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The Asymmetric Impact of Trade Shocks on Rural and Urban Areas: Evidence from Chile

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This paper examines the causal effects of trade shocks on local labor markets (LLMs), with a focus on the rural–urban divide. In particular, it analyzes the impact of China’s integration into global trade on Chilean LLMs with varying degrees of rurality. The identification strategy exploits variation in pre-shock industrial specialization across LLMs and changes over time in global Chinese import penetration and industry-specific export demand. We study short-run effects (1996–2006) and medium-run dynamics (through 2022). Urban LLMs, more exposed to import competition, experienced declines in income, increases in poverty and informality, and persistent schooling losses. Rural LLMs, linked to primary sectors benefiting from Chinese demand, saw sustained income growth and reductions in poverty and informality. These asymmetric effects likely contributed to narrowing regional disparities and underscore the importance of geographic exposure in shaping the distributional consequences of global trade integration.

KEYWORDS

Rurality, Development, Trade, Local Labor Markets, China, Chile.

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El Impacto Asimétrico de Shocks Comerciales en Áreas Rurales y Urbanas: Evidencia para Chile

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Este artículo analiza los efectos causales de los shocks comerciales sobre los mercados laborales locales (MLL), con énfasis en la brecha rural-urbana. Examina el impacto de la integración de China al comercio global en los MLL chilenos con distintos niveles de ruralidad. La identificación se basa en la especialización industrial de los MLL previa al shock y en los cambios en la penetración de importaciones chinas y la demanda sectorial de exportaciones. Estudiamos efectos de corto plazo (1996–2006) y dinámicas de mediano plazo (hasta 2022). Los MLL urbanos, más expuestos a la competencia importadora, sufrieron caídas de ingresos, aumentos de pobreza e informalidad y pérdidas educativas persistentes. Los MLL rurales, ligados a sectores favorecidos por la demanda china, mostraron crecimiento sostenido de ingresos y reducciones en pobreza e informalidad. Estos efectos asimétricos contribuyeron a reducir disparidades regionales y subrayan cómo la exposición geográfica moldea las consecuencias distributivas de la integración comercial global.

KEYWORDS

Ruralidad, Desarrollo, Comercio, Mercados Laborales Locales, China, Chile.

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1 | INTRODUCTION

Despite over a century of significant migration to urban areas, rural areas still house approximately 20 percent of Latin America's population. The share in total poverty is significantly larger, as many rural areas are typically characterized by low productivity and a lack of infrastructure. However, there are signs that some of the urban-rural gaps may have narrowed in recent decades. For example, while the average urban-rural gap in labor incomes increased from 1.78 to 1.83 during the 1990s, it dropped significantly in the 2000s—from 1.83 in 2002 to 1.58 in 2010—and declined more gradually in the following decade (Gasparini, 2019).

The reasons behind these trends are undoubtedly varied and complex. In this paper, we explore one potentially important factor: international trade. We take advantage of the sharp expansion of trade with China, which simultaneously increased demand for primary commodities, which are mostly produced in rural areas, and intensified import competition in urban, manufacturing-intensive locations. Our analysis focuses on Chile, a country with a high degree of openness to international trade and particularly good data availability. Chile also exhibits narrowing urban-rural gaps over time (e.g. while the urban-rural earnings gap increased from 1.17 to 1.96 during the 1990s, it gradually declined in the 2000s and 2010s, reaching 1.26 by the early 2020s).

Identification follows a shift-share design (Bartik, 1991). We assume that local labor markets (LLMs) are units with different exposures to a common set of industry shocks (driven by China's trade expansion) with local exposure given by the initial industrial composition of employment. We interact pre-shock differences in industry specialization across LLMs with the evolution of China's export demand and import penetration across industries to construct LLM-level exposure.¹ Besides considering typical outcomes such as employment, unemployment, and wages, we focus on labor informality, a distinctive feature of labor markets in developing countries.² We also explore the impact of trade shocks on schooling, in line with the literature that finds that trade liberalization amplifies initial differences in regional factor endowments over the long-run through its effects on human capital formation.³ We further consider more general outcomes such as income per capita and poverty levels. The baseline estimation equation regresses each outcome on the Chinese demand and supply shocks. Since we include LLM and year fixed effects, we are exploiting within-LLM variation over time. Our preferred specification also controls for relevant preexisting trends. Our main interest is to identify (spatial) differences in the size of the potential effects of trade shocks on these outcomes across urban and rural areas.

To address endogeneity in bilateral trade flows, we instrument exposure using China's (changing) industry shares all over the world, isolating variation driven by China's supply and demand forces rather than Chile's local shocks. The exogeneity of local employment industrial composition is *a priori* more difficult to justify because it assumes that unobserved industry shocks do not affect regional outcomes through the same combination of exposure shares. We conduct balance and pre-trend tests to justify this assumption and perform a robustness exercise applying the econometric framework developed by Borusyak et al. (2022), which allows exposure shares to be endogenous under quasi-random shock assignment.

¹ Variants of this approach have been applied for Latin American countries by Kovak (2013), Costa et al. (2016) (Brazil) and César et al. (2021) (Chile). For developed countries, see for instance Autor et al. (2013) (US) and Dauth et al. (2014) (Germany).

² We build upon recent research that finds that labor informality is a relevant margin of adjustment to trade shocks (Goldberg and Pavcnik, 2003; Bosch et al., 2012; Paz, 2014; Arias et al., 2018; Cruces et al., 2018; Dix-Carneiro and Kovak, 2019). More generally, for a review of the relationship between informality and development, see La Porta and Shleifer (2014) and Ulyssea (2020).

³ See Atkin (2016), Greenland and Lopresti (2016), Blanchard and Olney (2017), Li (2018).

Importantly, our estimates deliver relative effects across locations but cannot account for the aggregate impact of the shocks, which depend on spillovers across geographic units and other general equilibrium effects (e.g. changes in input and output prices, firms productivity, and aggregate demand multiplier effects).⁴

We combine several data sources. Individual data is drawn from the main national household survey in Chile (CASEN). A key variable for our analysis is a granular measure of the employment structure across industries before the China shock, which we construct using 1992 census data. To compute the measures of Chinese demand for exports (CDE) and Chinese import competition (CIC) at the industry level, we draw on the BACI database (Centre d'Études Prospectives et d'Informations Internationales – CEPII), GDP by economic sector in Chile from the Central Bank of Chile, and data from the National Annual Industrial Survey (ENIA).

The results indicate pronounced and spatially asymmetric adjustments. In urban LLMs more exposed to Chinese import competition, we document persistent declines in household income, rising poverty, and increasing labor informality and hours worked, which were more pronounced in the aftermath of the shock—around the mid-2000s. These locations also experienced a persistent deterioration in earnings and a decline in years of schooling, suggesting a deterioration in human capital accumulation. In contrast, rural LLMs—more exposed to Chinese demand for primary exports—benefited from higher earnings, employment, reductions in informality, and improved poverty outcomes. These gains were more pronounced during the 2000s, and they exhibit decreasing magnitudes during the 2010s. These findings help explain part of the observed narrowing of regional disparities: the same national trade shock delivered adverse effects in richer, urban locations and favorable effects in historically disadvantaged, rural ones.

This analysis connects and builds upon several strands of the literature, including research on the local labor market effects of the “China shock”, the margins of adjustment in developing-country labor markets, and the emerging evidence on medium-term persistence. We build on foundational contributions such as Autor et al. (2013) and Autor et al. (2016) for the United States. Interestingly, while the evidence on the short-term effects of trade is vast, it is only recently that scholars have begun to investigate the long-run effects of these shocks on local labor markets, yielding mixed results (Dix-Carneiro and Kovak, 2017; Utar, 2018; Autor et al., 2021; Kovak and Morrow, 2024; César et al., 2023). The literature for Latin America is incipient but growing. Costa et al. (2016) find that Brazilian LLMs more affected by Chinese import competition experienced slower growth in manufacturing wages, while locations benefiting from rising Chinese commodity demand exhibited faster wage growth. The closest paper is César et al. (2021).⁵ We extend this paper in several dimensions, in particular, adding the rural–urban dimension and studying medium-term dynamics.

The remainder of the paper is organized as follows. Section 2 provides background on the China shock and Chile’s rural–urban structure. We also discuss why trade shocks may have asymmetric effects depending on geography. Section 3 details the empirical strategy, data, and rurality index. Section 4 presents the short-term results (1996–2006), while Section 5 examines medium-term dynamics through 2022. Section 6 concludes. Additional materials are provided in the Online Appendix.

⁴See for instance Acemoglu et al. (2016) and Caliendo et al. (2019).

⁵The authors exploit the significant increase in trade between Chile and China since the late 1990s and document that increasing manufacturing import competition implied a significant rise in labor informality in more exposed local markets, especially among young and unskilled workers.

2 | BACKGROUND

In this paper, we assess the impact of trade shocks. For identification, we exploit two sources of variation: (i) Chinese demand and supply demand shocks vary over time and across industries; and (ii) Chilean local labor markets (LLMs) exhibit different (pre-shock) patterns of industry specialization. In this section, we discuss these issues.

| The China shock

China's entry into the World Trade Organization (WTO) on December 11, 2001, marked a turning point in global trade relations, generating significant impacts on international trade flows. This event induced a trade shock for many countries. In Latin America, several countries signed Free Trade Agreements with China to enhance economic ties and leverage the opportunities presented by the Chinese market. Between 2000 and 2015, China emerged as one of the top three import partners for the entire region. However, its influence on exports has varied across countries and continued to expand through 2022. Nations such as Brazil, Chile, Peru, Uruguay, and Venezuela, among others, experienced significant growth in their exports to China. Figures 1 and 2 depict China's share in imports and exports over the period under study. Table 1 summarizes China's position in both flows at five points in time, indicating that, by 2022, China had become the main source of imports in 8 out of 18 countries and the second source in half of them, as well as the main export destination for one third of the countries, including Chile.

China's spectacular growth over the last several decades provides a unique opportunity to measure the causal effect of trade shocks on relevant outcomes. China's growth was mostly driven by strong investments in infrastructure, increases in total factor productivity, massive migration from rural to urban regions and an export-oriented strategy that placed China as one of the world's leading manufacturing producers and the main global consumer of primary products.⁶ The growth in imports and exports driven by China's economic, political and institutional factors provides a potential exogenous shock to firms and workers from all over the world. The small size, considerable trade openness and flexible labor markets of the Chilean economy increase the suitability of this scenario to study the causal impact of trade-induced shocks on local labor market outcomes.

| Geographic Heterogeneity in Trade Exposure

We employ the Labour Market Areas (LMAs) defined by Casado-Díaz et al. (2017), which group Chilean municipalities into functional economic units based on commuting patterns and internal cohesion. This delineation allows us to capture local labor markets that are internally integrated and economically meaningful, providing a suitable level of aggregation for analyzing the heterogeneous effects of trade shocks.

Figure 3 illustrates the geographic distribution of five broad sectoral categories across Chilean LMAs. Darker shades indicate a higher local employment share in the corresponding sector, while lighter tones represent a lower share. The sectors are defined based on the two-digit CIIU classification, grouped according to their relevance to Chinese trade patterns: (1) agro-fishing, (2) mining, (3) export-oriented manufacturing (e.g., food products, wood,

⁶Many of these factors were driven by market-oriented reforms that began in the 1980s. For evidence on China's economic transition see Borensztein and Ostry (1996), Naughton and Lardy (1996), Hsieh and Klenow (2009), Brandt et al. (2012) and Hsieh and Ossa (2016).

and paper—industries with growing demand from China), (4) import-competing manufacturing (e.g., textiles, leather, and light industry vulnerable to Chinese import penetration), and (5) other manufacturing.

Chile exhibits considerable spatial heterogeneity in terms of economic structure and geographic specialization, which translates into differential exposure to trade shocks. Some LMAs are predominantly specialized in sectors that benefited from the surge in Chinese demand for commodities—especially mining—while others are more exposed to Chinese import competition in labor-intensive manufacturing.

As we will see later, this asymmetry is also likely to overlap with the urban-rural divide. Urban LMAs, which tend to concentrate manufacturing activities, may have experienced downward pressure on employment and wages in tradable sectors exposed to import competition. In contrast, rural regions specialized in natural resource extraction—particularly mining and export-oriented agriculture—may have benefited from rising Chinese demand.

In this framework, we expect that predominantly rural LMAs, especially those heavily engaged in mining and agriculture linked to global commodity markets, may have experienced positive labor market effects from increased trade with China. Our empirical strategy leverages this spatial variation in sectoral composition to disentangle the differential effects of export-driven growth and import competition across local labor markets.

3 | EMPIRICAL STRATEGY

3.1 | Identification

Our empirical approach exploits cross-local labor market variation in the evolution of Chinese export and import exposure stemming from the interaction of initial differences in local employment composition by industry and the temporal evolution of Chinese demand for exports and import competition across industries. LLMs with a higher share of workers employed in agriculture or the mining of metal ores industry will be more exposed to the export demand shock while LLMs with a higher initial participation of workers in largely exposed manufacturing industries such as textiles and toys-related products will be more exposed to the import competition shock. Patterns of industry specialization are constructed with data from 1992, i.e., some years before the period under study to take into account that trade shocks may affect the employment distribution across industries.⁷

The empirical strategy is presented in two parts. First, we describe the approach used to identify the short-term effects of trade shocks. Second, we outline a dynamic analysis that captures medium-term effects, along with the relevant identification challenges that must be addressed in this context.

| Short-term effects

In order to study the short-term effects of Chinese demand for exports and import competition on the Chilean LLMs we estimate the following regression equation:

$$Y_{rt} = \beta_0 + \beta_1 CDE_{rt} + \beta_2 CIC_{rt} + \alpha_r + \delta_t + Y_{r,to} \times \delta_t + \varepsilon_{rt} \quad (1)$$

where Y is an outcome of interest such as employment or informality rates and r and t index LLMs and time, respectively.

⁷For evidence on the impact of import competition on manufacturing employment see [Bernard et al. \(2006\)](#), [Khandelwal \(2010\)](#) (U.S.) and [Álvarez and Claro \(2009\)](#) (Chile).

CDE is a measure of Chinese demand for exports computed as the total value of exports to China divided by domestic production. At the industry-level, it is computed as:

$$CDE_{jt} = \frac{X_{jt}^{China}}{Q_{jt}} \quad (2)$$

where Q_{jt} , and X_{jt} are the value of production and exports, respectively, for industry j in year t .

CIC is a measure of Chinese import competition computed as the total value of imports from China divided by domestic absorption (production minus net exports). At the industry-level, it is computed as:

$$CIC_{jt} = \frac{M_{jt}^{China}}{[Q_{jt} + M_{jt} - X_{jt}]} \quad (3)$$

where M_{jt} is the value of imports for industry j in year t .

To construct Chinese demand for exports and import competition at the LLM-level as required in equation (1), we interact the initial pattern of industrial composition in each LLM, as given by the local employment share in a year in 1992, prior to the shock (w_{rj}^{1992}), with the value of CDE and CIC at the industry-level:

$$CDE_{rt} = \sum_j w_{rj}^{1992} CDE_{jt} \quad (4)$$

$$CIC_{rt} = \sum_j w_{rj}^{1992} CIC_{jt} \quad (5)$$

Dependent variables (Y_{rt}) are labor market outcomes such as the employment, labor informality rates, (log) average hourly wages, (log) average hours worked, (log) average monthly earnings, as well as income and poverty levels, and years of education of adult population. We include LLM (α_r) and year (δ_t) fixed effects and therefore exploit within LLM variation in the exposure to CDE and CIC over time. The preferred specification controls also for three types of preexisting trends: (i) the corresponding outcome variable, to address the concern that any result might represent the continuation of local trends beginning some years before the period under study; (ii) the sum of industry employment shares in the primary and manufacturing sectors, which were used to construct the shock variables (as recommended by [Borusyak et al. \(2022\)](#));⁸ and (iii) female labor force participation (LFP). The regional balance tests (presented in the Online Appendix) suggest that LLMs more exposed to CIC exhibit higher initial levels of female labor force participation (LFP), so we decided to account for these differences in the preferred specification. Preexisting trends are constructed as the value of each variable in 1992 interacted with year fixed effects. Finally, we weight each observation by the initial year LLM share of national labor force. This estimation strategy provides average treatment effects that are weighted by workers instead

⁸[Borusyak et al. \(2022\)](#) refer to this case as the “incomplete shares” scenario because the sum of exposure shares varies across units (LLMs).

of LLMs.⁹

A potential concern is that labor mobility across LLMs could bias our estimates if workers migrate across locations in response to trade shocks.¹⁰ Unfortunately, the Chilean CASEN until 2009 does not include questions related to migration status. To partially alleviate this concern we cluster standard errors at the region level, allowing for spatial correlation of errors across LLMs within each region.

CDE_{rt} and CIC_{rt} are potentially endogenous because industry shocks affecting local outcomes (e.g. shocks to input or output markets, changes in preferences, technological advances) are correlated with supply of exports and demand for imports. These concerns are likely to be more serious over the long-run. To account for endogeneity concerns, we apply an instrumental variable strategy that has been used in other related studies (Autor et al., 2013, 2014; Acemoglu et al., 2016; Costa et al., 2016). Particularly, we instrument trade shock variables using the average of China's primary and manufacturing export share (ES_{jt}^{China}) and the average of China's manufacturing import share (IS_{jt}^{China}) across all countries in the world, except the country under study (Chile in our case). Specifically:

$$ES_{jt}^{China} = \frac{1}{C} \sum_{c \in C} \frac{X_{jtc}^{China}}{X_{jtc}^{World}} \quad (6)$$

$$IS_{jt}^{China} = \frac{1}{C} \sum_{c \in C} \frac{M_{jtc}^{China}}{M_{jtc}^{World}} \quad (7)$$

where X_{jtc}^{China} (M_{jtc}^{China}) is the industry-year value of country's c exports to (imports from) China, while X_{jtc}^{World} (M_{jtc}^{World}) is the industry-year value of country's c total exports to (imports from) all countries, including China. For robustness, we also calculate these variables using different groups of countries (C) such as middle-income and high-income countries.¹¹

Intuitively, these variables serve as instruments for Chilean CDE and CIC if they are capable of capturing the supply and demand-driven shocks inherent to Chinese economic forces and institutions that allowed China to gain market share in both global supply and demand of different products within specific manufacturing and primary industries over time. We use these variables to predict CDE and CIC in Chilean industries. These variables are exogenous as they do not depend on the decisions of Chilean firms or consumers.

To construct both instrumental variables at the LLM-level, we calculate:

$$IV_{rt}^{CDE} = \sum_j w_{rj}^{1992} ES_{jt}^{China} \quad (8)$$

⁹This strategy has also been used by Autor et al. (2013) and Costa et al. (2016). We present and discuss the results of unweighted regressions in the Online Appendix.

¹⁰Evidence for Brazil suggests that there is imperfect labor mobility across regions (Dix-Carneiro and Kovak, 2017). In contrast, findings for the U.S. show that LLMs more exposed to Chinese import competition exhibit a relative decline in population growth over the following decade (Greenland et al., 2019) which indicates that, absent population adjustments, the labor market impacts of import competition might have been even more severe than those estimated in the literature.

¹¹To categorize countries as middle-income or high-income we follow World Bank classifications.

$$IV_{rt}^{CIC} = \sum_j w_{rj}^{1992} IS_{jt}^{China} \quad (9)$$

Recent contributions have discussed the validity of Bartik instruments in different research designs ([Adao et al., 2019](#); [Borusyak et al., 2022](#); [Goldsmith-Pinkham et al., 2020](#)). [Borusyak et al. \(2022\)](#) develop an econometric framework in which identification follows from the quasi-random assignment of shocks while exposure shares are allowed to be endogenous. This framework is appropriate in our context if we assume that industry shocks (i.e. China’s supply and demand shocks to global trade) are exogenous to Chilean industries while local industry employment shares are not because unobserved industry shocks may affect regional outcomes through the same combination of exposure shares.¹² We perform balance tests at the industry and region levels and falsification tests that corroborate the plausibility of the identifying assumptions (see Online Appendix). Additionally, we conduct a robustness exercise by applying the econometric framework developed by [Borusyak et al. \(2022\)](#).

| Mid-term effects: assessing dynamics

To assess the persistence and temporal evolution of the China Shock’s effects, we complement the specification with a dynamic panel strategy. Specifically, we progressively expand the temporal window of analysis, starting from the baseline period 1996–2006—corresponding to the most disruptive phase of China’s integration into global trade—and incrementally adding more recent years: 1996–2009, 1996–2011, and so on, up to 2022. In what follows, we argue on the validity and limitations of this strategy.

As illustrated in Figures 1 and 2, China’s role in Chile’s international trade has expanded significantly over the past decades. The share of Chilean imports originating from China increased from 3% in 1995 to over 24% by 2015, reaching nearly 30% in 2021. On the export side, the share of Chilean goods destined for China rose from 1.9% to 25.3% by 2015, and climbed further to 38% in 2021. China became Chile’s main trading partner—first as its top export destination in 2007, and later as its leading import source in 2014.

The export series exhibits volatility between 2006 and 2009, likely influenced by two key events: (i) the global financial crisis and (ii) the 2006 Chile–China Free Trade Agreement (FTA), which eliminated tariffs on 92% of Chilean exports to China.¹³ These events could, in principle, pose challenges for the external validity of instruments based on pre-existing global trends.

While we do not claim that either period window (short-term or mid-term) is entirely free from endogeneity concerns, we are particularly aware of potential identification challenges in the mid-term—especially those stemming from bilateral trade dynamics and policy changes following the 2006 Chile–China FTA. As a precaution, we implement a series of robustness checks to assess the validity of our identification strategy across both the short-run (1996–2006) and extended (1996–2022) periods.

Importantly, we argue that no particular sector should have been differentially affected by the Chile–China Free Trade Agreement (FTA) in a way that would systematically bias our estimates. Although the FTA eliminated tariffs on a large share of Chilean exports, the agreement was broad in scope and applied relatively uniformly across sectors, without

¹² [Adao et al. \(2019\)](#) show that regression residuals are correlated across U.S. commuting zones with similar industrial composition independent of their geographic location.

¹³ For evidence on the impact of trade liberalization on Chilean LLMs see [César and Falcone \(2024\)](#).

privileging specific industries. It is possible that a few sectors overreacted to the sharp tariff reductions, exhibiting stronger export growth relative to global trends. However, these sectors—such as paper products or basic metals—represent only a small share of Chile’s overall economic structure. As such, their influence on aggregate patterns remains limited. Therefore, while the FTA may have contributed to an overall increase in trade volumes, it is unlikely to have introduced systematic, sector-specific shocks capable of endogenously distorting our shift-share instruments. We thus consider that the identifying assumptions underlying our empirical strategy remain valid.

In addition to the above considerations, we explicitly account for this potential concern by implementing the following measures.

First, we evaluate the strength and relevance of our instrumental variables across subperiods by computing first-stage F -statistics and reporting partial R^2 values for both the China Demand Exposure (CDE) and China Import Penetration (CIP) instruments.

Second, we estimate the effects of CDE and CIP separately to uncover potentially distinct channels through which trade shocks may operate. This separation helps mitigate concerns about simultaneity or reverse causality—particularly if Chinese exports and imports influence each other over time.

Third, we assess whether the Chile–China FTA introduces a structural break in the relationship between the instrument (i.e., global trade shocks) and Chile’s actual trade outcomes. To do so, we compare sectoral trends in the instrument with bilateral trade patterns with China. The results—presented in the Online Appendix—show strong comovement between the instrument and Chile’s export behavior in most sectors, with no systematic divergence following the FTA. While a few sectors—such as paper products or basic metals—exhibit stronger export responses, these appear to be isolated cases rather than evidence of a generalized endogenous shift. Accordingly, we consider the identifying assumptions underlying our Bartik-style instruments to remain plausible.

Overall, these exercises aim to reinforce the credibility of our estimates, while acknowledging that no empirical strategy is entirely immune to endogeneity.

3.2 | Data

The main dataset for Chile is the CASEN national household survey (*Encuesta de Caracterización Socioeconómica Nacional*) conducted by the Ministry of Planning (MIDEPLAN) every two or three years. We base our analysis on the 1992, 1996, 1998, 2000, 2003, 2006, 2009, 2011, 2013, 2015, 2017, 2020 and 2022.

The CASEN survey is national in scope and includes information on more than 300 municipalities (*comunas*) which are aggregated into 62 LLMs. To define LLMs markets, we adopt the concept developed by [Casado-Díaz et al. \(2017\)](#). All key variables are constructed at the LLM level using population weights.

We also use information from Chilean demographic censuses (*Censo Nacional de Población y de Vivienda*) sourced from the Chile’s National Institute of Statistics (*Instituto Nacional de Estadística-INE*). To construct measures of Chinese demand for exports (CDE) and Chinese import competition (CIC) at the industry-level we draw on three additional datasets: *Encuesta Nacional Industrial Anual-ENIA* (INE), Sectoral GDP from National Accounts elaborated by the Chilean Central Bank (*Banco Central de Chile-BCC*) and the BACI database (*Centre d’Etudes Prospectives et d’Informations Internationales-CEPII*).

3.3 | Definitions of rural

The variable “rural” is often defined in a dichotomous manner: a location is classified as either rural or urban. However, in practice, the characteristics of each area exist along a continuum, suggesting that rurality could be understood in terms of degrees. This approach acknowledges that some areas are neither entirely urban nor fully rural, but rather lie somewhere in between on the spectrum.

In this study, we construct a measure of the degree of rurality for each Local Labor Market (LLM). One possible approach involves computing the share of the population residing in rural areas, based on the binary classification provided by the census. This allows for the construction of a continuous indicator. However, this method may be subject to certain limitations, which are discussed below.

1. Official definition (INE)

The National Institute of Statistics (INE) of Chile defines urban areas as settlements with more than 2,000 inhabitants, as well as those with between 1,001 and 2,000 inhabitants where at least 50% of the economically active population is employed in secondary or tertiary activities. Additionally, tourist areas with more than 250 dwellings are also considered urban, regardless of their total population. Urban entities are further categorized as either cities or towns. By contrast, rural areas are defined as any dispersed or concentrated settlement with fewer than 1,000 inhabitants, or with 1,001 to 2,000 inhabitants if less than 50% of the active population is engaged in secondary or tertiary activities.

The INE’s definition, which is rather strict in classifying rural areas, may lead to the categorization of certain territories as urban even though, in practice, they display characteristics more aligned with rural areas. We consider this limitation particularly relevant when analyzing the impact of the Chinese trade shock on territories with varying degrees of rurality.

We therefore believe it may be important to consider alternative or complementary metrics to those of the INE that define the degrees of rurality in Chilean territory. Incorporating additional dimensions into the INE’s definition is relevant for several reasons. First, it allows for a more neutral approach, as the official definition incorporates the occupational structure of the population, assuming that the predominance of certain activities automatically determines whether a territory is urban or rural. Our approach, by contrast, seeks a broader perspective, one that does not impose a predetermined relationship between economic activity and rurality—or if it does, it does not give it such weight. Second, the fact that the official classification is based on the percentage of the population in urban areas can generate significant distortions in certain geographic contexts. For example, a large and sparsely populated desert municipality in which 100% of the inhabitants reside in a mining urban enclave would be classified as urban, even if most of its territory lacks infrastructure and urban services. These types of cases highlight the need to incorporate measures that better reflect the territorial and accessibility conditions faced by different areas.

2. Relative rurality index (RRI)

For the reasons outlined in the previous subsection, a Relative Rurality Index (RRI) is presented. This index, constructed from various primary indicators, provides a continuous and relative measure of rurality: each territory is assigned a degree of rurality relative to the degree of other territories. The specific methodology follows the approach proposed by [Waldorf \(2006\)](#) implemented, among others, by [Waldorf and Kim \(2015\)](#) for the United States and by [Soloaga et al. \(2021\)](#) for Mexico. The practical construction of the RRI involves three

steps: (i) selecting variables or primary indicators of rurality; (ii) rescaling these variables to make them comparable; and (iii) aggregating them into an index. The resulting index ranges from 0 to 1, where zero indicates a completely urban area and one indicates a completely rural area.

Given the available data, the RRI is constructed at the comune level and incorporates three key variables: population density; distance to “population centers”, defined based on various density thresholds (corresponding to the 85th, 90th, and 95th percentiles of the commune density distribution), which allows assessment of a commune’s degree of isolation from significant urban centers; and the proportion of individuals residing in rural areas according to the INE’s definition, which may provide additional information on population distribution.

To combine them into a single index, the primary variables ideally need to be rescaled to the interval $[0, 1]$. For variables negatively associated with the degree of rurality, such as population density, the typical rescaling formula is the following:

$$v_i^r = \frac{v_i^{\max} - v_i}{v_i^{\max} - v_i^{\min}} \quad (10)$$

where v_i^r is the rescaled value of the variable v_i , $v_i^{\max}$ is the maximum observed value of the variable and $v_i^{\min}$ is the minimum observed value of the variable. Additionally, to correct for the effect of their skewed distributions, the logarithmic transformation is typically applied to the variables population size and density [Waldorf and Kim \(2015\)](#).

The distance in kilometers to an urban center is positively associated with rurality. In this case, the appropriate rescaling is:

$$k_i^r = \frac{k_i - k_i^{\min}}{k_i^{\max} - k_i^{\min}} \quad (11)$$

This transformation ensures that greater distance corresponds to a higher degree of rurality.

Finally, the proportion of individuals living in rural areas is, by definition, a variable bounded between 0 and 1, and therefore does not require normalization.

To aggregate the different variables, in this case, a weighted arithmetic mean is calculated. The weight assigned to each variable depends on both its relevance in the definition and the variability it presents. In summary, the relative rurality index is calculated as:

$$R_i = \frac{1}{2} \cdot \left(\frac{\ln d^{\max} - \ln d_i}{\ln d^{\max} - \ln d^{\min}} \right) + \frac{1}{4} \cdot \left(\sum_{p_i \in \{95, 90, 85\}} \frac{1}{3} \cdot \left(\frac{k_i^{p_i} - k_i^{\min}}{k_i^{\max} - k_i^{\min}} \right) \right) + \frac{1}{4} \cdot \text{Shr}_{\text{rural}} \quad (12)$$

where d is the population density, k_i^p is the distance to an urban center defined for different thresholds (corresponding to the percentiles p_{85} , p_{90} , and p_{95}), and $\text{Shr}_{\text{rural}}$ corresponds to the share of the population living in rural areas according to the definition of INE.

Once the relative rurality index is computed at the comune level, the index is subsequently aggregated to the Local Labor Market level by means of a weighted average. The weights correspond to the population aged 18 to 64 in each comune, thereby ensuring that the measure reflects the demographic composition of the economically active population within each LLM.

As an example, Figure 4 shows the geographic distribution of rural areas according to each of the previously mentioned definitions, for the case of Chile. Of the 343 communes identified in 1992, 145 are classified as urban under both definitions, and 144 as rural under both definitions. The remaining 54 communes fall into different categories.

3.4 | The differential impact rural-urban

This paper examines whether changes in trade with China have affected rural and urban areas in Chile differently, distinguishing between the impacts of increased exports to and imports from China.

It is useful to consider two channels through which the impact of trade shocks may have varied across locations: (1) differences in responses to the shock and (2) differences in the magnitude of the shocks.

First, responses to a similar trade shock may vary across locations. For instance, differences in labor supply elasticities between urban and rural areas could lead to geographically asymmetric effects on employment, hours worked, and wages in response to a similar trade shock. To analyze this channel, we estimate separate models for urban and rural areas and, alternatively, models with interaction terms.

The second channel arises from the uneven intensity of the China trade shock across geographic locations. Differences in industry composition between rural and urban areas likely led to varying exposure to rising imports and export demand, resulting in impacts of different magnitudes.

To estimate the differential impact of trade shocks on rural areas, we proceed as follows.

1. Calculate the average predicted outcome for each area in an initial year.
2. Calculate the average predicted outcome for each area by changing only the variable CDE (or CIC, or both simultaneously) to its value in a final year.
3. The difference between the two values above represents the average impact of the effective change in CDE (CIC) in each area during the period. Let this difference be ΔY_g .
4. The differential impact of the change in CDE (CIC) between geographic areas is then defined as $\Delta Y_r - \Delta Y_u$, where r represents rural areas and u urban areas.

We apply the same approach to move beyond a simple urban-rural dichotomy. In this analysis, we estimate the impact of trade shocks across areas grouped by their level of rurality. To do so, we classify LLMs into quintiles based on rurality and estimate the effect of trade for each group.

4 | SHORT-TERM RESULTS

4.1 | Aggregate effects

We begin by discussing the main results on the (relative) impact of trade shocks on local labor market outcomes in the short run, focusing on the period 1996–2006. Tables 2 and 3 present the estimation results of equation (1) for various outcome variables, using the full national sample (including both urban and rural areas). Although each model includes both the CDE and CIC variables, for clarity of presentation, we report the estimated coefficients in separate tables.

In both tables, the first column presents OLS estimates, and columns (2) to (5) report 2SLS. The specifications in columns (3) to (5) control for a preexisting trend in the corresponding outcome variable. Columns (4) and (5) include a preexisting trend in local employment

shares in manufacturing and primary sectors, and the preferred specification in column (5) also controls for a preexisting trend in female labor force participation. The results of the first-stage regressions imply a strong predictive power of both instrumental variables.¹⁴ In both tables, we explore the results of trade shocks on various local labor market outcomes: (log) per capita income, the poverty headcount ratio (with the international line of 6.85 dollars a day), several labor market outcomes, such as employment, labor informality, hourly wages, hours of work and earnings, and finally mean years of education of the adult population.

Table 2 presents the results of the effects of Chinese demand for exports (CDE) on local labor market outcomes. The increase in CDE led to a statistically significant rise in mean household per capita income at the local labor market level. Consistent with this, the coefficient of CDE in the poverty regression is negative, although not statistically significant. Overall, the growing demand from China for Chilean exports appears to have generated broadly positive effects on local labor markets. In particular, our results indicate significant positive impacts on employment, hours worked, and earnings. The table also suggests that higher CDE is associated with lower labor informality and higher hourly wages, although these effects are not statistically significant. Additionally, there appears to be a potential positive relationship between CDE and educational attainment, though the corresponding coefficient is not statistically significant.

In contrast to the effects of an export shock, increased import competition is generally associated with negative outcomes in local labor markets. Table 3 shows that, in the short run, rising Chinese import competition is linked to a decline in mean household income and an increase in income poverty. In the labor market, the main margin of adjustment appears to be informality: local labor markets more exposed to growing CIC experienced a relative increase in the share of individuals working under informal labor arrangements. According to the results in Table 3, the import shock may also have applied downward pressure on wages, although the estimates are not statistically significant. Interestingly, hours worked increased in response to the rise in import competition—likely as a coping mechanism to sustain income in a more challenging labor environment. Table 3 also shows that the import penetration shock had a negative effect on years of education. This negative effect may be driven by several factors. In areas affected by rising import competition, the perceived returns to education could decline, leading young individuals to leave school earlier. Economic hardship may also push households to rely on child labor as a coping strategy, reducing school attendance.¹⁵ Additionally, selective migration of more educated individuals or a deterioration in local educational services could contribute to the observed decline. Finally, shifts in the local labor market toward less skill-intensive occupations might further weaken incentives to invest in education.

All of these findings are shown to be highly robust in several exercises: excluding outliers, controlling for preexisting trends related to the economic and demographic structures of LLMs, using specific groups of countries to construct the instrumental variables, and changing the unit of analysis, among others.

¹⁴The regressions satisfy the weak IV tests for joint endogenous regressors -the Kleibergen-Paap Wald F test- and for individual endogenous regressors -the Sanderson-Windmeijer multivariate F test of excluded instruments.

¹⁵These household responses to cope with unemployment shocks have been widely documented: Duryea et al. (2007); Hilger (2016); Cerutti et al. (2019); Halla et al. (2020); GC Britto et al. (2021); Ciaschi and Neidhöfer (2024), among others.

4.2 | Rural-urban effects

As an initial descriptive motivation, Figure 5 presents changes in various labor market outcomes across quintiles of rurality. The graph shows that income increased more and poverty declined more sharply in rural areas compared to urban ones. Improvements in labor market indicators and gains in educational attainment were also more pronounced in locations with higher degrees of rurality.

The increase in the relative well-being of people in more rural areas may have been driven in part by the China trade shock. To estimate the effect of trade shocks on rural areas and assess asymmetries relative to urban areas, we follow the approach outlined in the previous section. First, we examine whether labor markets in urban and rural areas respond differently to trade shocks (channel 1), and then we evaluate the impact of differences in the magnitude of these shocks across areas (channel 2).

Table 4 reports the results from separate estimations for urban and rural samples. The main finding is that, within each area—and with few exceptions—the sign of the relationship between trade shocks and labor market outcomes is similar to that observed in the national sample. In particular, increased export demand is generally associated with improved short-term labor market outcomes, while rising import competition tends to have the opposite effect.

However, we refrain from interpreting individual coefficients in detail, as the small sample sizes and limited within-group variation in trade exposure—especially among rural locations—hinder the precision and stability of the estimates. As such, while the evidence supports the presence of some common response patterns, we avoid drawing strong conclusions about the magnitude or significance of these effects across regions.¹⁶

We now turn to the analysis of the second channel arising from differences in the size of the trade shocks across areas. Figure 6 presents the levels of CDE for municipalities classified in quintiles of rurality. Exposure to Chinese demand for exports shows a clear increasing pattern with the degree of rurality up to quintile 4. In quintile 5, the level of CDE declines. This fall may stem from the fact that most rural locations in this top quintile are geographically highly isolated, with low integration into national markets, making them less exposed to trade shocks. Figure 7 repeats the analysis but now for the level of Chinese import competition. In contrast to CDE, CIC is decreasing in the level of rurality.

With China's emergence as a major trade partner, the pattern of exposure to CDE in rural areas and CIC in urban areas became more pronounced. As a result, the benefits of trade with China, driven by export demand, likely had a greater impact in rural areas, while the negative effects of Chinese imports may have affected urban areas more significantly than rural ones.

Figure 8 shows the predicted variation between 1996 and 2006 in different dependent variables for quintiles of rurality. The bars represent the percentage variation in each variable according to the predicted values of CDE (in violet) and CIC (in green) for quintiles of LLMs ranked by the rurality index. The results correspond to specification 5 of the models, run with the national sample. Although, as discussed above, we observe some asymmetries between urban and rural models, we prefer to present the assessment of this channel using the national model, as the larger number of observations and greater heterogeneity across locations provide more precise estimates.¹⁷

Figure 8 suggests some interesting results. The increased demand for exports had a positive impact on both areas, but it was particularly beneficial for locations with higher

¹⁶Estimating models with interaction terms rather than separate samples does not overcome these limitations. Results are available upon request.

¹⁷Estimates from separate samples by area are available in the online Appendix

degree of rurality. An increase in CDE is associated with larger increases in income, employment, wages, hours worked and education in more rural areas compared to more urban areas, as well as larger reductions in poverty and labor informality. There is one important qualification to this general result: the effects weaken in the top quintile of rurality, likely due to the presence of isolated locations with low integration into global markets in that group, as mentioned earlier.

On the other hand, the negative impacts of the trade shock were more pronounced in urban areas, where increased imports from China led to higher levels of labor informality and poverty. These adverse effects were much smaller in more rural regions. Overall, when considering both sides of the trade shock (exports and imports), the net impact was significantly more favorable in areas with higher degrees of rurality than in urban areas.

5 | MEDIUM-TERM RESULTS

5.1 | Aggregate effects

To assess the persistence and temporal evolution of the effects of the China Shock, we implement an estimation strategy that progressively expands the time window of analysis. Starting from the baseline period 1996–2006—corresponding to the most disruptive phase of China’s integration into global trade—we sequentially extend the sample by incorporating additional survey years: 1996–2009, 1996–2011, and so on, up to 2022. For each of these time windows, we estimate the preferred specification of the paper, which includes fixed effects and instruments for exposure to the Chinese import shock and external demand, while keeping controls and pre-trends constant. This corresponds to specification 5 in Tables 2 and 3. The difference from those models is that the independent variables CDE and CIC are estimated in separate models, for the reasons discussed in Section 3.1.

This strategy allows us to identify whether the estimated impact of the shock (i) remains constant, which would suggest long-term persistence; (ii) declines or becomes statistically insignificant, indicating a process of adjustment or absorption of the initial effects; or (iii) reverses sign, which could reflect structural recomposition dynamics or selective migration.

Tables 5 and 6 present results from separate regressions for each outcome variable, estimated on progressively larger panels starting in 1996 and sequentially incorporating additional survey rounds up to 2022. Each row corresponds to a different outcome variable, while each column reflects the coefficient obtained when using a specific final year in the sample. Figures 9 and 10 provide a graphical summary of these results.

As anticipated, a strong reaction of local labor markets to trade exposure is observed around 2006, coinciding with the most intense phase of China’s integration into global trade. This impact tends to persist over time, although it gradually declines in magnitude toward the end of the sample period. The trajectory of the estimated coefficients suggests that the China trade shock exerted medium-run effects, some of which attenuated over time. The magnitude and statistical significance of these effects vary depending on the type of shock under study and the specific outcome considered.

Although the overall pattern remains consistent, the response varies across outcome variables. In the case of increased demand for exports from China, household per capita income and poverty exhibit sustained improvements: LLMs more exposed to this dimension of the shock experienced higher income levels and lower poverty rates, with these favorable effects persisting through 2022. In contrast, other labor market outcomes—such as informality, hourly wages, and monthly earnings—display more pronounced adjustments in the years immediately following the shock, followed by gradual adaptation. Notably, the sign of the estimated coefficients remains stable over time, even as statistical significance

weakens in later years.

Regarding rising import competition, more persistent adverse effects are documented. In particular, the increase in poverty associated with this dimension of exposure remains relatively stable across sample periods. The negative effect on household per capita income is more pronounced during the early years, yet weakens as the time horizon expands. A particularly salient finding is the persistent decline in average years of schooling in areas more exposed to import competition—a pattern that remains remarkably stable over time. This may reflect diminished expected returns to education, increased reliance on child labor during periods of economic hardship, or selective migration dynamics.

Overall, the evidence indicates that while some consequences of the China trade shock—particularly those related to income—tend to fade over time, other dimensions, such as poverty and educational attainment, exhibit more enduring responses. These dynamic patterns emphasize the importance of accounting for both the timing and the duration of exposure when assessing the labor market consequences of global trade integration.

5.2 | Rural–urban effects

To analyze potential asymmetries in the impact of trade shocks across rural and urban areas, we adopt the framework introduced in the previous section. We begin by examining whether labor markets in urban and rural LMAs exhibit differential responses to trade shocks (channel 1), and then explore whether these asymmetries may also reflect differences in the magnitude of exposure across space (channel 2).

The following results should be interpreted with caution. The relatively small number of rural local labor markets (LMAs) and their more homogeneous characteristics reduce the statistical power of the estimates and increase their sensitivity to specification choices. Moreover, the strength of the instruments decreases significantly in certain specifications when considering longer periods.

Despite these limitations, the analysis reveals suggestive patterns that align with the broader narrative of trade-induced structural transformation.

Figures 11 and 12 display the dynamic estimates of exposure to Chinese export demand in rural and urban LMAs, respectively. Corresponding regression coefficients are presented in Tables 7 and 8. Overall, the effects of rising export demand appear broadly consistent across both groups, closely mirroring national trends. Nevertheless, some differences emerge in magnitude and persistence. The effects on household income tend to be slightly more pronounced in urban areas, whereas the poverty-reducing impact of export demand is more persistent and statistically robust in rural LMAs. Labor market indicators follow a similar pattern: with the exception of employment, most effects in urban LMAs lose significance over time, whereas rural areas exhibit more persistent and statistically significant improvements—particularly in informality and earnings.

Figures 13 and 14 show the corresponding estimates for Chinese import competition, with regression results summarized in Tables 9 and 10. In urban LMAs, the results closely resemble those observed for the national sample: import competition is associated with sustained declines in household income, rising poverty rates, and persistent deterioration in labor market indicators. These effects remain stable across estimation windows and reinforce the interpretation that urban areas—where manufacturing employment is concentrated—were especially vulnerable to increased Chinese imports. In contrast, the estimates for rural LMAs are more volatile and generally lack statistical significance. In several cases, the Kleibergen–Paap Wald F-statistic takes very low values, suggesting that the results should be interpreted with particular caution. These findings are consistent with the hypothesis that import competition played a more limited role in rural contexts, where

exposure to tradable manufacturing sectors is comparatively low.

As a whole, the evidence points to a trade shock that affected rural and urban areas differently, generating a divergent pattern of adjustment in the medium run. While short-term effects appear relatively uniform across space, longer-run estimates reveal more distinct heterogeneity: the adverse consequences of import competition are concentrated in urban labor markets, whereas the benefits of expanding Chinese export demand are more strongly felt in rural areas.

Finally, Figures 15 and 16 present predicted outcome trajectories over an extended time horizon. In this case, beyond the 2006–1996 variation used for short-term comparisons, two additional periods are considered: 2015–1996 and 2022–1996. These results combine two dynamics: changes in the estimated coefficients over time and the sustained growth of both import competition and export demand after 2006. The predicted trends suggest that the adjustment to the China shock continued to evolve well beyond the initial surge in trade flows.

6 | CONCLUDING REMARKS

This paper examines the causal effects of China's integration into global trade on local labor markets in Chile, analyzing short and mid-term impacts and focusing on both the expansion of Chinese import competition and the surge in Chinese demand for Chilean exports. The empirical strategy exploits cross-sectional variation in initial industry specialization across Chilean local labor market areas (LLMs) and time variation in China's trade patterns across sectors. To address potential endogeneity in trade flows, we construct shift-share instruments using China's trade with the rest of the world, isolating variation attributable to China-specific supply and demand dynamics that reflect its rapid structural transformation.

The findings reveal heterogeneous effects across regions and time, driven not only by the type of trade shock but also by the underlying structural characteristics of each area. In urban LLMs—where manufacturing activity is concentrated—exposure to rising Chinese import competition is associated with sustained declines in per capita household income, increases in poverty, and persistent deterioration in labor market indicators such as informality and wages. Additionally, areas more exposed to import competition experienced a decline in average years of schooling, suggesting possible disincentives to education or household coping strategies involving early labor market entry.

In contrast, rural LLMs appear to have benefited from China's growing demand for primary goods, particularly mining and agriculture. Exposure to rising export demand is associated with higher household incomes, reductions in poverty and informality, and improvements in labor market conditions, many of which persist through the end of the sample period. These gains are more pronounced and sustained in rural areas, where the composition of economic activity is more closely aligned with the sectors favored by Chinese demand. Moreover, while some effects—such as income gains—tend to attenuate over time, others, including poverty reduction and formalization, remain significant in the long run. Importantly, the direction of these effects—negative in higher-income urban areas and positive in historically disadvantaged rural areas—may have contributed to the observed reduction in regional disparities during the period under study.

Overall, the evidence highlights a divergent pattern of spatial adjustment in response to trade both in short and mid-terms: the adverse effects of import competition are concentrated in urban labor markets, while the benefits of export expansion are more salient in rural areas. These findings have important implications for the design of place-based policies, particularly in countries with a dual economic structure and high regional in-

equality. They also suggest that global trade integration can reinforce or mitigate existing disparities depending on the underlying geography of comparative advantage. Future research should explore the longer run consequences of these dynamics on human capital formation, migration, and intergenerational mobility, as well as the role of complementary policies in shaping the distributional impact of trade.

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TABLES AND FIGURES

TABLE 1 China's Position as an Export Partner and Import Partner (Selected Years)

Country	Imports					Exports				
	2000	2005	2010	2015	2022	2000	2005	2010	2015	2022
Argentina	4	3	2	2	1	5	4	2	2	2
Bolivia	7	6	5	1	1	24	19	10	5	7
Brazil	10	4	1	1	1	12	3	1	1	1
Chile	4	4	2	1	1	4	3	1	1	1
Colombia	8	3	2	2	2	39	21	4	3	8
Costa Rica	15	7	2	2	2	31	6	4	9	3
Dominican Rep.	13	6	2	2	2	39	16	7	10	4
Ecuador	11	4	3	2	2	19	36	13	6	2
El Salvador	17	5	4	3	2	47	20	31	12	11
Guatemala	10	3	3	3	2	48	13	32	10	9
Honduras	9	8	4	3	3	71	18	11	24	24
Mexico	6	2	2	2	2	19	8	3	3	3
Nicaragua	10	5	3	2	2	45	19	30	18	19
Panama	4	2	2	1	1	72	49	51	10	1
Paraguay	3	2	1	2	1	18	8	27	42	32
Peru	9	2	2	1	1	4	2	2	1	1
Uruguay	6	6	3	1	2	4	7	2	1	1
Venezuela	18	5	2	2	1	35	10	3	2	1

Source: Author's elaboration based on the BACI database (Centre d'Etudes Prospectives et d'Informations Internationales - CEPII).

TABLE 2 Effects of Chinese Demand for Exports on local labor market outcomes

	OLS	2SLS			
	(1)	(2)	(3)	(4)	(5)
Log per capita income	0.1077*** (0.0341)	0.1694*** (0.0359)	0.1690*** (0.0381)	0.1707*** (0.0413)	0.1597*** (0.0424)
Poverty	-0.9034 (2.8082)	1.7319 (5.5569)	1.8281 (5.5814)	1.6017 (4.1550)	-1.4338 (3.8592)
Employment rate	0.0284*** (0.0058)	0.0294*** (0.0113)	0.0305*** (0.0107)	0.0309*** (0.0094)	0.0292*** (0.0094)
Labor informality	0.0017 (0.0101)	0.0195 (0.0229)	-0.0096 (0.0228)	-0.0060 (0.0196)	-0.0195 (0.0215)
Log hourly wages	0.0035 (0.0672)	-0.0255 (0.1250)	0.0005 (0.1192)	-0.0020 (0.0921)	0.1279 (0.1015)
Log hours worked	0.0063 (0.0191)	0.0662*** (0.0195)	0.0643*** (0.0207)	0.0583*** (0.0193)	0.0756*** (0.0219)
Log monthly earnings	-0.0468 (0.0396)	-0.0148 (0.0986)	0.0161 (0.0879)	0.0135 (0.0676)	0.1449** (0.0600)
Years of education	-0.0003 (0.0666)	-0.2268 (0.1959)	-0.0508 (0.1564)	-0.0589 (0.1550)	0.1527 (0.1322)
PT Dep. Var.	-	-	Yes	Yes	Yes
PT Exposure Shares	-	-	-	Yes	Yes
PT Female LFP	-	-	-	-	Yes

Note: N = 296. All regressions control for LLM and year fixed effects and are weighted by LLM's share of Chile's population of working age in 1992. Columns (2) to (5) are run by 2SLS, instrumenting CIC and CDE with China's world supply and demand shocks. Robust standard errors clustered by regions in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1.

Source: Author's own elaboration.

TABLE 3 Effects of Chinese Import Competition (CIC) on local labor market outcomes

	OLS	2SLS			
	(1)	(2)	(3)	(4)	(5)
Log per capita income	-0.0263*** (0.0067)	-0.0254*** (0.0077)	-0.0280*** (0.0104)	-0.0269*** (0.0098)	-0.0267*** (0.0097)
Poverty	2.8872*** (0.7263)	3.4815*** (0.9738)	3.2961*** (1.2304)	3.4276*** (0.9629)	3.2475*** (0.9269)
Employment rate	0.0015 (0.0016)	0.0020 (0.0019)	0.0016 (0.0020)	0.0021 (0.0025)	0.0027 (0.0028)
Labor informality	0.0097** (0.0049)	0.0142** (0.0070)	0.0083 (0.0057)	0.0070 (0.0049)	0.0085* (0.0048)
Log hourly wages	-0.0205 (0.0155)	-0.0278 (0.0183)	-0.0082 (0.0212)	-0.0133 (0.0212)	-0.0006 (0.0135)
Log hours worked	0.0285*** (0.0035)	0.0361*** (0.0049)	0.0361*** (0.0050)	0.0342*** (0.0047)	0.0297*** (0.0046)
Log monthly earnings	-0.0160 (0.0153)	-0.0183 (0.0179)	-0.0040 (0.0174)	-0.0030 (0.0138)	0.0003 (0.0094)
Years of education	-0.0316 (0.0216)	-0.0756** (0.0295)	-0.0439 (0.0289)	-0.0426 (0.0291)	-0.0611*** (0.0237)
PT Dep. Var.	-	-	Yes	Yes	Yes
PT Exposure Shares	-	-	-	Yes	Yes
PT Female LFP	-	-	-	-	Yes

Note: N = 296. All regressions control for LLM and year fixed effects and are weighted by LLM's share of Chile's population of working age in 1992. Columns (2) to (5) are run by 2SLS, instrumenting CIC and CDE with China's world supply and demand shocks. Robust standard errors clustered by regions in parentheses. *** p < 0.01, ** p < 0.05, * p < 0.1.

Source: Author's own elaboration.

TABLE 4 Effects of Chinese trade on local labor market outcomes, by area

	CDE			CIC		
	All	Urban	Rural	All	Urban	Rural
Log per capita income	0.1597*** (0.0424)	0.2210*** (0.0451)	0.0546 (0.0529)	-0.0267*** (0.0097)	-0.0130* (0.0077)	-0.0642 (0.4152)
Poverty	-1.4338 (3.8592)	4.1589 (5.4432)	-3.4998 (3.3132)	3.2475*** (0.9269)	3.3587*** (1.2018)	29.6193 (31.4160)
Employment rate	0.0292*** (0.0094)	0.0391*** (0.0112)	0.0328*** (0.0112)	0.0027 (0.0028)	0.0029 (0.0027)	0.0179 (0.0823)
Labor informality	-0.0195 (0.0215)	-0.0071 (0.0444)	0.0135 (0.0330)	0.0085* (0.0048)	0.0056 (0.0042)	0.4455 (0.2775)
Log hourly wages	0.1279 (0.1015)	0.0141 (0.0687)	0.1969** (0.0905)	-0.0006 (0.0135)	-0.0070 (0.0082)	-0.5880 (0.5547)
Log hours worked	0.0756*** (0.0219)	0.1044*** (0.0208)	0.0331 (0.0260)	0.0297*** (0.0046)	0.0332*** (0.0039)	-0.0587 (0.2102)
Log monthly earnings	0.1449** (0.0600)	0.1376** (0.0596)	0.0898 (0.0629)	0.0003 (0.0094)	0.0128*** (0.0048)	-0.2929 (0.5431)
Years of education	0.1527 (0.1322)	-0.0949 (0.1649)	0.3556 (0.2312)	-0.0611*** (0.0237)	-0.0639** (0.0255)	-1.5513 (1.4053)
Observations	296	155	141	296	155	141
PT Dep. Var.	Yes	Yes	Yes	Yes	Yes	Yes
PT Exposure Shares	Yes	Yes	Yes	Yes	Yes	Yes
PT Female LFP	Yes	Yes	Yes	Yes	Yes	Yes

Note: N = 296. All regressions control for LLM and year fixed effects and are weighted by LLM's share of Chile's working-age population in 1992. Regressions are estimated by 2SLS, instrumenting CIC and CDE with China's world supply and demand shocks. Robust standard errors clustered by regions are reported in parentheses. The regression is run for the complete, rural, and urban samples.

*** p < 0.01, ** p < 0.05, * p < 0.1.

Source: Author's own elaboration.

TABLE 5 Mid-term effects of Chinese Demand for Exports on local labor market outcomes

	2003	2006	2009	2011	2013	2015	2017	2020	2022
Log per capita income	0.1471** (0.0611)	0.2052*** (0.0459)	0.1321*** (0.0387)	0.1221*** (0.0296)	0.0796*** (0.0151)	0.0570*** (0.0096)	0.0412*** (0.0077)	0.0290*** (0.0052)	0.0210*** (0.0038)
Poverty	-6.8772*** (2.1996)	-7.9151*** (2.7441)	-6.2883*** (1.5927)	-6.6419*** (1.4246)	-4.3129*** (1.1098)	-3.4081*** (0.8826)	-2.9971*** (0.8015)	-2.3693*** (0.6353)	-1.8522*** (0.5277)
Employment rate	0.0563*** (0.0177)	0.0259** (0.0101)	0.0176*** (0.0056)	0.0162*** (0.0048)	0.0098*** (0.0033)	0.0065** (0.0026)	0.0040 (0.0027)	0.0037* (0.0020)	0.0029 (0.0018)
Labor informality	-0.0255 (0.0189)	-0.0356* (0.0196)	-0.0029 (0.0071)	-0.0115* (0.0061)	-0.0069* (0.0040)	-0.0052 (0.0032)	-0.0043 (0.0027)	-0.0026 (0.0021)	-0.0007 (0.0018)
Log hourly wages	0.1777* (0.0991)	0.1292 (0.0947)	0.0527 (0.0542)	0.0735* (0.0441)	0.0523** (0.0263)	0.0409** (0.0199)	0.0357** (0.0162)	0.0357** (0.0162)	0.0222* (0.0115)
Log hours worked	-0.0081 (0.0256)	0.0239 (0.0215)	0.0057 (0.0087)	0.0073 (0.0063)	0.0111** (0.0048)	0.0097** (0.0039)	0.0085*** (0.0033)	0.0085*** (0.0033)	0.0054** (0.0025)
Log monthly earnings	0.1459* (0.0765)	0.1444*** (0.0550)	0.0456** (0.0204)	0.0509*** (0.0172)	0.0398** (0.0156)	0.0335** (0.0134)	0.0274** (0.0122)	0.0189** (0.0089)	0.0139** (0.0071)
Years of education	0.1903 (0.1284)	0.2686** (0.1045)	0.0957* (0.0578)	0.1777*** (0.0621)	0.0947* (0.0539)	0.0835** (0.0405)	0.0647** (0.0330)	0.0568** (0.0233)	0.0476** (0.0201)
Observations	234	296	359	420	481	542	603	664	725

Note: All regressions control for LLM and year fixed effects and are weighted by LLM's share of Chile's working-age population in 1992. Regressions are estimated by 2SLS, instrumenting CDE with China's world supply shocks. Robust standard errors clustered by regions are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Author's own elaboration.

TABLE 6 Mid-term effects of Chinese Import Competition (CIC) on local labor market outcomes

	2003	2006	2009	2011	2013	2015	2017	2020	2022
Log per capita income	-0.0370** (0.0182)	-0.0444*** (0.0108)	-0.0712*** (0.0097)	-0.0555*** (0.0088)	-0.0478*** (0.0099)	-0.0364*** (0.0092)	-0.0251*** (0.0081)	-0.0207*** (0.0080)	-0.0184** (0.0079)
Poverty	3.5957*** (0.6339)	3.4340*** (0.5826)	3.3652*** (0.4498)	3.2281*** (0.3885)	2.8893*** (0.4777)	2.6416*** (0.5031)	2.5140*** (0.5158)	2.4679*** (0.5532)	2.3680*** (0.5706)
Employment rate	-0.0092 (0.0056)	-0.0003 (0.0032)	-0.0030 (0.0027)	-0.0017 (0.0020)	-0.0002 (0.0017)	0.0006 (0.0013)	0.0022* (0.0012)	0.0011 (0.0012)	0.0012 (0.0011)
Labor informality	0.0087 (0.0073)	0.0107** (0.0045)	0.0056* (0.0034)	0.0101*** (0.0021)	0.0066*** (0.0018)	0.0059*** (0.0014)	0.0046*** (0.0015)	0.0028* (0.0015)	0.0015 (0.0015)
Log hourly wages	-0.0479* (0.0286)	-0.0181 (0.0159)	-0.0281** (0.0137)	-0.0384*** (0.0108)	-0.0291*** (0.0102)	-0.0287*** (0.0100)	-0.0267*** (0.0092)	-0.0267*** (0.0092)	-0.0216*** (0.0083)
Log hours worked	0.0363*** (0.0108)	0.0211*** (0.0047)	0.0146*** (0.0028)	0.0101*** (0.0020)	0.0055*** (0.0020)	0.0039** (0.0019)	0.0036* (0.0019)	0.0036* (0.0019)	0.0041** (0.0019)
Log monthly earnings	-0.0195 (0.0186)	-0.0159 (0.0101)	-0.0058 (0.0053)	-0.0136*** (0.0039)	-0.0182*** (0.0047)	-0.0245*** (0.0053)	-0.0212*** (0.0048)	-0.0230*** (0.0044)	-0.0197*** (0.0042)
Years of education	-0.0863** (0.0351)	-0.0758*** (0.0176)	-0.0374*** (0.0126)	-0.0528*** (0.0128)	-0.0452*** (0.0136)	-0.0558*** (0.0137)	-0.0408*** (0.0134)	-0.0382*** (0.0129)	-0.0420*** (0.0160)
Observations	234	296	359	420	481	542	603	664	725

Note: All regressions control for LLM and year fixed effects and are weighted by LLM's share of Chile's working-age population in 1992. Regressions are estimated by 2SLS, instrumenting CIC with China's world demand shocks. Robust standard errors clustered by regions are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Author's own elaboration.

TABLE 7 Mid-term effects of Chinese Demand for Exports on local labor market outcomes - Rural LLMs

	2003	2006	2009	2011	2013	2015	2017	2020	2022
Log per capita income	-0.0324 (0.0515)	0.0611*** (0.0192)	0.0150 (0.0103)	0.0302*** (0.0094)	0.0295*** (0.0087)	0.0225** (0.0091)	0.0176** (0.0080)	0.0131** (0.0065)	0.0082 (0.0061)
Poverty	-3.5624 (2.5398)	-6.3723*** (1.6629)	-3.1674*** (1.1611)	-3.3119*** (0.9275)	-2.8100*** (0.8752)	-2.5108*** (0.7891)	-2.3135*** (0.7342)	-2.0115*** (0.6371)	-1.7345*** (0.5759)
Employment rate	0.0181*** (0.0050)	0.0310*** (0.0050)	0.0107*** (0.0019)	0.0109*** (0.0030)	0.0093*** (0.0021)	0.0055*** (0.0020)	0.0036** (0.0015)	0.0036** (0.0014)	0.0025* (0.0015)
Labor informality	-0.0066 (0.0150)	-0.0302** (0.0141)	-0.0196*** (0.0063)	-0.0187*** (0.0054)	-0.0165*** (0.0035)	-0.0137*** (0.0035)	-0.0110*** (0.0026)	-0.0088*** (0.0024)	-0.0064*** (0.0023)
Log hourly wages	0.2159** (0.0847)	0.2492*** (0.0967)	0.1011* (0.0517)	0.1091* (0.0574)	0.0718* (0.0416)	0.0547* (0.0332)	0.0432 (0.0291)	0.0432 (0.0291)	0.0321 (0.0225)
Log hours worked	0.0137 (0.1044)	0.1163*** (0.0310)	0.0521*** (0.0114)	0.0435*** (0.0140)	0.0297** (0.0123)	0.0205* (0.0109)	0.0169* (0.0088)	0.0104 (0.0082)	0.0068 (0.0080)
Log monthly earnings	-0.0180 (0.0842)	0.0825** (0.0329)	0.0345** (0.0152)	0.0339*** (0.0128)	0.0291*** (0.0102)	0.0210** (0.0084)	0.0174** (0.0068)	0.0099 (0.0066)	0.0060 (0.0067)
Years of education	0.7060* (0.3882)	0.4571** (0.1799)	0.2150*** (0.0381)	0.1754*** (0.0499)	0.1175*** (0.0449)	0.1043*** (0.0260)	0.0931*** (0.0240)	0.0807*** (0.0207)	0.0691*** (0.0190)
Observations	110	141	173	203	233	263	293	323	353

Note: The sample is restricted to Rural LLMs. All regressions control for LLM and year fixed effects and are weighted by LLM's share of Chile's working-age population in 1992. Regressions are estimated by 2SLS, instrumenting CDE with China's world supply shocks. Robust standard errors clustered by regions are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Author's own elaboration.

TABLE 8 Mid-term effects of Chinese demand for exports on local labor market outcomes - Urban LLMs

	2003	2006	2009	2011	2013	2015	2017	2020	2022
Log per capita income	0.2042*** (0.0437)	0.2544*** (0.0407)	0.1954*** (0.0342)	0.1754*** (0.0275)	0.1080*** (0.0174)	0.0765*** (0.0106)	0.0535*** (0.0093)	0.0351*** (0.0069)	0.0245*** (0.0051)
Poverty	-6.3724* (3.7551)	-4.4896 (3.4602)	-6.1277*** (2.1662)	-6.9047*** (2.1091)	-3.7355** (1.6577)	-2.7354** (1.3405)	-2.2470* (1.2029)	-1.6514* (0.9523)	-1.1659 (0.7761)
Employment rate	0.0999*** (0.0139)	0.0337*** (0.0112)	0.0270*** (0.0048)	0.0241*** (0.0054)	0.0126** (0.0049)	0.0085* (0.0044)	0.0052 (0.0048)	0.0046 (0.0035)	0.0039 (0.0032)
Labor informality	-0.0256 (0.0328)	-0.0219 (0.0401)	0.0053 (0.0113)	-0.0067 (0.0094)	-0.0006 (0.0068)	0.0002 (0.0055)	0.0004 (0.0048)	0.0014 (0.0035)	0.0031 (0.0029)
Log hourly wages	0.1637 (0.1353)	0.0302 (0.0651)	-0.0032 (0.0384)	0.0293 (0.0318)	0.0306 (0.0198)	0.0238 (0.0162)	0.0212 (0.0140)	0.0212 (0.0140)	0.0110 (0.0106)
Log hours worked	-0.0487 (0.0463)	0.0112 (0.0389)	-0.0054 (0.0181)	-0.0052 (0.0118)	0.0107 (0.0077)	0.0087 (0.0064)	0.0079 (0.0055)	0.0079 (0.0055)	0.0051 (0.0042)
Log monthly earnings	0.1848* (0.1007)	0.1017** (0.0482)	0.0232 (0.0224)	0.0340* (0.0201)	0.0317* (0.0165)	0.0286* (0.0154)	0.0205 (0.0140)	0.0140 (0.0106)	0.0101 (0.0077)
Years of education	0.1185 (0.1946)	0.0579 (0.1358)	-0.0650 (0.0713)	0.1181 (0.1158)	0.0255 (0.0892)	0.0261 (0.0677)	0.0026 (0.0534)	0.0088 (0.0366)	0.0078 (0.0290)
Observations	124	155	186	217	248	279	310	341	372

Note: The sample is restricted to Urban LLMs. All regressions control for LLM and year fixed effects and are weighted by LLM's share of Chile's working-age population in 1992. Regressions are estimated by 2SLS, instrumenting CDE with China's world supply shocks. Robust standard errors clustered by regions are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Source: Author's own elaboration.

TABLE 9 Mid-term effects of Chinese import competition (CIC) on local labor market outcomes - Rural LLMs

	2003	2006	2009	2011	2013	2015	2017	2020	2022
Log per capita income	0.1003 (0.5451)	-0.2119 (0.2999)	0.0270 (0.0655)	0.0453 (0.1356)	-0.1039 (0.2500)	-0.0138 (0.0527)	-0.0131 (0.0351)	-0.0077 (0.0303)	0.0005 (0.0237)
Poverty	18.4288 (24.6422)	37.9433 (27.0755)	9.8127 (6.4260)	7.2556 (11.9920)	9.4814 (14.5089)	2.0104 (3.2480)	1.5469 (2.5642)	0.9168 (2.4704)	0.5792 (2.2464)
Employment rate	-0.1975*** (0.0274)	-0.0718 (0.0848)	-0.0316 (0.0319)	-0.0463 (0.0913)	-0.0094 (0.0773)	0.0029 (0.0115)	0.0072 (0.0065)	0.0105 (0.0064)	0.0127** (0.0057)
Labor informality	0.2020 (0.2462)	0.4139* (0.2163)	0.1844*** (0.0579)	0.3239** (0.1350)	0.2538* (0.1366)	0.0627*** (0.0177)	0.0440*** (0.0104)	0.0336*** (0.0084)	0.0265*** (0.0062)
Log hourly wages	-1.0558 (0.9342)	-0.8986 (0.6625)	-0.1762 (0.2979)	-0.4983 (0.4344)	-0.4576 (0.3533)	-0.1255 (0.0938)	-0.0940 (0.0631)	-0.0940 (0.0631)	-0.0707 (0.0436)
Log hours worked	0.0760 (0.2628)	-0.1494 (0.1408)	-0.0477 (0.0775)	0.0114 (0.1252)	-0.0259 (0.1199)	0.0001 (0.0213)	0.0017 (0.0144)	0.0017 (0.0144)	-0.0000 (0.0118)
Log monthly earnings	0.4096 (0.6258)	-0.4575 (0.4871)	-0.1508 (0.1621)	-0.1743 (0.1407)	-0.2367 (0.1509)	-0.0606* (0.0344)	-0.0465** (0.0230)	-0.0346** (0.0152)	-0.0282** (0.0114)
Years of education	-2.5713 (1.7386)	-1.9154 (1.5404)	-0.4463 (0.5289)	-0.9277* (0.5271)	-0.5172 (0.3543)	-0.1376 (0.0935)	-0.1104* (0.0575)	-0.1173** (0.0569)	-0.0705 (0.0499)
Observations	110	141	173	203	233	263	293	323	353

Note: The sample is restricted to Rural LLMs. All regressions control for LLM and year fixed effects and are weighted by LLM's share of Chile's working-age population in 1992. Regressions are estimated by 2SLS, instrumenting CIC with China's world demand shocks. Robust standard errors clustered by regions are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

TABLE 10 Mid-term effects of Chinese import competition (CIC) on local labor market outcomes - Urban LLMs

	2003	2006	2009	2011	2013	2015	2017	2020	2022
Log per capita income	-0.0216 (0.0162)	-0.0341*** (0.0116)	-0.0654*** (0.0110)	-0.0535*** (0.0108)	-0.0463*** (0.0117)	-0.0357*** (0.0107)	-0.0244*** (0.0093)	-0.0187** (0.0091)	-0.0162* (0.0091)
Poverty	3.2730*** (0.8372)	2.8953*** (0.7089)	2.9616*** (0.5034)	2.9628*** (0.4176)	2.4696*** (0.4828)	2.2484*** (0.5103)	2.1446*** (0.5456)	2.0515*** (0.5949)	1.9666*** (0.6272)
Employment rate	-0.0103* (0.0060)	-0.0005 (0.0033)	-0.0028 (0.0027)	-0.0013 (0.0020)	-0.0000 (0.0017)	0.0010 (0.0014)	0.0025* (0.0015)	0.0012 (0.0016)	0.0012 (0.0015)
Labor informality	0.0048 (0.0074)	0.0062 (0.0044)	0.0043 (0.0033)	0.0089*** (0.0018)	0.0050*** (0.0015)	0.0043*** (0.0014)	0.0029* (0.0015)	0.0011 (0.0017)	-0.0001 (0.0019)
Log hourly wages	-0.0569** (0.0280)	-0.0087 (0.0090)	-0.0255 (0.0161)	-0.0400*** (0.0092)	-0.0295*** (0.0056)	-0.0286*** (0.0052)	-0.0254*** (0.0044)	-0.0254*** (0.0044)	-0.0195*** (0.0037)
Log hours worked	0.0397*** (0.0085)	0.0236*** (0.0039)	0.0167*** (0.0023)	0.0112*** (0.0016)	0.0062*** (0.0017)	0.0049*** (0.0018)	0.0043** (0.0018)	0.0043** (0.0018)	0.0048** (0.0019)
Log monthly earnings	-0.0083 (0.0179)	-0.0013 (0.0049)	0.0025 (0.0030)	-0.0083*** (0.0027)	-0.0144*** (0.0032)	-0.0215*** (0.0044)	-0.0170*** (0.0036)	-0.0189*** (0.0030)	-0.0157*** (0.0032)
Years of education	-0.0811** (0.0380)	-0.0564*** (0.0200)	-0.0189 (0.0204)	-0.0361** (0.0183)	-0.0265 (0.0165)	-0.0376** (0.0171)	-0.0183 (0.0188)	-0.0142 (0.0178)	-0.0195 (0.0200)
Observations	124	155	186	217	248	279	310	341	372

Note: The sample is restricted to Urban LLMs. All regressions control for LLM and year fixed effects and are weighted by LLM's share of Chile's working-age population in 1992. Regressions are estimated by 2SLS, instrumenting CIC with China's world demand shocks. Robust standard errors clustered by regions are reported in parentheses. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

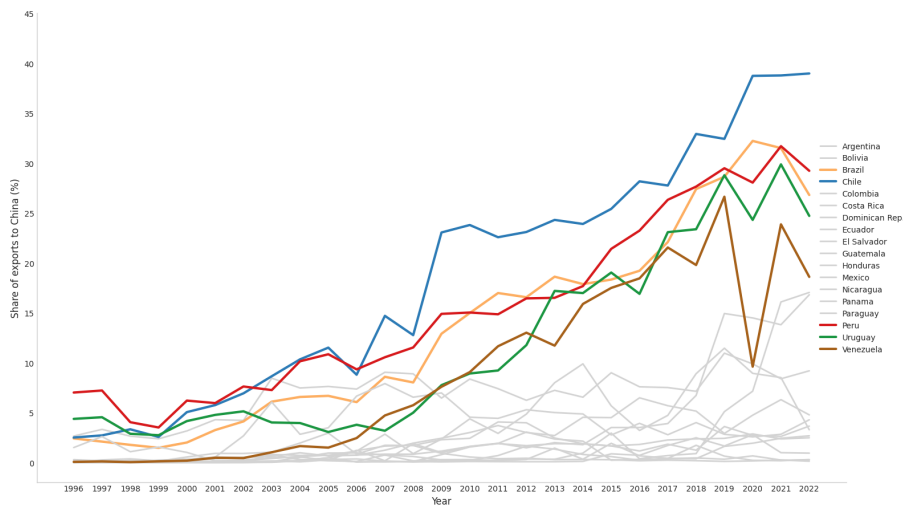


FIGURE 1 Share of exports to China as a percentage of total exports, by year and country
Source: Author's elaboration based on the BACI database (Centre d'Etudes Prospectives et d'Informations Internationales - CEPII).

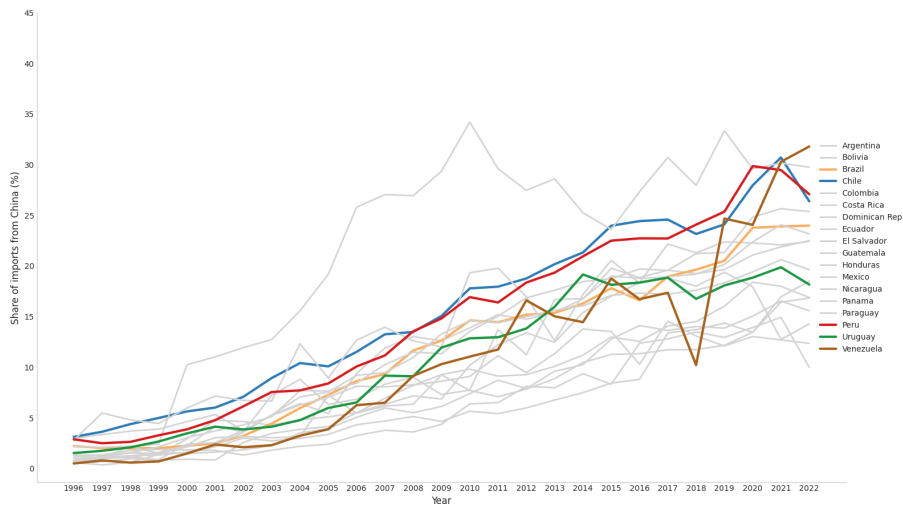


FIGURE 2 Share of imports from China as a percentage of total imports, by year and country
Source: Author's elaboration based on the BACI database (Centre d'Etudes Prospectives et d'Informations Internationales - CEPII).

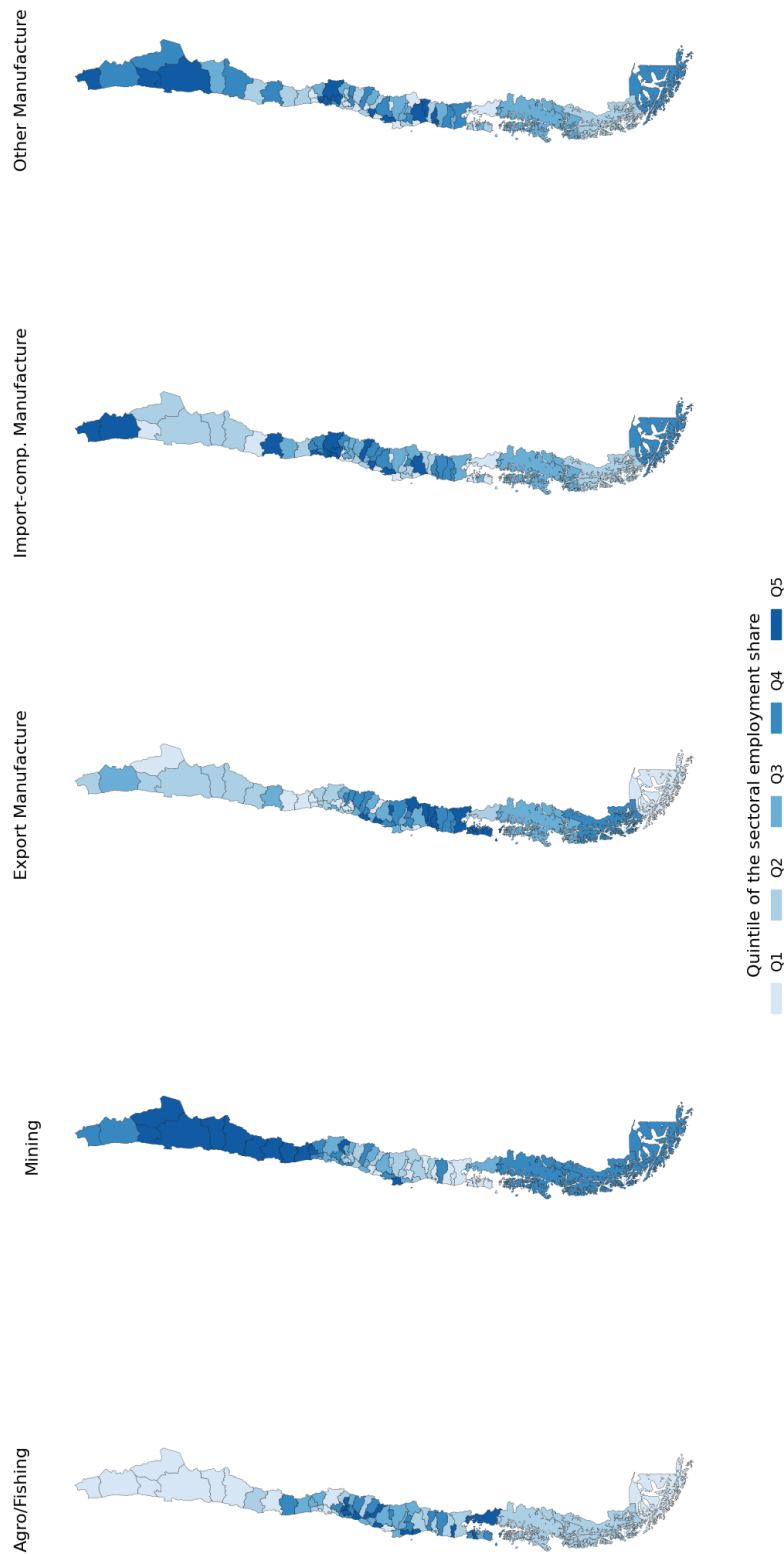


FIGURE 3 Share of exports to China as a percentage of total exports, by year and country.
Note: Author's elaboration based on the BACI database (Centre d'Etudes Prospectives et d'Informations Internationales - CEPII).

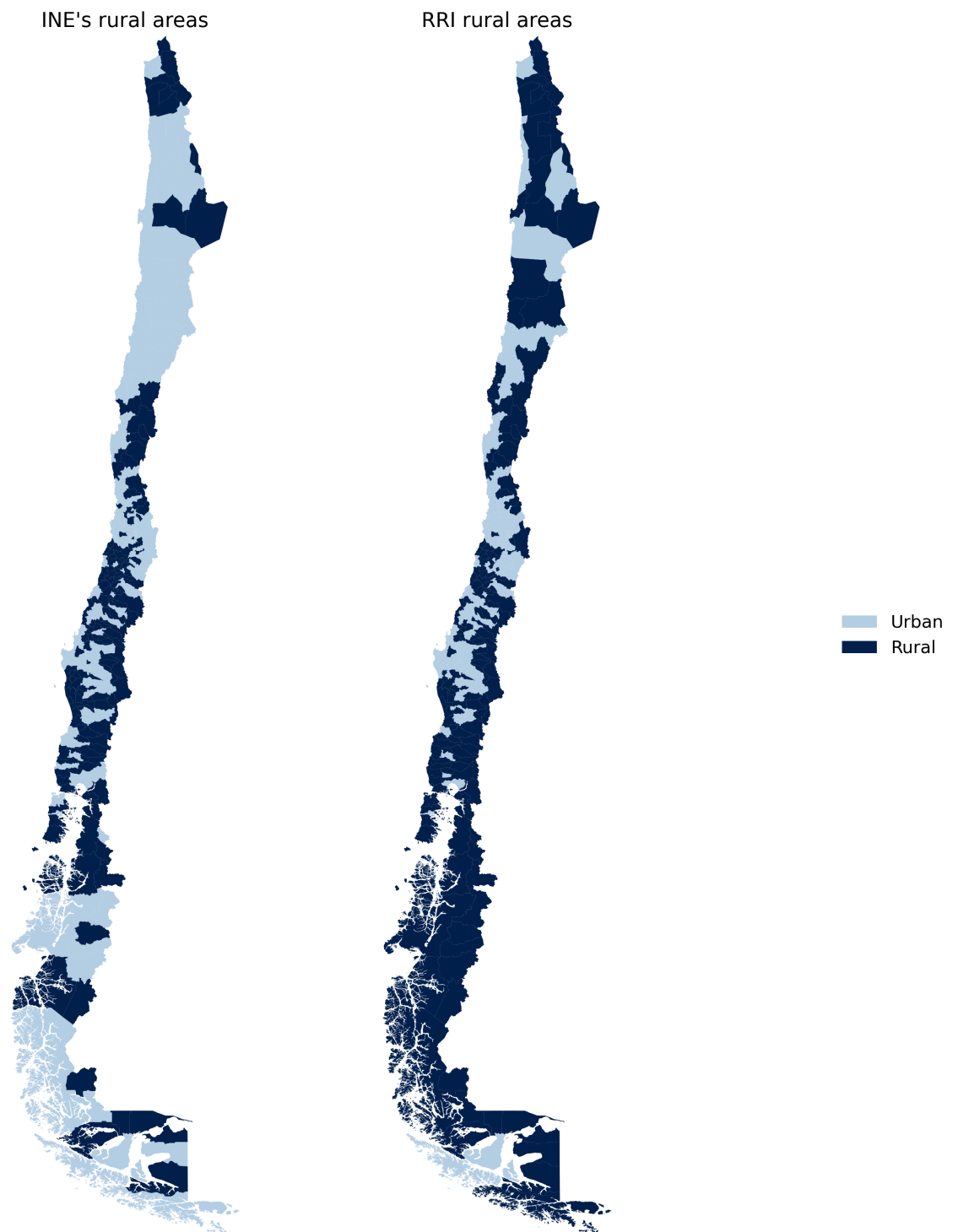


FIGURE 4 Alternative definitions of rurality
Source: Own elaboration.

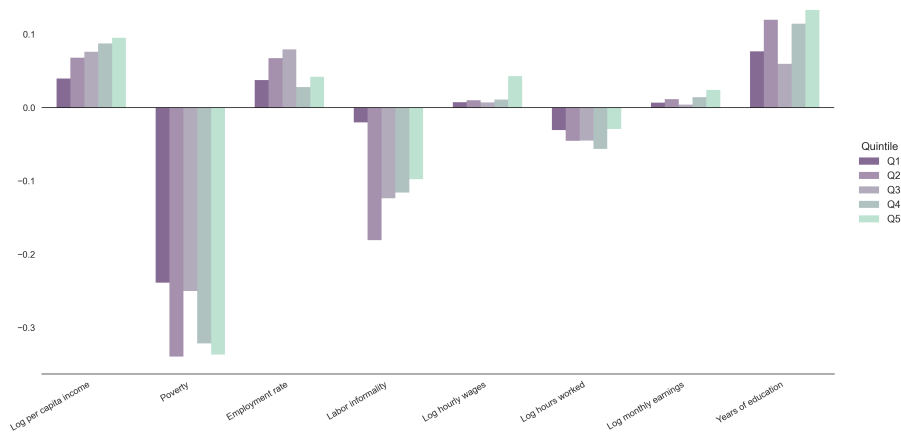


FIGURE 5 Changes in labor market outcomes by rurality quintiles

Source: Author's elaboration.

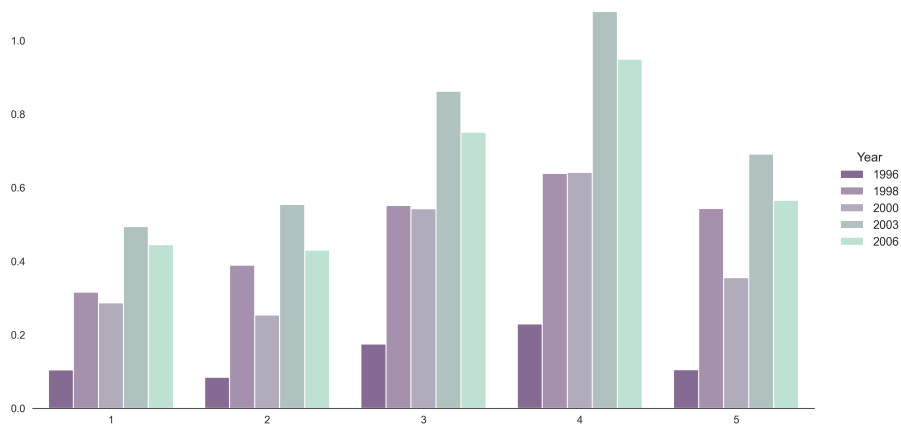


FIGURE 6 CDE by quintiles or rurality

Source: Author's elaboration.

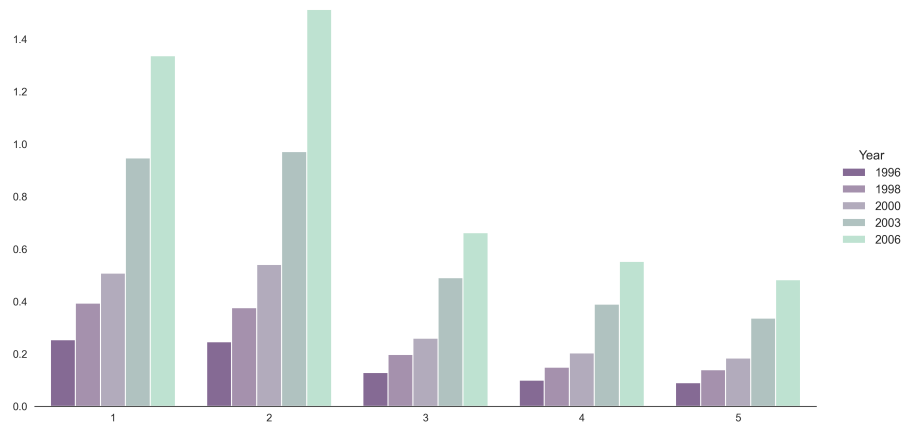


FIGURE 7 CIC by quintiles of rurality

Source: Author's elaboration.



FIGURE 8 Predicted values of outcomes in rural and urban areas - General model *Source:* Author's elaboration.

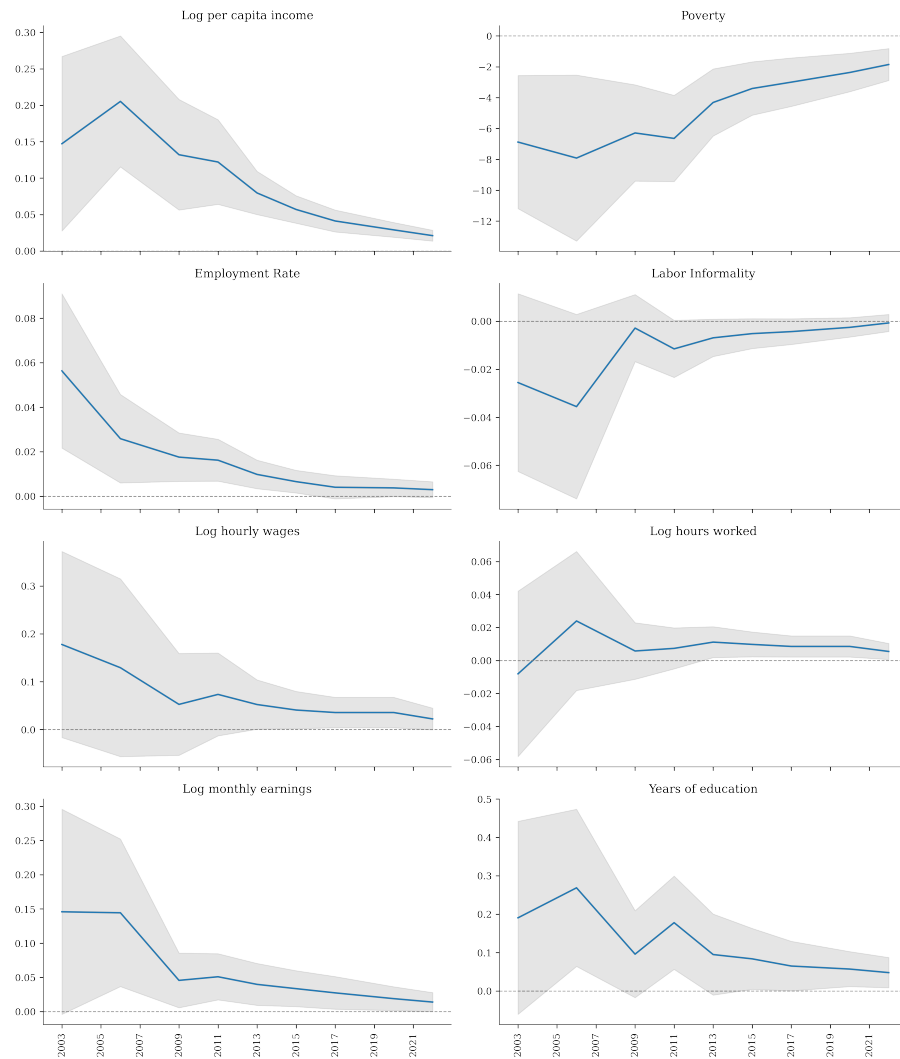


FIGURE 9 Chinese Demand for Exports Impact, 2003–2022. *Note:* Panels report 2SLS coefficient estimates for X and 95% confidence intervals for these estimates. The dependent variable is the level in the specified outcome between 1996 and the year indicated on the horizontal axis; the trade shock is the LLM exposure, as defined in (1) and instrumented by (3). Control variables include pre-period LLM employment composition, labor force participation, and sector share. Regressions are weighted by the LLM working-age population in 1992; standard errors are clustered by region. *Source:* Author's elaboration.



FIGURE 10 Chinese Import Competition, 2003–2022. *Note:* Panels report 2SLS coefficient estimates for X and 95% confidence intervals for these estimates. The dependent variable is the level in the specified outcome between 1996 and the year indicated on the horizontal axis; the trade shock is the LLM exposure, as defined in (1) and instrumented by (3). Control variables include pre-period LLM employment composition, labor force participation, and sector share. Regressions are weighted by the LLM working-age population in 1992; standard errors are clustered by region. *Source:* Author's elaboration.

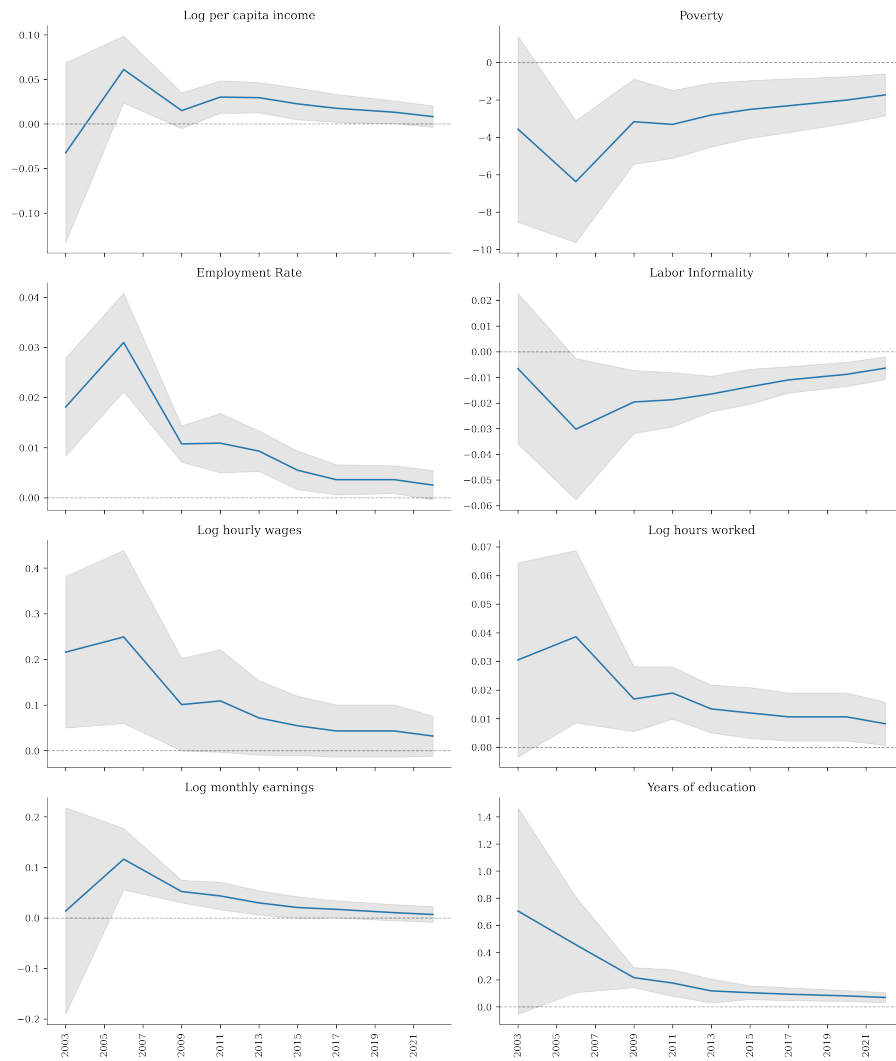


FIGURE 11 Chinese Demand for Exports - Rural, 2003–2022. *Note:* Panels report 2SLS coefficient estimates for X and 95% confidence intervals for these estimates. The dependent variable is the level in the specified outcome between 1996 and the year indicated on the horizontal axis; the trade shock is the LLM exposure, as defined in (1) and instrumented by (3). Control variables include pre-period LLM employment composition, labor force participation, and sector share. Regressions are weighted by the LLM working-age population in 1992; standard errors are clustered by region. *Source:* Author's elaboration.



FIGURE 12 Chinese Demand for Exports - Urban, 2003–2022. *Note:* Panels report 2SLS coefficient estimates for X and 95% confidence intervals for these estimates. The dependent variable is the level in the specified outcome between 1996 and the year indicated on the horizontal axis; the trade shock is the LLM exposure, as defined in (1) and instrumented by (3). Control variables include pre-period LLM employment composition, labor force participation, and sector share. Regressions are weighted by the LLM working-age population in 1992; standard errors are clustered by region. *Source:* Author's elaboration.

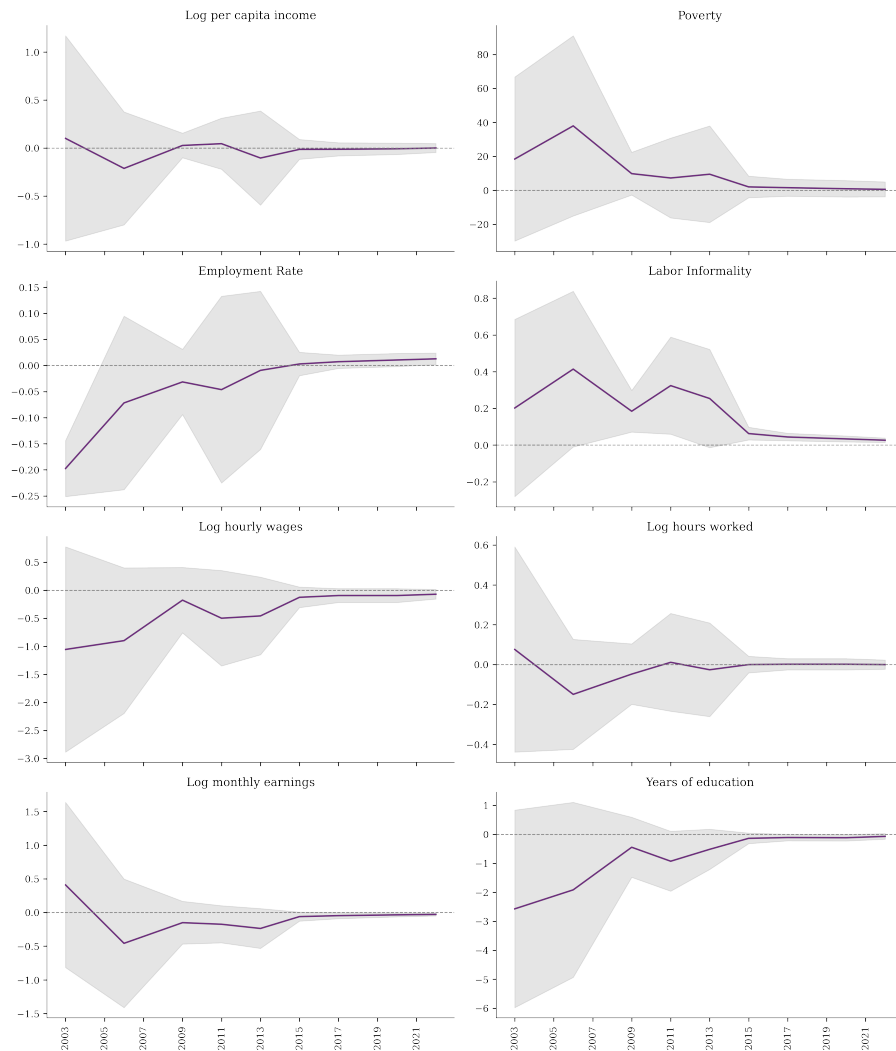


FIGURE 13 Chinese Import Competition - Rural, 2003–2022. *Note:* Panels report 2SLS coefficient estimates for X and 95% confidence intervals for these estimates. The dependent variable is the level in the specified outcome between 1996 and the year indicated on the horizontal axis; the trade shock is the LLM exposure, as defined in (1) and instrumented by (3). Control variables include pre-period LLM employment composition, labor force participation, and sector share. Regressions are weighted by the LLM working-age population in 1992; standard errors are clustered by region. *Source:* Author's elaboration.



FIGURE 14 Chinese Import Competition - Urban, 2003–2022. *Note:* Panels report 2SLS coefficient estimates for X and 95% confidence intervals for these estimates. The dependent variable is the level in the specified outcome between 1996 and the year indicated on the horizontal axis; the trade shock is the LLM exposure, as defined in (1) and instrumented by (3). Control variables include pre-period LLM employment composition, labor force participation, and sector share. Regressions are weighted by the LLM working-age population in 1992; standard errors are clustered by region.

Source: Author's elaboration.

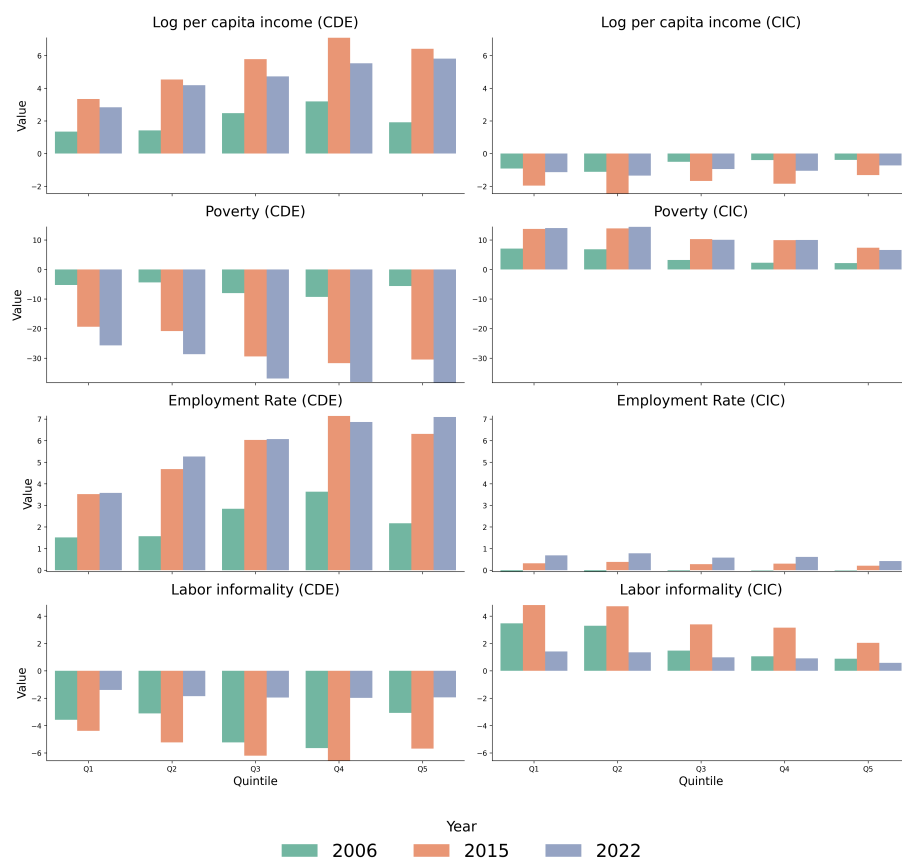


FIGURE 15 Predicted values of outcomes in rural and urban areas – Mid-term – Separate models

Source: Author's elaboration.

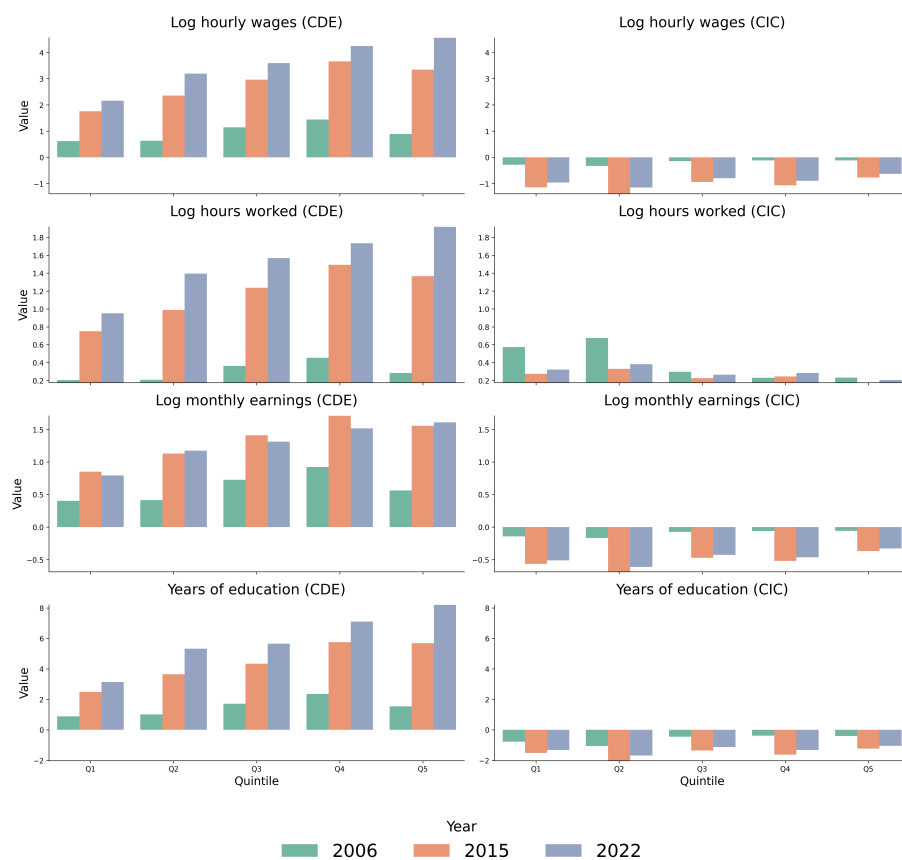


FIGURE 16 Predicted values of outcomes in rural and urban areas – Mid-term – Separate models

Source: Author's elaboration.