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Production interdependencies and poverty reduction across ethnic groups in Malaysia

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ABSTRACT

Production sectors are interdependent and the benefits of output growth for poverty reduction therefore spread over the economy. The role of such interdependencies is explicitly studied in this paper. A social accounting matrix for Malaysia that distinguishes between the major ethnic groups in Malaysia (Malays, Chinese, and Indians) is used to run the analyses. Interdependencies among production sectors are measured by splitting the total output effect into the initial, direct and indirect effects. The results show that sectors which have large (small) spillover effects are associated with lower (higher) poverty reduction. The best way to increase the income of poor workers in a sector, generally is to stimulate that sector rather than other sectors.

1. Introduction

Growth in production output has empirically been found to be the most effective means to enhance the income of the poor and, thus, to alleviate poverty (see for instance, Adams, 2004; de Janvry and Sadoulet, 2000; Ferreira et al., 2010; Kraay, 2006; Loayza and Raddatz, 2010). The reason is that the remuneration of the factors of production (and labor income in particular) represents the major source of household income. In Indonesia, Vietnam and Mexico, factor incomes account for 93%, 80% and 64% of household income (see Blancas, 2006; Tarp et al., 2002; Thorbecke, 1991). A stimulus of production will thus translate into increased household income. The composition of the growth in production, however, influences whether and to what extent the income of the poor is affected. This composition has become a major concern in the literature on the growth–poverty relationship (see for example, Loayza and Raddatz, 2010; Suryahadi et al., 2009).

Several studies have found that the growth of the agricultural sector is substantially more poverty-reducing than growth in manufacturing or services (see for example, Dioa and Pratt, 2007; Khan, 1999; Montalvo and Ravallion, 2010; Thorbecke and Jung, 1996). On the other hand, governments in developing and transition countries often pursue policies that promote manufacturing to achieve more gross domestic product (GDP) growth, which is not very beneficial to the poor (see Son and Kakwani, 2006; Zaman and Khilji, 2013). It is widely recognized that pursuing GDP growth and pursuing a more equitable distribution of income may not be possible at the same time (see for example, Dastjerdi and Isfahani, 2011; Zaman and Khilji, 2013).

This paper focuses on poverty reduction and we argue that for a thorough evaluation of the relationship between stimulating production and poverty it is necessary to take the interdependencies in the production structure into full account. Typically, promotion of the production in one sector (e.g. food processing) is achieved through an exogenous stimulus, e.g. an increase in government expenditures on goods produced by the food processing sector. This will increase the production in food processing and, hence, GDP and household income, which may affect poverty. However, what is often neglected is that there may be substantial indirect effects. In the present example, more production in food processing triggers extra production in agriculture, which also affects GDP and possibly poverty. In general, for its own production, each sector depends on inputs from other sectors. The composition of output growth thus depends on the interdependencies among the sectors. For any poverty reduction that is directly associated with the output growth of a particular sector, the question therefore is how this relates indirectly to the output growth in other sectors. In other words, to what extent is it possible to increase the income of the workers (and, in particular, the income of the poorest workers) in one sector by targeting growth in other sectors?

This paper seeks to examine explicitly the role of interdependencies among production sectors for poverty reduction. For this purpose, we develop an extended social accounting matrix (SAM) multiplier decomposition analysis. The advantage of using a SAM is that it includes the interdependencies between the sectors of

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production, as well as detailed (sectoral) information on the generation, distribution, and redistribution of income.[1] In the demand-driven SAM framework, the total income effects are initiated by an increase in the exogenous final demands. Following Thorbecke and Jung (1996) and Pyatt and Round (2006), the total income effects associated with increased final demands are decomposed into three effects. One of them covers the effects of interdependencies on sectoral outputs (i.e. the so-called transfer effects). In this study, we further decompose these transfer effects into initial, direct and indirect effects, which allow us to examine the effects of interdependencies in more detail.

The initial effect shows how a one-unit increase in the exogenous final demand for a sector's output leads to an immediate increase in the gross output of this sector by one unit. The direct effects capture the first-order effects and show how the increase in output leads to additional input requirements, and producing these inputs affects the output in the sector itself and in other sectors. The indirect effects measure how the first order effects give rise to second and higher-order effects. This is because the first-order effects increase the outputs, which induces further input requirements and thus further increases in gross outputs, and so on. Each of these three output effects has its own implication on household income and poverty reduction.

For our empirical analysis, we use a SAM for Malaysia for 2000 that disaggregates households into the major ethnic groups. The application of the proposed technique to the Malaysian case is of interest for two reasons. First, ethnic inequality is a major concern in countries with a heterogeneous population because inequality tends to induce conflicts and violence (see Easterly and Levine, 1997; Mauro, 1995; Montalvo and Reynal-Querol, 2005). However, studies investigating income inequality in developing countries with a heterogeneous population are limited. Malaysia therefore provides an excellent illustration for investigating income differences among ethnic groups in a developing country. Second, Malaysia is an interesting case in itself because the majority of the population (i.e. the Malay households) has a lower income share than the minority groups (the Chinese and Indian households). This differs from the situation in several other developing economies—such as Vietnam (van de Walle and Gunewardena, 2001) and Chile (Agostini et al., 2010)—where the minority groups have the lower income shares.

It should be noted that this paper only focuses on the implications of final demand growth on poverty alleviation. It studies how the sectoral composition of this growth and the interdependencies between production sectors affect the capacity to reduce poverty. In other words, poverty reduction is performed within the context of a static demand-side analysis. Obviously, also supply-side determinants such as education, demographic changes, and changing social and economic conditions of the population may have a significant implication on poverty reduction. However, these changes typically take some time to become effective. Such a longer-term analysis is beyond the scope of this study. In our analysis we thus assume that there are no supply-side policy interventions (e.g. demographic changes or education) that may change the distribution of income.

The next section sketches the background and explains why disaggregation across ethnic groups is important when studying poverty impacts in Malaysia. Section 3 provides a general description of the SAM structure for Malaysia that is used in this paper. Based on the SAM structure, Section 4 explains the decomposition of the growth in output into the initial, direct, and indirect effects. Then, it further links the decomposed output growth to poverty measures so as to obtain the poverty alleviation effects. Section 5 presents the results for the effects of growth in final demands on poverty alleviation. Finally, Section 6 summarizes and concludes.

[1] The SAM multiplier analysis has been highlighted in the World Bank's toolkit as a useful way of evaluating poverty impacts (see Round, 2003).

2. Growth and poverty across ethnic groups

The Malaysian citizens can be divided into four major ethnic groups which include the Malays (53% of the population in 2000), Chinese (26%), Indians (8%) and a group of other minority ethnics (13%). Next to Malaysian citizens, there is also a group of non-citizens, which is approximately 21% smaller than ethnic Indians. From a policy perspective, taking account of ethnicity in the analysis of income and poverty is important for Malaysia. This is because, since 1971, the government's development strategies have included specific concerns for the standard of living among these socio-economic groups. The ethnic riots in May 1969 gave a clear signal to the government for the importance of policy reforms. This has led to a shift from development strategies with an emphasis purely on economic considerations toward policies based on the combination of economic and distributional strategies.

The main cause for the ethnic riots was that the economic expansion during the period 1957–1969 (i.e. the post-independence period) failed to make a substantial contribution toward closing the gap in economic welfare between the Malays, who were the poorest on average, and the Chinese and Indians. There are two characteristics of the post-independence period that contributed to the ethnic unrests. First, the economic policy in this period continued along the principles of *laissez-faire*, just as it had been before the independence in 1957. There was no (or little) attempt to re-distribute wealth toward the economically dispossessed. Second, although the political power was dominated by the Malays, the economic activities were run mostly by the non-Malays. This led the non-Malays to question the extent to which their interests were safeguarded in Malaysia. The disenchantment that had been growing among all segments of the population ultimately erupted in the bloody ethnic riots of May 1969 (see Faaland et al., 2003; Heng, 1997; Shari, 2000).

Table 1 tabulates the head count poverty measure (which is defined as the number or "headcount" of households with an income below the poverty line income as a percentage of the total number of households) for the country and for its ethnic groups in the period 1970 to 2004.[2] For example, in 1976, 49.3% of all Malaysian households were poor and for ethnic Malays this was even 64.8%. Table 1 also gives the average annual growth in gross domestic product (GDP) for the overall economy and for the broad economic sectors. For example, GDP grew with 15.5% on average in the period 1970–76, and with 18.2% for 1976–79. The average economic growth between 1970 and 2004 was around 11.5% per annum. The industrial sector (i.e. manufacturing and mining) grew the most in the period 1970–2004 with an average of 12.6%, followed by services with 10.8% and agriculture with 5.9%. This high economic growth obviously provided broad-based benefits for the poor. During this period, poverty for ethnic Malays declined by 56.5% points (from 64.8% in 1970 to 8.3% in 2004), that of ethnic Chinese reduced by 25.4% points (from 26.0% in 1970 to 0.6% in 2004), and that of ethnic Indians dropped by 36.3% points (from 39.2% in 1970 to 2.9% in 2004). This large poverty reduction for all ethnic groups led to a significant reduction in the national poverty rate. Thus, the policy reforms after the 1969 ethnic riots have induced a significant improvement in terms of poverty alleviation.

Examining the poverty reduction in relative terms, however, it appears that poverty for the Chinese and Indians has reduced faster than that of the Malays. It turns out that the gap in the poverty rates among the ethnic groups increased. For example in 1970, poverty of the Chinese and Indians was equivalent to 40% and 60% of those of the Malays whereas in 2004 poverty of the Chinese and Indians was only 7% and 35%. This suggests that the economic growth did not automatically lead to a more equal distribution of income among the poor.

[2] For our calculations we have used different poverty line incomes (PLIs). They have been constructed by the Economic Planning Unit in Malaysia and take account of changes in incomes and prices over time.