Agricultural Development and Poverty Reduction in East Asia:  
The Impact of OECD Agricultural Policies

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I. Introduction

When examining the countries of East Asia over the past three or more decades, a striking and well-known feature is their unusually rapid economic growth. This observation applied to Japan at an even earlier period but was then observed since the 1960s in the four “tigers,” Hong Kong, Singapore, Chinese Taipei and South Korea. However, during the 1970s, 1980s and 1990s, this observation came to be seen in much of Southeast Asia as well.¹

What is possibly less well known is that this growth also ushered in a substantial reduction in poverty. For most developing countries, the bulk of their poverty is found in rural areas, which raises questions about the structure of these economies, specifically the relative size and importance of the agricultural sector. If countries are making progress in reducing poverty and have a sizeable rural component to their economy, then it would appear that much of this progress is occurring through improvements of various sorts in the agricultural sector, such as a strengthening of world market agricultural prices for the country’s exports.

So this raises another question and that is, to what extent are these favourable developments on income growth and poverty due to domestic factors and to what extent are they due to external developments. This is a particularly important issue for the agricultural sector. Not only are many agricultural products important as exports for developing countries, but world agricultural markets have a reputation for instability and sometimes-difficult terms of trade. These difficulties, in turn, are often laid at the feet of the OECD countries. They are criticized for the use of agricultural subsidies, export and domestic, which are known to often result in a reduction of world market prices. So these countries’ agricultural policies are often blamed for exacerbating poverty in developing countries. The failure of the current Doha Development Round negotiations in Cancun several months ago was blamed specifically on OECD country agricultural policies.

¹ The classic reference here is The World Bank, East Asian Miracle, 1993.
So have these OECD countries’ agricultural policies exacerbated poverty in developing countries? This claim is very much worth examining in the context of the East Asia countries because we have seen such clear progress on raising incomes and reducing poverty in this region, including poverty in rural areas. It is the purpose of this paper to explore the evidence from East Asia on these questions. We focus particularly on two countries whose agricultural sectors are important and who are relatively poor, Indonesia and Vietnam. This choice of countries provides the added aspect of illustrating different economic models. Indonesia has followed a fairly common path by more or less relying on a market economy, and has done so for many years. Vietnam, on the other hand, is a transition economy, having followed a centrally planned policy framework for some years but which has moved in the direction of a market economy since the mid-late 1980s. Although this two-country focus does not allow us to generalize for the whole region, it has the substantial advantage of greater detail. We have moderately detailed knowledge of the agricultural policies of those countries, the structure of their agriculture sector, and their patterns of income growth.

Before we look at these countries’ development and poverty reduction accomplishments we start with outlining the mechanism by which OECD country policies could affect poverty in these countries. After reviewing these accomplishments in poverty reduction we attempt to explain how they were achieved, and the linkages with OECD country agricultural policies. We close by drawing some lessons from these cases.

II. Mechanisms by which Poverty is Affected by OECD Country Agricultural Policies

Given that most of the poor in developing countries have little or no capital or land holdings, they rely on labour markets for the dominant share of their incomes. This could be village or urban labour markets for those who work off the farm in the industrial or service sector, or the agricultural labour market for landless labourers or landless farmers
within the agricultural sector. As a result, the key variable for rural poverty reduction is the rural or agricultural wage rate. For the purposes of this paper, then, we will want to examine the effect on rural wage rates of different OECD country agricultural policies. Employment levels are also important but more for determining whether an individual works in the agricultural sector or the non-agricultural sector, and whether or not migration will be necessary to access a job, not for the remuneration they will receive.

Another important distributional effect among rural people is what happens to land prices. OECD country policies that affect world market prices will usually have an effect on agricultural land prices in the areas where that particular crop is grown. As important as this is on rural households, this direct effect is unlikely to affect rural poverty for the simple reason that the poor are usually landless. However, it can be expected to have an indirect effect on the rural poor through an income effect. If OECD country policies lower world market prices, in turn lowering land prices, it will have an income or wealth effect on rural landowners who will spend less. This is likely to reduce employment in rural areas even if the agricultural policy does not have major effects on the wage rate.

Before leaving the subject of distributional effects of OECD country agricultural policies, there is one other important group that is affected, namely consumers. The OECD country agricultural policies that are lowering world market prices are actually having a positive effect on consumers worldwide. This is important for one segment of the rural poor, those people who do not produce enough to be net sellers of that commodity. This group typically includes the poorest farmers. For those net food buyers, their well-being is being helped by OECD country policies that lower those food prices. This effect may be smaller than the effect on net selling farmers who in Asia are usually are more numerous, but it is worth flagging because the poorest of the poor are typically helped by such lower prices.

So in summary we can specify four conditions that must be met for an OECD country’s agricultural policy to have an effect on poverty alleviation efforts in developing countries. First, the OECD country must have some market power in the commodity
market in question. “Small countries” within the OECD by themselves are, by definition, having no effect on world market prices. If the small country is part of a larger economic union that does affect world market prices, such as the EU, then of course the EU policies taken collectively are affecting the developing countries.

Second, there must be an OECD country policy affecting that commodity and it must be affecting that commodity’s world price. This points out that there needs to be commodity overlap between what the OECD country is growing and subsidizing and what the developing country is growing. However, this should be assessed with the realization that commodity production is partly endogenous; there may be no current production of a crop due to the existence of an OECD subsidy program. For example, EU and US sugar programs may have depressed prices sufficiently that Indonesia sugar production is very small, giving the appearance of little overlap in production of that commodity. Further, the policies in the OECD country must be affecting world markets (i.e., there must be a “coupled” policy or one that is in the amber box), typically by increasing production and exports of the commodity in question.

Third, the developing country must have a policy framework that allows world markets to affect local market prices. If the domestic market for a commodity in a developing country is separated from the world market sufficiently (such as through some form of quantitative restriction on imports) so that domestic prices are unaffected by world prices, there would be no OECD country policy effect on that country.

Fourth, wage rates in that developing country must be affected by local or world market prices for that farm product or commodity for the OECD policy to be damaging to poverty alleviation efforts. If agricultural prices are having no effect on rural wage rates, then OECD policies may still be having other important distributional effects and may be affecting the regional location and sectoral distribution of jobs available to the poor, just not directly on poverty levels themselves.
III. A Picture of Agricultural Development and Poverty Reduction in East Asia

The growth in incomes in East Asia is dramatic both by historical standards and in comparison with other regions around the world today. This can be seen in Table 1. While the average GDP growth rate for all low and middle income developing countries was 3.2 and 3.4 percent per year in the 1980s and 1990s, respectively, East Asian countries grew at 7.5 percent in each of those decades, more than twice as fast. South Asia also grew quickly, at 5.5 percent per year. Looking at other regions, no other region on the globe grew as quickly as the average rates for all developing countries. The closest regions in terms of growth over those twenty-two years were Latin America and the Middle East/North Africa, growing at about 2.5 percent per year on average, one third the rate of the East Asia and Pacific economies.

Table 1: Growth Rates in GDP, Agriculture

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP</th>
<th>Agriculture</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. Asia/Pacific</td>
<td>7.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Indonesia</td>
<td>6.1</td>
<td>3.8</td>
</tr>
<tr>
<td>Malaysia</td>
<td>5.3</td>
<td>6.5</td>
</tr>
<tr>
<td>Philippines</td>
<td>1.0</td>
<td>3.3</td>
</tr>
<tr>
<td>Thailand</td>
<td>7.6</td>
<td>3.8</td>
</tr>
<tr>
<td>Vietnam</td>
<td>4.6</td>
<td>7.7</td>
</tr>
<tr>
<td>China</td>
<td>10.3</td>
<td>10.0</td>
</tr>
<tr>
<td>S. Asia</td>
<td>5.6</td>
<td>5.5</td>
</tr>
<tr>
<td>India</td>
<td>5.7</td>
<td>5.9</td>
</tr>
<tr>
<td>Eur/Cent Asia</td>
<td>2.1</td>
<td>-1.0</td>
</tr>
<tr>
<td>Latin America</td>
<td>1.7</td>
<td>3.2</td>
</tr>
<tr>
<td>MiddleE/N Afr</td>
<td>2.0</td>
<td>3.0</td>
</tr>
<tr>
<td>SubSaharan Afr</td>
<td>1.6</td>
<td>2.6</td>
</tr>
</tbody>
</table>
Admittedly, part of this dramatic record is due to China in East Asia and India in South Asia. But even if we remove China from the East Asia data, the growth rate averaged simply across the five ASEAN countries included in Table 1 is still 5 percent per year. The Indian data show slightly higher growth than the average for South Asia. So if we remove those two large and rapidly growing economies from our data, still the countries of East and South Asia have been growing at twice the rate of the next most rapidly growing regions anywhere on the planet. It is also significant that these data, in the 1990-2001 column, include the sharp recession caused by the Asian Financial Crisis that affected a number of the ASEAN countries. This will explain why countries like Indonesia, Thailand and to a lesser extent the Philippines show relatively slow growth by Asian standards in the most recent decade. Still, their growth rates in the last decade are higher than any of the other aggregate regions for that period.

The right hand columns of Table 1 show growth rates for the agricultural sector for major regions and East Asian countries. These data give some indication of the extent to which the agricultural sector is growing along with the rest of the economy. Given the close ties between a developing country’s poverty and the agricultural sector, strong performance here will contribute toward poverty reduction efforts. However, this is not a necessary condition for poverty reduction because this goal can also be accomplished by sufficiently rapid growth in the non-agricultural component of the economy, as long as the linkages between the two sectors are strong.

Looking at the data for growth in the agricultural sector, East Asia again performs well. As in the case of GDP, in each time period East Asia has the highest agricultural sector growth rate of any of the regions listed, 4.6 percent per year in the 1980s and 3.2 percent in the 1990s. But in case of agricultural growth, its margin of superiority is considerably less than that for GDP. East Asia’s agricultural sector only grew half again as fast as the aggregate of all developing countries. South Asia was the third strongest region in terms
of agricultural growth over this two-decade period. It is also rather striking that for East (and South) Asia, and for virtually all Asian countries listed in the Table, the growth rate in agriculture is about half the GDP growth rate. This is also observed in most of the regions outside Asia for the 1990s, but in the 1980s the growth rates between agriculture and GDP are quite similar on average across all developing countries.

**Poverty**

Looking only at GDP or agricultural sector growth rates does not give a measure of success in reducing poverty. To do that we turn to more direct measures of poverty such as the percent of the population that is below some measure of poverty. Table 2 gives data from Asian countries on two such measures, the percent of the population with incomes below the nationally defined poverty line and the percent with incomes less than US$1 per day. The first of these is not so clearly comparable across countries, given that each country defines its own poverty line, whereas the second, although arbitrary in its level, is at least comparable across countries.

**Table 2: Poverty Indicators Across Asian Countries**

<table>
<thead>
<tr>
<th>Country</th>
<th>% Population below national poverty line</th>
<th>% Population at &lt;US$1/day (year)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SE Asia</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indonesia</td>
<td>18.2</td>
<td>7.2 (2000)</td>
</tr>
<tr>
<td>Lao PDR</td>
<td>38.6</td>
<td>26.3 (1997)</td>
</tr>
<tr>
<td>Malaysia</td>
<td>8.1</td>
<td>&lt;2.0 (1997)</td>
</tr>
<tr>
<td>Philippines</td>
<td>34.2</td>
<td>14.6 (2000)</td>
</tr>
<tr>
<td>Thailand</td>
<td>13.1</td>
<td>&lt;2.0 (2000)</td>
</tr>
<tr>
<td>Vietnam</td>
<td>37.4</td>
<td>17.7 (1998)</td>
</tr>
<tr>
<td><strong>East Asia</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>n.a.</td>
<td>16.1 (2000)</td>
</tr>
<tr>
<td>Korea</td>
<td>3.6</td>
<td>&lt;2.0 (1998)</td>
</tr>
</tbody>
</table>
Using the first measure, Korea has the lowest incidence of poverty (3.6 percent) while within ASEAN, both Malaysia and Thailand have relatively low rates, 8 and 13 percent, respectively. Poverty is a little higher in Indonesia, 18 percent, but the remaining countries (Philippines, Vietnam and Laos) have double this level (34, 37, and 39, respectively). With the second measure that uses a poverty line of US$1/day, the pattern is very similar. Korea, Malaysia and Thailand all have less than 2 percent of their population in poverty, Indonesia has 7 percent, and the remaining countries all have more than twice the percentage in poverty than does Indonesia. This ranges from the Philippines and China at 15 and 16 percent to India at 35 percent. The Vietnamese data show a poverty rate of 18 percent but this is for the year 1998, two years earlier than for its closest comparators, China, Indonesia, and Philippines. Using data comparable in time period would almost certainly show smaller numbers for Vietnam.

A quite different measure of poverty comes from FAO data on food consumption, showing the percent of the total population that is undernourished. These data are shown in Table 3 covering two periods, 1990-92 and 1999-2001, and five major regions, plus Indonesia and Vietnam. Three regions have the lowest levels of undernourishment, whether one looks at the earlier or the later period: the Middle East/North Africa, East Asia, and Latin America. By 1999-2001, only 10-11 percent of the population in these three regions was undernourished. By contrast, the average across all developing countries was 17 percent, and the levels for South Asia and Sub-Saharan Africa were 22 and 33 percent respectively. Indonesia was below all regional averages at 6 percent while Vietnam, at 19 percent, was just above the average for all developing countries.

This table also shows the progress made by each region in reducing undernourishment between 1990-92 and 1999-2001. On the basis of these data, the average reduction in undernourishment across all developing countries was 15 percent, but in East Asia the

<table>
<thead>
<tr>
<th>South Asia</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>26.1</td>
</tr>
</tbody>
</table>

Source: http://www.adb.org/Documents/Books/Key_Indicators/2003/xls/rt01.xls
figure was 31 percent. For Latin America the reduction was 23 percent (second best performance among all regions), while for Sub-Saharan Africa it was only 6 percent. This impressive accomplishment of East Asia having the best record of all regions in reducing this dimension of poverty was won including the difficult recession period of the Asian Financial Crisis (1997-1998), in addition to the fact that by 2000 this region had achieved a level of undernourishment that was as good (as low) as any other region of developing countries. When we look at our two case countries in Southeast Asia, both Indonesia and Vietnam had excellent progress in the reduction of this aspect of poverty, reducing undernourishment by 33 and 30 percent, respectively.

Table 3: Poverty Indicators Across Regions: Undernourishment

<table>
<thead>
<tr>
<th>Region/Country</th>
<th>Percent Undernourished in total population</th>
<th>% Change 1999/90</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1990-92</td>
<td>1999-2001</td>
</tr>
<tr>
<td>Middle East/N Afr</td>
<td>8</td>
<td>10</td>
</tr>
<tr>
<td>E Asia/ Pacific</td>
<td>16</td>
<td>11</td>
</tr>
<tr>
<td>Indonesia</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>Vietnam</td>
<td>27</td>
<td>19</td>
</tr>
<tr>
<td>Latin America</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>South Asia</td>
<td>26</td>
<td>22</td>
</tr>
<tr>
<td>Sub-Saharan Africa</td>
<td>35</td>
<td>33</td>
</tr>
<tr>
<td>Total Dev Countries</td>
<td>20</td>
<td>17</td>
</tr>
</tbody>
</table>


Other data corroborate this success of East Asia as a region and specifically Indonesia and Vietnam as individual countries in reducing poverty, and a selection of these is shown in Table 4. These data show the percent of the population in poverty by two measures, the percent with incomes of less than US$1/day and with incomes less than US$2/day, plus the incidence of child malnutrition, for two time periods, 1990 and 2001. Once again, East Asia shows sharp reductions in poverty over this period and a record of reduction that is better than that of all other regions, although the levels of poverty are higher in this region than they are in the Middle East/North Africa, Europe and Central
Asia, and Latin America. Using the poverty line of US$1/day, East Asia reduced poverty over this period by half, or 15 percentage points, to 16 percent by 2001. South Asia reduced the percentage in poverty by almost a third, but only down to 37 percent. In all other regions, Middle East/N. Africa, Europe/Central Asia, Sub-Saharan Africa and Latin America, the percentage either stayed roughly constant or even increased over this period.

Table 4: Changes in Poverty Indicators by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>%Pop &lt;US$1/day</th>
<th>%Pop&lt; US$2/day</th>
<th>Child Malnurtn Incidence</th>
<th>GNI/cap</th>
</tr>
</thead>
<tbody>
<tr>
<td>MidE/N.Af</td>
<td>2.1</td>
<td>2.2</td>
<td>21.0</td>
<td>23.3</td>
</tr>
<tr>
<td>Eur/C Asia</td>
<td>1.4</td>
<td>5.1</td>
<td>6.8</td>
<td>20.3</td>
</tr>
<tr>
<td>E Asia/Pac</td>
<td>30.5</td>
<td>15.6</td>
<td>69.7</td>
<td>50.1</td>
</tr>
<tr>
<td>Indonesia</td>
<td>n.a.</td>
<td>7.2</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Vietnam</td>
<td>n.a.</td>
<td>17.7**</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>LatinAmer</td>
<td>11.0</td>
<td>11.1</td>
<td>27.6</td>
<td>26.0</td>
</tr>
<tr>
<td>S Asia</td>
<td>45.0</td>
<td>36.6</td>
<td>89.8</td>
<td>84.8</td>
</tr>
<tr>
<td>SubSah.Afr</td>
<td>47.4</td>
<td>49.0</td>
<td>76.0</td>
<td>74.7</td>
</tr>
<tr>
<td>Total DCs</td>
<td>29.6</td>
<td>23.2</td>
<td>62.1</td>
<td>55.6</td>
</tr>
</tbody>
</table>

Source: World Development Indicators database, April 2002

http://www.developmentgoals.org/Goal1.xls
http://www.developmentgoals.org/Poverty.htm

* for year 1995
** for year 1998

Measuring poverty at US$2/day, across all developing countries the number in poverty by this measure fell by 10 percent during the 1990s. The only region to show a large
decrease in poverty over this period was East Asia. Starting at 70 percent in poverty in 1990, a decade later this fell by 28 percent to half the population. South Asia and Latin America both reduced the percentage in poverty by 6 percent and Sub-Saharan Africa by 2 percent. The percentage in poverty in the Middle East/North Africa and Europe/Central Asia actually increased, using this definition.

The data in Table 4 on child malnutrition is less complete, but it shows the same general pattern. East Asia was the most successful region in reducing child malnutrition, and did so by 21 percent over the 1990s. South Asia reduced it by 17 percent, and Sub-Saharan Africa had an increase in child malnutrition of 4 percent. Within East Asia, Indonesia reduced child malnutrition by 26 percent, and Vietnam by 24 percent.

**Sum**

By all measures of poverty we have examined, the record of East Asia is clearly the best of all regions in reducing poverty over the last two decades. East Asia does not have the lowest levels of poverty in income terms, although it has as good a record as other regions in terms of the levels of malnutrition. But the income growth rates and the rates of reduction in poverty are routinely superior by a wide margin. When we examine data on the performance of individual countries much the same can be said of Indonesia as of East Asia as a region. It does not have the lowest level of poverty, consistent with its relatively low income level, but its success in poverty reduction is as good as most any other country for which we have data. Vietnam also has a strong record in poverty reduction, but two caveats should be mentioned. It started from a base situation in 1980 of being one of the poorest countries in all Asia, making percentage improvements at this stage somewhat easier. Even by 1998 its poverty levels were such that 45 percent of its rural population and 37 percent of its overall population still live below the poverty line (World Bank). Second, although it has succeeded in lifting many people from poverty, it has experienced a significant widening of income differentials within the country, particularly between rural and urban areas.
IV. Explaining The Success in Poverty Reduction

To attempt to explain the successes of these regions and countries in reducing poverty, we examine the government policies being applied. However, due to the heterogeneity of country policies and our limited data on those policies, we are able to do this only for two countries, Indonesia and Vietnam. The attraction of using data from these two countries is that both countries have relatively large agricultural sectors and have had some successes in agricultural exports. Further, both have had success in alleviating poverty, especially Indonesia. Its record is one of the best of all countries in poverty alleviation, at least until the Asian Financial Crisis hit in 1997/98. What makes this country’s record more interesting is that it was considered almost beyond hope in terms of development prospects in the late 1960s and early 1970s when its income levels were among the lowest in the world. It also had the benefit of petroleum resources but its record of alleviating poverty since 1970 would be matched only by China. It is still not a rich country, and it falls near the dividing line that separates where the World Bank classifies countries as “low income” and “middle income”. As another measure of its level of development, the proportion of the country’s GDP derived from agriculture in 2002 was 17.5 percent. So an examination of why Indonesia was so successful in its poverty reduction efforts would be instructive.

Vietnam on the other hand is interesting because it is a transition economy, shifting from central planning to a market economy over the period from the latter 1980s through the 1990s. It is also interesting because both its overall and its agricultural sector economic growth rates have been excellent in the 1990s. Its performance in the 1980s is hampered by the stagnation that accompanied its central planning efforts in that decade and that led to its desire to shift to more of a market economy. Finally, Vietnam is interesting because despite its growth in agricultural productivity in the 1990s its poverty alleviation performance may be hampered by circumstances that led to a widening of the gap between rural and urban incomes. This widening occurred not because there was no growth in rural incomes but because urban incomes rose twice as quickly as rural incomes (between 1993 and 1998, 60 percent vs. 30 percent), and migration flows were
restricted enough so as not to permit these quite different income levels to be equalized. Income per capita is estimated at US$400 in the year 2000, and the agricultural sector accounts for approximately 25 percent of GDP (1999).

**Agricultural Policies**

*Indonesia*

Because poverty tends to be concentrated in rural areas, we start by examining policies that focus on the agricultural sector. The agricultural sector has been growing in East Asia at rates that are among the fastest across all developing country regions. However, the same cannot be said for Indonesia. Agricultural sector growth rates have been little more than half the growth rate of the whole economy over the last two decades, and agricultural growth in the 1990s, at only 1.9 percent per year, was less than in the 1980s in both absolute terms and relative to GDP growth. Further, its agricultural growth was less than what was found in Table 1 to be occurring in most other East Asian countries. This suggests that agricultural sector policies have not been so successful in increasing productivity growth and maintaining jobs in this sector, and in reducing poverty.

A closer examination of agricultural policies in Indonesia over the past two decades provides support for such a claim. In general, there have not been particularly large budget allocations to the agricultural sector, especially if you look beyond a fairly costly fertilizer subsidy (Barichello 2003). Although the fertilizer subsidy itself contributed to increased productivity by appearing to speed up adoption of the high yielding rice varieties of the 1970s, this effect was pretty much exhausted by the mid- to late-1980s. One budget area where one would like to see a high and growing expenditure level for achieving increases in productivity is the category of agricultural research and extension. However, this is not what one finds. This expenditure is not relatively large, and this has been the case for some time. Further, there have not been evident research results that have given segments of agriculture a strong boost in yields, cost savings, or other elements of productivity gain subsequent to the early to mid-1980s. Similarly, there has not been any large new expenditure on agricultural infrastructure, such as new irrigation investments, to act as a stimulus to agricultural sector growth, especially in the 1990s.
Finally, there is no real commodity policy in Indonesian agriculture. This means no sustained taxpayer-financed subsidies to purchase or give deficiency payments to farmers for particular crop production levels, aside from the combination of the fertilizer subsidy and somewhat higher than world market prices (average of 19 percent higher over the 1985-2000 period) that have characterized rice policy.

The other important side of agricultural policy concerns foreign trade. Indonesia’s trade policy for agriculture has tended to be protectionist for import-competing products and laisser-faire for export crops. The areas of most significant current protection are rice, the most important crop, and sugar, a crop of doubtful comparative advantage but with a policy of considerable (average of 37 percent over 1989-2000) border protection.\(^2\) Soybeans have enjoyed very high rates of border protection, although declining since the mid-1990s (from 97 percent over 1990-1994 to 37 percent over 1996-2000). On the export side, Indonesia’s major crops are rubber, palm oil, coffee, tea, cocoa, pepper, and most spices. There has been little support for these crops aside from some research expenditures. Indeed, there are periodic export taxes (notably on palm oil) that hurt this sector. Finally, the protection that exists in some parts of the industrial sector has the effect of increasing the value of the Rupiah, taxing those crops that are export- or import-competitive.

The net effect of these agricultural policies is that Indonesia has done little to enhance productivity of the agricultural crops and commodities, particularly in the 1990s. This is the case when one looks at all agricultural expenditures, research/extension programs and expenditures, border protection via tariffs and non-tariff barriers, or the protection given industrial commodities that, by raising the value of the currency, lowers most agricultural commodity prices. Aside from periodic, and short run, increases in world commodity market prices, Indonesian agriculture has not faced strong incentives to expand output and raise productivity. The exception would be those tree crops such as oil palm and rubber where Indonesia has maintained or increased its comparative

\(^2\) Nominal rate of protection data from 1985 to 2000 are provided for the four major import-basis crops (rice, sugar, soybeans, and corn) in Barichello (2003).
advantage on world markets. These factors are consistent with, if not a major cause of, the slow growth in agricultural GDP outlined in Table 1.

**Vietnam**

What about the other country case, Vietnam? First, this economy has registered relatively rapid growth in agricultural GDP as noted in Table 1. Its performance in the 1980-90 period, 2.8 percent, was modest which reflects the stagnation of the last years of central planning and the early years of reform before most of the policy and institutional changes that accompanied this shift to a market economy had time to take effect. However, its average agricultural growth rate in the 1990s is the highest of all countries in Table 1, including China.

Part of this rapid growth rate is due to the new institutions that were adopted affecting the agricultural sector, notably the changes in property rights and land tenure arrangements. One outcome of the Vietnamese land reform was a notable increase in investments in land, in terms of irrigation and drainage for example. In addition, there was the shift from state and cooperative farms to individual family farms that began in the latter part of the 1980s and resulted not only in higher yields but also in experimenting with crops that were relatively new to commercial production in Vietnam. In terms of government expenditure, Vietnam has spent between 5 and 7 percent of the state budget on agriculture over the 1990s (Government of Vietnam, 2000). In the late 1990s, this has been spent mainly on irrigation (50 percent), land reclamation, and a mix of reforestation and other forestry services (another 25 percent). There was little investment in agricultural research at only 1.7 percent of agricultural budget expenditures, and another 0.6 percent on agricultural extension. Considerable attention has been given to rural credit institutions, mostly through expanding lending activities to agriculture through a state-owned bank.

Trade policy in Vietnam has also generally been more open that that in the Indonesian agricultural sector, possibly reflecting only that the export sector is a much larger proportion of total agricultural production than is the case in Indonesia. Whereas
Indonesia has put protective border measures in place on a number of import-competing commodities, this has not been very important in Vietnam due to the large share of production that is exported. Rice and industrial (mostly tree) crops, which are heavily export oriented, account for 2/3 of domestic production, not counting any horticulture, cashew nuts or black pepper, where exports have also been important.

The results of these various measures has been not only a more rapid growth in agricultural GDP over the 1990s than virtually all countries in Asia (China is slightly higher), but also a dramatic increase in agricultural exports. Within the 1990s decade, Vietnam became the second to fourth largest coffee and rice exporter in the world. It also became a major factor in the world rubber market, and exports of pork, aquaculture seafood products, and some horticultural products increased substantially. And with large increases in non-agricultural incomes, there was an expansion of domestic demand for a number of other agricultural commodities, such as horticultural crops and meat. These developments involved large increases in agricultural production, learning of improved production methods, and improved institutions, collectively driving the rapid 4.2 percent per year growth rate in agricultural sector value-added.

**Industrial growth and its sources**

In examining Indonesia or Vietnam and rural incomes, it is true (as in most countries) that rural people, even farmers, derive a sizeable portion of their household incomes from the non-agricultural sector. This is particularly the case in Indonesia but also true to an important extent in Vietnam. The importance of this is that the understanding of rural poverty depends increasingly on non-agricultural factors when non-farm incomes increase in importance in a household’s total income.

The question of how much does a rural household depend on non-farm income sources depends heavily on how well rural and urban labour markets are integrated. When they are highly integrated, as they are for most of the population of Indonesia (Naylor, 1989), growth in the industrial sector will push up wages in that sector, which signals to people in rural areas that income prospects are more attractive in the industrial sector. If they
have the education necessary to take such jobs and if there are no regulatory or other barriers to migration, then there will be movement of labour from rural areas to those urban or industrial areas where economic growth is most rapid.

Such migration flows will not only tend to equalize wage rates between the two areas, subject to cost of living differences, but they will allow people in the slower growing sectors to share in the economic gains being derived from the faster growing sectors. This has immediate implications for poverty reduction in rural areas and Indonesia. With rapid industrial growth, labour will migrate from rural areas, enjoy the higher wage rates in the industrial sector, and thereby pull themselves into higher income groups. This will also raise incomes in the rural regions from the normal competitive increase in rural sector wages (as firms try to compete with industrial wage rates to hold labour) and from remittances from migrants back to family members remaining in rural areas. All these elements will combine to provide income growth and poverty reduction in rural areas independent of the income growth in agriculture per se. If, however, there is growth in the agricultural sector, this will help raise rural wage rates more directly and will succeed in holding larger quantities of labour in the farm sector.

This labour market integration can also be seen in terms of the supply of labour curve to the agricultural sector. It creates a highly elastic supply of labour to agriculture, making that sector virtually a price taker in the labour market. This has the implication that agricultural policies, in addition to world agricultural commodity markets, will not raise wage rates in agriculture. Both factors will only raise land prices, and create more (or fewer) jobs, as mentioned above.

This would appear to be exactly what has happened in Indonesia in the two plus decades from the early-1970s to the latter 1990s when the Asian Financial Crisis put an end, albeit temporarily, to growth rates above 6 percent. The labour market was becoming increasingly highly integrated over this period as documented clearly by Naylor. Not only were rural family members found working at off-farm jobs in rural towns and villages but migration flows from all parts of rural areas to larger urban centers were
common within Java, Sumatra and Bali, and could be casually observed in these regions at any time in the 1980s or 1990s. The extent of these migration flows was such that it did not happen fortuitously. Many factors contributed including improved education levels in rural areas, substantial population density, reasonable infrastructure development across much of the non-mountainous parts of the country, and the absence of regulations prohibiting this migration.

Perhaps the most important factor was that the industrial economy grew rapidly over much of this period. Aggregate GDP grew at approximately 7 percent annually over the 1970-1996 period and the industrial component usually was growing more quickly. Furthermore, this industrial growth was not restricted to the capital city but occurred in many cities throughout Java and Sumatra.

The causes of this industrial growth are more complex and difficult to assess (Barichello and Flatters, 1991). Clearly many factors were at work, beginning with appropriate macroeconomic policy, especially exchange rate policy. A relatively open trade environment, especially after 1985, was also a major contributor, although there were a number of sectors, aside from some parts of agriculture, where protectionist policy dominated. For example, protection was more common in those sectors where state-owned enterprises were dominant or where certain large firms were unusually well-connected politically. Access to open markets in the rest of the world, including the OECD countries, for non-agricultural exports was also a very positive contributing factor to the export success that was clearly fuelling Indonesian growth post-1985. But longer run investment policies such as in education, health, and infrastructure, including attention to building up rural areas and financing local government, were also at work.

So in Indonesia, there were a number of non-agricultural factors present that were especially conducive to reducing poverty. These began with rapid industrial economic growth as well as well-integrated rural-urban labour markets and the ability of large numbers of rural residents to move to urban work places and find higher paying jobs. The result was that even with agricultural policies that were not consistently in support of
increased productivity and broad income growth within the agricultural sector, the
country was still able to reduce poverty dramatically.

*Contrasts with Vietnam*

Although its record in poverty reduction is quite good, Vietnam has not seen the same
proportionate reduction in poverty as has Indonesia and its poverty levels remain quite
high. For example, at the end of the 1990s, 45 percent of the rural population still lived
below the poverty line, 18 percent earned less than US$1/day, 19 percent were
undernourished by 2001, and child malnutrition affected 34 percent of the child
population in that same year.

There has been rapid economic growth (7.7 percent per year) over the 1990s, and this has
continued through the Asian Financial crisis to the present. Over 2000 and 2001 overall
economic growth was at about 7 percent per year. The industrial sector grew at an annual
rate of 10 percent over these two years and the agricultural sector at 3-4 percent. So
unlike Indonesia where agricultural growth has been relatively sluggish and where most
of the economy’s growth has come from the industrial sector, in Vietnam there has been
enough agricultural growth to offer some help in reducing rural poverty.

Employment and wage rates also grew very quickly during the 1990s, particularly in
urban areas. By itself, this might seem like enough to reduce rural poverty substantially.
However, a very large premium has emerged for urban wages, particularly in Hanoi and
Ho Chi Minh City. The extent of this premium is quite startling: 50 percent for overall
wage rates and 75 percent for skilled employment (Gallup, 2002). Nothing like such
wage differentials exist across the major islands of Indonesia, and it suggests that
something is inhibiting the movement of labour to equalize such wage rates. This is, in
fact, true. There are regulations on the movement of labour within Vietnam; residency
permits are required and these permits effectively tie people to the area of their birth.
However they are enforced within smaller towns, within the two largest cities they are
used to keep people out who were no born in those cities. They don’t prevent migration
but migrant workers from outside Hanoi and HCMC are operating in a “grey” market
where they receive the lowest wage rates within those cities, even if enforcement may be somewhat more relaxed in recent years. While this feature of Vietnamese labour markets may distinguish it from Indonesia, it is a parallel situation to that which prevails in China, where these residency registration procedures are also in effect and limit access to government housing, health care and education for children.

Data on rural household’s annual income for 1998 indicates that Vietnamese households do access off-farm income to a moderate extent. For an average rural household income of about US$700, 47 percent of that income came from agriculture, 19 percent from non-farm enterprises, and 34 percent from wage and other income. The off farm income, however, relates mostly to smaller cities and work opportunities within a farm family’s region. Wage rates have also increased here but not as quickly nor as dramatically as they have in Hanoi and Ho Chi Minh City.

So it appears that labour markets in Vietnam are not as open or as integrated between rural and urban areas as they are in Indonesia. Judging by the wage premia in the largest cities over the rest of the country, this particular aspect of the Vietnamese economy is limiting the success of poverty alleviation efforts. The rural poor are enjoying more jobs, improved wages and better economic prospects from the 4 percent growth in the agricultural sector and from that part of the 7 percent growth in the total economy derived from small and medium-sized towns. This is due both to labour market demand from both sectors and from the increased urban sector (domestic) demand for food products. But the most rapid growth in wages and a good part of the 10 percent growth rate in the industrial sector, the large number of jobs arising in Hanoi and HCMC, is to a large extent inaccessible to them. Furthermore, the competitive effect on rural wages from arbitrage with the Hanoi and HCMC jobs is mostly lost.

However much lower the poverty reduction results have been from this residency permit regime, the future does not look dim in this regard. There are signs that labour market regulations are changing to be more relaxed about rural migrants entering the large city labour markets. So over time, we can expect that Vietnamese poverty reduction efforts
will be more successful due to better integration of rural and large city urban labour markets.

V. Linkages with OECD country agricultural policies

This leads us to the final question we wish to address, what are the linkages between poverty reduction efforts within Indonesia and Vietnam, and OECD country agricultural policies. Already we would suspect that this connection between poverty reduction and OECD policies is relatively weak in the case of Indonesia because the poverty reduction successes there are tied most directly to a variety of domestic policies. We also know that the agriculture sector has not grown quickly enough for it to be a primary vehicle for poverty reduction. However, this slower agricultural sector growth could itself be influenced by negative effects from OECD country policies. In the case of Vietnam, the situation is less clear because here there have been weaker linkages between poverty in the rural sector and other domestic policies, although here we see relatively robust agricultural growth, despite possible negative effects from OECD country policies.

The commonly claimed argument is that through domestic support policies for agriculture, export subsidies, and limited market access to foreign agricultural imports, OECD countries hurt developing countries’ agriculture and food sectors, and through that harm they limit the effectiveness of poverty alleviation efforts or actually make poverty worse. The main root of this linkage between OECD country policies and East Asia countries poverty is through trade, and there are two avenues where there can be some effect. OECD country policies may affect exports or imports directly with the East Asian country in question, or, more likely, OECD country policies\(^3\) may affect the markets, particularly the prices, into which the East Asian country may be selling or from which it is buying. We address this primarily by examining the structure of trade in the two East Asian countries to see how OECD agricultural policies could affect them.

\(^3\) Trade effects may arise not only from OECD country agricultural commodity policies but also possibly through foreign aid programs or rural development programs.
Indonesia

The agricultural sector (including aquaculture) in Indonesia has a large export component in dollar terms, averaging some $5 billion per year over the 7 years from 1996 to 2002, but as a share of non-oil exports they account for only approximately 12 percent. The major export commodities, aside from fish products, however, are tree crops. The top five export commodities ranked by value for recent years are palm oil, rubber, coffee, tea, and pepper. Food stuffs (aggregated) would rank about third in such a list, as would aquaculture products (e.g., shrimp, lobster). Most of the food crops do not achieve export status, although periodically in the last two decades rice has been on an export basis. In a typical year, rice, sugar, soybeans, corn, and wheat are imported. Cotton, dairy products, meats, tobacco and cloves are also important imports. Among these import products, wheat and cotton are not grown in any quantity in Indonesia and dairy production is quite modest.

What becomes immediately clear is that most of Indonesia’s exports are tropical crops or products that are not grown in the OECD countries. So domestic support, export subsidies, and restricted market access of the traditional temperate climate farm commodities by those countries has little effect on Indonesia’s exports. There is only one export crop where there would be some impact from OECD country support and that is palm oil. To a limited extent, there would be some substitution in consumption between palm oil and soybean oil, resulting in some price linkages between those two markets. So export subsidies and domestic support of soybeans in the U.S. for example, could depress world soybean prices, and this would result in some lowering of world palm oil prices. Given the size of U.S. soybean support, the U.S. share of the world soybean market and the apparent concerns about health effects of palm oils, we would suspect that averaged over a number of years, price effects in the world soybean market would usually be small and the onward price effects in the palm oil market would be smaller still.

There would likely be some effects on import substituting crops. The main crops or products where OECD agricultural policy support to farmers has significant effects on
world markets and where Indonesia is an importer would typically be sugar, dairy, cotton, and possibly rice. In the cases of cotton, there is so little domestic production that the effect on Indonesia is effectively nil. In the case of dairy, although there is a moderate level of domestic production, roughly equal to thirty percent of consumption, through domestic policy the sector is partially insulated from world prices, so OECD country policy has a moderate effect on a small number of farmers. In the case of sugar, domestic policy reforms have reduced the extent of domestic subsidies and regulations so that domestic production is falling and imports are becoming more important. This industry also has policies that insulate domestic farm producers from world prices to some extent, so here too the effect of OECD country policies on farmers is present but the number of farmers affected is not large. However, it may be that these industries are small due to the price-depressing effects of OECD country policies. So we see quite possible negative effects on Indonesian farm producers in both the sugar and dairy industries, and that these effects may be quite substantial, even though the actual number of affected producers at the present time may be relatively small.

The rice sector has undergone some major policy changes since the Financial Crisis, and although the policy environment remains protective, world prices do have an impact due to the primary use of a tariff for protection instead of the non-tariff barriers that were used previously. So if OECD policies, such as in the U.S. and EU rice programs, have a negative effect on world market prices, this would now have a negative effect on Indonesian rice producers. Three factors must be considered to know the extent of this possible damage. First, what is the degree of subsidy or market price distortion that is occurring due to these programs? Second, the share of the US or EU in world rice production must be considered and this effect may be relatively small, notwithstanding the much larger share they hold of the world export market. Second, another factor that insulates Indonesia to some extent from at least U.S. policies is that U.S. rice production is largely *japonica* rice whereas the vast majority of Indonesia’s rice production is *indica*, and these are not perfect substitutes.
The conclusion of this review of Indonesian commodities affected by world market effects and trade flows due to OECD country domestic policies is that they have generally limited effects on Indonesian production and prices due to the low level of commodity overlap. However, these effects are likely to be more substantial in the case of sugar and dairy, and larger than would be indicated by the current number of producers or the current level of production. Rice production may also be affected, although likely to a lesser extent. Further, we can say that these negative effects on sugar and dairy production are occurring via distorted land use decisions, limitations on potential comparative advantage and lower land rents or land prices. OECD agricultural policies, of course, are helping sugar and dairy consumers. But importantly for poverty reduction efforts, these policies can not be having much of an effect on wage rates and therefore not much effect on poverty levels. They do reduce jobs in the sugar and dairy sectors and possibly local economic activity, but migration to other jobs is offsetting the potential losses to hold wage rates steady.

Vietnam

The agricultural sector in Vietnam is export-intensive and a significant contributor to the country’s total exports. In 2000, total agriculture and fish exports totalled US$3.4 billion (covering the 7 largest agricultural commodities plus marine products) which represented 31 percent of the country’s total non-oil exports. The largest agricultural export is rice that by itself represents between 4 and 5 percent of all exports in the last three years. The other main agricultural exports for the year 2000, in order of export value, were coffee, fruits and vegetables, cashew nuts, rubber, black pepper, and tea. The three largest import categories in 2000 were cotton, sugar and wheat. In addition to these, smaller amounts of soybeans were imported. As in the case of Indonesia, only minor amounts of cotton are grown in Vietnam, but in contrast to Indonesia, sugar cane is a relatively important domestic crop (300,000 hectares).

In terms of the impact of OECD country agricultural policies, the same comments as were made for Indonesia apply to Vietnam. These exports are tropical crops, with the partial exception of the vegetables category, so there is little commodity overlap between
OECD country agricultural policies and Vietnam’s exports, hence little impact on Vietnam’s export prices. The important exception may be rice, the largest export commodity, and most of the discussion for Indonesia applies here. World prices often have a direct effect on Vietnamese farmers, but the policy is not as simple as in the case of Indonesia’s import tariff. In Vietnam there is a state-owned enterprise (SOE) that effectively monopolizes the rice export trade, and in addition there is a quantitative export restriction that has sometimes been imposed. In the case of the former, export prices from the world market are effectively taxed by the exporter SOE by varying degrees. In the case of the latter, there have been periods where the rice export restriction has broken the tie between world and domestic prices, taxing domestic farmers. With these caveats, it appears likely that U.S. and EU rice policies have had an undetermined although potential effect on Asian rice prices, for the reasons given above.

On the import competing crops, the main commodity is sugar. We do not know the domestic policy situation within Vietnam that may soften or alter the impact of world market prices on domestic sugarcane prices. Restricted SOE sugar importers would be an example, as in rice, where world prices may not be passed through directly to domestic farmers. Assuming that world prices do prevail domestically, this would represent a case where OECD country agricultural policies would very likely be hurting domestic sugar production by their acknowledged effects of lowering world market prices.

The effect these two cases, rice and sugar policies in OECD countries, have on Vietnamese production levels, land prices and jobs will be similar to those described above for Indonesia. In the case of poverty reduction efforts, the effects of OECD country agricultural policies are likely to be considerably more substantial than in the case of Indonesia. In Indonesia, there is so much integration in the country labour market that rural wage rates are largely exogenous to the rural and agricultural sector. So anything that would depress agricultural prices will only have their effect on land markets by lowering land prices. Landless farmers and labourers in agriculture will not have their wage rates affected under these conditions, so poverty reduction efforts and processes will be largely untouched by OECD country policies.
This is much less likely in the case of Vietnam. Given that the rural labour market is less well integrated with the urban labour market, agricultural market conditions, lower prices in particular, are likely to be having a depressing effect on agricultural wage rates, hence having a direct effect on poverty. This will be offset to a certain effect by the importance of other crop profitabilities in determining local farm wage rates. But rice, and sugar to a lesser extent, are important crops in Vietnam and can be expected to influence rural wage rates to a measurable extent. Consequently there are real reasons to worry that OECD agricultural policies are damaging poverty reduction efforts in Vietnam to some extent.

VI. Summary and Conclusions

Depending on the measure of poverty used, the East Asia developing country region has poverty levels that are somewhat higher than other richer regions, partly reflecting its relatively lower average income level. But whatever measure of poverty is used, no region has been as successful in reducing poverty over the last two decades. To examine this success, we consider two countries where we are able to obtain more detailed information, Indonesia and Vietnam. The two are similar in terms of having achieved rapid income growth and roughly similar in terms of income per capita levels and poverty reduction successes, but there are many intriguing differences as well.

When we look more closely at the factors underlying this poverty reduction success, we observe that growth in both the non-agricultural and agricultural economies have contributed. On this point, there are more pointed differences between Indonesia and Vietnam. In the case of Indonesia, there has been rapid non-agricultural growth extending over almost three decades, from 1970 to the Asian Financial Crisis of 1997-98. Its agricultural growth was rapid in the earlier part of this period, but it has been considerably lower in the decade of the 1990s, relative to the rest of the economy and relative to Vietnam. It is quite evident that the considerable successes in poverty
reduction in the 1990s in Indonesia has not been due to developments in the agricultural sector.

In Vietnam, the situation is less clear in that industrial sector growth is not so closely tied with rural wages. Urban wages, particularly in Hanoi and Ho Chi Minh City, have increased much more than agricultural wages, reflecting the importance of residency permits in gaining access to urban sector wages. The result has been weaker links between rural poverty reduction and the overall growth of the economy. Fortunately, there has been fairly strong agricultural sector growth that has contributed to raising rural wages. In sum, Vietnam’s poverty reduction efforts have been moderately successful, but could have been much more substantial if labour market integration like that which has occurred in Indonesia was permitted.

The effect of OECD agricultural policies in altering East Asian poverty reduction is largely through commodity markets. The mechanism for domestic support, export subsidies, or inhibited market access by the developed countries is well known, resulting in lower world market prices under most circumstances. This means that OECD country agricultural policies have lowered agricultural incomes and hurt poverty reduction if the OECD country has world market power, if the policy (or combination of policies) in question will shift aggregate excess demand or excess supply and affect world market prices, if the agricultural sector in the developing country is linked to those world markets, and if rural wage rates are at least partially determined by agricultural sector conditions. Of course, there are a variety of other distributional effects on developing countries from OECD country agricultural policies where damage on production levels, jobs, and land rents or prices is occurring independent of the last condition above, that is, regardless of how rural wages are determined. Some of these will affect rural poverty.

In the case of Indonesia, for examining poverty reduction efforts, the latter two conditions are not often met. Most of Indonesia’s export markets involve commodities that are not produced or subject to trade distorting policies of OECD countries. One possible exception is palm oil, to the extent that soybean oil and palm oil are substitutes.
In the cases where there are some OECD policies and plausibly some world market price effects due to those policies, such as in sugar, dairy, and possibly rice, Indonesia has a domestic policy that moderates the transmission of world prices to domestic markets. However, it is still likely that these OECD country policies have damaged Indonesian profitability, production, jobs and land prices. But significantly, rural wage rates in most populated areas in Indonesia (Java, Sumatra, and Bali) are largely determined outside the agricultural sector. Therefore, those policies are almost certainly having very modest effects on poverty reduction efforts.

In the case of Vietnam, there are very similar commodity overlaps with OECD country policies, specifically rice and sugar. In the case of rice, the linkage between domestic prices and world prices is similar to Indonesia but due to the actions of the monopoly primary rice exporter (state-owned enterprise) rather than a tariff. We do not know the policy details in the case of sugar, although it is not grown throughout the whole country. In these cases, it is likely that there are some effects of world prices on domestic prices. But unlike the case of Indonesia, this is likely to have a measurable effect on rural wage rates due to the much lower degree of integration between industrial and agricultural labour markets. Therefore, there is the clear possibility that OECD policies in these two commodity areas are having negative effects on Vietnamese poverty reduction efforts.

Finally, these two case studies are only illustrative of what could be happening throughout East Asia. They do not point to a general conclusion but rather to more local conclusions that follow from the situation in each country. What is of larger fundamental importance is that conclusions in this area require the knowledge of policy and economic structural details in each country. Developing countries are so heterogeneous in their policies and circumstances that the effects of OECD country agricultural policies are highly variable. The two case study countries in this paper point make this abundantly clear. Policy and structural details of each country must be examined on a case-by-case basis in order for any conclusions to be drawn on this issue.
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