When Tenants Get Their Own Land: The Effect of Land Reform on Agricultural Output in Taiwan in 1953

Abstract

**Introduction**

Literature has pointed out the important role of land reform in economic development, especially, in the development of East Asian economies. Studwell (2013) argues, by comparing the successes in Northeast Asia economies (postwar Japan, Korea, and Taiwan) and the laggards in Southeast Asia (Indonesia, Malaysia, the Philippines, and Thailand), that land reform is the key for sustainable economic growth. He argues that land reform incentivized small farmers, raised agricultural production and savings, and hence provided an initial productive surplus for future industrial development in those Northeast Asia economies. Boyce et al. (2005) argue that land reform brough relatively egalitarian distribution of wealth and income and, by citing Rodrik’s (1995, pp. 92-93) idea, that such an egalitarian stage enabled governors to implement economic growth policy more effectively without compromising to interest groups.

Many researchers have studied the effects of land reforms in different economies. For instance, Dore (1966) studies the land reform in Japan; Koo (1968) studies the case in Taiwan; Lippit (1974) studies the case in China; Jeon and Kim (2000) study the case in Korea. However, few research could quantify the effect of land reform on economic outcomes such as agricultural production. The main difficulty lies in isolating the effects of the land reform from the effects from other concurrent policies. Nonetheless, more and more recent studies have tried to deal with such a problem by resorting to micro-level data. First type of literature utilizes the detailed measurement of input and output from household survey data. For instance, Adamopoulos and Restuccia (2020) use farm-level data in the Philippines to calibrate a model that can quantitatively isolate the impact of the reform on aggregate productivity. Second type of literature utilizes the variation in implementation of land reform across districts within an economy. For instance, Banerjee et al. (2002) use village-level data to identify the effect of the land reform in the Indian state of West Bengal on the agricultural productivity by utilizing the variation of program intensity across different villages. This paper follows the second type of literature and uses a continuous difference-in-differences method to identify the effect of the land reform in Taiwan in 1953 on agricultural output by utilizing the different implementation levels of land reform in different districts in Taiwan.

It is worth noting that while Banerjee et al. find a positive effect of land reform on agricultural productivity, Adamopoulos and Restuccia find a negative one. Whether land reform could truly raise agricultural productivity remains inconclusive and may depend on contexts of different economies. Hence, this paper would like to study the land reform in Taiwan, a usually mentioned successful example graduating from developing economies to advanced economies. We want to ask whether the land reform really boosted agricultural production as mentioned by Studwell, and, if so, by how much.

Some empirical work has also tried to use micro-level date to estimate the effects of land reform in Taiwan on agricultural output. Yeh (2012) uses a differences-in-difference approach to estimate the effect of the first phase of land reform in 1949 on agricultural production efficiency by comparing the self-cultivated farms and tenanted farms before and after 1949. This paper differs from Yeh’s in two main points. First, Yeh estimates the effect of first phase of land reform in 1949, whose main goal was to reduce the rent burden on tenants, while this paper studies the effect of the third phase of land reform in 1953, whose main goal was to transferring land ownership from landowners to tenants. Second, Yeh uses the farm-level data in 1925-1927 and 1950-1951, whose time gap is large, while I use district-level data in 1950-1956. Although it might ignore the long-term effect, the focus on the time points close to the land reform in 1953 may allow me to exclude the influence of some potential factors. Duan (2015) uses fixed effect model with district-level panel data from 1950s to 1960s to estimate the effect of land redistribution on rice productivity and real capital accumulation by utilizing the variation in percentage of owner-cultivator among all farmers in different districts. However, even after controlling the regional fixed effect, the model may still suffer severely from the omitted variable bias since agriculture in Taiwan was under a significant change in the period. Also, the change in percentage of owner-cultivator in each region can hardly be exogenous. On the contrary, this paper uses only the sharp effect of land reform in 1953 and only data in a short period from 1950 to 1956 to minimize the endogenous problem. In addition, the paper tries to analyze the production of other crops to give a more comprehensive picture of how the land reform in 1953 affected the agricultural output in Taiwan.

**History Background & Introduction of Land Reform in Taiwan**

Since 1947, the government in Taiwan had implemented a series of policies to improve tenants’ economic condition. The most important

land reform can be divided into three phases: reduction of tenanted farm rent to 37.5%, sale of public land, and land-to-the-tiller program. During the first phase, the government set a legal maximum percentage of farm rent, which was formally implemented in 1949. In 1951, the government stared to sell the public arable land while restricting the amount of area each household could buy. Finally, in 1953, the government forced landlords with more than 3 hectares of arable land to sell the excess area of land to the government so that the government can resell the land to those tenants without land or those with little area of land (Tang, 1954). This paper focuses on the effect of the third phase of the land reform, through which the government made the tenants own their own land. While the second phase of the land reform should have the same effect of transforming the tenants to owner-cultivators, the magnitude of the arable area affected was small (JCRR Annual Reports on Land Reform in the Republic of China, 1964). Before 1950, around 40% of agricultural population were tenants while the figure dropped to 21% in 1953 (Taiwan Agricultural Yearbook, 1956).

The land reform was closely related to the political condition in the late 1940s to 1950s in mainland China and Taiwan. After World War II, Japanese government retroceded Taiwan to Chinese government in 1945. In the meantime, the second phase of Chinese Civil War fought between the Nationalist government of the Republic of China (ROC) and Chinese Communist Party (CCP) continued until the Nationalist government retreated to Taiwan in 1949. As mentioned by Chu (2015), the land reform in Taiwan may also serve the purpose of reducing the number of tenants to prevent CCP mobilizing peasant revolt in Taiwan and the purpose of gaining the leading position of China’s modernization. In this historical context, the timing of the land reform may be treated as exogenous to the development of agricultural development in Taiwan.

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The rapid economic transformation of economies in East Asian between 1960 and 1990 and China in the subsequent years have attracted many researchers’ attention. Many debates focus on the role of public policy in such a transformation, such as export-oriented trade policy and macroeconomy policy. However, only limited discussions have paid attention to the role of agricultural policy even though agriculture was the major activity of a large portion of the economies’ population. World Bank (1993) points out some characteristics in the HAPEs (high performing Asian economies) in the high growth period are high investment in agriculture and rural infrastructure and limited taxation of agriculture. Asian Development Bank (1997) mentions the strong agricultural production has built foundation for subsequent industrial development by serving functions of reducing poverty, stabilizing prices, and encouraging investment in education and non-agricultural economy. Joe Studwell (2013) argues that successful agricultural policy is the key factor of the rapid growth of Asian economies by comparing the development of Northeast Asia economies (postwar Japan followed by Korea and Taiwan) and Southeast Asia (Indonesia, Malaysia, the Philippines, and Thailand). Kay (2002) explores the agriculture’s contribution to industrialization by comparing East Asian countries (Korea and Taiwan) and Latin American countries. Among all the agricultural policies, land reform may be the most important one. By transforming the land ownership from wealthy landowners to poor farmers, the policy incentivized those farmers, raised agricultural production and savings, and hence provided an initial productive surplus for future industrial development (Studwell, 2013). Also, as Boyce et al. (2005) suggests, the relatively egalitarian distribution of wealth and income resulted from land reforms was probably the most important factor to East Asia’s economic miracle.

On the other hand, land reform itself has become prominent in the literature of agricultural economics and development economics since 1950s (Barlowe, 1953; De Janvry, 1981; Lipton, 2009; King, 2019). Researchers have investigated the economic effect of land reforms in different countries (Lippit, 2018; Jeon and Kim, 2000; Koo, 1968; Kawagoe, 1999). However, most past studies estimate the effects of land reform in East Asia based on country-level time series data, making their estimation vulnerable to omitted variable bias. On the contrary, some studies in other countries have utilized cross-region variation within a country to identify the effect of land reform (Besley and Burgess, 2000; Ghatak and Roy, 2007; Banerjee et al., 2002; Mendola and Simtowe, 2014; Adamopoulos and Restuccia, 2020). Following a similar pattern, this paper uses a continuous difference-in-differences method to identify the effect of the land reform in 1953 on agricultural output in Taiwan, utilizing different regions’ different amounts of tenant-cultivated area reduced by the land reform in 1953.

Some past studies have also used other kinds of data than country-level data to estimate the effect of land reform in Taiwan. Yeh (2012) uses a difference-in-difference approach to estimate the first phase of land reform in Taiwan in 1949 with the farm-level data in 1925-1927 and 1950-1951 and finds no efficiency improvement in 1950-1951 from 1925-1927. This paper differs from Yeh’s in two main points. First, Yeh estimates the effect of land reform in 1949, whose main goal was to reduce the rent burden on tenants, while this paper studies the effect of land reform in 1953, whose main goal was to transferring land ownership from wealthy landowners to poor tenants. Second, the interval between the two periods of comparison by Yeh may be too long for the two periods to be comparable. This paper’s main result only compares the data from 1952 and the data from a year between 1953 to 1956 to exclude the influence of other potential factors. Duan (2015) uses fixed effect model with panel data from 1950s to 1960s to estimate the effect of land redistribution on rice productivity and real capital accumulation by utilizing the variation of each region’s percentage of owner-cultivator in each year. However, even after controlling the regional fixed effect, the model may still suffer severely from the omitted variable bias since agriculture in Taiwan was under a significant change in the period. Also, the change in percentage of owner-cultivator in each region can hardly be exogenous. This paper uses only the sharp effect of land reform in 1953 and only data in a short period between 1952 to 1956 to minimize the endogenous problem. In addition, the paper does not only focus on the production of rice but also other crops to give a more comprehensive picture of how the land reform in 1953 affected the agricultural output in Taiwan.

Data & Methods

Results

Extension and Conclusion

, by referring to Rodrik (1995, pp. 91-93)

Reference

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