



Delivering green economy in Asia: The role of fiscal instruments



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ABSTRACT

Asia's ongoing rapid economic growth is successfully lifting millions of poor out of the vicious cycle of poverty, but that performance comes at a price. The unprecedented growth we witness today is also rapidly driving resource consumption to unsustainable levels. Local production and consumption-led growth is causing a considerable increase in external costs, such as deforestation, and knock-on effects, such as increased emissions including greenhouse gas (GHG); depletion of non-renewable resources; pollution of rivers; desertification; flooding; and long term climate change. Currently, the region accounts for about 40% of GHG emissions, which is expected to rise to almost 50% by 2030 if the business-as-usual trajectory projected for the region is not altered. Countries in the region are taking action when it comes to the transition to a green economy. When compared to other regions, Asia has the highest rate of policy innovations that can help in the transition to a green economy. Even though fiscal instruments in-use are to some extent already altering aggregate demand of resources and economic activities, resource allocation, and distributive capacity of the economy, instrument such as "carbon tax" that has the real potential to contain rising emissions and save economies from getting locked into carbon-intensive pathways are yet to be adopted widely. Tax on natural resources extraction is yet to be implemented in wider scale despite of rampant destruction of natural resources and environments and increase in associated GHG emissions. Sporadic adoption of fiscal instruments is not going to be enough, if Asia as a region, is to transition to a green economy. In addition, there are substantial implementation barriers that need to be eased for wide-scale adoption and diffusion of green fiscal instruments.

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1. Introduction

As a region, Asia is growing at an unprecedented rate, and consumption of resources and associated emissions are following a similar trajectory. With ongoing rapid expansion of economy, population, urbanization, and industrialization, there is a consistent increase in resource consumption and associated emissions. Countries are increasingly getting locked into carbon-intensive infrastructure development pathways. For instance, two large emerging Asian economies, China and India, are expected to grow by 7.7% and 5.9% per annum respectively in 2014–2018. These figures are significantly higher than

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projected growth in Organisation for Economic Co-operation and Development (OECD) countries (2.5% per annum), the world overall 3.7% per annum), and the United States (3.5% per annum) in 2014–2015 (OECD, 2014).

Sustenance needed to meet this growth rate will exacerbate already high resource use and emissions. The total consumption of oils, biofuels, gas-to-liquids and coal-to-liquids (or total liquids consumption) in Asia increased by 92% between 1990 and 2010 and is expected to further increase by 44% between 2010 and 2030. Likewise, between the latter period, the total natural gas and total coal consumption is expected to increase by 114% and 50%, respectively (ADB, 2011).

Under the business-as-usual scenario, coal could account for 35–45% of global net growth in electricity generation over the next two decades. Increase in coal-based energy generation is expected to increase coal consumption from its current level by 50–60% in the next two decades. The chances of Asia, as a region, getting locked into carbon-intensive pathways is really high, as nearly all these increases are projected in the fastest-growing regions of Asia where coal could account for 50–70% of new power supply (IEA, 2012). With a growing economy and ongoing rapid urbanization, the rate of motorization and associated energy use in the transport sector will further increase. Rising income, declining vehicle price, and increasing vehicle stock all contribute to the increase in vehicle ownership and use in the region. The total number of vehicles in China is projected to increase from 20.5 million vehicles in 2002 to 390 million by 2030. China will have more vehicles than any other country, with 24% more vehicles than the USA by 2030. The situation will be similar in other rapidly growing economies in the region. From 17.4 and 8.1 million vehicles in 2002, the total number of vehicles in India and Thailand are projected to increase to 156 and 44.6 million by 2030 respectively. Increase in vehicle ownership and use, if not contained, could accelerate GHG emissions to dangerous levels, especially as China and India are already among the top five GHG emitting countries (World Bank, 2014) at 8286.9 and 2008.8 million metric tons, respectively.

The ongoing rapid increase in growth-related externalities witnessed by Asian countries cannot be ignored. With ongoing rapid increase in population, urbanization, and the demand and use of resources, costs associated with economic growth and unplanned economic development will continue to increase. The time has come to think “outside the box” and across boundaries in order to get a grip on the impending environmental crisis, which will have adverse socioeconomic and environmental consequences. The green economy provides an alternative paradigm that will help bring about transformational change—without which, solving Asia’s growing resources use and contain associated externalities related costs is extremely difficult, if not impossible. Even though greening growth entails trade-offs and upfront costs, it provides a real opportunity to address growing environmental and climate change problems. For rapidly growing economies such as India, China, Indonesia, Thailand, and Vietnam – the main focus countries of this paper – transition towards a green economy provides an opportunity to reduce negative environmental externalities and sustain/better current economic growth without degrading the natural resource base. However, in order for the aforementioned and other Asian countries to truly seize the opportunity to transition to a green economy, they will have to first and foremost identify and adopt effective fiscal instruments that aid in their transition to a green economy. In many Asian countries, there exist substantial implementation barriers, which need to be eased for these instruments to yield desired results. By showcasing the effectiveness of implemented instruments, we try and highlight what works and what does not. Fiscal instruments that have not performed well could do better if existing implementation barriers are eased, as identified in this paper. Easing of these barriers will not only improve the performance of instruments that have not achieved their fullest potential, but also those that perform relatively well in the under the existing implementation barriers.

2. Asia’s transition towards a green economy

Countries in the region have begun the transition towards a green economy. The Republic of Korea is at the forefront when it comes to adopting fiscal instruments that facilitate the transition to a green economy. Consistent growth in GHG emissions was one of the factors that led to the adaption and acceptability of fiscal instruments. Between 1990 and 2007, the overall carbon dioxide (CO₂) emission in Korea increased by 4.4%. Korea’s initiative for a green economy dates back to August 2008, with President Lee’s commitment to a green growth strategy. A high-level Presidential Committee on Green Growth (PCGG) was formed in 2009, with a main goal to reduce CO₂ emissions to 473 million metric tons of carbon dioxide equivalent (MtCO₂-e) by 2020, a reduction of 30% from the projected 676 MtCO₂-e under a business-as-usual scenario (Mathews, 2012). A stimulus package worth US\$30.7 billion was unveiled in 2008 to support the government’s efforts to promote renewable energy resources, energy efficient buildings, low carbon vehicles, expansion of railways, and water and waste management (UNEP, 2009).

Lately, China has also realized the need to move away from a carbon-based economy. China’s 11th Five-Year Plan for Economic and Social Development (2005–2010) was the key turning point for integrating rapid economic growth with green economy through energy conservation. It invested over US\$2.1 billion in main science and technology research programs during its 11th five-year plan. China’s current 12th five-year plan (2010–2015) is seen as a “Green Growth Plan” with main focuses on reducing pollution and increasing energy conservation and energy efficiency (TERI-NCSC-CUFE-ZU-UNDP, 2014). It is investing US\$468 billion into green key sectors during its 12th five-year plan in comparison to US\$211 billion in the 11th five-year plan (Wang & Chang, 2012). In 2008, China announced the Green Stimulus Package, strengthening its approach toward a green economy. China uses a suite of fiscal instruments to facilitate its transition to a green economy. For example, excise acquisition taxes and small and energy saving vehicle subsidies are some of the fiscal instruments used to contain growing externalities, including CO₂ emissions in the transport sector (Hui, 2011). State-owned banks in China provide substantial financial support for renewable energy programs. In 2009, the Chinese government spent US \$45 billion to

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