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# Paradise gained and lost: shared prosperity in East Asian welfare production regimes

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## Abstract

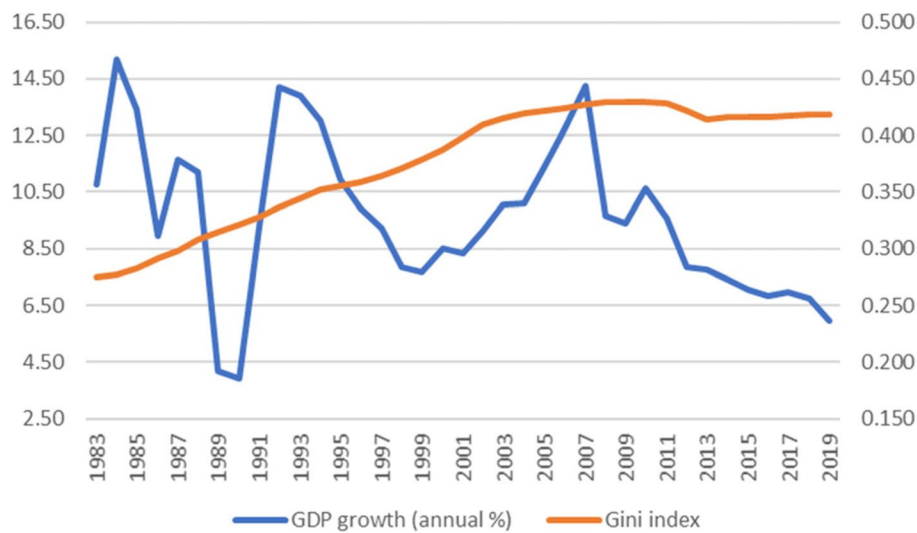
This paper expands the research on how shared prosperity is achieved in East Asian countries (regions). Based on welfare production regime theory, this paper advances a theoretical framework to link economic growth to income distribution. The main argument is that the match between the skills developed by social protection systems and the needs of product market strategies is key to economic progress. The skills and the social protection systems could also influence income allocation through distribution and redistribution. The net effect of the two channels determines the result of income equality. A longitudinal exploration of Japan, Taiwan and Korea in the export-led growth period (1961–1979) and the knowledge economy period (1980–1996) supports the argument. A policy implication of the argument is that China could strategically adjust its welfare production regime to achieve shared prosperity.

**Keywords:** Welfare production regime, Shared prosperity, Economic growth, Income distribution

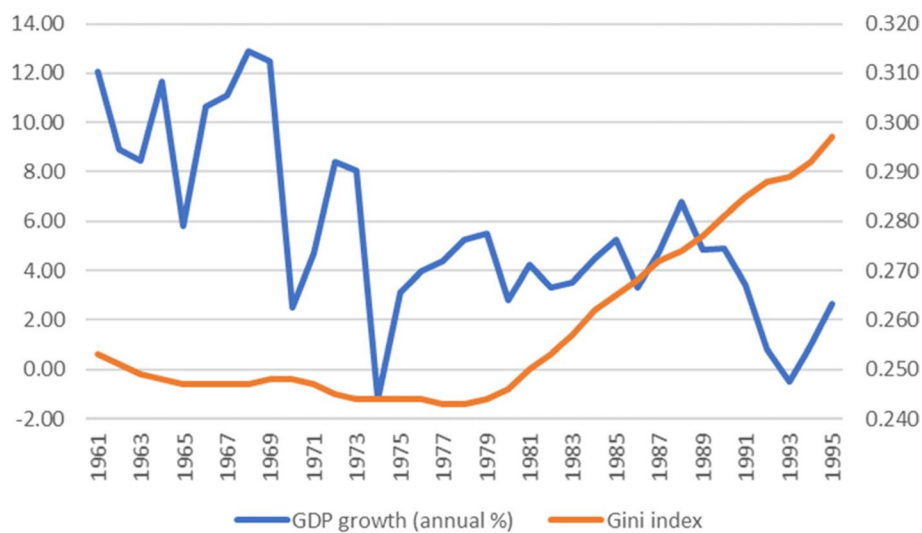
## Introduction

The rapid economic growth of the past 40 years has brought both opportunities and challenges to China.<sup>1</sup> On the one hand, development has enabled China to eradicate extreme poverty and build a moderately prosperous society in all respects. On the other hand, income disparities have continued to widen (Fig. 1). As the factor-driven dividend decays, China also faces an economic slowdown in its economic transition. Under such circumstances, and with the objective of achieving happiness for all Chinese people, China has made shared prosperity an important strategic goal. Shared prosperity conveys a message that people's well-being must be improved through development and that people deserve equal access to development. As President Xi has pointed out, achieving shared prosperity requires the training of skilled personnel and institutional arrangements made for the distribution, redistribution and tertiary distribution (Xi 2022). Since China is still on its road to shared prosperity, the effectiveness of these initiatives has yet to be tested in practice. However, it is surprising to see that some East Asian countries (regions) have once achieved shared prosperity without having made it an explicit goal (Japan and Taiwan are two examples; see Figs. 2 and 3). These East Asian countries

<sup>1</sup> 'China' mentioned in this paper refers to mainland China, 'Taiwan' refers to Taiwan, China.



**Fig. 1** Trends of economic growth and income inequality in China, 1983–2019. Sources: GDP growth (annual %): World Bank Open Data; Gini index: The Standardized World Income Inequality Database

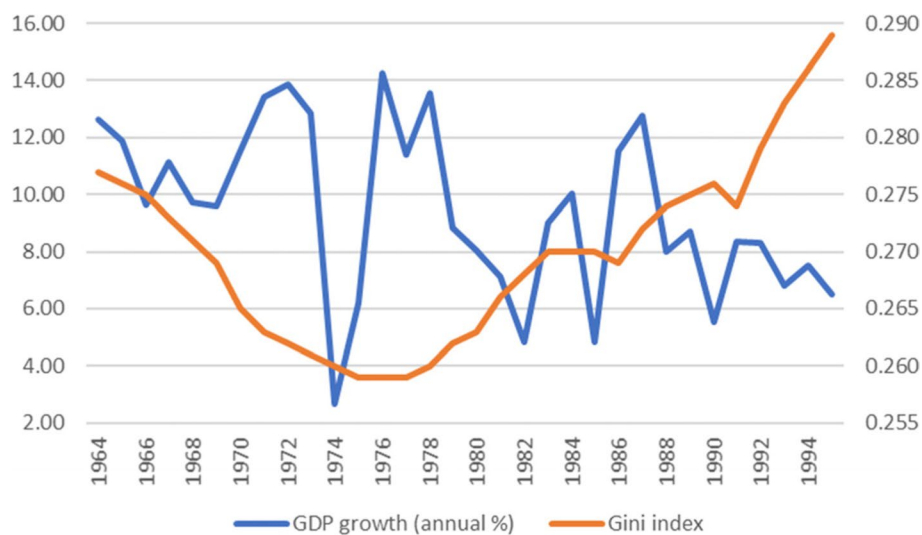


**Fig. 2** Trends of economic growth and income inequality in Japan, 1961–1995. Sources: GDP growth (annual %): World Bank Open Data; Gini index: The Standardized World Income Inequality Database

(regions) are similar to China in their political traditions, cultural practices and development history. Therefore, exploring how these countries (regions) did or did not realize shared prosperity may provide some insights for China.

The issue of shared prosperity in East Asian countries (regions) has raised concerns among some political economists. However, most of the studies have separately explored the two dimensions of shared prosperity,<sup>2</sup> which makes the emergence of shared

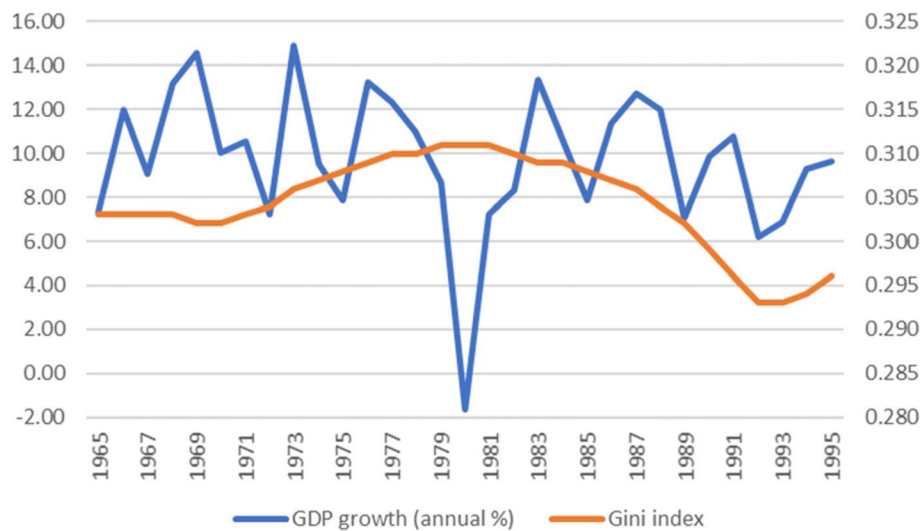
<sup>2</sup> Political economists attribute the economic miracle in East Asian countries (regions) to government-led industrial policies (Rhee 2004; Choi 2020), maladies of political institutions (Wedeman 1997; Popa 2021), the structural transformation of society (Grinberg 2014), etc. Some explanations of income distribution in East Asian countries (regions) include government-led industrial policies (Koo 1984; Shin et al. 2012), redistribution policies/politics (Yamamoto 2012; Yang and Greaney 2017), etc.



**Fig. 3** Trends of economic growth and income inequality in Taiwan, 1964–1995. Sources: GDP growth (annual %): CEIC; Gini index: The Standardized World Income Inequality Database

prosperity difficult to understand. The introduction of shared prosperity urges the adoption of a theoretical perspective that reconciles growth and distribution. Welfare production regime theory is a recent attempt to do this. This theory connects growth and distribution through the concept of ‘skill formation’ (Meng 2021). However, the theory appears incompatible with explanations of the shared prosperity in East Asian countries (regions). The incompatibility is reflected in two ways: since the theory originated in Western countries, it emphasizes the role of the government in skill formation but omits firms and families. However, in East Asian countries (regions), firms and families bear the majority of welfare responsibility, while the government has often been absent (Kwon 2005; Dore 2013; Hong and Kim 2005; Jacobs 2000; Rose and Shiratori 1986). In addition, welfare production regime theory focuses only on the impact of distribution on income allocation. In East Asian countries (regions), where occupational welfare and family welfare are more appreciated than in Western countries (regions), redistribution has been significant in reducing the income gap (Jung 2007; Kobayashi 2014).

This paper improves the understanding of how shared prosperity is realized in East Asian countries (regions) by presenting an expanded theoretical framework based on welfare production regime theory. To make this theory suitable for East Asian studies, this paper adds occupational and family welfare to the social protection systems that had originally been limited to social welfare. In addition to distribution, this paper considers the impact of redistribution on income allocation. The paper argues that the social protection system, consisting of occupational, family and social welfare, determines the formation of particular skills. When the skills fostered by social protection systems are matched with the product market strategies of enterprises, rapid economic growth can be achieved. When the two do not match, economic growth may slow. In addition, the skills developed in the economy could affect income allocation through distribution channels. The income allocation could also be influenced



**Fig. 4** Trends of economic growth and income inequality in Korea, 1965–1995. Sources: GDP growth (annual %): World Bank Open Data; Gini index: The Standardized World Income Inequality Database

by the social protection system through redistribution channels. The result of income allocation relies on the net effect of these two channels.

A case-oriented exploration of the argument will be conducted longitudinally in Japan, Taiwan, and South Korea (hereafter Korea). Both Japan and Taiwan share the experience of having acquired shared prosperity and then losing it (Figs. 2 and 3). Korea obtained only high-speed economic growth or fair income distribution during one particular period (Fig. 4). This paper chooses these three cases because they not only help to illustrate the need to expand welfare production regime theory, but they also offer some practical lessons for China's promotion of shared prosperity.

The remainder of the paper is structured as follows. The second section provides a detailed account of the paper's theoretical framework. The third section uses three cases to demonstrate the relationship between the welfare production regime, economic growth and income distribution. The last section summarizes the findings of this paper and discusses the lessons that China can learn from them.

### Theoretical framework

A welfare production regime is 'the set of product market strategies, employee skill trajectories, and social, economic, and political institutions that support them' (Estevez-Abe et al. 2001, 146). Skill formation, social protection and product market strategies are the three core elements of welfare production regime theory. The discussion of this paper's theoretical framework will begin with a classification of skills.

Following Estevez-Abe et al. (2001), this paper distinguishes three types of skills: firm-specific, industry-specific and general. These skills differ greatly in portability. Firm-specific skills are the least transferable. They are only valuable in the enterprise in which they are acquired. Industry-specific skills can be recognized by all enterprises within an industry. General skills, the most mobile, can be used in any firm and

industry (148). As the transferability of skills declines, the workers who possess them are exposed to more social risks.

Social protection systems with different features tend to develop different types of skills. The social, economic and political institutions that support skill formation are known as social protection systems. This paper recognizes three types of welfare in a typical social protection system: occupational, family and social.<sup>3</sup> Occupational welfare refers to the benefits offered by companies to their employees. Family welfare involves the care and assistance provided by families to their members. Social welfare consists of those measures taken by the government to protect citizens from social risks. Social protection systems with different characteristics are apt to cultivate different types of skills. In general, a social protection system featuring strong employment protections ensures that workers can remain with the same company for a long time. In such cases, workers would be willing to acquire firm-specific skills. In a social protection system characterized by strong unemployment protections, however, workers' skilled wages remain the same within the industry whether they are employed or not. Such measures would motivate workers to acquire industry-specific skills. However, if a social protection system provides no guarantees, workers will tend to invest in the acquisition of general skills (Estevez-Abe et al. 2001, 150–152).

Specifically, occupational, family and social welfare play different roles in developing certain kinds of skills. In a social protection system, employment and unemployment protections are usually offered by occupational and social welfare, which contribute directly to the development of firm-specific or industry-specific skills. For example, companies can provide their workers with lifetime employment commitments by signing labor contracts with workers. The government can also limit the dismissal of workers by enacting relevant laws. These two measures are both examples of employment protections, which would motivate workers to acquire firm-specific skills. Similarly, companies within the same industry can gather together to volunteer to offer unemployment benefits to the workers inside the industry, or the government can provide the unemployment benefits. These two kinds of unemployment protections would encourage workers to develop industry-specific skills. In addition, occupational welfare/social welfare with no features of employment or unemployment protections, could adjust the effect that social welfare/occupational welfare characterized by strong employment protection or strong unemployment protection exert on skill formation. For example, when the government offers employment protections or unemployment protections to workers, some kinds of occupational welfare that show no features of employment protection and unemployment protection (such as performance bonuses and in-kind subsidies) could further strengthen workers' intentions to stay in the same company or the same industry. As a result, workers would be more willing to invest in acquiring firm-specific or industry-specific skills compared with situations that have no such occupational welfare. Likewise, when companies provide their workers with employment or unemployment protections, some types of social welfare with no characteristics of employment protection and unemployment protection (such as medical insurance and pension) could also

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<sup>3</sup> The discussion of 'occupational welfare', 'social welfare' and 'family welfare' cites Titmuss (2001) and Esping-Andersen (1999).

encourage the workers to be more willing to stay within the same company or the same industry compared with situations that have no such social welfare. Thus, the role of occupational welfare in promoting skill formation would be improved. However, when occupational and social welfare provide no employment protection or unemployment protection, workers are inclined to develop general skills.

Family welfare usually cannot provide employment protection or unemployment protection itself, thus failing to contribute directly to skill formation. However, family welfare could adjust the effect that occupational and social welfare exert on skill formation. For example, in some East Asian countries (regions) influenced by Confucian traditions, women are mainly responsible for family welfare, while men are freed from family care to a large extent. Since male workers do not need to spend much time looking after their family members, they can devote themselves to the acquisition of firm-specific or industry-specific skills if companies or governments provide employment or unemployment protections to lead them to develop such skills. Moreover, family welfare is supported by occupational and social welfare. The provision of family welfare depends on the income source of families. The employment and unemployment protections offered by companies or governments ensure the stability of the families' income sources. In addition, some kinds of occupational and social welfare characterized by no employment or unemployment protections (such as subsidies from companies or the government) could increase families' income. The measures mentioned above could all enhance the ability of families to offer care and assistance to their members.

Apart from social protection systems, different product market strategies require different types of skills due to their distinct production requirements. Product market strategies are the plans that companies make to promote the sales of their products. To achieve particular goals, companies with different product market strategies often adopt different modes of production. The way companies produce products determines the skills that they need. For example, companies that regard diversified varieties and high quality of their products as a competitive advantage may turn to diversified mass production or diversified quality production strategies. Both strategies require workers to command the production of multiple products. Workers are also expected to be adept at job switching and problem solving. The former strategy is suitable for the condition that the products, production techniques and specialist equipment are highly heterogeneous among companies. The latter strategy fits the circumstance that companies within an industry often share technologies. Based on the above discussion, the diversified mass production strategy requires firm-specific skills, but the diversified quality production strategy requires industry-specific skills. Among companies that sell standardized goods, affordable prices may be their comparative advantage. A Fordist mass production strategy of standardized goods could therefore be appropriate. This strategy usually breaks down the production process into several simple standardized tasks. Each worker is responsible for performing a single task. Such specialization lowers companies' costs by reducing the skill requirements for workers. Since workers only need to command simple operations in the Fordist mass production strategy, general skills are sufficient (Estevez-Abe et al. 2001, 148–149).

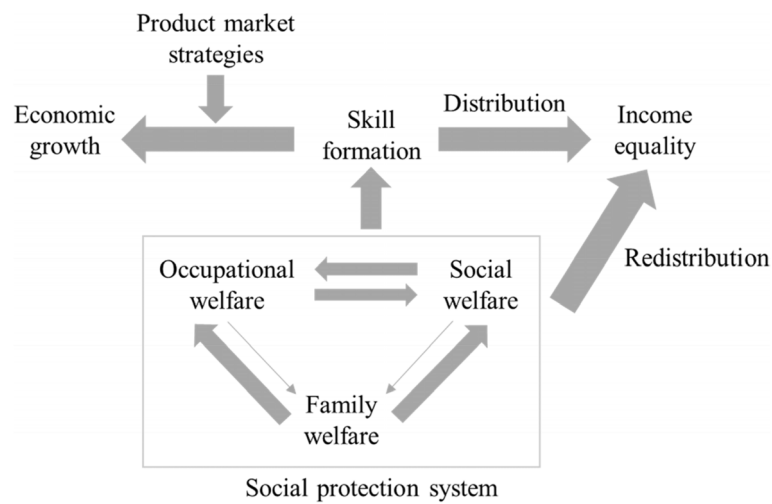
When skills fostered by social protection systems match the needs of product market strategies, economic progress could accelerate. The enterprise is the basic unit of



economic production. When the social protection system produces the type of skills that companies' product market strategies need, companies will gain comparative advantages of productivity and competitiveness in the market. The vitality of enterprises underpins rapid economic growth. Although changes in the product market strategies adopted by companies are often fast, social protection systems are slow to make adjustments. The result is that the social protection systems develop skills that the companies' product market strategies do not need, leading to companies' loss of comparative advantages in the sales market, which may result in slowed economic growth.

Thus far, the revised welfare production regime theory presented in this paper has shown its similarities with and the difference from endogenous growth theory. As endogenous growth theory points out, the accumulation of human capital is key to technological innovation. Technological progress improves production efficiency and, thus, could lead to an increase in economic growth. To boost economic development, the relevant actors (such as the government) should assume responsibility for human capital investment. The revised welfare production regime theory agrees with endogenous growth theory on the above ideas, but differs from endogenous growth theory in three ways. First, endogenous growth theory usually views public education as an effective way to strengthen investment in human capital, while the revised welfare production regime theory emphasizes that the establishment of a social protection system is beneficial for improving the accumulation of human capital. Second, endogenous growth theory regards human capital as homogenous, while the revised welfare production regime theory subdivides the types of human capital into firm-specific, industry-specific and general skills. Third, according to endogenous growth theory, the accumulation of human capital usually promotes economic development. However, this inevitability does not hold in the revised welfare production regime theory, according to which only when the kind of human capital generated by the social protection system matches the needs of companies' product market strategies would economic progress be achieved.

In addition to economic growth, the result of skill formation could also influence income allocation through wage bargaining and skill training (referred to as distribution channels). Collective wage bargaining helps to preserve the stability of income distribution among workers. Since firm-specific and industry-specific skills are less transferable than general skills, workers who invest in these two types of skills have stronger incentives to establish collective wage-bargaining systems than workers who possess general skills. The workers depend on collective wage-bargaining systems to protect their return on investment in firm-specific and industry-specific skills. One of the tasks of the systems is to conduct a joint discussion of the salary for each position. It helps to control wage disparities among workers. However, economies dominated by general skills lack the incentive to set up such systems. As a result, the income gaps are often larger there (Estevez-Abe et al. 2001, 155). For skill training, the institutionalized 'from-school-to-work' transition contributes to narrowing the income gap among workers. Both on-the-job training for firm-specific skills and vocational school training for industry-specific skills are institutionalized 'from-school-to-work' shifts. In such practices, students have equal access to the labor market. Even the least competent students can earn a decent income. Noninstitutionalized shifts (such as academic education systems for general skills), however, are connected with



**Fig. 5** The relationship between the welfare production regime, economic growth and income equality. \*The thick arrows within the social protection system represent the direct and indirect effects of occupational, social and family welfare on skill formation. The thin arrows within the social protection system represent the role of occupational welfare/social welfare in supporting family welfare. Not all the arrows within the social protection system appear in all the cases in reality

unclear career prospects. Such shifts usually weed the less capable students out of the labor market. This may widen the potential income gap between skilled and less-skilled workers. In summary, the institutionalized ‘from-school-to-work’ transition was beneficial for narrowing the income gap in the labor market (Estevez-Abe et al. 2001, 156–158).

Except for skill formation, income allocation could also be affected by social protection systems through family welfare and social welfare (referred to as redistribution channels). The income transfers within families help to narrow the income gap between workers and nonworkers. Family welfare is often reflected in the care and assistance offered by families to their members, including nonworkers. Such practices depend on the income of employed family members. In this way, income is redistributed from workers to nonworkers, which helps to prevent income disparities from increasing. Moreover, the government uses tax and social welfare to reallocate resources from the employed to the unemployed in society. The government usually collects tax revenue from the employed. Part of these revenues would be used to improve the living conditions of vulnerable groups in the form of social welfare (such as social assistance). Such redistributive measures shift income from higher- to lower-income groups (or even people outside of the workforce), which contributes to the reduction of income inequality.

It is worth noting that the distribution and redistribution mechanisms may exert the same or opposite influence on income allocation. Whether the final result of income distribution is equitable relies on the net effect of these two channels.

Figure 5 illustrates the theoretical framework presented in this paper. The social protection system, consisting of occupational, family and social welfare, determines what type of skills would be developed in an economy. If the skills fostered are matched with the product market strategies of the companies, then rapid economic



growth would be achieved. Otherwise, economic growth may slow. Income distribution is influenced by the distribution and redistribution channels, with the former driven by skill formation and the latter backed by social protection systems. The outcome of income distribution depends on the net effect of these two channels. In the following section, the theoretical framework described above will be used to explain how Japan, Taiwan and Korea did or did not achieve shared prosperity. The purpose of the discussion is not only to test the revised theoretical framework but also to strengthen the understanding of shared prosperity in East Asian countries (regions).

### **Exploring the argument: evidence from three cases**

This section applies the theoretical framework to conduct a longitudinal study of Japan, Taiwan and Korea. The experience of these three countries (regions) is divided into two periods: export-led growth (1961–1979) and the knowledge economy (1980–1996). For each period, this paper will compare the similarities and differences of these countries (regions) in terms of welfare production regimes and shared prosperity.

#### **Export-led growth period: 1961–1979**

##### ***Product market strategies***

Although Japan, Taiwan and Korea all adopted import substitution strategies in the 1950s, they chose different industries to protect based on their distinct historical situations. Japan's light industry had been growing since the late nineteenth century, and by the 1950s, it was competitive in the world market. Japan could use foreign exchange earned from exports of light industrial products (as well as US aid) to support the development of heavy domestic industries (such as cars, household appliances and electronics) (Jin 1986). However, neither Taiwan nor Korea possessed any competitive products for export at that time. This resulted in a scarcity of foreign exchange. In addition, these two regions (countries) could not produce all essential goods themselves. To solve the problem of production deficiency without adding pressure to foreign exchange shortages, Taiwan and Korea chose to build independent production capacity first instead of purchasing directly from abroad. Light industry (such as plastics, glass, textiles, and cement), which serves everyday needs, was prioritized for development (Jiang and Yang 2013; Wu 2005, 104–131). Attributed to the protection received in this period, Japan's heavy industry and Taiwan's and Korea's light industries acquired comparative advantages in exports.

However, by the end of the 1950s, the dilemma faced by Japan, Taiwan and Korea urged them to turn to export-led growth strategies. As the import substitution strategies were carried out, Japan, Taiwan and Korea all suffered from a balance of payment deficits, high inflation, local overproduction and economic stagnation. In addition, in the late 1950s, US aid, which was essential for sustaining the import substitution strategies, was cut. The problems mentioned above called for a strategic transformation in Japan, Taiwan and Korea. Considering the small local market and inadequate resources, the three countries (regions) believed that taking advantage of outside markets was critical to their future economic development. Therefore, all three countries (regions) shifted to export-led growth strategies in the 1960s (Liu and Zhou 2016; Ren 1988; Wu 2005, 132–233; Zhang 2004). Due to the divergent development paths during the import

substitution strategy phase, Japan chose heavy industry, while Taiwan and Korea chose light industry as their leading export industry.

According to the distinctive requirements of their export industries, firms in Japan, Taiwan and Korea adopted different product market strategies. In Japan, companies regard abundant variety and reliable quality as their competitive advantage in the export market of heavy industry products. To achieve a competitive advantage, they applied the diversified mass production strategy to production (Qian 1995). In Japanese companies, workers usually operated several product lines simultaneously. They were also expected to solve problems on their own (Liu 2016a). To meet these requirements, highly specialized skills were needed. Moreover, since the products, production techniques and mechanical equipment were heterogeneous among Japanese companies, such specialized skills were tied to firms, not industries. In summary, Japanese companies required firm-specific skills to conduct a diversified mass production strategy. In contrast, in Taiwan and Korea, where exports were driven by light industry, the situations were different. Unlike Japanese companies, Taiwanese and Korean firms tried to gain comparative advantages in the export market by cutting prices and expanding supply. To realize these goals, companies needed to minimize labor costs while engaging in mass production (Kuang 2013; Liu and Wang 2011). A Fordist mass production strategy of standardized goods was thus suitable. Under this strategy, workers only needed to perform a specific standardized task instead of mastering the production of diversified products. Such specialization not only facilitated mass production but also reduced skill requirements for workers. According to the discussion in [Theoretical framework](#) section, general skills were sufficient to meet demand. This kind of skill did not require the companies to provide much training or to pay a high return, satisfying companies' desire for cost savings. In conclusion, Taiwanese and Korean companies needed workers with general skills to carry out the Fordist mass production strategy.

#### ***Social protection, skill formation and economic growth***

Although Japan, Taiwan and Korea presented different kinds of social protection systems in the export-led growth period, the skills developed by these systems all met the needs of product market strategies. The match between skills and strategies helped to improve economic performance.

In Japan, firm-specific skills fostered by the social protection system met the requirements of the diversified mass production strategy, boosting economic growth. Japan's social protection system is characterized by strong employment protection and weak unemployment protection. Employment protection in Japan was led by occupational welfare. To motivate workers to invest in firm-specific skills, Japanese companies provided lifetime employment commitments, seniority-based wage systems and internal promotion to their workers (Zhao 2000). Employment protection offered by occupational welfare was supported by family and social welfare. The traditional Japanese family, influenced by Confucianism, was accustomed to having men work in the paid labor force while women performed unpaid labor at home. This mode of life freed Japanese men from family caregiving responsibilities. Thus, they could devote themselves to skill acquisition and everyday work (Peng 2002). In addition, although the Japanese government adopted a 'residual welfare' pattern, it still provided some support for occupational

welfare. For example, the government established the National Pension Plan to enhance the credibility of employment protection offered by companies (Shizume et al. 2021). The government also helped to reinforce family welfare. For instance, to improve families' caring function, the government gave subsidies to families with children (Peng 2000). However, strict unemployment protections in Japan were not found in occupational, family or social welfare. The exception is unemployment insurance introduced by the government in 1947. According to the law, unemployment benefits were available on a narrow scale, and the jobless could receive up to 30% of their preunemployment wages (Xu and Li 1998). Since workers did not obtain a reliable guarantee of maintaining the same skilled wages, they lacked the incentives to invest in industry-specific skills. In short, the social protection system motivated Japanese workers to acquire firm-specific skills. The skills matched the diversified mass production strategy that most Japanese companies adopted, contributing to the country's rapid economic growth.

In Taiwan and Korea, the social protection systems motivated workers to acquire general skills. The match between the skills and the requirements of the Fordist mass production strategy also contributed to economic progress. Unlike Japan, Taiwan's and Korea's social protection systems presented both weak employment and unemployment protections. Taiwanese and Korean workers usually compete in the external labor market, not in the internal labor market (Lee 2011; Zhao and Tan 1996). In addition, unemployment insurance systems were not introduced in Taiwan and Korea until the late 1990s (Song and Wang 2003; Zhang 2011). This means that the workers in Taiwan and Korea were neither offered a long-term commitment to work within the same company nor were their skilled wages protected within the same industry. They were, therefore, willing to invest in general skills. This kind of skill was consistent with the Fordist mass production strategy implemented by most Taiwanese and Korean firms. The match between the skills and the product market strategies helped to accelerate the economic growth of the two regions (countries).

#### ***Distribution, redistribution and income equality***

Owing to the different skills formed by social protection systems, Japan, Taiwan and Korea behaved differently in terms of distribution.

The establishment of collective wage-bargaining systems in Japan had a positive effect on income equality among workers, while the absence of such systems in Taiwan and Korea had a negative effect. To ensure a sustainable return on skill acquisition, Japanese workers who possessed firm-specific skills had the incentive to form unions. Unions enhanced their members' bargaining power against the employers. One task of unions is to engage in collective wage bargaining. In Japan, in addition to raising workers' salaries, collective wage bargaining was intended to preserve seniority-based wage systems. In such systems, the wage disparity between workers with different years of seniority was limited (Lv 2011; Morikawa 2010; Zhao and Zhao 2006), which helped to reduce income inequality. However, workers with general skills in Taiwan and Korea had fewer incentives to form unions. Moreover, to maintain political stability, the military regimes in Taiwan and Korea prohibited any self-organization, including unions (Li and Zhao 2008; Yang 2008). Therefore, the absence of collective wage bargaining failed to resolve income equality among Taiwanese and Korean workers.

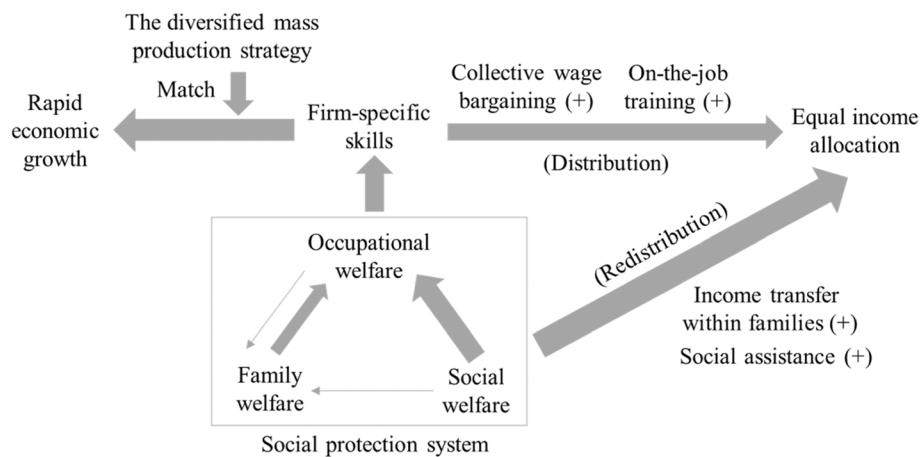
For skill training, Japan and Taiwan's institutionalized 'from-school-to-work' transformation helped reduce income disparities among workers, but the noninstitutionalized shift in Korea may have had the opposite effect. Japanese workers usually acquired firm-specific skills from the training offered by companies. Furthermore, to ensure a smooth transition from school to the workplace, companies often cooperated with vocational schools in terms of internships and recruitment (Qi and Wang 2018; Sang 2012). Based on the discussion in [Theoretical framework](#) section, this institutionalized 'from-school-to-work' transformation helped prevent the income gap from widening. In Taiwan and Korea, although both economies were dominated by general skills, they behaved differently in terms of skill training.<sup>4</sup> Taiwan's economy is based on small and medium-sized enterprises (SMEs). Since SMEs usually could not afford to provide training, Taiwan relied on its public vocational schools to train semiskilled workers. In public vocational training systems, even students who graduated at the bottom of their class could find a job as long as they acquired skill certification (Zhang 2001). This practice is close to an institutionalized 'from-school-to-work' transformation. It could therefore contribute to income equality among workers. In Korea, the economy is dominated by large companies. Unlike SMEs in Taiwan, large companies in Korea could provide training to their workers once workers were employed. However, since academic qualifications are an important recruitment criterion for Korean companies, workers prefer to complete their academic education before entering the labor market (Wang 2017). Nevertheless, academic education systems did not guarantee a job to every graduate, who often competed for jobs; in such a competitive labor market, only the most capable individuals stood out. Such a noninstitutionalized shift may have widened the income gap among workers.

Although Japan, Taiwan and Korea behaved differently in terms of distribution, they presented similar performances in redistribution due to the similar conditions of family welfare and social assistance.<sup>5</sup> For family welfare, the influence of Confucianism helped reinforce income equality between workers and nonworkers. In these three countries (regions), people preferred to live with their extended families. In such families, men were the sole source of income, and women relied on men's salaries to take care of the family members (Liu 2016b; Peng 2002; Yan 1997). In other words, family welfare was supported by occupational welfare. The transfer of income from workers to nonworkers within families helped close the income gap between them. Moreover, social assistance provided by the government also helped to reduce income disparities between the employed and the unemployed. Although all three countries (regions) prioritized economic development over social security, the governments offered social assistance to nonworkers without families. Governments used tax revenue collected from workers to provide nonworkers with relief services (Han et al. 2011; Liu 2014; Peng 2000; Shizume et al. 2021; Sun 2011). Such a redistribution shifted resources from the employed to the unemployed, which helped to narrow the income gap.

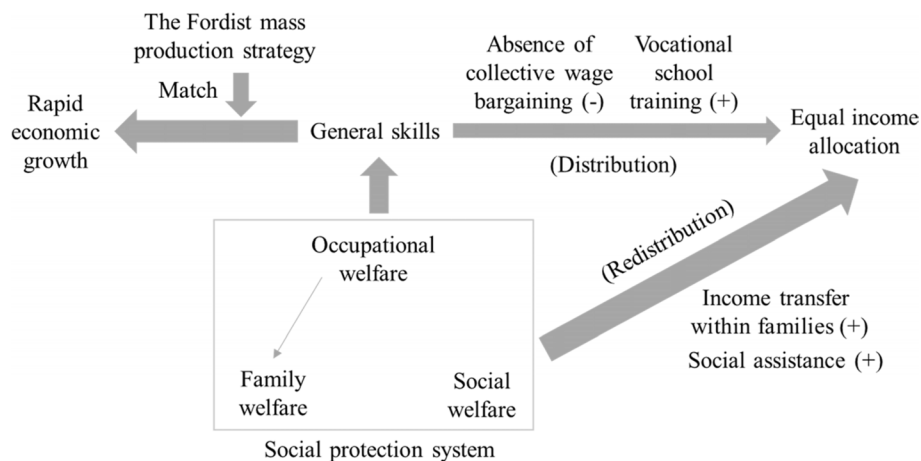
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<sup>4</sup> General skills usually do not require advanced training like firm-specific and industry-specific skills do, but workers still need some training.

<sup>5</sup> There are many kinds of social welfare with redistributive functions in a country's (region's) social protection system. This paper focuses on social welfare which could influence the income disparity between workers and nonworkers. Social assistance is a typical example.



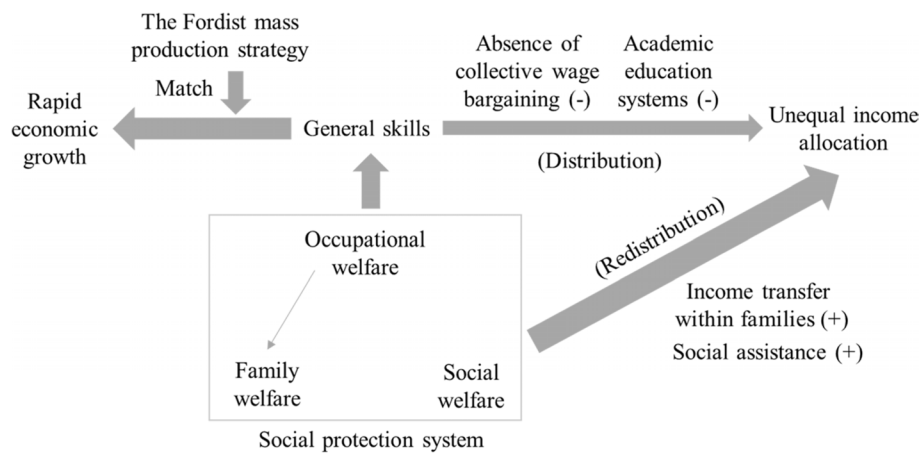
**Fig. 6** Welfare production regime, economic growth and income equality in Japan during the export-led growth period. \*The thick arrows within the social protection system represent the direct and indirect effects of occupational, social and family welfare on skill formation. The thin arrows within the social protection system represent the role of occupational welfare/social welfare in supporting family welfare. \*'+-' represents the positive effect on income equality, while '--' represents the negative effect on income equality



**Fig. 7** Welfare production regime, economic growth and income equality in Taiwan during the export-led growth period (In the figures presented in this paper, the arrows between occupational, family and social welfare only represent their relationship in terms of employment protection or unemployment protection. The absence of arrows in the figures does not imply that these three kinds of welfare are unconnected.). \*The thick arrows within the social protection system represent the direct and indirect effects of occupational, social and family welfare on skill formation. The thin arrows within the social protection system represent the role of occupational welfare/social welfare in supporting family welfare. \*'+-' represents the positive effect on income equality, while '--' represents the negative effect on income equality

With different combinations of distribution and redistribution policies, Japan, Taiwan and Korea obtained different results in income allocation. Japan and Taiwan presented equal income allocation, while Korea's income inequality rose.

In conclusion, affected by all of the mechanisms mentioned above, Japan and Taiwan achieved shared prosperity in the stage of export-led growth (Figs. 6 and 7), while Korea failed to do so (Fig. 8). Korea acquired rapid economic growth, but its income inequality worsened.



**Fig. 8** Welfare production regime, economic growth and income equality in Korea during the export-led growth period. \*The thick arrows within the social protection system represent the direct and indirect effects of occupational, social and family welfare on skill formation. The thin arrows within the social protection system represent the role of occupational welfare/social welfare in supporting family welfare. \*‘+’ represents the positive effect on income equality, while ‘-’ represents the negative effect on income equality

**Knowledge economy period: 1980–1996**

**Product market strategies**

Since the 1980s, changes in the domestic and international environment have prompted companies from Japan, Taiwan and Korea to resort to new product market strategies. During this period, rising labor costs and the appreciation of currency reduced Japan’s, Taiwan’s and Korea’s comparative advantages in the export market relative to other developing countries (regions). Moreover, as protectionism rose internationally, it became more difficult for them to introduce technologies from abroad to make use of the latecomer’s advantages than before (Liu 2000, 2005; Yan 2002). With rapid development in the export-led growth period, the difference between the three countries (regions) and other developed countries (regions) was diminished. This means that the latecomer’s advantages on which Japan, Taiwan and Korea had once depended were less of a factor. With the chase of the less developing countries (regions) and the interception of the more developed countries (regions), companies in these three countries (regions) were eager to transform their product market strategies.

The knowledge economy that emerged in the 1980s guided companies in Japan, Taiwan and Korea to adopt product market strategies characterized by radical innovation. Such strategies demanded more advanced general skills than those developed in Taiwan and Korea during the export-led growth period. In the 1980s, the knowledge economy began acquiring dominant status in international competition, when marginal improvements to products were no longer enough to help companies to sustain their competitive advantage in the export market. Radical innovation replaced incremental innovation as the source of companies’ competitiveness. In this context, Japanese, Taiwanese and Korean firms tried to transform their product market strategies into radical innovation, increasing input in the research and development (R&D) of independent technologies (He 2000; Huang 1997; Li 2000; Song 1998). Since radical



innovation is usually born from the integration of multidisciplinary knowledge and cross-industry experience, workers with skills tied to a particular firm or industry may hinder such innovation. Instead, general skills were suitable for radical innovation (Estevez-Abe et al. 2001, 145–183; Etzerodt 2021). Although these skills were similar to the general skills required by the Fordist mass production strategy in terms of portability, they were inherently different. The general skills required by radical innovation required that workers apply their creative thinking to production, while the general skills needed by the Fordist mass production strategy only required workers to perform simple operations repeatedly. Therefore, the general skills required in the era of the knowledge economy were more advanced than those developed by Taiwanese and Korean workers during the previous export-led growth period.

### ***Social protection, skill formation and economic growth***

Although companies in Japan, Taiwan and Korea all wished to apply radical innovation to their product market strategies, their social protection systems failed to meet the needs of the strategies. The skills fostered by the social protection systems were incompatible with the requirements of radical innovation, hindering economic development in these three countries (regions).

In Japan, the slow adjustment of the social protection system led to the failure to instill the general skills that radical innovation called for. This mismatch was detrimental to economic growth. Under the pressure of transformation, Japanese companies tried to reduce employment protection. Because of resistance from groups with vested interests (such as unions), the changes were limited. For example, in an effort to maintain lifelong employment, Japanese companies chose to restrict recruitment and hire informal workers instead. Moreover, although ability and performance were introduced in the evaluation system, seniority remained the critical determinant of promotion (Chen 1998; Lee 2016). These attempts did not alter the reality of strong employment protections in terms of occupational welfare. However, Japan's family welfare and social welfare which used to support occupational welfare, declined. With women's increased participation in the labor force and the shrinkage of family size, the Japanese family's caring function was weakened. In addition, the aging of the population exacerbated the burden of family care (Ma 2017). The reduction in caring capacity conflicted with increased responsibilities. This contradiction made it impossible for family welfare to support occupational welfare. Regarding social welfare, because of the financial crisis, the Japanese government reduced its support for occupational welfare by decreasing the average benefits of employment insurance (Huang 2010). At the same time, the introduction of 'the Japanese-type welfare society' called for a return of welfare responsibility to individuals, families and society. Thus, the government implemented subsidies and tax reductions to enhance family welfare (Lou and Wang 2016). Although support from family welfare and social welfare decreased, the social protection system still presented strong employment protection (Table 1).<sup>6</sup> In addition to employment protection, unemployment protection remained almost the same in Japan. Japan replaced unemployment insurance

<sup>6</sup> As Table 1 depicts, although Japan's strictness index of employment protection is lower than the average of OECD countries, it is still much higher than countries dominated by general skills, such as the United States.

**Table 1** Strictness of employment protection in some OECD countries in 1995

	Regular contracts	Temporary contracts
Japan	1.70	1.69
Korea	3.08	3.13
United States	0.09	0.25
United Kingdom	1.35	0.25
Sweden	2.64	1.77
Germany	2.60	3.13
Average	2.26	2.05

Sources: Organization for Economic Co-operation and Development (OECD) Database

The regular contracts include individual and collective dismissals

The average value is calculated on the data of 28 OECD countries that the database has records for in 1995

with employment insurance in 1974 but was unable to sustain the skilled wages of workers (Chen 2017), thus failing to cultivate industry-specific skills. In summary, Japan's social protection system was characterized by strong employment protections and weak unemployment protections. Thus, firm-specific skills were the dominant skills developed by such a system. However, since employment protections had relaxed, this social protection system also generated some general skills. The discrepancy between skills and the need for radical innovation led to the slowdown of economic growth.

Although Taiwan's social protection system preserved weak employment and weak unemployment protections, it failed to cultivate the general skills needed for radical innovation. As a result, Taiwan's economic growth slowed. In the knowledge economy period, Taiwan's workers were still not offered guarantees to stay with a particular company or industry (Wang 2000); thus, they competed with all other workers in the labor market. Such a social protection system seemed conducive to developing the general skills that radical innovation needed. However, the expectation was not fulfilled. Due to the small number and high mobility of employees, SMEs in Taiwan lacked the resources and willingness to invest in R&D and training workers. Since these tasks were essential to the transformation of product market strategies, the government bore the responsibility. In its scientific and technological innovation planning, the government emphasized the low-end links of the production chain (such as production techniques) instead of the development of key technologies. The lack of input and the ignorance of the importance of fostering talent for advanced technology rendered the advanced general skills required by radical innovation insufficient in Taiwan (Li 2012). Although Taiwan's social protection system helped foster general skills, they were low-end and incompatible with the needs of the product market strategies, hindering Taiwan's economic progress.

In Korea, the strengthening of employment protections made the social protection system fail to cultivate the skills needed for radical innovation. As a result, economic growth slowed. Although Korea's social protection system offered no unemployment protection (Zhang 2011), it enhanced employment protection. In the mid-1980s, democratization created conditions for the formation of labor movements. In these movements, workers fought for more guarantees to protect themselves from social risk. To mitigate conflicts and sustain social stability, the government guided companies to establish internal labor markets. The dismissal of workers was then strictly limited by

law, and companies established seniority-based wage systems (Cheng 2015; Fang 2005; Wu 2011). Like Japan's, Korea's employment protection was led by occupational welfare. Korea's family welfare was also affected by the growing number of professional women, the decreasing number of extended families and the aging of the population (Jin and Du 2020; Shen 2016). Thus, the supporting role of Korea's family welfare was undermined. However, Korea's social welfare was promoted by democratization. To respond to the appeal of the people, the government compensated for the lack of support for occupational welfare during the export-led growth period by offering pensions, medical insurance and employment insurance to ensure the stability of employment protections offered by companies. It also reduced the tax burden on families with elderly members to enhance families' caring functions (Li 1998). In short, although support from family welfare declined, the social protection system in Korea still offered growing employment protections (Table 1)<sup>7</sup> and weak unemployment protections. Such a system tended to foster a mix of firm-specific and general skills. However, these skills were incompatible with product market strategies that featured radical innovation, exerting an adverse effect on Korea's economic development.

#### ***Distribution, redistribution and income equality***

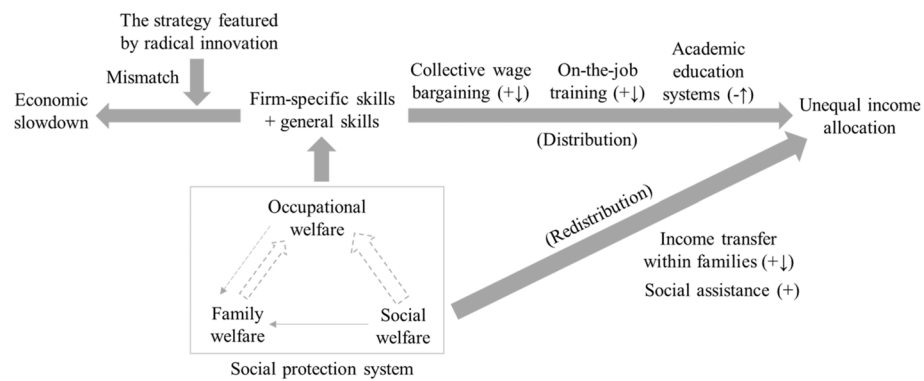
Due to the changes in skill formation and the social environment, Japan, Taiwan and Korea behaved differently in terms of distribution.

The weakening of collective wage bargaining in Japan was disadvantageous to income equality among workers, while the establishment of collective wage bargaining in Taiwan and Korea helped reduce inequality. In Japan, although the adjustments toward the development of general skills were slow, they still weakened the influence of the enterprise unions. The number of Japanese enterprise unions and their members had decreased significantly since the mid-1980s (Liu 2012). Therefore, it became harder for unions to limit income disparities among workers than before. In Taiwan and Korea, democratization gave workers the legal right to organize unions. After the social movement occurred in the late 1980s, the number of unions and union membership grew rapidly in Taiwan and Korea. With the help of the collective wage-bargaining systems implemented by unions, Taiwanese and Korean workers demanded higher salaries and more stable income distribution (Wang 2009; Yang 1997).

The transition from vocational training to academic education in Japan and Taiwan contributed to the widening income gap between workers and nonworkers, but the reverse transition aggravated income equality in Korea. As the form of employment diversified, Japanese companies became reluctant to provide on-the-job training. The number of companies that provided on-the-job training decreased dramatically during the knowledge economy period (Ping et al. 2008). The introduction of ability in the employees' evaluation systems also helped to promote academic education. These changes contributed to a less institutionalized 'from-school-to-work' transformation than before and led to rising income inequality in the labor market. In Taiwan, to upgrade general skills, the vocational training system became multilayered. The

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<sup>7</sup> As Table 1 depicts, Korea's strictness index of employment protections is higher than that of Japan and the average of OECD countries.

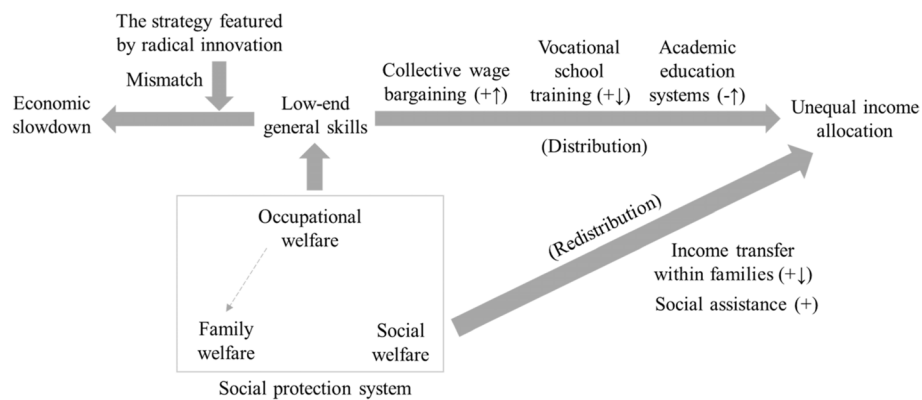


**Fig. 9** Welfare production regime, economic growth and income equality in Japan during the knowledge economy period. \*The thick arrows within the social protection system represent the direct and indirect effects of occupational, social and family welfare on skill formation. The thin arrows within the social protection system represent the role of occupational welfare/social welfare in supporting family welfare. \*\*'+-' represents the positive effect on income equality, while '--' represents the negative effect on income equality. '↑' indicates that the effect is increasing, while '↓' indicates that the effect is declining. Arrows in dashed lines represent that the influence is weakening

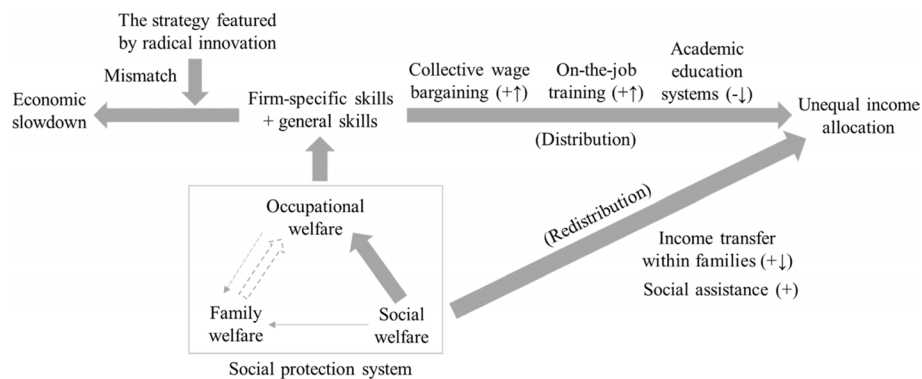
introduction of undergraduate, postgraduate and doctoral education made the vocational training system in Taiwan resemble an academic education system. This change undermined the ability of vocational training to support income equality (Chen and He 2011). In Korea, the development of internal labor markets was accompanied by the emergence of on-the-job training by companies (Shang 1997). Although this form of skill training impeded the acquisition of general skills, it helped narrow the income gap among workers.

Although Japan, Taiwan and Korea behaved differently in terms of distribution, they all presented a weakening redistribution role in boosting income equality between workers and nonworkers due to a convergence of the similar conditions of unemployment, family welfare and social assistance. During this period, the economic slowdown, the industry transformation and the growing number of female job seekers led to rising unemployment rates in these three countries (regions) (Lin 2002; Lin and Feng 1999; Zhang 2000). It thus became harder for redistribution to cover the income disparities between workers and nonworkers. In Japan, Taiwan and Korea, family welfare and social assistance failed to bear the burden. In addition to the weakening of the caring function and the increase in caring responsibilities, family welfare received fewer benefits from occupational welfare than before due to the economic slowdown (Jin and Du 2020; Ma 2017; Shen 2016; Wang 2015). These problems blunted the positive effect of income transfer within families. Furthermore, there was no dramatic improvement in terms of social assistance. The limited changes are reflected in the expansion of the scope of assistance (Lv 2016; Ringen et al. 2012; Zhao 2009; Zou 2012). The weakening of family welfare and the minor improvements of social assistance made it impossible for redistribution to reduce the income disparity between workers and nonworkers caused by rising unemployment rates.

With different combinations of distribution and redistribution, Japan, Taiwan and Korea arrived at distinct results in terms of income allocation. Both Japan and Taiwan



**Fig. 10** Welfare production regime, economic growth and income equality in Taiwan during the knowledge economy period. \*The thick arrows within the social protection system represent the direct and indirect effects that occupational, social and family welfare exert on skill formation. The thin arrows within the social protection system represent the role of occupational welfare/social welfare in supporting family welfare. \*‘+’ represents the positive effect on income equality, while ‘-’ represents the negative effect on income equality. ‘↑’ indicates that the effect is increasing, while ‘↓’ indicates that the effect is declining. Arrows in dashed lines represent that the influence is weakening



**Fig. 11** Welfare production regime, economic growth and income equality in Korea during the knowledge economy period. \*The thick arrows within the social protection system represent the direct and indirect effects that occupational, social and family welfare exert on skill formation. The thin arrows within the social protection system represent the role of occupational welfare/social welfare in supporting family welfare. \*‘+’ represents the positive effect on income equality, while ‘-’ represents the negative effect on income equality. ‘↑’ indicates that the effect is increasing, while ‘↓’ indicates that the effect is declining. Arrows in dashed lines represent that the influence is weakening

experienced rising income inequality, while Korea enjoyed greater income equality than in the previous period.

In conclusion, affected by all the mechanisms mentioned above, Japan and Taiwan sacrificed shared prosperity in the knowledge economy phase (Figs. 9 and 10). Although Korea obtained equal income distribution, its economic growth slowed (Fig. 11).

### Discussion and conclusions

This paper improves the understanding of how shared prosperity was achieved in East Asian countries (regions) from a political economy perspective. Based on welfare production regime theory, this paper presents a revised theoretical framework in which skill formation links economic growth to income distribution. Since the political

economy literature usually explores economic growth and income distribution separately, this paper complements and expands the literature on the emergence of shared prosperity. In addition, since welfare production regime theory fails to fit East Asian studies owing to its omission of some essential elements, occupational welfare, family welfare and redistribution are added to the revised theoretical framework. The framework thus extended the scope of the application of welfare production regime theory, making it possible to explore shared prosperity in the context of East Asian countries (regions).

This paper explains how shared prosperity is realized in East Asian countries (regions): social protection systems, consisting of occupational, family and social welfare, are key to developing particular skills. When the skills are consistent with the needs of product market strategies adopted by companies, economic progress improves. Otherwise, a mismatch may undermine or slow economic development. Skill formation and social protection could influence income allocation, with the former often occurring in the distribution channel and the latter frequently being observed in the redistribution channel. These two channels may involve multiple mechanisms with distinct effects on income allocation, the result of which relies on the net effect of these mechanisms. The argument has been supported by the historical analyses of Japan, Taiwan and Korea.

However, much work remains to be done to explore the details of the theoretical framework. One task is to examine the logic of the framework quantitatively. This theoretical framework can produce many hypotheses. Compared with a case study, quantitative research could identify causal mechanisms more accurately. It is also possible to extend the argument in this paper to other East Asian countries (regions) or historical periods. The three cases examined in this paper are typical. Applying the analysis to outlying or special cases may enhance the external validity of the framework.

A further policy implication of the argument in this paper is that China could adopt strategic measures to achieve shared prosperity. To avoid falling into the middle-income trap, China could establish a multilayered social protection system to adapt to the skill needs of different product market strategies of companies from different industries. For example, although China is a competitor in the knowledge economy, there are regional variations in terms of development within China. Some companies in the eastern provinces of China (such as Huawei) have already joined the race of radical innovation in the world market (Huawei 2021). To foster the advanced general skills required by such product market strategies, the social protection system should provide workers with employment flexibility. The skill training system should increase the input in the cultivation of skills for key technologies; otherwise, it risks failing to develop the skills needed by radical innovation, as happened in Taiwan in the 1990s. In some central and western provinces, capital-intensive industries (such as manufacturing) remain the leading industries. As China's comparative advantage in low labor costs declines in these industries, companies in the international market compete to offer products with the greatest diversity and quality (The State Council Information Office of the People's Republic of China 2022). Such product market strategies require industry-specific skills. To instill these skills, the social protection



system should offer unemployment protection. The launch of modern apprenticeship pilot projects in China is a recent attempt in this direction (Ministry of Education, The People's Republic of China 2018). In conclusion, enabling the social protection system to develop the skills that firms' product market strategies require is key to economic success.

Regarding income allocation, collective wage bargaining could play a more prominent role in enhancing income equality among workers, while the development of vocational education in China should strike a balance between cultivating the skills needed and promoting income equality. Although workers with firm-specific or industry-specific skills have more incentives to establish collective wage-bargaining systems, such systems could also be established in industries dominated by workers with general skills. For example, China is building a collective wage-bargaining mechanism in the express delivery industry, where highly mobile workers usually possess general skills (State Post Bureau of The People's Republic of China 2021). Collective wage bargaining is useful in limiting income disparities among workers. In the future, it may help to promote shared prosperity in China. However, care should be taken when depending on vocational education to narrow the income gap. China is now aggressively promoting vocational education (The State Council, The People's Republic of China 2014). Cultivating the talent that the country needs, not facilitating income equality, is the purpose of this measure. Since the form of skill training is crucial to the fostering of skills, the development of vocational education should balance the needs of product market strategies and the promotion of income equality. Focusing only on income equality while ignoring skill requirements may prove an impediment to economic progress.

In terms of redistribution, social welfare may play a more active part in increasing income equality between workers and nonworkers than family welfare in China. Like Japan, Taiwan and Korea, China has long been influenced by Confucianism. The income transfer within families has also been important in China's redistribution. As more females join the labor force, the size of families decreases and the population ages, China faces the problem of weakening family welfare (Luo 2013), similar to the cases of Japan, Taiwan and Korea. It has therefore become more difficult for family welfare to assume a leading role in improving income equality. However, social welfare may still have a chance. China prioritized economic development over social security, as Japan, Taiwan and Korea once did. In the past 40 years, although the government has put much effort into building and improving the social security system, it is still far from perfect (Ministry of Human Resources and Social Security of the People's Republic of China 2020). Apart from social assistance, measures such as offering services for elderly individuals, children and women could also help to close the income gap between workers and nonworkers. In the future, there is much room for social welfare to bring shared prosperity to China.

**Authors' contributions**

All authors are involved in theory construction, case analysis and article writing. All author(s) read and approved the final manuscript.

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