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Economic growth and income inequality in the Asia-Pacific region: A comparative study of China, Japan, South Korea, and the United States

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ABSTRACT

This paper builds an inequality-growth-redistribution nexus, and applies the Engle–Granger two-step ECM approach to estimate the long-run and short-run relationships between inequality and growth for four economies: China, Japan, South Korea, and the United States. Our estimation results support the S-shaped curve hypothesis relating GDP per capita to inequality with different starting points for the four economies. For the reverse relationship, we find a positive causal relationship for China, Japan, and the United States, indicating that increased income inequality spurred economic growth. In addition, we find mixed results on the effect of trade openness on inequality and growth. Trade openness reduced inequality in the United States and Japan, worsened it in China and had no significant effect in South Korea. In the inequality-GDP per capita relationship, exports provided an impetus to economic growth for Japan. As for redistribution, although fiscal redistributive measures reduced inequality in Japan, they played no major role in the other three countries. With regard to the inequality-GDP per capita relationship, all countries except for China show a negative effect of fiscal redistribution on GDP per capita.

1. Introduction

Inequality has risen to the forefront of public debate in recent years as talk of the 1% versus the 99% has grown. Concerns over rising inequality motivated the Occupy Wall Street movement and continue to motivate a backlash in many industrialized countries towards international trade. The 2016 presidential campaign in the U.S. involves lengthy political rhetoric over which candidate's policies will better serve those at the bottom of the income distribution. In Asia, China's rapid increase in inequality has become a key political issue that government leaders must address. Even in countries with relatively low levels of inequality, such as Japan and South Korea, negative public sentiment over increases in inequality has pushed the topic to the forefront. Economists and policy makers worry that a persistently unbalanced sharing of the growth dividend will sour public support for pro-growth policies and lead to political instability. Others worry that increased inequality itself might undermine economic growth.

To address these concerns, economists are renewing their efforts to understand the relationship between economic development, growth and inequality. Many studies have tackled this topic, but the results are varied and sometimes

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conflicting. Theoretically there are structural and political pathways by which economic growth might affect income inequality, and vice versa. Most past studies have pursued empirical analysis using cross-sectional or pooled country-level data, which tends to ignore heterogeneity across countries. These studies also tended to focus on only a unilateral relationship; that is, from growth to inequality or from inequality to growth. We propose contributing to this literature by: (1) conducting time-series analysis of individual countries to allow for country heterogeneity, and (2) by examining the bilateral relationship between growth and inequality. Based on the inequality-growth-redistribution nexus, we first build a baseline error-correction model (ECM) with common determinants suitable for all countries and then construct an ECM for each country that includes country-specific determinants to examine the long-run equilibrium relationship between income inequality and economic growth. We also analyze the short-run impulse responses of the variables. Our inquiry targets four Asia-Pacific region economies – China, Japan, South Korea and the United States.

Our analysis finds support for the S-shaped curve hypothesis relating GDP per capita to inequality with different starting points for our four economies. For the reverse relationship, we find that increased inequality increases per capita GDP in the U.S., Japan and China, but decreases it in South Korea. In addition, our results show mixed effects of trade openness on inequality and growth. Trade openness reduced inequality in the U.S. and Japan, worsened it in China and had no significant effect in South Korea. In the inequality-GDP per capita relationship, exports provided an impetus to economic growth for Japan. As for redistribution, although fiscal redistributive measures reduce inequality in Japan, they play no major roles in the other three countries. Finally, all countries except for China show a negative effect of fiscal redistribution on GDP per capita.

The rest of this paper is organized as follows. Section 2 surveys the related literature on the effect of economic growth on inequality and the effect of inequality on economic growth. Section 3 discusses the analytical concept and transmission channels. Section 4 introduces the dynamic causality analysis, including empirical modeling and data employed. Section 5 presents and compares the empirical results for China, Japan, South Korea and United States, and the last section concludes.

2. Literature review

Over the past 20 years, many studies have investigated the unidirectional or bidirectional relationship between income inequality and economic growth. For each causal relationship, however, theoretical predictions are controversial and empirical findings are mixed. This section provides a brief overview of existing literature regarding the link between inequality and economic growth.

2.1. The effect of economic growth on inequality

A large portion of the literature on the effect of economic growth on inequality focuses on the noteworthy "Kuznets' (1955) inverted U curve", which states that inequality increases early in the industrialization process and then decreases with further development. In addition, some studies hypothesized a specific factor driving growth, e.g., globalization, while investigating the effect of economic growth on inequality. After scrutinizing recent literature, we found that the effect of economic growth on inequality varies; it could be positive (e.g., Lundberg & Squire, 2003; Rubin & Segal, 2015; Wahiba & El Weriemmi, 2014), negative (e.g., Majumdar & Partridge, 2009; Nissim, 2007) or mixed (e.g., Chambers, 2010; Huang, Fang, Miller, & Yeh, 2015) due to different specifications of models, different datasets, and different estimation methods. We highlight the main points as follows.

First of all, long-term effects may differ from short-term effects. By adopting the semiparametric method, Chambers (2010) found that economic growth increases income inequality for all countries over the short-run and medium-run. As for the long-term effect, economic growth reduces inequality in developing countries but has the opposite effect in developed countries.

Secondly, the impact of economic growth on income inequality is inconsistent as different determinants are included in the model. For example, by taking trade openness and human capital as determinants of inequality, Wahiba and El Weriemmi (2014) showed that in Tunisia, economic growth is positively associated with inequality. Furthermore, trade openness aggravated and human capital alleviated the degree of inequality. On the contrary, taking growth volatility and human capital as determinants of inequality, Binatli (2012) found that growth has a negative impact on income inequality. At the same time, he verified that higher volatility in growth might harm income inequality all the time, but the magnitude of the effect of volatility in growth decreases over time.

In addition, worker mobility and the sensitivity of different income groups (i.e., high-income versus low-income) to economic growth have been included as determinants of inequality, which has produced diverse empirical results. Nissim (2007) demonstrated that as economic growth occurs, workers mobilize to the jobs associated with higher incomes, which helps to reduce income inequality. In other words, the impact of economic growth through worker mobility on income inequality is negative. Rubin and Segal (2015) found that in the U.S., during the post-war period (1953–2008), the high-income group was more sensitive than the low-income group to wealth income and to performance-based compensation schemes (e.g., bonuses, stock and option grants). Furthermore, the high-income group received more wealth income and performance-based compensation as the economy grew. Based on the empirical results, they concluded that economic growth increases income inequality. It can be seen from the above that there is no clear answer to the effect of economic growth on income inequality.