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Regional Economies: Divergence in Activity and Convergence in Development

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ABSTRACT. The disparity between regional differences in economic activity and economic development is emphasized. Lack of convergence in economic activity is more obvious though this is not necessarily bad for there is reason to support a certain degree of divergence. Lack of convergence in economic development is less obvious though its absolute convergence is more necessary for national development's sake. It is argued that raising the level of infrastructure is the long-run solution towards ultimate convergence in development. However, construction of such, by nature, takes time so that at the moment, the current low level of infrastructure becomes a short-run constraint. This leaves raising awareness toward short-run economic conditions and activities especially to prospective investors as one solution. This can be done using proposed short-run indicators that should be treated with caution.

KEYWORDS. regional economies · Philippines · economic development · economic activity · convergence · divergence · indicators

Introduction

In the Philippines, concentration of economic activity usually happens in only a few regions. It is sustained when people and private firms stay, relocate to and/or expand in those same regions. Job opportunities and greater absolute potential profit come with increased economic activity. When people follow opportunities, concentration of economic activity contributes to further concentration of population. And when firms invest when the absolute potential profit is greatest, they tend to expand and reinvest in the same concentrated regions. To the extent that economic activity in some regions remains as or becomes more concentrated, and in some others remains as sparse, the level of economic activity diverges. Divergence in activity among regional economies is one of this paper's primary interests.

Concentration of economic activity does not automatically translate to economic development. For instance, China may have the biggest

economy in Asia and therefore, has the greatest economic activity but it is far from Singapore in terms of economic development. Also, the National Capital Region (NCR) may have the biggest regional economy and consequently, has the greatest concentration of economic activity but theoretically speaking, it does not automatically mean that the NCR is the most developed region. Therefore, economic activity or the lack of it is not sufficient for economic development, cannot in itself make less developed regions catch up with more developed ones, and consequently, cannot in itself cause regions to converge to the same level of development. Convergence in development among regional economies is another of this paper's primary interests.

This paper is a review of the nature of Philippine regional economies, taking economic activity and economic development as different but not necessarily mutually exclusive elements. The first section articulates the difference between economic activity and economic development. The second section examines the degree of divergence in terms of economic activity. The third section examines the status of regional convergence towards economic development.

The fourth section examines the main determinant of convergence and what has been done in favor of long-run convergence in regional economic development. As for the determinant of convergence towards regional development, nothing new is stated, as many, including Llanto (2007), Balisacan (2003), Stephan (2001), Kwon (2000), and Moreno et al. (1997), already acknowledged that infrastructure is one of the most—if not the most—important determinants. The motivation behind the fourth section is the need to remind all responsible for economic policies about the less than proportionate attention to infrastructure despite our knowledge of its degree of importance. Infrastructure will take long to construct and can affect economic development only in the long run. Therefore, the level of infrastructure is a given and a constant in the short run. The fifth section reviews and disseminates short run regional economic indicators. It is hoped that such indicators will help policy makers adopt better short-run strategies given constraints in infrastructure.

Convergence to What: Economic Activity or Economic Development?

Regional economic activity is referred to as the absolute quantity of scarce resources allocated by individuals, private businesses,

Table 1. Gross regional domestic product

	Level (millions)[a]			Share (%)			Growth (%)	
Region	2006	2007	2008	2006	2007	2008	06-07	07-08
Philippines	1,276,872	1,366,493	1,418,952	100.0	100.0	100.0	7.0	3.8
National Capital Region	414,306	446,669	468,382	32.4	32.7	33.0	7.8	4.9
Cordillera Admin. Region	28,395	30,413	30,957	2.2	2.2	2.2	7.1	1.8
Region I–Ilocos Region	38,168	40,351	41,230	3.0	3.0	2.9	5.7	2.2
Region II–Cagayan Valley	25,496	27,154	27,684	2.0	2.0	2.0	6.5	2.0
Region III–Central Luzon	107,438	113,374	117,724	8.4	8.3	8.3	5.5	3.8
Region IVA–Calabarzon	157,433	165,060	168,300	12.3	12.1	11.9	4.8	2.0
Region IVB–Mimaropa	34,290	37,649	38,820	2.7	2.8	2.7	9.8	3.1
Region V–Bicol	35,390	38,060	39,702	2.8	2.8	2.8	7.5	4.3
Region VI–Western Visayas	91,858	98,907	103,272	7.2	7.2	7.3	7.7	4.4
Region VII–Central Visayas	90,293	98,080	101,366	7.1	7.2	7.1	8.6	3.4
Region VIII–Eastern Visayas	28,090	28,955	29,998	2.2	2.1	2.1	3.1	3.6
Region IX–Zamboanga Pen.	32,665	35,042	35,806	2.6	2.6	2.5	7.3	2.2
Region X–Northern Mindanao	62,651	67,557	71,170	4.9	4.9	5.0	7.8	5.3
Region XI–Davao Region	57,863	61,676	63,987	4.5	4.5	4.5	6.6	3.7
Region XII–SOCCSKSARGEN	44,725	47,722	49,939	3.5	3.5	3.5	6.7	4.6
Region XIII–Caraga	16,524	17,921	18,487	1.3	1.3	1.3	8.5	3.2
Autonomous Region in Muslim Mindanao	11,289	11,904	12,129	0.9	0.9	0.9	5.4	1.9

Note: GDP in constant 1985 prices.

[a] Data from National Statistical Coordination Board; the rest are author's calculation.

nongovernment organizations (NGOs), and the government in specific regions. This is typically measured by regional incomes and its subcomponents. The most popular indicator of economic activity is aggregate income and the most popular measurement of aggregate income is the gross domestic product (GDP). As such, the most popular indicator of regional economic activity is the gross regional domestic product (GRDP). Its subcomponents include government accounting at the level of investment, consumption, government expenditure, and net export to specific regions.

Meanwhile, regional economic development is referred to as the quality of the standard of living of population in specific regions. If one thinks of regional economic activity in terms of the size of the pie for the region's population, then one may think of regional economic development in terms of the average size of the slice for each in the region's population. Thus, the size of the income pie in relation to the number of people who would share the pie, expressed in per capita GRDP, is one of the more typical measures of regional economic development. It is not necessarily true that all benefit from the pie—a few rich people may get too much so that most get too little. As such, the distribution of income is another indicator of development. Other indicators of the standard of living, such as education and life expectancy, are readily accessible and, though not directly related to income, are still powerful indicators.

From Table 1, it can be noted that one of the social issues that the Philippines faces is the concentration of economic activity in a few regions and the lack of economic activity in the remaining regions. For example, as of 2007, the GRDP of NCR is 32.7 percent of the GDP. The GRDP of Region 4A (Calabarzon) is 12.1 percent of the GDP, making it a distant second. All other regions pale in comparison to the NCR. Investments tend to be concentrated in NCR and the concentration reinforces with further investments. In 2007, fixed capital formation in NCR accounts for 35 percent of that of the whole economy. The rest of Luzon's share is also 35 percent. Visayas accounts for 16 percent and Mindanao for 14 percent.

Note that NCR is not exceptional as it performs relatively at par with the rest of the country in terms of the GRDP growth. This suggests the following: The concentration of economic activity in NCR has been the same in terms of share. It means that the economic activity is dispersing from NCR relative to the rest of the country, but concentrating into NCR relative to individual regions. In a stylized example, suppose

Table 2a. Development indicators

Region	GRDP/N 2007	HDI[a] 2006	Life expectancy[b] 2006	Poverty 2003	Literacy 2003	Enrollment 2000	Gini ratio 2006
Philippines	15,429	0.721	70.6	30.4	84.1	91.5	0.458
National Capital Region	40,252	0.804	71.8	7.3	94.6	92.3	0.399
Cordillera Administrative Region	19,120	0.648	67.5	31.2	85.4	95.7	0.442
Region I–Ilocos Region	8,286	0.649	69.9	30.2	88.6	91.6	0.395
Region II–Cagayan Valley	8,511	0.603	70.7	24.5	84.4	92.6	0.422
Region III–Central Luzon	11,904	0.654	70.9	17.7	86.9	91.0	0.399
Region IVA–Calabarzon	14,891	0.666	70.5	18.8	90.4	–	0.408
Region IVB–Mimaropa	13,431	0.522	64.6	47.9	82.3	–	0.411
Region IV–Southern Tagalog	–	–	–	–	–	92.7	–
Region V–Bicol	7,067	0.543	70.4	48.4	80.1	90.7	0.443
Region VI–Western Visayas	13,842	0.604	69.1	39.1	81.5	93.9	0.433
Region VII–Central Visayas	14,829	0.588	71.3	28.4	81.7	90.3	0.464
Region VIII–Eastern Visayas	6,922	0.529	66.7	43.3	76.7	90.1	0.483
Region IX–Zamboanga Peninsula	10,679	0.532	68.1	49.4	74.8	93.6	0.505
Region X–Northern Mindanao	16,537	0.607	68.7	44.3	83.7	90.1	0.481
Region XI–Davao Region	14,866	0.606	68.7	34.4	77.8	90.9	0.423
Region XII–SOCCSKSARGEN	12,505	0.561	68.1	38.4	77.1	93.1	0.401
Region XIII–Caraga	7,452	0.537	64.8	54.2	81.0	92.9	0.445
Autonomous Region in Muslim Mindanao	3,582	0.401	57.5	53.1	62.9	80.3	0.311

Source: Raw provincial data is from Human Development Network (2009). Enrollment data is from Hill, Balisacan, and Piza (2007). The rest are from NSCB.

Note: GRDP/N is per capita income in constant 1985 prices. Poverty is poverty incidence of population. Literacy is adult functional literacy. Enrollment is primary and secondary enrollment rate.

[a] Author's estimates.

[b] Author's estimates.

that the national income is PHP100 and the share of NCR in national income as mentioned is approximately 30 percent. If all regions grow, say by 10 percent, national income increases from PHP100 to PHP110, that of NCR increases from PHP30 to PHP33 and that of the rest of the country from PHP70 to PHP77. Noting that PHP30 of PHP100 and PHP33 of PHP110 are both 30 percent, the share of economic activity in NCR has been the same.

In absolute terms, activity in the rest of the country is PHP70 less PHP30 or PHP40 more than NCR's. After the 10 percent change, the economic activity spread to PHP77 less PHP33 or PHP44 more than NCR's. On average, noting that there are seventeen other regions outside of NCR, the GRDP of each other region is one-seventeenth of PHP70 or PHP4.12. Therefore, activity in NCR is PHP30 less PHP4.12 or PHP25.88 more than the average region. After the 10 percent change, the economic activity in the NCR concentrates to PHP33 less PHP4.53 or PHP28.47 more than the average region. As in reality, income outside of NCR is also concentrated in regions 4A (Calabarzon), 3 (Central Luzon), 6 (Western Visayas), and 7 (Central Visayas). Therefore, the concentration of economic activity in NCR is more pronounced if compared to the likes of Region 13 (Caraga).

Whether concentration of economic activity translates to concentration of economic development in NCR and lag in development for the rest of the country is of significant interest. The overconcentration of economic development will tend to spawn a host of social problems. Examples of social problems in economic centers include overpopulation beyond what cities can economically sustain and beyond what is environmentally healthy. An example of a social problem is cynicism from outside of economic centers. This is the case when the Moro Islamic Liberation Front (MILF), through its deputy spokesman Khaled Musa, blamed "Imperial Manila" for the economic marginalization of Muslim Mindanao.[1] This is also the present case with Cronin's (2004) description of the New People's Army (NPA) extorting, kidnapping, and drug trafficking mainly in the poorer rural areas of the Philippines.

Hill, Balisacan, and Piza (2007) presented data that lead one to believe the concentrated degree of development across regions. Table 2A is an updated version of such and a summary of observations is found in Table 2B. As of 2007, the per capita GRDP of NCR is 2.61 times that of the whole country. The Cordillera Autonomous Region (CAR) is a distant second having 1.24 times that of the whole country.

Table 2b. Summary of development indicators

Indicators	Year	Region outside of NCR with highest for the five[a] indicators and lowest for poverty and Gini ratio	Number of regions outside of NCR higher than the Philippines for the five indicators and lower for poverty and Gini ratio[b]		
			Luzon less Mimaropa	Mimaropa, Visayas, and Mindanao	Total
GRDP/N	2007	19,120	1 (5)	1 (9)	2 (14)
HDI	2006	0.666	0 (6)	0 (10)	0 (16)
Life expectancy	2006	71.3	2 (4)	1 (9)	3 (13)
Poverty	2003	17.7	4 (2)	1 (9)	5 (11)
Literacy	2003	90.4	5 (1)	0 (10)	5 (11)
Enrollment	2000	95.7	4 (2)	4 (5)	8 (7)
Gini ratio	2006	0.311	6 (0)	6 (4)	12 (4)

Note: GRDP/N is per capita income in constant 1985 prices. Poverty is poverty incidence is of population. Literacy is adult functional literacy. Enrollment is primary and secondary enrollment rate.

[a]The five indicators are GRDP/N, HDI, life expectancy, literacy, and enrollment.

[b]Numbers in parenthesis are those lower than the Philippines for the five abovementioned indicators and higher for poverty and Gini ratio.

Region 10 (Northern Mindanao) is third having approximately the same as the national. The rest has less than the national average.

Measuring development using the Human Development Index (HDI), NCR has the highest with 0.804. A distant second is Region 4A (Calabarzon) with 0.666. No other region exceeded the national HDI of 0.721. To compare with other countries, Metro Manila's HDI for 2003 is comparable to that of Thailand while the Autonomous Region of Muslim Mindanao's (ARMM) is comparable to those of Sudan, Ghana, and Myanmar (Balisacan 2007).

In terms of life expectancy, NCR has the highest with 71.8 years. The second highest is that of Region 7 (Central Visayas) with 71.3 years. Only three regions outside of NCR have higher life expectancies than the national rate of 70.6 years. In terms of poverty incidence, NCR has the lowest with 7.3 percent. The second lowest is that of Region 3 (Central Luzon) with 17.7 percent. That is more than twice that of NCR. Four regions in Luzon other than NCR have lower poverty incidence than the national rate of 30.4 percent. Among Region 4B (Mimaropa), Visayas, and Mindanao, only Region 7 (Central Visayas) has lower poverty incidence than the national level.

Development measured in terms of poverty incidence indicates that Luzon, in general, has extremely lower rates of poverty compared to Visayas and Mindanao. This implies lack of convergence in poverty among the three main groups of islands.

In terms of adult functional literacy, NCR has the highest with 94.6 percent. The second highest is that of Region 4A (Calabarzon) with 90.4 percent. Almost all regions in Luzon are above the national functional literacy rate. Region 4B (Mimaropa), Visayas, and Mindanao have scored low. In contrast, NCR is at par with the rest of the country in terms of primary and secondary education. Income distribution, measured with the Gini ratio, across the country is homogeneous. This, however, does not show that income distribution is satisfactory because the Gini ratios of all regions are homogeneously high.[2] In summary, the level of economic activity as shown by the indicators in Table 1 points to divergence and the level of development as shown by the indicators in Tables 2A and 2B points to lack of degree of convergence.

Divergence in Regional Economic Activity

This subsection speaks of the aggregation of economic activity in specific regions. Divergence in the level of economic activity has already been shown in the previous section. The good news is that concentration of economic activity is not at all detrimental. There are benefits to further concentration. In China, for instance, the urban centers grow extremely fast—widening the urban-rural difference. This growth in the urban centers is not at the expense of growth in the rural areas (Lin 2003). It actually contributes to growth in the latter. Economic activity also increases the size of the market within a region and this can provide a basis for comparative advantage due to increasing returns.

Concentration also facilitates agglomeration. With agglomeration, Marshall (1920) argues that an economy benefits from three externalities—technical spillovers, specialization of workforce, and network of suppliers. The first two are related to horizontal linkages and the third to vertical linkage. To show these externalities, we take the software development industry as an example. A technical spillover takes place when the presence of a high-end service sector attracts high value added service-oriented investors, such as call centers that cater to software users. As these investors enter the market and hire workers, newly acquired expertises are shared among the workforce. Some

workers move from one job to another, some interact through economic transactions, and some do both. In the process, workers' competence in such regions improves. The improvement then attracts other businesses that require similar and associated skills. This creates a new cycle of knowledge spillovers.

Specialization of the workforce happens when a series of spillovers creates a population of workers skillful in communicating software issues by phone. Networks of supply are created when the specialized labor force attracts businesses, creating an upward link. Also, the presence of skilled workers creates a demand for computer hardware and the demand creates its own supply of computer hardware businesses, therefore, creating a downward link. The linkages go upward and downward, therefore, creating a vertical link.

It can be argued that vertical linkage in this age of globalization is not important. With freer movement of goods and services, firms in export processing zones often import intermediate goods from abroad (downward link) and export to abroad (upward link). But this makes concentration even more pressing. The fact that firms in export processing zones link abroad is an indication of impractical, even expensive linking within the Philippines. Encouraging businesses associated with vertical linkages to concentrate around the zones can make linking within more practical and cheaper.

Concentration of economic activity also saves firms "trade costs" (Weiss 2007). These include transport and shipping, time cost, search cost, control and management, and policy-induced barriers. Transport and shipping from one stage of production to another is apparent. Time cost is time wasted in the process of transporting goods and services (Venables 2001). For example, even if the shipment of synthetic leather to shoe factories and then shoe factories to end user markets is cheap, the actual shipping from one stage to the other takes time, and time has opportunity cost.

For search cost, the cost of supplying information across distance is much cheaper, due mainly to information systems and technology. But the cost of supplying knowledge may still differ in distance (Audretsch 1998). This is the case of having to locate call centers that cater to high-end customers like software assistance. Setting up in metropolitan areas saves the cost of finding college graduates and good English speakers that are relatively abundant. For control and management, it is just naturally easier if offices and operations are

physically closer to each other. Policy-induced barriers are minimal in the Philippines and these barriers are in the likes of toll fees in highways.

This is not to say that planners should indiscriminately push for concentration of economic activity to the fullest extent. The reason is that overconcentration of economic activity hinders the whole economy en route to long-term growth. For one, overconcentration makes the economy overly reliant on the economic performance of a very few regions. If NCR performs well and there is overconcentration in it, the rest of the economy rides along. But if it slows or even contracts and there is overconcentration in it, the rest follows. One may think that a way to avoid NCR from slowing or contracting is to diversify economic activities to different industries, that is, some finance, some low-end manufacturing, some food processing, among others. Through this, a collapse of a specific industry hurts only that industry and the rest goes about their business. The total dragging effect on NCR is minimized and the country's economic performance is stabilized.

There is still a need for economic activities to diversify in terms of geographical location. No matter how a certain region diversifies its industries, there are events that hit regions regardless of the kind of industry, like natural calamities. Once a calamity hits the region, it hits all industries within it so that the specific region slows or contracts. In addition, once political instability hits NCR where the national government is based, it creates economic instability regardless of the type of industry. Finally, specific regions can diversify by only so much. Metropolitan regions cannot diversify to socially sensitive industries like agriculture, the same way that the rural regions cannot diversify to service-oriented industries like commercial banking for lack of comparative advantage.

Overconcentration also creates costs. One apparent cost is overcongestion (Weiss 2007). That is, concentration simply constrains the spatial mobility, slowing down transportation of goods and services and reducing productivity in general. Another cost is overpopulation beyond what cities can economically sustain and beyond what is environment friendly. Essentially, the decision to further concentrate should be based on benefit-cost analysis. For as long as the incremental (or marginal) benefit exceeds the incremental (or marginal) cost, planners should go for further concentration. But one has to acknowledge that there is a point of concentration when one should stop; that is, when the incremental benefit no longer compensates for the incremental cost.

This is also not to say that one should strive for equal economic activity across regions. Less economic activity in certain regions does not mean that they are lagging in development. Less economic activity in Naga City compared to Makati City does not mean that Naga City is lagging in development. The path to regional development is not a monolithic line from less to greater economic activity. There are just some economic activities that result to higher aggregate income than others. Makati City has the country's main financial district, thus its higher income. Naga City services its region's and provinces' local businesses, which results in its lesser income. The totality of each city's roles constitutes national development.

Convergence in Regional Economic Development

In this section, the nature of economies across regions is discussed.[3] Balisacan (2007) examined the factors that influence differences in long-term growth rates in average per capita income and the factors that cause provincial differences in the rate of poverty reduction. In terms of per capita income from 1988 to 2003, most regions changed, with only NCR maintaining its first rank position and with the ARMM declining in relative mean income. In terms of poverty, NCR consistently has the lowest rate of poverty, while regions 5 (Bicol), 8 (Eastern Visayas), and 9 (Western Visayas) consistently have the highest.

Empirically, Balisacan (2007) adopted the framework of Barro and Sala-i-Martin (2004) and reported convergence first, in terms of growth of per capita income and second, in terms of reduction of poverty. One main conclusion is that, holding everything else constant, provinces with initially low mean incomes tend to grow faster than those with initially high mean incomes. Specifically, a 10 percent edge in initial per capita income is associated with 0.23 percent (23 basis points) slower average annual growth. Although the numbers are not to be taken literally, the evidence indicates a negative relation—a convergence.

Indeed, Balisacan's finding is statistically convincing, but only to the degree of "holding everything else constant." There is nothing wrong about highlighting the isolated effect of one variable assuming that other variables do not change. But one has to take the magnitude in further consideration. Specifically, per capita income grows by 0.8 percent irrespective of what happens to initial per capita income and its other possible determinants. A 10 percent edge in road density is associated with 0.4 percent faster annual growth in per capita income.

A 10 percent edge in the Comprehensive Agrarian Reform Program's (CARP) implementation is associated with 0.3 percent faster annual growth in per capita income. A 10 percent edge in initial per capita income is associated with 0.23 percent slower average annual growth in per capita income. Indeed, infrastructure and CARP simultaneously change, have opposite effects as that of initial per capita income, and have even greater absolute effect.[4] If all change simultaneously, as what happens in reality, divergence occurs.

In terms of poverty reduction, provinces with initially low mean incomes tend to reduce poverty at faster rates. That is, a 10 percent edge in initial per capita income is associated with 0.64 percent (64 basis points) slower reduction in poverty incidence. As the numbers are not to be taken literally, the evidence indicates a negative relation—convergence. But similar to the case of growth of per capita income, the magnitude has to be taken in perspective. Specifically, the variable that has the biggest impact (or highest coefficient) is the constant by a factor of four and five times that of initial per capita income. That is, poverty is reduced four to five times faster irrespective of what happens to initial per capita income and its other possible determinants. After the secular reduction, road density has the second impact of about twice that of initial per capita income. Therefore, infrastructure is the dominant factor affecting convergence. Initial per capita income is a distant third.

It is interesting to find that CARP has only a weak significance in terms of poverty reduction. But as Balisacan (2007) notes, it does not mean that CARP does not have any effect at all. Rather, taken in the context of the results that income reduces poverty, what the findings suggest is that beyond the direct effect of CARP on poverty through income growth, it does not have any further direct effect on the poor through redistribution channels.

More than that, it is argued here that CARP in itself may not be sufficient to reduce poverty. Giving lifelong "big land employee" farmers land will not automatically make them "small land entrepreneurial" farmers. CARP recipients need support through infrastructure, technical assistance, start-up capital, and insurance before they can fully develop to become competitive and self-sufficient farmers. CARP, with the absence of the mentioned support, does not make them competitive. Coinciding with trade liberalization this forces them to compete with legal and smuggled imports and is potentially (if not already) disastrous.

Balisacan (2007) uses initial dynasty, defined as the proportion of provincial officials related to each other by blood or affinity, as an index

of politics. It has been founded that the index of politics has no statistically significant effect on growth of per capita income and poverty reduction (Balisacan 2007). Furthermore, by Balisacan (2007), initial dynasty is an indicator of a political clan's strength and hold of power in local politics. Strength and hold in power are indicators of lack of political competition which somehow affects the regional economy. Finding that the index of politics has no statistical significance, he reasons that it is possible that the variable as constructed is not suitable for capturing the effect of political competition on the local economy over a relatively long period of time. As opposed to Balisacan's reason, it is possible that initial political dynasty is a suitable political variable and has effect on growth and poverty reduction except that the effect is overshadowed by the effect of another factor. An informal yet insightful example is noted here. At least before the construction of the Subic-Clark-Tarlac Expressway (SCTEX), Cavite was more industrialized than Tarlac not because the Remullas were less politically dynastic than the Cojuangcos; it was because Cavite had better infrastructure in terms of ports and highways, and has closer proximity to the NCR.

De Dios (2007) argues that near monopoly of influence and use of violence can easily exploit the less powerful, redefine property rights, and appropriate wealth-generating activities and rules in general. In the process, the regional economy is hampered. The implication is that an index of politics should have a negative effect on growth and poverty reduction. De Dios (2007) also argues that a dynastic combination of governor or big city mayor and congressional district representation creates local executive power with special access to national government resources. The implication is that an index of politics should have a negative effect if resources are used the wrong way.

But given that the index of politics is statistically insignificant, initial dynasty may still have an effect on growth except that it is overshadowed by other factors. In the first argument, the use of influence and violence (or lack of) per se does not affect a region's development. Rather, it is the use of influence and violence to implement consistent rules. This is arguably the case with Mayor Rodrigo Duterte of Davao City. In the second argument, the effect of initial dynasty may be overshadowed by the effect of the current relation of a dynasty with the president. For example in 2007, some dynasties that publicly opposed the president got less access to national government resources, such as the case with the Cayetanos of Taguig and Villars of Las Pinas.[5]

Table 3a. Activity and development indicators

Regions	GRDP (Millions) 2000	GRDP (Millions) 2003	Per capita GRDP (000)[a]	Poverty incidence 2000	HDI[b]
National Capital Region	294,390	330,040	29.64	7.6	0.848
Cordillera Administrative Region	24,057	26,468	17.62	37.6	0.627
Region I–Ilocos Region	29,050	32,263	6.92	35.1	0.640
Region II–Cagayan Valley	22,012	21,818	7.82	30.4	0.564
Region III–Central Luzon	86,131	95,689	10.72	21.4	0.635
Region IVA–Calabarzon	–	138,598	–	19.1	0.671
Region IVB–Mimaropa	–	32,124	–	45.2	0.527
Region IV–Southern Tagalog	146,478	–	–	–	–
Region V–Bicol	26,431	30,846	5.64	52.6	0.508
Region VI–Western Visayas	67,695	79,710	10.90	44.4	0.577
Region VII–Central Visayas	67,353	75,114	11.80	36.2	0.552
Region VIII–Eastern Visayas	22,084	24,313	6.12	45.1	0.501
Region IX–Zamboanga Peninsula	26,496	28,571	9.36	44.8	0.522
Region X–Northern Mindanao	36,988	46,443	10.55	43.8	0.590
Region XI–Davao Region	60,823	48,319	16.55	33.1	0.593
Region XII–SOCCSKSARGEN	25,368	37,831	7.87	46.8	0.564
Region XIII–Caraga	13,984	12,455	6.67	50.9	0.503
Autonomous Region in Muslim Mindanao	9,071	9,351	3.24	59.8	0.382

Source: Data from NSCB unless otherwise indicated.

Note: GRDP in constant 1985 prices.

[a]Author's estimates using raw data from NSCB.

[b]Author's estimates using raw data from HDN (2009).

Infrastructure as Engine of Convergence: If You Build, They Will Come

Put bluntly, the most important engine of convergence in economic development is infrastructure. Balisacan (2003) showed that poverty alleviation is most sensitive to infrastructure, followed by education,

Table 3b. Infrastructure indicators

Region	Road density	Access to electricity	Access to safe water	Teledensity
		2000		2003
National Capital Region	7.5	99.3	85.1	2,818,358
Cordillera Administrative Region	0.5	66.9	81.5	93,567
Region I–Ilocos Region	1.1	83.0	89.0	195,088
Region II–Cagayan Valley	0.5	72.8	83.6	30,236
Region III–Central Luzon	0.8	93.3	96.4	431,626
Region IVA–Calabarzon	0.7	93.9	84.9	–
Region IVB–Mimaropa	0.3	52.9	81.7	–
Region IV–Southern Tagalog	–	–	–	1,064,590
Region V–Bicol	0.5	55.2	65.7	124,957
Region VI–Western Visayas	0.9	63.7	68.3	412,984
Region VII–Central Visayas	1.0	66.7	71.9	458,637
Region VIII–Eastern Visayas	0.4	55.2	79.9	127,264
Region IX–Zamboanga Peninsula	0.6	53.9	63.3	33,849
Region X–Northern Mindanao	0.9	70.1	78.4	147,518
Region XI–Davao Region	0.6	72.0	70.2	381,295
Region XII–SOCCSKSARGEN	0.6	65.6	79.7	82,349
Region XIII–Caraga	0.4	65.1	80.0	125,116
Autonomous Region in Muslim Mindanao	0.3	39.5	34.1	29,969

Source: The data on teledensity is from National Telecommunications Commission (quoted in World Bank 2005). The rest are from Reyes (2003).
Note: Road density is (km/km2). Access to electricity and safe water are percent of population. Teledensity is installed capacity.

agriculture, and irrigation. The effect is not unique to the Philippines. Infrastructure has direct impact on poverty in Indonesia (Kwon 2000), on regional output in France and Germany (Stephan 2001), and on productivity in Mexico (Moreno et al. 1997).

To the extent that trade and economic growth trickle down to economic development, the effect of infrastructure on trade and growth is also worth noting. As the presence of infrastructure reduces the cost of transport, Limao and Venables (2000) found that 10 percent increase in transport costs can reduce trade volumes by 20 percent, and Radelet and Sachs (1998) found that doubling shipping costs can slow the annual economic growth by half a percent. In the Philippines, the presence of roads reduces transport cost. At the least, it will maintain the volume of trade and growth of income.

Table 3c. Spearman's rank correlation

Indicators	Road density	Access to electricity	Access to safe water	Teledensity
GRDP	0.87	0.54	0.19	0.86
	(6.30)	(2.34)	(0.70)	(6.00)
GRDP growth	0.55	0.09	0.00	0.33
	(2.35)	(0.32)	(0.00)	(1.25)
Per capita GRDP	0.65	0.57	0.25	0.60
	(3.11)	(2.48)	(0.95)	(2.70)
Poverty incidence of population	-0.58	-0.87	-0.66	-0.59
	-(2.56)	-(6.25)	-(3.14)	-(2.61)
HDI	0.75	0.88	0.64	0.56
	(4.09)	(6.57)	(2.97)	(2.46)

Note: Parenthesized numbers immediately below the rank correlation are t values.

Consider the indicators of economic activity and economic development presented in Table 3a and juxtapose the figures with the indicators of infrastructure presented in Table 3b. If each region is ranked from most to least in their respective statistics, one can use the Spearman's rank correlation to come up with the figures presented in Table 3c. Accordingly, a correlation of 1 indicates a perfect positive correlation while -1 indicates just the opposite. First, the results indicate a statistically significant positive correlation between GRDP, which measures the size of the economy, and road density, access to electricity, and teledensity. Specifically, the correlation between GRDP and road density is strongest with 0.87. In other words, where there is infrastructure, there is income. Second, the results indicate a statistically significant positive or 0.55 correlation between the growth of the economy and road density. Where there is road infrastructure, there is income growth.

Third, per capita GRDP, which is the most basic measure of development, is also statistically and positively correlated to road density, access to electricity, and teledensity. Specifically, per capita GRDP has the strongest correlation of 0.65 with road density. Fourth, economic development measured in terms of poverty incidence of population and HDI are statistically correlated with all infrastructure indicators. Specifically, both poverty incidence and HDI have the strongest correlation with access to electricity. In regions where there is infrastructure, especially access to electricity, poverty incidence tends to be lower—a negative correlation of -0.87. In regions where there is

infrastructure, especially access to electricity, HDI tends to be higher—a positive correlation of 0.88.

Before one concludes that infrastructure causes an increase in economic activity, it is interesting to explore whether the causality goes to one direction or both directions. In other words, does economic activity cause an increase in infrastructure, or is it a cycle where infrastructure causes an increase of economic activity and vice versa? Granger causality test by Llanto (2007) supports the causality as cyclical between GDP and infrastructure, though he stresses the higher probability going from infrastructure to GDP. This implies that in regions where economic activity and infrastructure is concentrated, government does not have to play the role of the one and only investor on infrastructure. After all, with or without government, economic activity attracts private investment on infrastructure and private investment on infrastructure increases economic activity—a virtual cycle.

The causality also implies that in regions where economic activity and infrastructure are lacking, government has to initiate the cycle. The question is whether it initiates by increasing economic activity or by building infrastructure. Starting the cycle by increasing economic activity has natural disadvantage in luring profit seekers to come. In practice, the success will depend on how planners are able to convince profit seekers to locate to such regions. But persuasion is difficult even if government offers respectable tax incentives and provides the best sales talk. This view is similar to what the Board of Investments finds of generous exemptions and income tax holidays (Tecson 2007). Suppliers of intermediate goods do not usually locate to places where there are no roads, exporters to regions without ports, and factories to areas without energy. For example, Tecson (2007) cites the outcome of a survey, through the collaboration of Asian Development Bank with World Bank. It showed that firms, importing raw materials and exports final products, demand that the roads linking them to international airports and ports should be at least satisfactory.[6]

On the other hand, starting the cycle by building infrastructure at least create some incentive to profit seekers. Where there are roads, clientele outside of the region can easily come to transact, therefore, increasing revenue. Even if clientele do not come, transport from the place of assembly plant to the end user market is cheaper, therefore reducing cost. Where there are ports, exporters can cheaply import intermediate goods as they can ship out final export goods. Where

there is energy, there is certainty in the productive capacity of capital. Profit seekers just need to be informed of the actual presence of infrastructure in such regions. If one is to create a virtual cycle, government is likely to be more successful by starting with infrastructure.

An indirect result of building infrastructure around metropolitan areas is rural industrialization. Estudillo et al. (2007) cites two reasons. First, it allows what Hayami (1998) calls "relational contracting." With infrastructure, urban firms are able to interact and deliver goods and services to and from rural firms. It creates relations through some form of economic interaction such as subcontracting. Second, the increased activity clusters rural firms in specific areas developing its own agglomeration. A third reason is cited here. That is, infrastructure rids of the premium associated with additional transport cost. One factor that makes firms consider locating outside of the NCR is the benefit of saving cost of labor. But lack of infrastructure results to added business cost. So if the business cost is greater than the prospective benefit, urban firms end up not relocating.

Estudillo et al. (2007) note that rural industries were featured prominently in the development history of Japan, Taipei, and the current trends in the People's Republic of China (PRC), as stated in the labor-intensive rural industrialization in the East Asian economic miracle (World Bank 1993). In Japan, the presence of industrial clusters usually around large cities is a major feature of its development. The success of rural-based industrialization in Taipei has been attributed to the country's developed rural infrastructure and well-educated rural labor force (Ranis and Stewart 1993). In the last two decades, Otsuka, Liu and Murakami (1998) noted that PRC has increasingly resembled Japan and Taipei in pervasive subcontracting that leads to development of township village enterprises (TVE).

In the Philippines, data on employment and income suggest a probable trend towards industrialization. Estudillo et al. (2007) noted that nonfarm rural employment was equivalent to 35 percent of the total rural employment in the 1980s, and this has increased to 41 percent in 2003. The proportion of nonfarm income to total household incomes for the whole Philippines was as high as 49 percent in 1980s, and this has increased to 58 percent in 2000. Estudillo, Quisimbing, and Otsuka (2001); Estudillo, Sawada, and Otsuka (2004); and Hayami and Kikuchi (2000) all found that nonfarm employment had become a major source of income among rice growing households. The proportion of formal sector in 1983 was 37 percent and this has

increased to 50 percent in 2003 (Estudillo et al., 2007). To the extent that industrial economic activity is more often part of the formal sector than agricultural activity implies industrialization.

In terms of airports and seaports, Tecson (2007) noted that NCR used to handle over 60 percent of total exports in the 1990s and now handles 23 percent. Export shipping seems to be moving away from NCR and increasingly becoming concentrated in Luzon. For the sake of dispersing economic activity from NCR, movement away from NCR to Region 4 or Southern Tagalog is in the right direction. But for the sake of dispersing economic activity among Luzon, Visayas, and Mindanao, further concentration in Luzon is not in the right direction. There is need for dispersion from Luzon to the Visayas and Mindanao for convergence to happen.

Estudillo et al. (2007) maintain that the Philippines has not experienced an increase in rural industrialization—or at least not enough. Accordingly, clusters in rural areas have not emerged enough to establish industrial specialization. The exceptions are generally small and spread thinly around metropolitan cities. Some examples cited include Santo Tomas, Batangas for its export-oriented garment enterprises and Angono, Rizal for its export-oriented metal craft enterprises. Estudillo et al. (2007) give three reasons. First, the import-substitution regime has encouraged importation and did not boost the demand for products made in rural industries. Second, the persistence of large-absentee landlordism suppressed the rural economy. The third is the inadequate provision of rural infrastructure.

So what is being done in terms of building infrastructure? The case of the 1990s is unique in that the government invested on major infrastructure in power and water. But Llanto (2007) noted that these investments were triggered by the occurrence of crises in their respective sectors. In other words, such infrastructure were undertaken not to proactively induce further growth and development. Rather, these were undertaken to reactively cure crises after damage was done.

The World Bank (2005) reports that, on average, middle income countries in East Asia need to spend 5 percent of their GDP on infrastructure annually to meet their needs. However, Llanto (2007) noted that the Philippines's national government's expenditure on infrastructure is equivalent to 2.8 percent of GDP and local government units' (LGU) equivalent to 0.17 percent. The two sum up to 2.97 percent. This is apparently short of 5 percent. On a regional perspective, he shortage is likely more pronounced.

Table 4. Government allocation of expenditure between Luzon, Visayas, and Mindanao

Government expenditure (millions)	Philippines	Luzon	NCR	*Other Luzon*	Visayas	Mindanao
2006	85,208	59,906	35,969	23,937	11,222	14,080
2007	92,293	65,017	38,848	26,169	12,111	15,165
Percent distribution						
GDP						
2006	100	66	32	33	16	18
2007	100	66	33	33	17	18
Government expenditure						
2006	100	70	42	28	13	17
2007	100	70	42	28	13	16
Growth rate						
GDP						
2005-06	5.4	5.6	6.8	4.5	4.9	5.2
2006-07	7.2	7.1	7.8	6.4	7.6	7.2
Government expenditure						
2005-06	10.4	10.2	9.7	11.0	9.9	11.5
2006-07	8.3	8.5	8.0	9.3	7.9	7.7

Source: The data on government expenditure is from NSCB. The rest are author's calculations using raw NSCB data.
Note: Government expenditure in constant 1985 prices.

I was not able to access data on expenditure on infrastructure divided among Luzon, Visayas, and Mindanao. However, one can get an idea of how expenditure on infrastructure is distributed by looking at the available data on overall expenditure. Table 4 shows the government allocation of expenditure in Luzon, Visayas, and Mindanao. For 2007, even if the share of NCR in GDP is 33 percent and that it needs less help, its share in government expenditure is more proportionate at 42 percent. Even if the share of Visayas and Mindanao in the GDP are 17 percent and 18 percent, respectively, and that they need more help, their share in government expenditure is less proportionate at 13 and 16 percent, respectively. The general pattern is that the regions that are ahead of economic development get more and those that trail and need to catch up get less. The same pattern also goes for the 2006 data.

From 2006 to 2007, the whole economy grew by 7.2 percent and government expenditure grew by 8.3 percent. Therefore, government

expenditure surpassed economic growth by 1.1 percent. If the share of infrastructure on overall expenditure was constant, this means that growth in expenditure on infrastructure caught up with economic growth. On a regional perspective, NCR's economy grew by 7.8 percent and government expenditure grew by 8 percent, so that the overall expenditure outgrew regional economic growth by only 0.2 percent. The economies of Visayas and Mindanao grew by 7.6 percent and 7.2 percent, respectively, and their government expenditures grew by 7.9 and 7.7 percent, respectively. Government expenditure outgrew economic growth by 0.3 and 0.5 percent, respectively. The first good sign is that overall government expenditure is gaining ground on the economy's growth. The second good sign is that expenditure where it is needed more is gaining ground faster than the economy's growth. The not so good news is that government expenditure may not be gaining ground fast enough and consistently enough. If the rest of the country's and NCR's investment on infrastructure follows the same pattern in the near future, it is likely for the concentration of infrastructure in NCR to remain at status quo.

Not all evidence points to further concentration of development as indicated by greater spread of manufacturing and foreign direct investment (FDI) activity in certain regions. Although Tecson (2007) argued liberalization as the cause, it is more of infrastructure. As government consciously adopts export-led growth policy, it sees the need to construct export processing zones (EPZ) and special economic zones (SEZ). As government fills this need, it less consciously, though conveniently, invested in infrastructure. Therefore, manufacturing activity of FDI has increased in other regions. The regions where manufacturing is becoming concentrated coincide with the locations of the zones. As Tecson (2007) points out, this is the case in Region 11, where half of fourteen zones in Mindanao are located. The same can be said of regions 3, 4, and 7.

The degree of specialization in some regions also signals dispersion of economic activity. Tecson (2007) computes the industrial location quotient (ILQ) for each industry in census years 1988, 1994, and 2000. For example, Laguna's share of value added in car production (or other industry) is divided by Laguna's share of value added in all industries. The result is the ILQ. If it is greater than one, then it is concentrating its activity on the industry. If it is one, then it exerts its effort to car production as much as it does with others so that there is no concentration of activity. But if it is less than one, it is the opposite of concentration.

Accordingly, Mindanao has high concentration in resource-based industries such as meat and fish preparation and corn milling. Visayas has high concentration in the same but to a lesser extent. Region 6 (Western Visayas) has high concentration in sugar, and regions 9 (Zamboanga Peninsula), 10 (Northern Mindanao), and 11 (Davao) in coconut oil and other coconut products. The NCR has high concentration in import-dependent industries like plastic products, apparel, and ready-made garments, and Region 3 (Central Luzon) in labor-intensive industries like spinning and weaving, embroidered fabrics, custom tailoring and dressmaking, and footwear.

As Tecson (2007) argues, specialization is a regional response to international trade liberalization. But the Philippines is hardly competitive in exporting meat, plastic products, apparel and ready-made garments, embroidered fabrics, and custom tailoring. Therefore, specialization could not have been done to export and could not have been a regional response to international trade. Alternatively, one can argue that specialization is more of a response to infrastructure. Lack of infrastructure linking regions requires each to produce many unspecialized goods and services to fulfill their needs. If a region has a natural advantage in fish and has no link with the rest of the country, it needs to harvest fish and produce rice and others that are not part of its specialization. But with infrastructure linking regions, each only needs to produce its comparative advantage, produce much of it, specialize as possible, and then trade with other regions. A region that has natural advantage in fish can concentrate on harvesting and trading fish for rice and other commodities with other regions.

According to Llanto (2007), the level of infrastructure investments depends first, on the national government's fiscal capacity; second, on the extent of participation by the private sector; and third, on the political economy of allocation of infrastructure. Fiscal capacity per se is not a direct determinant, but the choice that planners make is the more direct determinant. With lack of fiscal capacity, there is limited financial resource so that austerity for fiscal stability's sake and expenditure on infrastructure for development's sake become mutually exclusive choices. That is, planners are forced to choose between the two. It is one or the other but it cannot be both. For the sake of development across regions, and especially for lagging regions, policymakers should reexamine the dominant view of indiscriminately cutting infrastructure expenditure for the sake of balancing budgets. Still, it would be nice for a government to have the will to implement tax collection to improve fiscal capacity. Its improvement relieves

planners of having to choose one or the other, and will allow simultaneous occurrence of both.

As for the extent of participation by the private sector, it would be nice to raise profit-seekers' level of altruism so that they will more often invest in lagging regions for the sake of regional development. Still, one has to note that profit seekers generally do not invest on infrastructure to develop markets but to profit in developed markets. Going back to the infrastructure-growth cycle, government needs to be the first to invest to start the cycle in order to develop the market. As for the political economy of allocation of infrastructure, the level of awareness for the need to allocate more to lagging regions must be raised as this paper attempts to do. Enough awareness of politicians, the leadership, and their constituents influence allocation to lagging regions.

It must also be noted that in Japan, Taipei, and the PRC, their respective governments actively assisted the establishment of industrial clusters. To a lesser degree, the Philippines has done the same by constructing infrastructures to establish EPZs that are competitive enough to attract some players of the footwear industry, such as Reebok, Nike, and Tretorn, which cater to world markets. It is curious to see the support that foreign multinationals get from the government as opposed to the local manufacturers that cater to the domestic market.

The bias in assistance in favor of foreign multinationals can be justified on the basis of their comparative advantage. But one can argue that comparative advantage is not the reason why the local shoe industry cannot match the multinationals. The reason is that they do not have the giants' economies of scale in the so-called "level playing field" environment. The lack of conscious and active support probably contributes to why domestic producers continue to be geographically dispersed outside the zones in Marikina, Caloocan, and Antipolo around the NCR.

It is not clear whether the employment and social benefits derived from multinational presence in the EPZs, as a result of active and conscious government support, outweigh those derived from actively and consciously supporting domestic producers. It is like having to choose whether the government should support McDonalds or Jollibee. After all, a branch of McDonalds and a branch of Jollibee, more or less, import and hire the same number of Filipino employees. The only difference is that the top owner of the likes of Jollibee is Filipino.[7] The point is, government should actively assist in forming clusters. But the

assistance should not be biased for foreigners or otherwise. The assistance should provide fair competition and opportunity for all.

Short-run Steps Towards Regional Convergence

If the NCR has gotten more and the Visayas and Mindanao have gotten less than their respective lions' share of investment on infrastructure, the ultimate and lasting solution toward more geographic diversification of economic activity and convergence of economic development of regions is to prioritize investment on infrastructure in favor of lagging regions. However, infrastructure is the long-run solution and construction takes time. In the mean time, what we can do is to treat the given level of infrastructure as given and to raise investors' and policymakers' awareness of short run economic conditions and activities.

Firms concentrate their presence in economic centers. As they choose where to expand, they tend to invest where they are most familiar. Therefore, subsequent expansions tend to go to the same concentrated regions. As for firms that are just entering the Philippine market, the potential absolute return of different regions becomes their main gauge in deciding where to locate.[8] Because the markets with the greatest economic activity often have the greatest potential absolute return, they tend to converge their presence in the same concentrated regions. Whether the concentration of private investment is reinforced by lack of familiarity, or perceived potential absolute return, or some other factor, awareness of current economic conditions and activities is necessary for economic activity to diverge across regions.

In the spirit of raising such awareness, Dumlao and Pasimio (2007) proposed economic indicators that were selected from focused group discussions and consultations with economists and academicians from different regions and institutions such as Ateneo de Davao University (AdDU), Ateneo de Naga University (AdNU), Ateneo de Zamboanga University (AdZU), St. Louis University of Baguio City, University of San Carlos of Cebu City, and Xavier University of Cagayan de Oro. These include:

1. Output
    a. Output in agriculture particularly fishery, main crops (*palay* [rice] and corn), and other crops. Through experience in obtaining data from the Bureau of Agricultural Statistics (BAS), it can be argued that the bureau has one of the most

efficient, reliable, and easily accessible data the government can offer.

b. Data on firms obtaining building permits signals future production (De Leeuw 1991). Statistics on this comes out in Special Releases from the National Statistics Office (NSO) approximately six months after every reference quarter.

c. Indicators of power demand and energy consumption are available at the regional level on a quarterly basis from the National Transmission Corporation (TransCo) and National Electrification Administration (NEA).

d. De Leeuw (1991) argues that remittance is a prime mover that causes the economy to fluctuate. Data on overseas Filipino workers (OFW) remittance may be obtained from the Bangko Sentral ng Pilipinas (BSP). However, data on OFW remittance is not regionally disaggregated. The NSO conducts the Survey of Overseas Filipinos (SOF) where respondents indicate their Philippine residence. From this, one can calculate the proportion of the OFWs that reside in each region. Dumlao and Pasimio (2007) multiplied the proportion to the annual national OFW remittance to approximate the amount that goes to specific regions.

e. Where there is economic activity, banks locate their resource (Dumlao and Pasimio, 2007). The BSP Supervisory Data Center (SDC) updates regional data on banking activity on a quarterly basis.

2. Employment

a. The NSO releases rates of employment, unemployment, and labor force participation rate (LFPR), and population of fifteen years old and above on a regional and quarterly bases.

b. From this, one can derive, as in Dumlao and Pasimio (2007), the growth rates of the employed, unemployed, and those who quit looking for jobs. This provides a clearer picture whether or not a decrease of unemployment

is caused by an increase in job generation or the unemployed quitting the search for jobs.

3. Price

   a. The NSO releases the Consumer Price Index (CPI) on a monthly basis at regional levels approximately five days after each reference month. As a side compliment, NSO has to be given credit for its timeliness in delivering such important data.

   b. Given the CPIs in each respective region, one can use Dasgupta and Lahiri's (1991) method of calculating Fisher's expected inflation. This provides potential investors and planners an idea of the market's expected inflation outlook.

The number of indicators selected has the goal of giving a general idea of each regional economy. Prospective investors and other institutions typically go through a process of selecting what regions to pour their resources into. First, they require the general idea of each region's economy. Second, the general idea allows them to shorten the list of prospective markets. For example, to become aggressive, the list has been shortened from sixteen to four regions. Third, the short list becomes subject to a more specific and detailed study. Fourth, the third step allows them to decide to pour resources in specific regions.

The number of selected indicators concentrates on helping investors and other institutions on the first and second stages. As one passes through the first two stages and as one requires help on the third and fourth stages, more specific and detailed information can be given and studied by regional economists and experts.

Note some words of caution in view of regional indicators. First, one must keep in mind that national income accounts—in the form of the GRDP, inflation as measured by the CPI, and employment rate—are indicators of income, price, and employment. However, they are still just indicators and not identically equal. For example, the GRDP is an indicator of income but the GRDP is not the same as income. Although there are reasons to use the present GRDP for the purpose of getting acquainted with other economic indicators like the CPI and the future GRDP, that use is not its primary purpose. Rather, one should use indicators to get an idea of the economic environment.

Second, one must not be tempted to use the latest available regional indicator to come up with some statistical model and claim

to have foresight of the immediate economic future. One problem of doing so is that construction of a sophisticated econometric model requires arbitrary discretionary specification. Another is that even if the arbitrary specification is justified and therefore "not so arbitrary," its forecast depends so much on the value of the latest available regional indicator like the GRDP. As the value of the latest available regional indicator is subject to revision, its forecast also becomes subject to revision. Often, by the time the latest available regional indicator is revised and finalized, the reference period to forecast is already past.

Third, just because a certain indicator like the OFW remittance is not statistically related with the GRDP, rate of change of the CPI, and employment rate means that it is useless. Still, they provide helpful information that is necessary for planning. For example, the OFW remittance may have no correlation with growth, but financial institutions would still want to know its trends for the sake of identifying its clientele, like its recipients, and for designing new products. More so, such indicator can be an important contributor in forecasting future economic trends. After all, "business cycles are best identified by the consensus of movements in the principal economic aggregates" rather than a single index (Moore and Zarnowitz 1991).❁

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Notes

1. GMA, 9 March 2008, "'Imperial Manila' blamed for poverty in ARMM."
2. High Gini ratio means greater absence of distribution of income.
3. For those interested in more detailed studies on regional development, it is recommended to read Balisacan and Hill (2007) in *The Dynamics of Regional Development*. In fact, many issues covered in this section are critical discussions of points raised and argued in the same edition.
4. In technical terms, the regression coefficients are 0.08 for the constant, 0.04 for road density, 0.03 for the implementation of CARP, and -0.023 for initial per capita income.

5. GMA News, 24 August 2007. Senators blast palace for holding release of 'pork.'
6. The survey includes 716 firms with ten or more employees located in NCR, Calabarzon, Metro Davao, Metro Cebu, Clark, and Subic.
7. Although one can argue that Corporate Social Responsibility (CSR) projects tends to go to the Philippines, in the case of Filipinos being the top owners.
8. Business schools typically teach students to gauge potential investments using absolute return usually measured by net present value (NPV), as opposed to the rate of return usually measured by the internal rate of return (IRR).

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