

E-Commerce Integration and Economic Development

Evidence from China

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BACKGROUND

E-commerce has been growing rapidly in the developing world. In China, the number of people buying and selling goods through online platforms, such as Taobao, has increased from practically zero in 2000 to more than 400 million users by 2015. Until recently, this growth has been limited to urban areas in the developing world. But, inspired by growth in cities and numerous case studies on the transformative effect of e-commerce trading on rural markets, policy makers in several countries are now targeting large investments to expand access to e-commerce outside of cities.

This paper studies the first nationwide e-commerce expansion program to provide empirical evidence on the potential of e-commerce integration to foster rural economic development. The program takes place in China and encompasses the building of warehouses for village deliveries and pick-ups, transportation subsidies and attempts at adapting e-commerce to the rural population. The objective is to connect about 100,000 Chinese villages.

METHODOLOGY

The researchers collaborated with a large Chinese e-commerce firm to design and implement a randomized control trial (RCT) across villages in eight Chinese counties.

To estimate the effects on treated versus control villages, the researchers collected detailed data on local household consumption expenditures, economic activities, and incomes both before and after the program. They also conducted a survey of local retail prices in all villages. In addition, they gained access to administrative data on all the purchases and sales made in all participating villages in five Chinese provinces over this period.

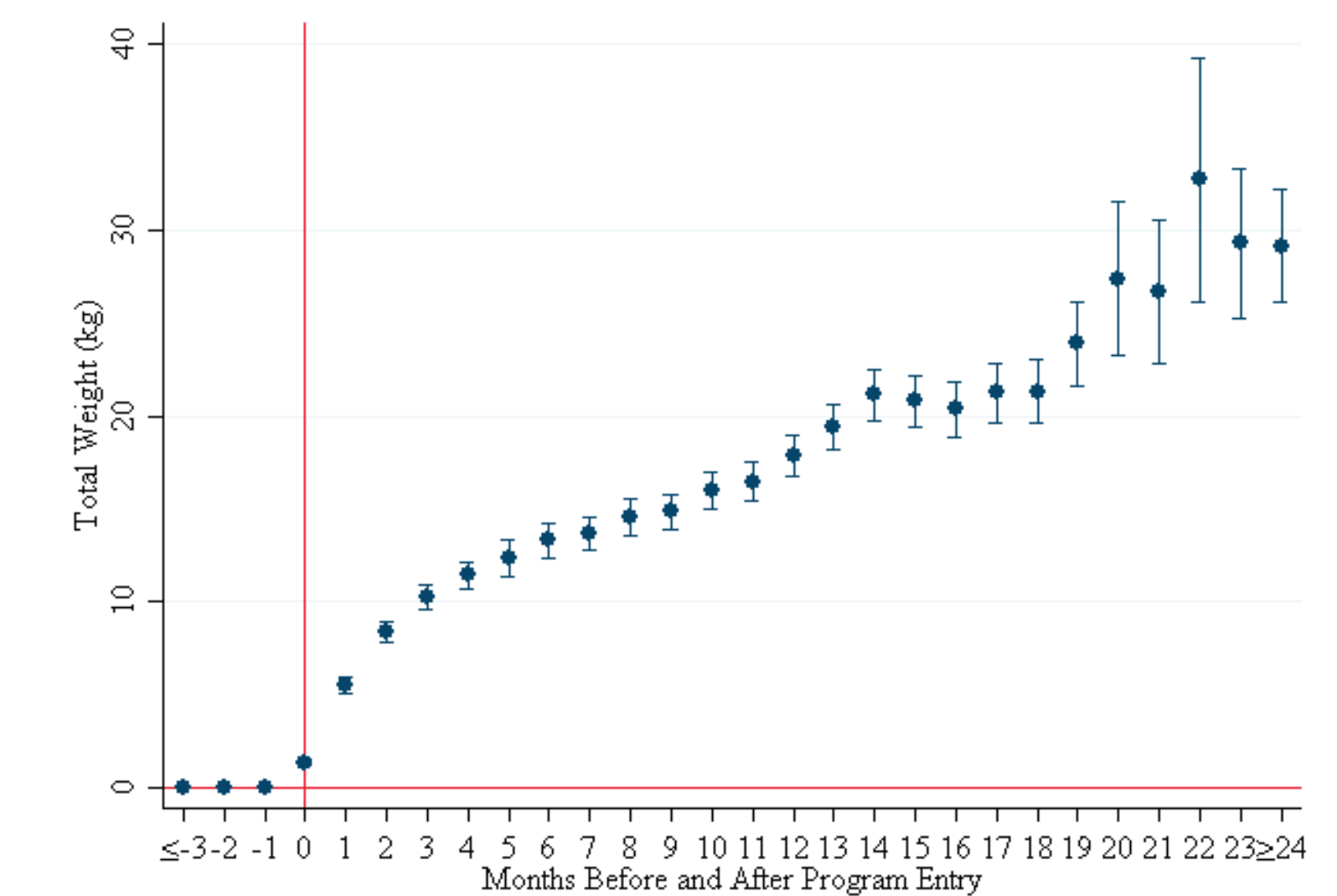
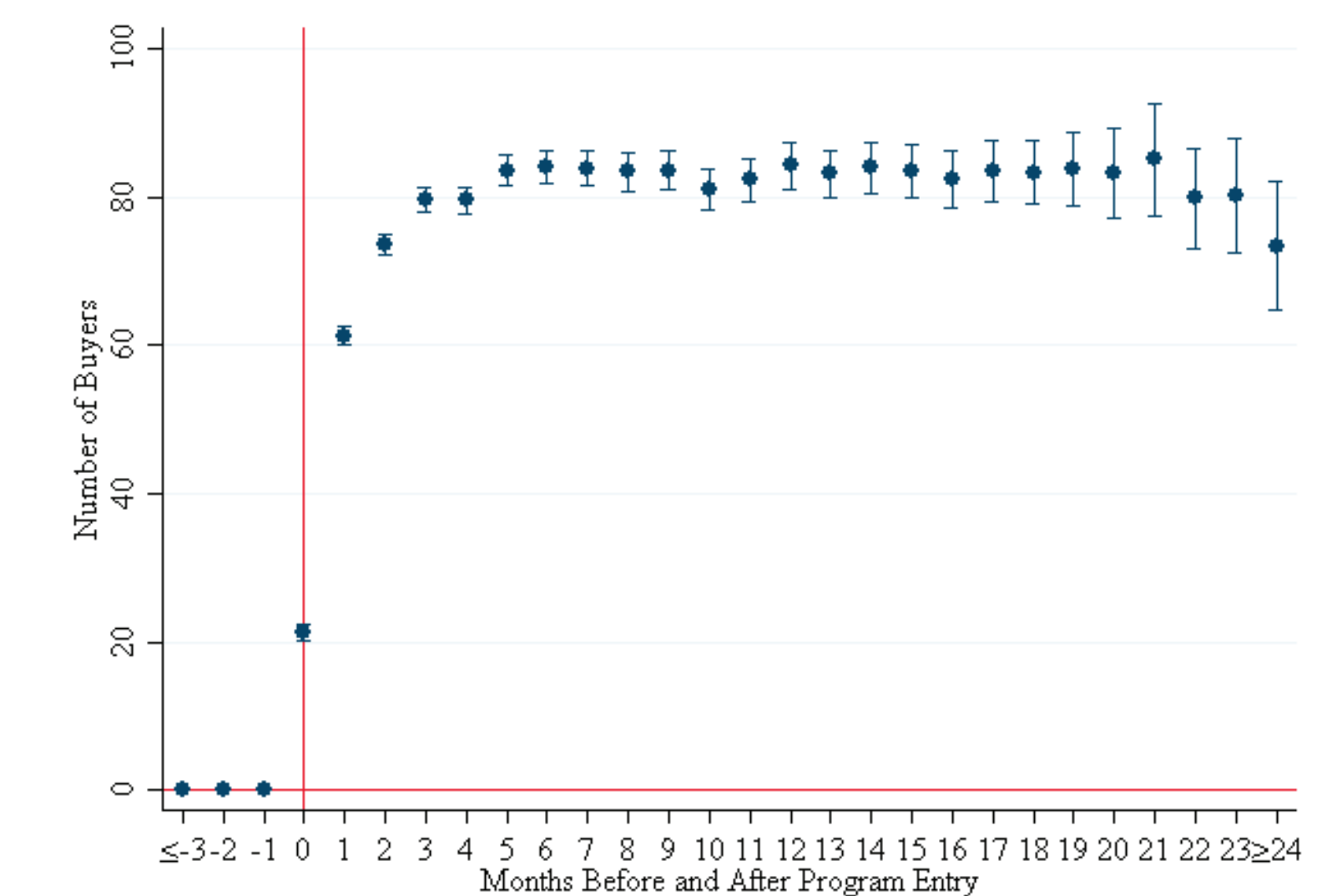
Combining these data with their theoretical framework, they then used the estimated effects of the program on outcomes such as prices, purchases, sales and household incomes to quantify the overall impact on household welfare, as well as to distinguish the channels underlying those effects and the distribution of gains across different types of households and villages.

MAIN FINDINGS

The researchers found that about 15 percent of rural households ended up using the e-commerce terminals. E-commerce users are on average younger, richer and live closer to the terminals. They benefit from an average decline in retail cost of living of more than 5 percentage points, because of lower prices, higher convenience, and more product variety.

The effects were strongest in villages that were not previously serviced by commercial parcel delivery, suggesting that the additional infrastructure and logistics—rather than adaptation of e-commerce to the rural population—were the most important aspect of the program.

Yet contrary to the government's goal of increasing rural entrepreneurship by making it easier for villagers to sell their goods or start new businesses, they found that the e-commerce program had a negligible impact on rural production, entrepreneurship, and household incomes.



Notes: The figure shows point estimates from a regression of depicted outcomes on months since program entry and village and month fixed effects. Outcomes are the number of buyers (left), and the total weight of out-shipments through e-commerce in kilograms per village terminal (right). The data are from the e-commerce firm's internal database and contain the universe of village purchase transactions from November 2015 to April 2017 in the five provinces of Anhui, Guangxi, Guizhou, Henan, and Yunnan (roughly 11,900 villages in total). The last point estimate of each plot pools months 24 to 28. The figure shows 95 percent confidence intervals based on standard errors that are clustered at the level of village terminals.

