The Promise and Default of the "Kerala Model"

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Kerala, a southern state in India has consistently outdone other states with regards to human development indicators, with greater welfare and development standards than in the rest of India. Much of this development is fuelled from remittances sent home from Gulf countries. This paper looks into the Kerala Model which shows economic development without economic growth, by alligning migration and development theories to ground-level statistics and critically analyzing both. The paper concludes with remarks on the sustainability of the Kerala Model.

Keywords: development, migration, unemployment, remittances, sustainable
JEL Classifications: O11, O12, O15, O40

1. Introduction

Development economics has implicitly sought the eradication of underdevelopment and backwardness. Many a theorists have construed the necessity of economic growth in order to experience "development", in other words, to overcome backwardness. But

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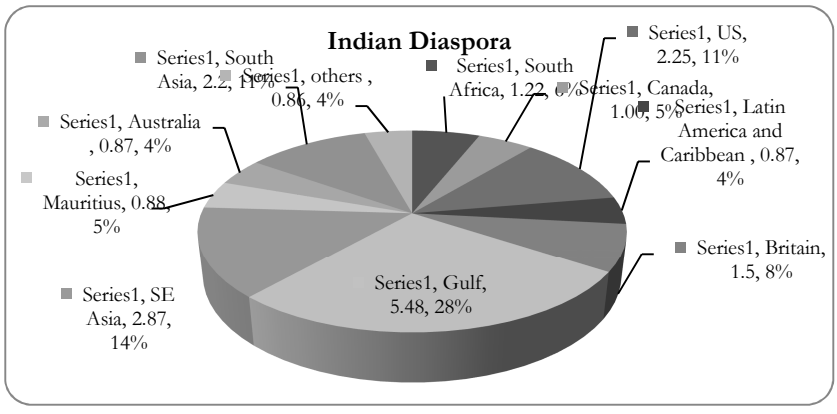
recently, the "Kerala model" has kindled much excitement amongst experts in this subdivision of economics as it has appeared to present an alternative. However, I argue that many of the achievements characteristic of the Kerala model are deceptive as outbound migration to the Gulf, which temporarily fuels the development progress of Kerala, contributes to sustained economic degeneration of the state that may in turn undo the temporary development levels that Kerala has attained. The paper argues this point by critically analyzing migration theories and studies, statistical data for India and Kerala and ground level information on Kerala's socio-economic characteristics.

2. Justification

Analyzing the economic impact of emigration from India to all the plausible destinations would be a rather formidable task, as both the factors influencing emigration and the macroeconomic consequences of emigration would vary dramatically depending on the regions of origin and destination; hence it is necessary to establish the prominent migration streams from India.

Figure 1



Source: Edited based on data represented in "Diasporas – Mapping migration" The Economist, Nov 17th 2011, http://www.economist.com/blogs/dailychart/2011/11/diasporas

Table 1
Workers Granted Emigration Clearance of Government of India, by Major Indian States, 1997-2010

State	1997	1999	2001	2005	2007	2009	2010
Kerala	156,102	60,445	61,548	125,075	150,475	119,384	104,101
Tamil Nadu	63,672	47,402	61,649	117,050	150,842	78,841	84,510
A. Pradesh	38,278	18,983	37,331	48,498	105,044	69,233	72,220
Maharashtra	25,146	9,871	22,713	29,289	21,496	19,128	18,123
Karnataka	40,396	5,287	10,095	75,384	27,014	18,565	17,295
Rajasthan	28,242	9,809	14,993	21,899	70,896	44,744	47,803
Punjab	12,414	15,167	12,422	24,088	53,942	27,291	30,974
Total	416,424	199,552	278,664	548,853	809,453	610,272	641,356

Source: as cited in Rajan (2003, ESCAP) for data till 1999; GOI, MOLA, Annual Reports 2004–5, 2005–6, for data from 2000 till 2005, Annual Report 2010-11 for data from 2007 till 2010.

Figure 1 shows that the Gulf countries are a major migration destination from India. And, as shown in Table 1, migrants to the aforementioned middle-eastern countries predominantly originate from Kerala, thus justifying the analysis of this migration stream.

3. Background – Kerala

Kerala has consistently outdone India with regards to literacy and other demographic indicators, with greater welfare and development standards than in the rest of India. The ideology of the 'Kerala Model' can be summarized by the following quote from Dreze and Sen's book, *Indian Development – Selected Regional Perspectives:*

The most conspicuous feature of the Indian economy is that hundreds of millions of India's people live in conditions of appalling deprivation … [Yet] among the states of India there is one state ... Kerala ... whose ... accomplishment shows that the well-being of the people can be improved, and social, political, and cultural conditions transformed, even at low levels of income," (p. 207).

Settlement Patterns: There is very little disparity between rural and urban developmental levels. Kerala's "distinct topography, hydrology, and cropping patterns" have contributed to a distinct "habitation pattern" in Kerala; houses are not clustered in specific areas, road transport is accessible to every village in the state, and village boundaries are not distinctly demarcated besides for administrative purposes.

Political Movements: Kerala has very high voter turnouts, and elections are held with little or no disruptions. Since the 1930s the Communist Party has "been the major organizer of mass political movements among the people of Kerala … [with] a profound influence on social and political life and government policy in Kerala" (Dreze and Sen, p. 211).

Development Indicators: "Kerala has been described as a 'unique' case among developing countries, a society where the 'health and demographic transition have been achieved within a single generation" (Dreze and Sen, p. 224-225). Kerala has a phenomenal literacy rate among its people, for both males and females and in both rural and urban areas. Furthermore, the political, social awareness compounded with high literacy levels is evident in the readership of its newspapers. Families in Kerala rarely have over 2 children and life expectancy in Kerala is higher than the Indian average expectancy. In Table 2 Kerala ranks highest for all HDI indicators (except for death rate – which can be attributed to the aging population of Kerala due to low birth rates and better health standards).

Table 2

Selected Human Development Indicators for States

State	Life Expectancy at birth (2002- 2006)			Infant Mortality Rate (per 1000 live births) (2010)			Birth rate (per 1000) 2010	Death rate (per 1000) 2010
	M	F	Total	M	F	Total		
Kerala	71.4	76.3	74.0	13	14	10	14.8	7.0
Next best state	68.4 Punjab	70.4 Punjab	69.4 Punjab	24 Tamil Nadu	25 Tamil Nadu	20 Maharash-tra	15.9 Tamil Nadu	6.0 West Bengal
India	62.6	64.2	63.5	47	51	31	22.1	7.2

Source: Office of the Registrar General of India SRS46, January 2012; Ministry of Home Affairs; Economic Survey, 2010-11

Economy: Kerala's Gross State Domestic Product (shown in Table 3) is way below the average among all Indian states. Kerala has among the highest levels of unemployment compared to the rest of India. Nevertheless, Kerala's consumption expenditure (shown in Table 4) has increased over the years and it is higher than the Indian average for both rural and urban areas, while being the 3rd highest among all states for rural areas.

Table 3

Gross State Domestic Product (billion Rupees) - at Current Prices

State	2000-01	2002-03	2004-05	2006-07	2008-09	2010-11	2011-12
Kerala	72.7	86.9	119.3	153.8	202.8	277.0	326.7
Maharashtra (highest GSDP)	252.3	299.5	413.8	581.7	756.3	1,029.6	NA

Source: Directorate of Economics Statistics of respective State Governments, http://planningcommission.nic.in/data/datatable/index.php?data=datatab

Table 4
Consumption Expenditures (Rupees per month per person) - at Current Prices

Sector		1973-74	1977-78	1983	1993-94	1999-2000	2004-05	2009-10
Urban	Kerala	68.93	82.73	176.36	493.83	932.61	1290.90	2413
	Delhi	88.04	129.92	228.81	794.95	1383.59	1319.30	2654
	India	70.77	96.15	164.03	458.04	854.92	1052.40	1984
Rural	Kerala	55.35	74.40	145.20	390.41	765.70	1013.20	1835
	Delhi	60.99	95.85	217.14	605.22	917.21	918.50	2068
	India	53.01	68.89	112.45	281.40	486.16	558.8	1054

Source: Planning Commission and NSSO Data, 61st Round, 66th Round (NOTE: 2009-10 data released in December 2011)
http://planningcommission.nic.in/data/datatable/0904/comp_data0904.pdf

4. Migration Theories – A Critical Analysis

4.1. Rural-urban migration models

In order to delineate the impact of migration on the economy, let's conduct a dual economy analysis, with two sectors: urban and rural. Now, let's assume a neoclassical model. In this model, output is a function of capital and labor:

$$Y = F(K,L)$$

Furthermore, F is assumed to exhibit constant returns to scale, i.e. for all $t > 0$

$$F(tK, tL) = tF(K,L)$$

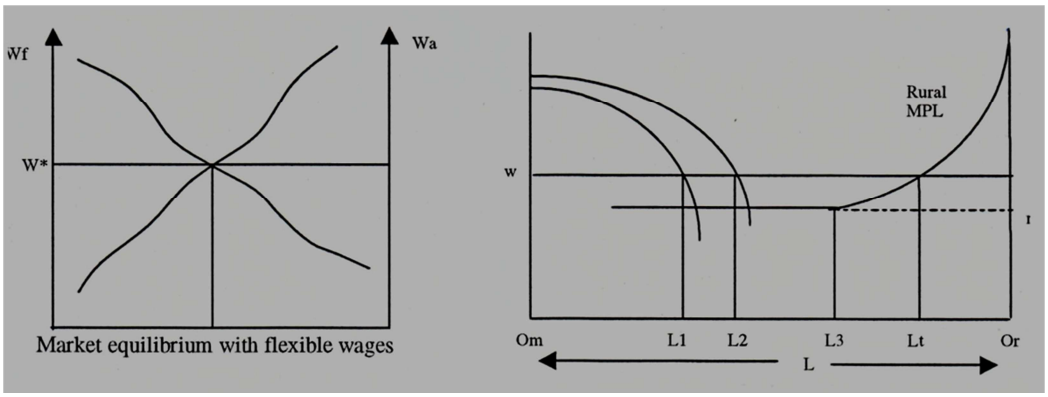
This implies that only an increase in the capital-labor ratio will increase output per capita. It is also assumed that the law of diminishing returns holds, i.e.

$F'(K), F'(L) > 0$ and $F''(K), F'(L) < 0$

This suggests that an increase in the input factors would increase Y(output), but at a diminishing rate. Under these neoclassical assumptions, the Lewis Labor Surplus Model is as shown below:

Figure 2

The Lewis Model

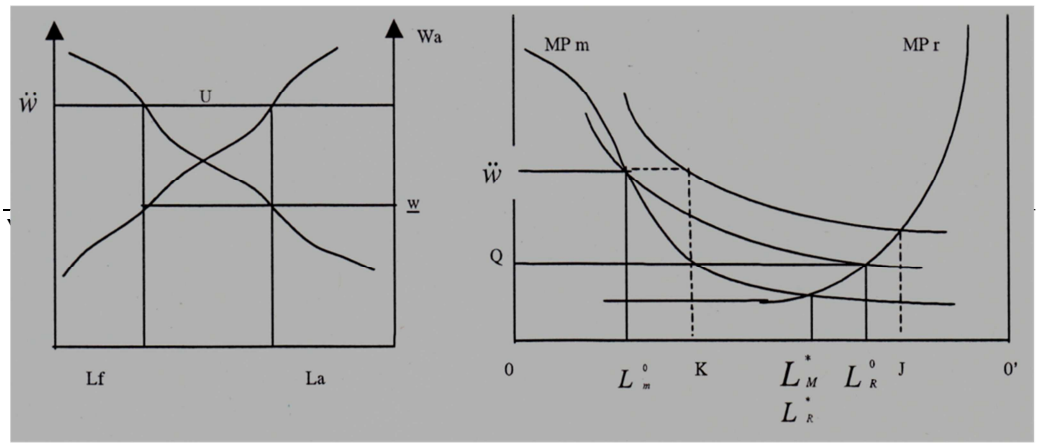


This model suggests that labor surplus exists in the rural sector, as Or-L1 people stay in the rural sector and Ll to L3 people have zero marginal productivity, and thus they constitute the surplus labor in the rural sector.

Most LDC's can be categorized as labor surplus economies, both directly, through large population (and/or high population growth rates) which imply a large labor force, and indirectly through relative comparison of labor versus capital availability. However, it is important to note that empirical studies show that the surplus labor is not in the rural sector but rather in the urban sector. Fei and Ranis' extension of the Lewis model and the Harris-Todaro model both account for this disparity between observed 'labor surplus' in LDCs and that under the Lewis model.

Figure 3

The Harris-Todaro Model



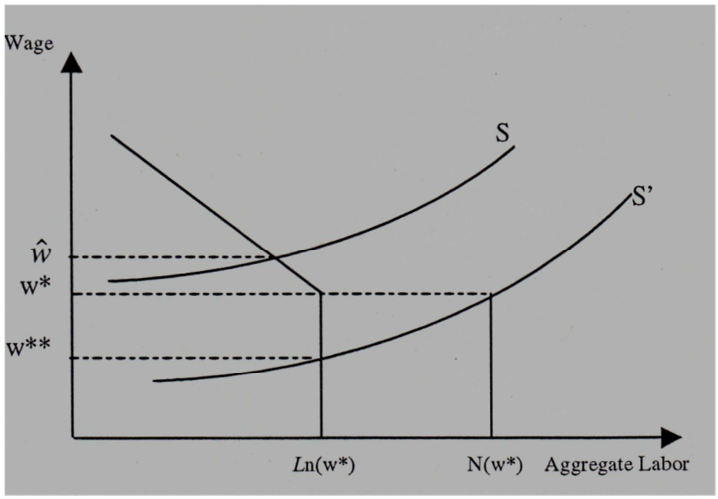
In figure 3, $L_R^0 - L_M^0$ shows the urban unemployment where the urban wages are $\ddot{w}$ due to exogenous factors. The Harris Todaro model establishes that, since "the formal urban sector pays a high wage to workers and it is this high wage that creates urban unemployment, [rural-urban] migration [can be] viewed as a response to the significant wage gap that prevails between the two sectors." (Ray, p.372-373)

In both Ranis-Fei and Harris-Todaro models, the lower bound on the wages paid by the urban sector is assumed to be "wage rigidity" due to political pressures or unionization in the urban sector. However, Stiglitz' (1974) "labor turnover model" suggests that the wage disparity between urban and rural wages may in fact be endogenous to the model.

Figure 4 suggests that if the firm's decision to pay a wage w*, which is higher than the market equilibrium wage, is endogenous to the model; this implies that the labor demand curve looks as shown. Given an economy where the labor supply is S', the labor surplus in the urban sector is then given by N(w*) –Ln(w*). This model suggests that firms pay an efficiency wage, which is higher than the wage paid in the rural sector and thereby results in urban unemployment.

Figure 4

The Labor Turnover Model



4.2. Incorporating international migration into the rural-urban migration models

If the two-sector model was opened up to include international labor employment opportunities, then looking at the Ranis-Fei and Harris Todaro models, there would be a reduction in both the disguised and open unemployment levels in this economy. Thus, the international labor markets would absorb part of the persisting unemployment evident in the models above. Note that this analysis holds even after accounting for skill composition of migrants. In the surplus labor model, the international migration of unskilled workers should have no impact on domestic output; as for skilled workers, their migration would be costly to the local economy only as far as educational (and other skill related) expenses borne by the domestic society. However, this is easily countered by the argument that migration of skilled workers would have no dramatic impact on domestic output as implicit in the labor surplus model is that even skilled workers are readily substitutable. Thus, on one hand, the model

implies that international migration should have a net positive impact by both direct and indirect reduction of unemployment. This argument is expressed graphically in figure 5.

Figure 5

International Migration Model

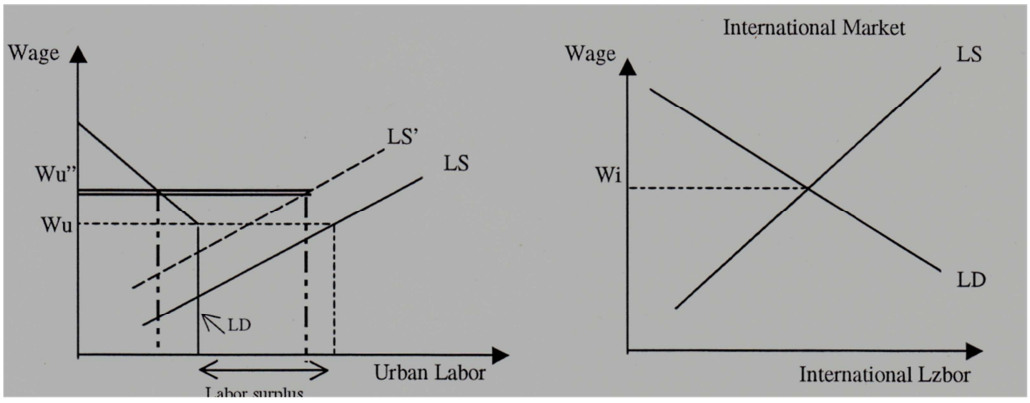


Figure 5 shows that introducing the international labor market reduces the unemployment in the urban sector (LS shifts to LS') as the 'surplus labor' in the urban sector migrates to the international markets, where they receive a wage Wi that is higher than the domestic wage of Wu[3].

Looking at the labor turnover model, the above implications of migration on urban unemployment may in fact be negated by the response of firms to this outbound labor migration. Since urban wages are not flexible downwards and since the urban workers are not paid their marginal products, as the international labor markets infringe upon the urban sector the urban employers would respond by raising their efficiency wage (from Wu to Wu") in order to reduce the turnover rate. This holds under the assumption that the international

[3] This analysis is similar to the initial Lewis and Harris-Todaro models of rural-urban migration.

labor markets pay a wage that is higher than the initial efficiency wage paid by the urban sector.

Thus, the net effect of migration on unemployment levels remains ambiguous as depending on the responsiveness of urban wages to labor turnover, unemployment may even increase due to the opening of international markets for the domestic labor force.

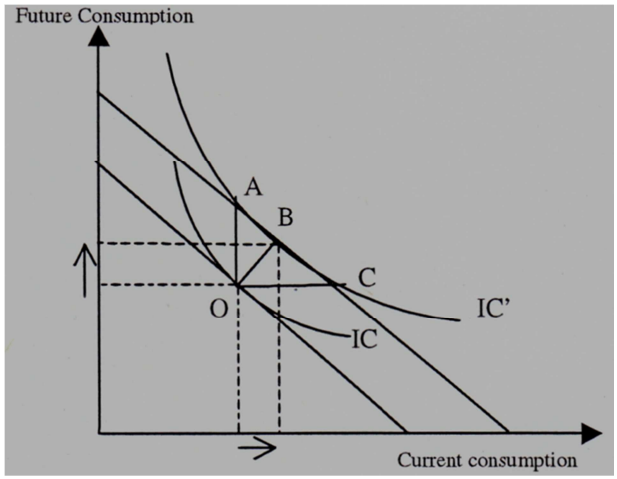
4.3. Incorporating remittances into the migration model

In a situation where the departure of migrants does not reduce output (or State Domestic Product, SDP), remittances should, in theory, increase the state's income. This evaluation holds if remittances are assumed to add to the domestic income. Aggregating individual/household responses to increase in income (due to remittances) should lead us to this conclusion.

The present value of lifetime resources (PVLR) is "the present value of the income the consumer expects to receive in current and future periods plus initial wealth" (Abel, Bernanke, Smith; p. 251). Thus, an increase in current income implies an equal increase in the individual's PVLR (figure 6). The impact of this increase can be shown graphically as a shift in the indifference curve from IC to IC'. From this graph it is evident that the individual may choose to consume all the additional income (i.e. be at C) or to save all the additional income (i.e. at A). But, if the individual has a "consumption-smoothing motive" then "she will use her bonus to increase her current consumption and (by saving part of her bonus) to increase future consumption," (Abel, Bernanke, Smith; p. 256) i.e. she'll choose to be at B.

Figure 6

Impact of Remittances on Consumption Expenditure



Aggregating this analysis would suggest that:

1. If the economy were previously demand constrained, then an increase in income would contribute to an increase in private consumption expenditure, which in turn would lead to an increase in output.
2. Conversely, if the economy were previously supply constrained, then the increase in consumption expenditure due to increase in income would result in an increase in prices, and an increase in imports. Thus, current account may deteriorate as a result of substantial importation of products (including that of capital goods). Furthermore, a loss of factors would add to the supply constraint.

Using the same graph as above one can draw a rather converse cone union if remittances were considered to contribute to wealth rather than income. If, say the budget line shifted due to an increase in wealth then the optimal consumption point is at B (same as when income increased). But, since current consumption has increased while

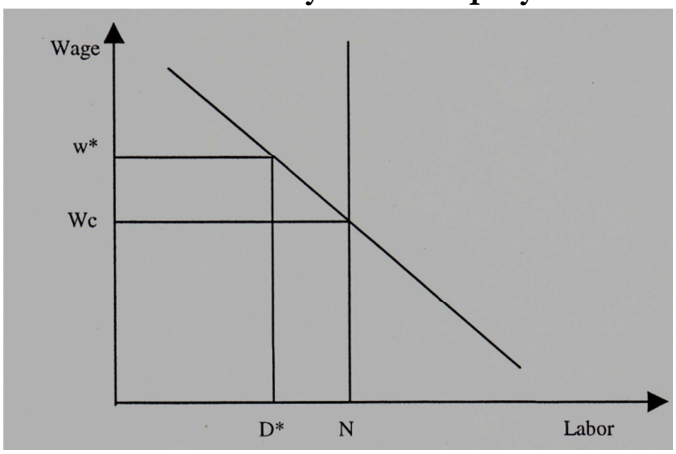
current income has remained unchanged, current savings would decline. Thus, if remittances were to add to wealth, then savings would decline at the household level. This would then be translated to a reduction in investment at the state level, therefore contributing to a decline (or at the least, stagnation) in the growth of state domestic product (since is an increasing function of investment).

4.4. Collusive (labor-based) theory of unemployment

Until now the assumption has been that there is a labor supply of say N workers all of whom would be willing to work at the market wage as long as wages are non- negative. But this scenario would change once game theory is taken into consideration. If, contrary to the neoclassical assumptions that had previously been adopted, workers bid for their wages, then one should consider workers' strategies as key to the wage setting in this casual labor market. Osmani's (1991) studies reveal that once "we allow for repeated 'play' it may be in the interest of workers to withhold labor" (Basu, p. 218). In figure 7, N – D* gives the persisting unemployment due to collusive strategy of the labor.

Figure 7

Collusive Theory of Unemployment



5. Explaining the Kerala Context

As indicated earlier in the paper, the economic functioning of Kerala is rather dismal in all arenas with the exception of consumption expenditure, even in comparison to the Indian average indicators; in particular, it appears that Kerala is facing "an acute crisis in the spheres of employment and material production." (Sen and Dreze; p. 212)

From the migration models observed it can be construed that factors, such as the socio-political nature of the state, the geographic configuration and habitation patterns, and migration, that buttress the "Kerala model" of development also hinder the economic growth of Kerala.

Houses in Kerala's villages are "scattered" and are "located near cultivated fields" (Sen and Dreze, p. 213). This explains (to a certain degree) the ease with which the male figures of the household unit becomes a potential migrant as the subsidiary members of the family

can adopt his role without any significant disruptions to the family's domestic earnings and other functions.

Without even considering migration effects, Kerala's political structure can be seen to negatively impact the economy indirectly. This can be concluded in view of the Harris-Todaro model where political pressures, unionization etc. contribute to the lower bound on wages in the urban sector which in turn contributes to high levels of unemployment in the state relative to the rest of India.

The powerful and synchronized aspects of "public action" in Kerala, which is much acclaimed for causing development in the state, also translates into the "power" of the labor force in manipulating wages. Thus, union pressures, and the threat of labor turnover (which becomes a brutal reality for the firms as international migration becomes a predominant alternative for the labor force) result in the scaling up of domestic wages. Viewed in this manner, the high levels of unemployment in Kerala can be attributed to the impact of migration on wages.

Contrary to the other socio-economic indicators (unemployment, GSDP, etc) considered, consumption expenditure in Kerala appears to be higher than the average Indian level. Economic intuition would suggest that GSDP should be an increasing function of consumption. However, the statistical tables indicate the opposite. This can be explained once remittances from emigrants are taken into consideration. Remittances do not accrue to the state domestic product, but they do increase disposable income. Note that T. N. Krishnan (1994) has shown that if Kerala's state income were estimated from a consumption function, then "remittances were in the region of 15 to 22 percent of the state domestic product after 1972-73" (Dreze and Sen, p. 219). Thus, remittances have a dramatic impact on the economy even though they do not directly appear in GSDP.

The direction of this impact on SDP can be obtained by the macroeconomic analysis conducted in section 4.3 (Incorporating Remittances into the Migration Model); where I conclude that if remittances add to disposable income without affecting earned income then the wealth of the household increases, thereby increasing consumption. But, subsequently, the model shows that savings decline. This decline in savings may be greater in Kerala than what is suggested by the model; the reason being that the influx of remittances is occurring in a setting where egalitarian policies are paramount in the political agenda.

> Without redistribution, there is a fraction of the population (however small) who possess the desire *and* the means to accumulate wealth. *With* redistribution, no person saves anything of any significance. ... [Thus], the deprivation and inequality of poor societies quite understandably provoke egalitarian policies. These very policies, however, might bring down the rate of savings and consequently the rate of growth. (Ray, p. 215)

Furthermore, the influx of remittances, because they increase households' wealth, renders a great degree of viability to the collusive labor theory which provides an explanation of the high levels of unemployment that coexist with unfilled vacancies.

6. Conclusion

Though it is generally perceived that outbound international migration should lead to a reduction in unemployment and an increase in the levels of economic growth, the models observed so far explain Kerala's predicament, as high levels of emigration to the Gulf has been accompanied by decelerated economic growth and high unemployment rates in the state. These models observe the impact of

migration on Kerala's economy on all fronts, including the labor response, the investors' response, the consumer response and firm/industry response to migration and the influx of remittances. Given the unique presetting of the state, the aforementioned responses to migration have a negative impact on economic growth. Nevertheless, concurrent to these indications of economic decline, Keralites continue to enjoy a better standard of living than in any of the other Indian states. This paradoxical nature of Kerala's development and growth has thus been termed the "Kerala Model". Though the model deserves much credit for the phenomenal achievements Kerala has attained, being forewarned of its implications on growth, through the analyses and conclusions of this paper, it would be rather senseless to be warped away from economic intuition whereby a steady decline in economic growth should eventually halt the developmental achievements. In short, it would not be a radical statement to suggest that the development levels attained are not sustainable given the economic malfunctioning of the state. Nonetheless, recent developments in tourism and real-estate in Kerala show a potential for these areas to bolster the state's economy despite the low SDP levels. There is still "promise" in the Kerala Model.

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