fragmentation: Domestic versus foreign sourcing. *Review of Economic Studies*, 84(2):650–687.

Government of India (2024). Economic survey 2023–24. Technical report, Ministry of Finance, Government of India.

Grossman, G. M. and Helpman, E. (2005). Outsourcing in a global economy. *Review of Economic Studies*, 72(1):135–159.

Grossman, G. M. and Rossi-Hansberg, E. (2008). Trading tasks: A simple theory of offshoring. *American Economic Review*, 98(5):1978–1997.

Helpman, E., Melitz, M. J., and Yeaple, S. R. (2004). Export versus FDI. *Journal of Political Economy*, 112(2):300–340.

Hummels, D., Jørgensen, R., Munch, J. R., and Xiang, C. (2014). The wage effects of offshoring: Evidence from Danish matched worker-firm data. *American Economic Review*, 104(6):1597–1629.

Jiang, Z. (2024). Offshoring, firm-level adjustment and labor market outcomes. *Journal of Economic Dynamics and Control*, 158:104785.

Maczulskij, T. and Kässi, O. (2024). Service offshoring, productivity and employment. Report, ETLA Economic Research.

Melitz, M. J. (2003). The impact of trade on intra-industry reallocations and aggregate industry productivity. *Econometrica*, 71(6):1695–1725.

Yeaple, S. R. (2009). Firm heterogeneity and the structure of U.S. multinational activity. *Journal of International Economics*, 78(2):206–215.