Employment and Millennium Development Goals: Analytics of the Linkage

by

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This paper looks at the role of employment-intensive growth in attaining the Millennium Development Goals (MDGs). It divides the goals into three categories: (a) those that may by and large be treated as private goods whose benefits are mainly captured by their recipients; (b) those that are characterised by substantial externalities in that they provide benefits not only to their direct recipients but also to others; and (c) those goals that are public goods characterised by non-excludability and non-rivalry. The MDGs in the first category are achieved by rapid and inequality-averse economic growth filtering down to households and providing the poor with an increase in personal income to enable them to rise above the poverty threshold which is defined in terms of *personal* income. Employment-intensive growth is the principal instrument for the achievement of this goal. For the attainment of the MDGs entailing externalities it is not enough to augment personal income. Public action would be necessary to supplement private expenditure to attain desirable quantities of these services. The attainment of desirable levels of public goods like gender empowerment, control of epidemic diseases and environmental protection would be even more a matter of public action with at best a limited role for private expenditure. Compared to the earlier development goal of promoting growth with poverty reduction, the endorsement of MDGs as the principal development strategy by the world community thus represents a substantial widening of the role of public action in development, a point that should be adequately recognised. Employment-intensive growth would need to be supplemented by a broad range of public action in the achievement of the MDG package. The paper analyses the range of policies related to the promotion of employment-intensive growth and other public actions needed to attain the three categories of MDGs. It illustrates the above by taking a close look at the performance of four countries – Armenia, Cambodia, Ethiopia and Mongolia

– in attaining MDGs. It also looks at a more limited set of aspects of performance in attaining MDGs for a larger set of so-called poor "Integrated Package Service" countries.

I. INTRODUCTION

With the ratification of the Millennium Development Goals (MDGs) at the United Nations Millennium Summit in 2000 a question that naturally arises is how the multiple objectives, which the international development community has become committed to, are related to one another and whether they are even consistent with one another. First, there is the goal of economic growth, a growth in per capita income and living standard. Then there is the objective of poverty reduction which had received an overwhelming emphasis from the donors and the developing countries alike in recent decades. This came to be broadened by the adoption of the MDGs which set specific targets not only for poverty reduction but also for the education of children, empowerment of women, reduction of child and maternal mortality, combating diseases such as HIV, malaria and tuberculosis, and promoting greater international cooperation for development. Given that they continue to remain objectives to be simultaneously pursued by the developing countries, it is natural to ask how they are related to one another and whether they are consistent with one another.

The relationship between growth and poverty reduction and the possible inconsistency between them as development objectives have long been recognised. Growth is necessary for poverty reduction but is not sufficient: it must be accompanied by an improvement in the living standard of the poor. If the distribution of income changes in such a way as to reduce the income share of the poor then the contribution of growth to poverty reduction would be weakened, offset completely or even offset more than completely.

The convergence between growth and poverty reduction, given the absence of an unfavorable change in income distribution that offsets the effect of growth on the income of the poor, is assured when poverty is defined in the narrow sense of income poverty.[1] When poverty is more broadly conceived as indicating deprivation from indicators of wellbeing other than income – as is the case with the UNDP's Human Poverty Index - it is no longer assured that growth and (income) poverty

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[1] In this paper no distinction is made between income and consumption poverty. This is done in the interest of brevity and not intended to suggest that the two would always move in the same direction. The debate about which of them is a better indicator of the lack of well-being on the part of the poor is by now well known. The present writer takes the view that in practice the choice between them is often dictated by the form in which data are available and it is debatable which of the two would better capture the change in well-being of the poor.

reduction would necessarily bring about a reduction in that kind of poverty. This is particularly so because the non-income indicators of well-being, such as education and health attainments, entail substantial externalities so that an improvement in personal income would not bring about a desirable reduction in deprivation with respect to these indicators.[2]

This is a justification for the inclusion of the MDGs as separate and independent development objectives. With the exception of the first and the last of its eight components, the MDGs consist of indicators that are characterised by substantial externalities.[3] The second, the fourth and the fifth MDGs - education of children and the reduction of child and maternal mortality – provide benefits not only to their direct recipients but also to others, thereby embodying significant externality. The remaining three MDGs—empowering women, combating epidemic diseases and protecting the environment—are actually public goods entailing non-rivalry and non-excludability in their consumption. Private expenditure decisions are not adequate instruments to secure the desirable levels of production and consumption of these elements. Growth and (income) poverty reduction, operating through the augmentation of private income, cannot serve as adequate tools for the attainment of their appropriate levels of production and consumption. There must be public action to supplement private expenditure on these elements. It is in this sense that the specification of MDGs as separate and independent objectives makes sense.

The above also suggests that policy configurations for the attainment of the different objectives would be different. Poverty reduction is achieved by rapid and inequality-averse economic growth filtering down to households and providing the poor with an increase in personal income to enable them to rise above the poverty

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[2] It is worth noting that even if poverty were defined with respect to multiple indicators of "purely" private goods, e.g. food intake, clothing and housing, there would be inconsistency in the rates at which poverty is reduced with respect to the different indicators of poverty. Suppose separate poverty lines are set with respect to an income threshold and average or *representative* consumption of clothing and housing for individuals with income at the poverty threshold. The proportions of population below the food poverty line, clothing poverty line and housing poverty line will usually not change at the same rate as the proportion of population below the poverty income threshold for the simple reason that consumption distributions of food, clothing and housing below the poverty line are unlikely to be the same, and remain the same, as the distribution of income below the poverty line.

[3] The first indicator is the halving of the proportion of people living on less than PPP\$1 a day and of those who suffer from hunger. Reduction of poverty, especially the reduction of hunger, may be said to have externality in the sense that less hunger on the part of an individual, besides protecting his/her health, might protect the health of the others. This, however, would be stretching the meaning of externality.

threshold which is defined in terms of *personal* income. There can be plenty of scope for public action in augmenting the income of the poor households. But the instrument for the reduction of poverty is the augmentation of personal income.

For the attainment of the MDGs it is, however, not enough to augment personal income. Households would not spend enough to purchase the socially desirable amounts of education and health for children and healthcare for mothers. Public action would be necessary to supplement private expenditure to attain desirable quantities of these services. The attainment of desirable levels of public goods like gender empowerment, control of epidemic diseases and environmental protection would be even more a matter of public action and expenditure with at best a limited role for private expenditure.

II. EMPLOYMENT AND MDG TARGETS

How does employment feature in this nexus of growth, poverty reduction and MDGs? As in the earlier paradigms of growth and poverty reduction, employment is not an explicit component of the MDGs. The central role of employment in the earlier development paradigm is, however, well established: in the developing countries efficient pursuit of growth is best based on the intensive use of labour, the relatively plentiful factor. Employment-intensive growth is the most effective method of poverty reduction because labour is the most plentiful resource that most poor are endowed with.

There are, however, important differences between the nature of the link between employment and (non-poverty) MDGs (i.e. MDGs 2 to 7) and the nature of the link between employment and poverty reduction. The link between employment growth and poverty reduction is *predominantly* a one-way link in which growth in productive and remunerative employment brings about rapid poverty reduction. One might describe the relationship as one of high employment elasticity of poverty reduction. It is possible that poverty reduction also has effect on employment: getting out of poverty could enhance the ability to work. But this effect is at best of much less quantitative importance than the effect of employment growth on poverty reduction and the direction of this effect is not unambiguous in so far as getting out of poverty may sometimes induce a person to reduce the amount of work.

Between most of the individual MDG targets and employment, there is a two-way relationship: each having a usually positive effect on the other and it is likely that for some MDGs the reverse effect of MDG on employment would dominate the effect of employment on MDG. In other words, the *MDG elasticity of employment* would dominate the *employment elasticity of MDG*. Employment elasticity of an MDG would be weaker the greater the externality entailing the MDG and it would be lowest and/or insignificant for those MDGs that are public goods. The reason

simply is that employment exerts influence on MDG by enhancing the income of individuals so that the effect of employment on MDG would be high for those MDGs for which private expenditure is the main determinant of their level. This is the case for the MDGs for which externality is low. Some illustrations would help clarify the issues.

Consider the first MDG, the eradication of extreme poverty and hunger. As it has been argued above, this particular MDG entails the least externality and hence the employment elasticity of this MDG would be high. Given other things, the higher the rate of growth in employment the faster is the reduction in poverty and hunger. With rare exception a faster employment growth enhances the share of the poor in incremental income because labour is the asset of which the poor as a class have the largest share of all assets. It has also been noted that in the close association between employment growth and poverty reduction the direction of causation may also run the other way. A more poverty-alleviating growth may lead to a higher rate of employment growth. It may be because of increased labour supply from the households that have got out of poverty, but, as argued above, this effect may conceivably be negative. Another possibility is that the spending of the poor, on basic consumption and small-scale investment, is likely to be more concentrated among labour-intensive goods and services than is the spending by the non-poor. Of the two-way relationship between employment growth and poverty reduction, the employment elasticity of MDG will, however, dominate the MDG elasticity of employment. Poverty reduction stands out as different from the other MDGs in so far as it entails the least degree of externality. The generation of private income, through employment creation and other methods, would be the sufficient instrument to reduce it. It is perhaps useful to remind that the particular indicator in question is that of *income poverty* and that public policy would necessarily have a major role in determining the extent of growth in private income of individuals resulting from a given rate of overall GDP growth.[4]

Next in order of the strength of linkage between employment and MDG are the three externality-embodying elements for which individual income is a major determinant of absorption though the significant externality that they entail dictates that public action is necessary to supplement private expenditure to ensure their

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[4] Conceivably income poverty can be reduced by public programmes of feeding the vulnerable and publicly housing the poor. The present argument assumes that these elements of income subsidy should be added to the estimates of personal income that are used to measure poverty in the event that such programmes are used for poverty reduction. These are to be seen as public instruments to augment personal income/consumption. Note, however, that the thrust of the dominant contemporary development strategies is to move away from such programmes.

appropriate levels. These are universal primary education, reduction in child mortality and the reduction in maternal mortality. The relationship between employment and universal primary education (the second MDG) is strong both ways: access to employment and the income that it provides enable private investment in education. Access to education improves the productivity of employment (though with a time lag in the case of primary education) and thus increases the (derived) demand for labour. In this case the MDG elasticity of employment is often likely to dominate the employment elasticity of MDG.

The linkage between employment and child mortality (the fourth MDG) should be similar to that between employment and universal primary education. Faster employment growth, via a more egalitarian distribution of incremental income, enhances the capacity of the poor to make private investment in ensuring better nutrition and health care for children and thus contributes to a more rapid reduction in child mortality. An autonomous decline in child mortality would reduce birth rate which would contribute both to reduced dependency ratio and a reduction in the excess supply of labour, leading to an improvement in the ratio of employment to labour force. A *priori*, it is hard to say which of the two elasticities would dominate.

Faster employment growth would help reduce maternal mortality (the fifth MDG) by augmenting the capacity of households to invest in maternal health, the nature of the linkage being much the same as that between employment and child mortality. The reverse causal link between a fall in maternal mortality and employment growth appears more tenuous although one is tempted to argue that the effect must be positive in so far as maternal mortality causes disruption in family life which is likely to create difficulty for the members of the household in pursuing employment. Reduced maternal mortality can also have externalities in the form of improved health and education, status of children, thereby strengthening the effect of the latter on employment.

In the case of these three MDGs a combination of enhanced personal income and increased public investment in education and health would be needed to achieve targets. Augmenting personal income, while a sufficient instrument for the reduction of income poverty, would not be enough for the acquisition of adequate levels of education and health; it must be supplemented by public investment.

The three MDGs that this paper has christened public goods are gender equality and empowering of women (the third MDG); combating HIV/AIDS, malaria and other diseases (the sixth MDG); and environmental sustainability (the seventh MDG). If their contents are appropriately broadly interpreted then the effect of employment growth on them would at best be small. Employment growth would have little effect on the overall status of women. Very rapid employment growth

may tighten the labour market to the point of improving the access of women to wage employment. But the status of women depends on many more things–institutional, social and legal–on which employment growth per se will have little effect. Similarly, the effect of employment growth on the reduction of HIV/AIDS and other diseases (the sixth MDG) is likely to be modest. Employment growth may or may not promote environmental sustainability (the seventh MDG): the outcome depends on the kind of employment growth that takes place. Employment growth for survival could be at the cost of environmental degradation and environment-hostile industrialisation can promote employment growth. While in the long run environmental sustainability need have no conflict with employment growth, in the short run a poor society may not be able to avoid some degree of trade off between them. Thus, employment growth *per se* would be a weak instrument to achieve these MDG targets.

One, however, needs to recognise that individual elements–partial indicators–of each of these public goods can be defined in such a way that they strongly resemble the externality-embodying MDGs identified above. Thus the United Nations' *Millennium Development Goals Report 2006* identifies the elimination of "gender disparity in primary and secondary education, preferably by 2005, and in all levels of education no later than 2015" as the only target for gender equality and empowerment of women (the third MDG). It also includes among the goal of environmental sustainability such targets as halving, "by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation" and achieve, by 2020, "a significant improvement in the lives of at least 100 million slum-dwellers."[5] Each of these targets represents a narrow aspect of the MDGs that they set out to contribute to. Employment growth would have somewhat stronger effect on them than on the respective MDGs broadly defined. Even so private income generation, via employment growth, would perhaps make lesser contributions to their achievement than to the three externality-embodying MDGs.

The reverse linkage between each of the three public-good MDGs and employment is likely to be much stronger. In other words, for these MDGs, the MDG elasticity of employment is likely to be far greater than the employment elasticity of MDG. Enhanced gender equality is favourable for employment growth. Empowerment of women leads to a reduction in birth rate and should promote better health and education for children, thereby reducing the excess supply of labour, reducing the dependency ratio and improving labour productivity. All these are conducive to an improved intensity of employment. The reverse linkage

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[5] United Nations, *The Millennium Development Goals Report 2006*, New York, 2006.

between combating HIV/AIDS and other diseases on the one hand and employment growth on the other is likely to be strong: a reduction in the incidence of AIDS (and other disease) should have a strongly positive effect on employment and productivity growth since AIDS strikes workers in their prime and disease adversely affects productivity. Better environment, especially when encompassing improved access to sanitation, drinking water and slum improvement, should make strong contribution to employment productivity.

Finally, the linkage between greater global partnership (the eighth MDG) and employment growth would appear to consist largely of a unidirectional effect. The specific targets for this MDG as identified in the *Millennium Development Goals Report 2006* – larger aid inflow, a non-discriminatory trading and financial system, comprehensively dealing with developing countries' debt, making essential drugs affordable, and developing and implementing strategies for youth employment– should be of much help for employment growth in the developing countries. The effect of a better employment performance in a developing country by itself is unlikely to have much effect on any of these elements which are essentially beyond the scope of country development policy and are matters for international negotiation on development cooperation. This latter attribute rules this MDG out of the realm of policy-making by individual countries.

III. RANGE OF POLICIES

The analysis above suggests a three-way classification of the MDGs (excluding the eighth MDG, global partnership for development):

The first group consists of poverty reduction which has been an important development objective for the international development community and most developing countries long before the MDGs were adopted.[6] The principal instrument for the attainment of this MDG is to increase the personal income of the poor. The best method for this is rapid economic growth that is inequality averse, i.e. growth that translates itself into rapid increase in income of the poor. As long as growth is rapid and intensive in productive and remunerative employment, the poor will experience quick augmentation in their personal income that will enable them to overcome poverty. To the extent that some poor households—in most cases a relatively small proportion of the poor—do not have the required endowment of labour, employment-intensive growth will need to be supplemented by public

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[6] Note, however, that the MDGs have broadened this component by adding to the target of halving by 2015 the 1990 rates of extreme poverty (the proportion of population below PPP$1 per person per day) the target of halving the proportion of population in hunger over the same period.

income subsidy to these households. A great deal of public action would be required to make growth sufficiently employment intensive; but the principal instrument for the achievement of this MDG would still be the generation of personal income for the poor by making them productively and remuneratively employed.

The second group consists of those externality-embodying MDGs which are not public goods: universal primary education, reduction in child mortality and improvement in maternal health. The achievement of these MDGs would depend on a combination of private expenditure on and public provision of these services. Employment-intensive growth, as the instrument for the generation of personal income for those who suffer from a deprivation of these MDG components, would thus have a major role to play. But substantial public provision of education and health would be necessary to supplement private expenditure.

The third group consists of the three MDGs that this paper has put in the category of public goods: gender equality, controlling HIV/AIDS, malaria, TB and other diseases and environmental sustainability. Employment and income generation for individuals and households will by themselves have little direct effect on these MDGs. They will need to be dealt with by a broad range of public action encompassing investment, regulation and institutional reform. To illustrate, improving the gender balance in schooling is not merely a matter of setting up schools and making them affordable for poor children, but working in a broad range of areas to improve the incentive of the parents to enroll female children, and reduce and remove social obstacles to children's schooling. Sustaining improved gender balance in schooling in the long run also depends on removing the discrimination against women in the labour market which requires action on many fronts. Most importantly, gender balance in schooling is an incomplete indicator of gender equity which requires ending discrimination against women in many areas including family law, inheritance law and labour market practices.

Notice that the second and the third group of MDGs, especially the latter, would inevitably feature in a strategy of employment-intensive growth. This is because of the high MDG elasticity of employment for most of these components. As argued earlier in the paper, improvements in most of these components contribute to more and more productive employment.

While they have plenty of positive effects on each other, employment growth and the successful attainment of MDG targets do not quite amount to a virtuous circle. If development policy focuses exclusively on ensuring a decent rate of employment-intensive growth, it is likely that there would be progress in the attainment of certain elements of MDG, e.g. universal primary education, reduction of child mortality and reduction of maternal mortality — the MDGs with high

employment elasticity. But at the same time certain other MDGs, e.g. gender equity, disease control and environmental sustainability – the MDGs with low employment elasticity—will lag behind the targets. Historically, one might cite the East Asian pioneers as examples of this case. Countries like the Republic of Korea achieved extremely high rates of growth with adequately high output elasticity of employment. This ensured an avoidance of increased inequality in the distribution of incremental income and promoted rapid poverty reduction. But the performance of these countries in promoting gender equality was relatively poor. Furthermore, some of the East and South-East Asian countries had a poor record in environmental sustainability.

This does not indicate that development policy should instead focus on the direct promotion of MDG goals, thereby shifting attention away from growth with high employment intensity. Such a strategy would defeat efficient achievement of MDG goals, not only for poverty reduction for which rapid employment growth is an indispensable prerequisite but also possibly for the externality-embodying MDGs for the attainment of which a combination of private expenditure and public investment is essential.[7] In the absence of adequate data it is hard to document examples, but it seems that Cuba might belong to this category. Its MDG indicators appear to be very high so that it ranks extremely high in terms of human development and extremely low in terms of "human poverty". But it has experienced low growth and its income poverty, for which estimates are unavailable, might be relatively high once the poverty threshold is set at an appropriately high level.

IV. ILLUSTRATIVE COUNTRY CASES

This section illustrates the linkage among employment, growth and the MDG goals with reference to four countries covered by the Integrated Package of Services (IPS) to support the MDGs: Armenia, Cambodia, Ethiopia and Mongolia. Their choice was dictated by the availability of data on employment trends from recent UNDP/ILO studies on growth-employment-poverty nexus.[8] The following are brief summaries of main trends in growth, employment and poverty.

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[7] One might argue that countries with aggressive public investment in health and education may have succeeded in attaining high levels of the externality-embodying MDGs as well. It is still arguable that this is not an efficient way of attaining these MDG targets: it would be more efficient to have a partnership between private expenditure and supplementary public investment to compensate for externality. The example of Cuba that follows perhaps illustrates this concern.

[8] The first round of these studies included 13 countries of which the above four belong to the IPS group. See A. R. Khan, *Growth, Employment and Poverty: An Analysis of the Vital*

Armenia

Armenia's real GDP fell by a drastic 59 per cent between 1989 and 1993 after which it started recovering. The fall in industrial output was much sharper and continued much longer. Services output also fell faster than GDP. For the entire decade of the 1990s industrial and services sectors recorded annual declines of respectively 8 per cent and 4 per cent while agriculture managed to attain positive, albeit slight, growth. By 2004 industrial value added was more than a fifth lower than in 1990 and services output was more than a tenth lower. Agricultural output was on the other hand more than a quarter higher in 2004 than in 1990.

In the early 1990s industries and modern services shed a very high proportion of persons employed in them. Most of these people moved to rural Armenia and were absorbed in agriculture, resulting in a fairly sharp increase in agriculture's share of total employment. Over the decade of the 1990s total employment fell by 22 per cent: agriculture's share of employment increased by a staggering 155 per cent while the shares of industry, construction and services fell respectively by 54 per cent, 69 per cent and 7 per cent. During the period of restoration of industrial growth, its labour absorption continued to be negative. Output elasticity of employment in services was also negative during the restoration of its growth in the 1990s. Agriculture continued to absorb labour at a fairly rapid rate: while it absorbed a great deal of labour prior to 1993, the output elasticity of employment in the sector between 1993 and 2000 was approximately 0.6.

Estimates of income poverty are available for a relatively short period during the recovery phase, between 1996 and 2001. For a very low poverty threshold, indicating extreme poverty, there was poverty reduction in both rural and urban areas. For a higher poverty threshold, poverty declined in urban areas but increased a little in rural areas.

But for the large-scale labour absorption in agriculture, the poverty outcome might have been a great deal worse. Labour absorption in agriculture was in turn facilitated by the egalitarian distribution of land that Armenia's land reform instituted.

Cambodia

Cambodian economy has grown rapidly and steadily since the early 1990s. The growth of the economy has however been very narrowly based, especially since

1999, whence much of the growth has been due to the export-based garment manufacturing. Agriculture, the sector "employing" more than 70 per cent of the labour force, had a much slower growth.

The overall growth rate of the economy, rapid by historical and any absolute standard, does not appear to have had a correspondingly high impact in reducing the incidence of poverty; the estimates of which suffer from uncertainty due to the extreme asymmetry between the results of the different rounds of household survey. The most persuasive conclusion that emerges from these data is that the proportion of population in poverty may at best have declined slowly for Cambodia as a whole while it may have declined significantly for urban Cambodia and indeed may have increased in rural Cambodia *over certain periods*.

Between 1993/4 and 1999, agriculture's share of total workforce increased, both for men and women, despite a fall in agriculture's share of output. By 1999 nearly 74 per cent of the labour force was employed in agriculture. The share of industrial employment also increased, mainly due to the expansion of employment in garment manufacturing. Over the period under review, the share in total employment fell for most services, including health, education, transport and public sector. Since the reported information on employment almost entirely refers to structures at two points of time, without an estimate of absolute sizes, it is hard to judge the impact of growth on employment. There are few signs of robust employment growth. The increased share of agriculture in total employment and the extremely narrow base of employment expansion in industries nevertheless point to the failure of employment to record a growth proportionate to overall GDP growth. The slow growth of agriculture, only marginally higher than population growth, and the rise in agriculture's share of the labour force almost certainly indicate a fall in output per worker in agriculture. Combined with the fact that households in lower deciles derive a higher proportion of income from agriculture, the picture conveys an impression of the possibility of increased immiserisation of the large parts of rural population over significant periods of time.

Ethiopia

During the 1990s, following extensive economic reform, Ethiopia's growth increased to an annual average rate of 4.2 per cent, in per capita terms 2 per cent, growth in income. That this rate of growth was inadequate for poverty reduction is evident from the fact that between 1995/96 and 1999/2000 per capita real consumption in rural Ethiopia actually fell by 4 per cent and per capita real urban consumption increased by just 3 per cent. The poverty outcome was actually determined by the change in the distribution of income and consumption: rural Gini ratios fell a little and the incidence of rural poverty, by all the standard measures,

fell a little. Urban Gini ratios increased leading to an increase in urban poverty. At the national level, there was no appreciable change in the incidence of poverty.[9]

During 1994-99, roughly coinciding with the period over which poverty estimates are available, employment growth for the economy as a whole was dismal, -0.6 per cent per year. The largest sector of employment, agriculture and allied activities, is estimated to have recorded an even faster decline in employment. Estimates based on other sources of data also show exceedingly low output elasticities of employment in manufacturing and agriculture. The failure to reduce poverty in the Ethiopian case was due as much to the low rate of economic growth as to the very low employment elasticity of growth.

Mongolia

During the first half of the 1990s per capita income in Mongolia fell at an average annual rate of 4.3 per cent. It was replaced by very slow recovery in the second half and a little faster growth in the early 21st century. Per capita income in 2004 remained substantially below what it was at the end of the 1980s.

By 1994, largely due to the failure on the part of many industries to survive, 8.7 per cent of the labour force constituted registered unemployment. Restoration of growth thereafter reduced it to 4.6 per cent by 1999. While the *change* in these rates may be meaningful, their *levels* are certainly serious underestimates of the inadequate access to remunerative employment. Large numbers of workers left the cities in the wake of loss of job and became pastoralists. Between 1995 and 2000—a period of recovery—agriculture's share of employment went up from 46.1 per cent to 48.6 per cent while the share of manufacturing fell from 8.8 per cent to 6.7 per cent. One of the dreariest aspects of this movement of labour was that it resulted in a fall in output per worker in both agriculture and manufacturing between 1995 and 2000.

Estimates of poverty are available only for 1995 and 1998, a period over which economic recovery had started taking place, with a significant rise in per capita income. And yet overall incidence of "extreme poverty", defined as those below a threshold income needed to satisfy minimum nutritional needs and the barest of other needs, remained virtually unchanged at over a third of population, with a slight rise in urban poverty and a slight fall in rural poverty. There seems to be little doubt that the incidence of poverty has increased sharply over the entire period under review.

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[9] The ILO/SIDA study calls the official estimate of the slight decline in rural poverty "a statistical myth" since "the growth rate of real agricultural per capita output has been negative and real per capita rural income has declined."

Table I summarises basic facts about MDGs, growth and other related indicators for these countries.Besides the first MDG (poverty reduction and undernourishment), two of the externality-embodying MDGs (child mortality and primary schooling) and certain partial indicators of the public-good MDGs (female/male enrolment ratio as a partial proxy for gender equality, HIV incidence as a proxy for disease control, and the proportion of population with access to sanitation and drinking water as proxy for environmental sustainability). For a number of the indicators the change since 1990 has been shown as measures of progress.

Consider first the levels. Income poverty, estimated for comparable poverty line, is not rank-correlated at all well with per capita real income.[10] It is indeed lowest for Armenia, the country with the highest per capita income; but perfectly inversely rank-correlated with per capita real income for the other three countries.

Undernourishment, the other indicator of the first MDG, has ranking that is also implausible and asymmetrical with poverty. It is highest for Ethiopia, the country with the lowest per capita real income; but perfectly inversely rank-correlated with per capita real income for the other three countries. While undernourishment is in line with income poverty for Cambodia and Mongolia, it is twice the rate of income poverty in Ethiopia and more than 17 times the rate of income poverty in Armenia! Barring large statistical inaccuracy, it suggests that either relative prices are high for food or consumer preference is biased against food in Ethiopia, and massively so in Armenia, relative to the other two countries.

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[10] In principle per capita incomes and the poverty thresholds, estimated at purchasing power parity dollars, should be comparable across countries. The author is, however, aware that numerous methodological inaccuracies must have introduced significant errors.

TABLE I
MDG AND RELATED INDICATORS FOR SELECTED COUNTRIES

Indicator	Armenia	Cambodia	Ethiopia	Mongolia
PPP$ Per capita Income (2004)	4160.0	2310.0	750.0	2040.0
GDP Growth Rate (% p.a.): 1990-2000	-1.9	7.1	4.2	-3.0
2000-2004	11.3	6.3	3.6	5.2
Population Growth Rate (% p.a.)				
1990-2004	-1.1	2.5	2.2	1.3
Investment/GDP: 1990	47.0	8.0	12.0	38.0
2004	20.0	26.0	21.0	37.0
Saving/GDP: 1990	36.0	6.0	10.0	7.0
2004	14.0	19.0	13.0	18.0
PPP$1 Poverty	<2.0	34.1	23.0	27.0
% Undernourished: 1990	-	43.0	-	-
2002	34.0	33.0	46.0	28.0
Child Mortality: 1990	60.0	115.0	204.0	108.0
2004	32.0	141.0	166.0	52.0
Primary Completion : 1990	90.0	-	21.0	-
2004	107.0	82.0	51.0	95.0
Female/Male Enrolment Ratio (2002-03)	107.0	84.0	69.0	116.0
HIV Prevalence: 2003	0.1	2.6	404	<0.1
% Access to Sanitation: 1990	-	-	4.0	-
2002	84.0	16.0	6.0	59.0
% Access to Drinking Water:1990	-	-	25.0	62.0
2002	92.0	34.0	22.0	62.0

Note: Female/male enrolment ratio is the ratio of gross enrolment for all levels of education. HIV prevalence rate is the proportion of population infected. The data are from *World Development Indicators, 2005 and 2006* and *Human Development Report 2005.*

The levels of the other MDGs are much better correlated with per capita real income. Armenia, the richest country, ranks first in all except gender equity (in which it is close second to Mongolia) and HIV prevalence (in which it ranks best, with lowest incidence, together with Mongolia); and Ethiopia, the poorest country, ranks lowest in all. The only other deviation from perfect rank correlation is that Cambodia, with higher real income than Mongolia, uniformly ranks lower. Mongolia very clearly outranks Cambodia in MDGs, often by a huge margin.

Now consider change in MDGs since 1990. The paper has argued that employment-intensive growth is the principal determinant of success in attaining the first MDG and growth and employment elasticity is high for the second, fourth and fifth MDGs. One problem about "testing" this hypothesis for our small sample is

that there is little variability in employment performance among the four countries: they all are unsatisfactory, only more or less so. Even so, we should be able to get some insights.

Cambodia is the only country with good overall growth performance. But its poverty performance has been less than satisfactory. One might argue that this is due to its poor performance in employment growth.[11] Ethiopia achieved modest growth in per capita income during the period for which poverty estimates are available and, at least in urban areas, the growth translated itself into growth in *average* personal income. But urban poverty actually increased. This seems to be due to an adverse change in the distribution of urban personal income which in turn must have been substantially due to the dismal employment intensity of industrial growth. Flat rates of poverty in Armenia (but note the almost certain rise in undernourishment) and Mongolia have been associated with poor employment performance. For the period for which poverty estimates are reported above, the annual growth in per capita GDP was more than 7 per cent in Armenia and just over 2 per cent in Mongolia. Had growth been translated into comparable growth in income of the poor, poverty would have fallen substantially in Armenia and perhaps more noticeably than was the case in Mongolia.

The disconnect between growth and employment on the one hand and the (non-poverty) MDGs on the other is much greater. Despite the fact that per capita income growth over the period was less than 1 per cent per year and employment performance was poor in Armenia, it was well above being on course for the achievement of the fourth MDG (child mortality) and had fully achieved the second MDG (universal primary education).[12] It had also fully achieved the partial indicator of gender equality and, although information on the partial indicators of environmental sustainability is available for only the recent period, their high absolute levels indicate that the country is performing well on them.

Cambodia's performance presents a different kind of puzzle. Despite rapid growth, its performance in child mortality was highly negative; it fell back according to this indicator by a big margin. Information on change in performance on the other MDGs is not available although performance in the public good MDGs,

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[11] An apparent puzzle in Cambodia is the clear and significant fall in undernourishment, implying a contradiction with the relatively flat income poverty. But this may easily be due to the difference in dates: income poverty estimates terminate at an earlier date than malnourishment estimates.

[12] By being on course means that the millennium goal would be reached if the annual percentage-point change in the indicator between 2004 and 2015 continues to be equal to the actual annual percentage-point change in the indicator between 1990 and 2004.

as can be gauged from their absolute levels, seems to be rather poor. On balance, Cambodia looks like a country with rapid overall growth that has performed poorly on MDGs.

Ethiopia has made significant progress in universal primary education and child mortality despite rather poor growth and employment performance. Its performance on both these MDGs is, however, significantly below course for the attainment of the MDG targets. In the partial indicators of environmental sustainability it has performed poorly, especially in providing access to drinking water. It also does not appear to have made progress in controlling disease, notably HIV. Thus moderate success in externality-embodying MDGs is associated with poor performance in public-good MDGs.

Mongolia, with a very modest growth in per capita income and poor employment performance, has been well above course for the attainment of the child mortality target and has actually fully achieved the partial indicator of gender equality. Although information is available only for one recent year, the high absolute level of the primary school enrolment suggests that the fulfillment of this target is within reach. The levels of the partial indicators of public-good MDGs are also quite good although the access to drinking water, for which information on change between 1990 and 2000 is available, shows a complete lack of progress. On balance, Mongolia represents good progress on MDGs, not quite warranted by its anemic growth.

A number of useful findings emerge from the above despite the incompleteness of data and the limited number of cases. First, there is at least a weak confirmation of the hypothesis that growth, unaccompanied by a decent employment performance, would not benefit the poor sufficiently to help achieve poverty reduction, the first of the MDGs. In the above examples there is at least one case (Cambodia) of fairly rapid growth; but its record of poverty reduction does not appear to have been anything nearly as good as the overall growth rate would warrant. One explanation for this is that Cambodia's poor overall employment performance was not significantly better than the employment performance of the other cases.

While the performance in attaining the first MDG was unsatisfactory in all the cases, the performance in attaining the other MDGs, the ones that embody externality and are public goods, varies among the countries, ranging between good (Armenia and perhaps Mongolia) and poor (Cambodia). The analysis above argued that a combination of private and public effort is necessary for success in attaining the externality-embodying MDGs while high capacity for public investment and intervention is necessary for good performance on the public-good MDGs. High

growth is necessary, though not a guarantee, for the fulfillment of these preconditions. Unsatisfactory employment performance, among other factors, explains the lack of the private expenditure on these MDGs in Cambodia. It is possible that the opportunity provided by growth was not grabbed by the government to augment public investment in these MDGs. One can similarly explain Ethiopia's indifferent performance in MDGs. But how does one explain the good performance of Armenia and Mongolia?

Table II shows public expenditure on education and health in the four countries in 1990 and 2000-2002. Cambodia's poor performance is consistent with low (and in the case of health also non-increasing) public expenditure. Ethiopia's moderate success in improving child mortality was not due to a particularly strong public support though public expenditure on education went up as a proportion of GDP. Armenia and Mongolia are the puzzling cases: as proportion of GDP, which grew slowly in Armenia and not at all in Mongolia over the time periods shown in the Table, public expenditure on education fell in both, drastically so in Armenia, and public expenditure on health remained unchanged.[13]

One needs to get down to a detailed country level analysis to determine the causes of this apparently unexpected phenomenon. The possibility that these data hide a lot of detail is indicated by the following facts. In Armenia more than 90 per cent of children are immunised against TB and measles and in Mongolia the proportion is 98 per cent. The proportion of children immunised against TB is 76 per cent in Cambodia and Ethiopia and for measles it is respectively 65 per cent and 52 per cent in the two countries. For Mongolia alone information is available on the proportion of educational expenditure directed to pre-primary and primary education and it shot up from 14 per cent in 1990 to 54 per cent in 2000-02, thereby indicating a sharp rise in public expenditure on pre-primary and primary education as proportion of GDP although public expenditure on all education as proportion of GDP fell.[14] This information is not available for the other countries. These details are matters to be dealt with by in-depth country level analysis which is beyond the scope of the present paper.

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[13] It is noteworthy that public expenditure on health, as proportion of GDP, remained exactly the same in two time periods separated by more than a decade in all four countries.

[14] The data quoted in this paragraph are from the *Human Development Report 2005.*

TABLE II
PUBLIC EXPENDITURE ON EDUCATION AND HEALTH (PER CENT OF GDP)

Country	Education		Health	
	1990	2000-02	1990	2002
Armenia	7.0	3.2	1.3	1.3
Mongolia	12.3	9.0	4.6	4.6
Cambodia	-	1.8	2.1	2.1
Ethiopia	3.4	4.6	2.6	2.6

Source: *Human Development Report 2005,* Table 20.

Another issue relates to very uneven progress in different MDGs. For example, Cambodia's progress in reducing undernourishment has been reasonably good, though still slightly below course, but its performance in child mortality has been disastrous. As argued in this paper, the principal instrument for the reduction of malnourishment is private expenditure and this may have gone up significantly over the period.[15] Reduction in child mortality depends both on private and public expenditure. Thus this may be due to inadequate public effort and a clear case of externality preventing a rise in private expenditure to the desirable level.

V. PROGRESS IN ATTAINING MDG TARGETS IN THE OTHER IPS COUNTRIES

Table III shows the progress of the other 16 IPS countries with respect to three MDGs: primary schooling, child mortality and gender equality in primary school enrolment.[16] Laos is the only country which is on course in attaining the MDG targets in education and child mortality. All other countries are below, often far below, the course that would enable them to attain targets in these indicators.[17] There are cases of absolute retrogression: Rwanda and Zambia in child mortality and Tanzania in primary education.

Of all these IPS countries, only Laos and Mozambique had rapid enough growth to provide a basis for a sustained annual growth of more than 2 per cent in personal

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[15] To reiterate a point made before, the improvement in malnourishment does not contradict the finding on poor trend in reducing income poverty reported above: time periods for the two are different.

[16] Information on the other three IPS countries, Afghanistan, Bhutan and Liberia, is not available.

[17] The exception is the gender equality in primary enrolment in which most of the former Soviet republics and some Sub-Saharan countries already had achieved equality or near equality in the base year.

income over the period since 1990.[18] The slow growth rate in the other fourteen—indeed in twenty of all twenty-three IPS countries including Armenia, Mongolia, Ethiopia and the three for which information is unavailable—must be regarded as being the decisive obstacle to the achievement of MDG targets.

TABLE III
SELECTED MDG INDICATORS IN SIXTEEN IPS COUNTRIES

Country	Primary Schooling		Child Mortality		Gender Ratio in Primary Schools	
	1991	2004	1990	2004	1991	2004
Benin	21	49	185	152	49	71
Burkina Faso	21	29	210	192	62	76
Ghana	63	65	122	122	99	101
Lao PDR	43	74	163	83	74	85
Mali	11	44	250	219	59	74
Moldova	-	83	40	28	105	102
Mozambique	26	29	235	152	72	82
Niger	17	25	320	259	57	71
Nigeria	-	76	230	197	79	84
Pakistan	-	-	130	101	-	-
Rwanda	47	37	173	203	96	100
Senegal	39	45	148	137		90
Tajikistan	-	92	119	93	-	88
Tanzania	61	57	161	126	97	-
Uzbekistan	-	98	79	69	94	98
Zambia	-	66	180	182	-	93

Source: *World Development Indicators 2006.*

Apart from the mystery cases of Armenia and Mongolia, Laos is the only country which has performed well. But even Laos is not quite on course on gender equality, an indicator in which the role of public policy is decisive. Mozambique had the fastest growth of any IPS country and of all Sub-Saharan African countries: over the period between 1990 and 2004 it achieved an annual average rate of growth in per capita income of 4.4 per cent. But Mozambique's performance in the limited number of the MDG indicators, shown in Table III, has been unsatisfactory and very poor in education. It is particularly noteworthy because the level of these indicators has been very low and with the kind of rapid growth that the country

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[18] These are the only two countries which achieved an average rate of growth of *per capita* GDP of more than 2.5 per cent over the entire period 1990 to 2004. It is assumed that the elasticity of personal income with respect to GDP has not been, or should not have been, above 0.8.

achieved, it should have been possible to make much faster progress. The difference between the performance of Laos and Mozambique is something that deserves careful analysis. Unfortunately, little information is readily available to the author of this paper to undertake such an analysis. All that can be reported is that Laos has less inequality (the Gini ratio of expenditure distribution is 0.346 and expenditure share of the bottom 40 per cent is 11.5 per cent, the corresponding figures for Mozambique respectively being 0.396 and 9 per cent).[19] There is little to go by about the performance of these countries on employment. PPP$ 1 poverty is higher in Mozambique (37.9 per cent) than in Laos (27 per cent) but Laos has almost 60 per cent higher PPP$ income than Mozambique and the poverty estimate for it relates to a later date. Poverty estimates according to the national poverty line are available for Laos for 1993 and 1997/8 and they indicate a modest decline. No such estimate is available for Mozambique. Public expenditure as proportion of GDP is higher for health in Mozambique (4.1 per cent) than in Laos (1.5 per cent); but lower for education in Mozambique (2.4 per cent) than in Laos (2.8 per cent). But these details again are inadequate: in Laos nearly half of public educational spending was for pre-primary and primary level, while for Mozambique the corresponding figure for recent years is unavailable.

VI. CONCLUDING OBSERVATIONS

Only three of the 23 IPS countries had an overall rate of growth that might have been adequate for a simultaneous growth in personal income of individuals–leading to a significant reduction in poverty and increase in private expenditure on education, health and related components of MDGs–and growth in public revenue, leading to high enough a rate of public investment in MDGs. In the remaining 20 countries the inadequacy of economic growth was the decisive and sufficient obstacle to the attainment of the MDG goals.

Of the three countries that achieved adequate growth, only Laos seems to have made adequate progress in primary education and child mortality and is on target for the MDGs. Neither Cambodia nor Mozambique is on target. The failure of Cambodia's growth, to bring about a broad-based improvement in personal income of the poor, was largely a reflection of the failure to have rapid enough a growth in employment.[20] Economic growth has resulted in a sharp improvement in the rate of

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[19] These figures are from *World Development Indicators 2006* which does not report the change in distribution of income in the two countries. The source for the other data shown in this paragraph is the same.

[20] Another way of viewing the failure in Cambodia is to consider growth itself being inadequate in so far as it was narrowly based, bypassing the agricultural sector which provided livelihood for more than 70 per cent of the people.

domestic saving and investment; but these are still not high enough in the context of the huge challenge presented by the devastated infrastructure and other consequences of the civil war. Deflationary policies instituted in the wake of the Asian crisis, though contributing to the control of inflation and macroeconomic stability, may have outlived their necessity. We do not have the necessary information on employment performance in Laos and Mozambique to explain its effect on their relative performance.

The performance of Armenia and Mongolia appears hard to explain. But public expenditure on education and health as proportion of GDP has been the highest in Mongolia of all the countries cited (see Table II) and Armenia has by far the highest level of income (it is the only middle-income country in the IPS group). Also, as former Soviet Republics, Armenia and Mongolia probably still have far better basic infrastructure for education and health than the average low-income countries. Armenia's further success in primary schooling, despite a fall in public expenditure on education, may be due to the demographic change, unique in the group, reducing the number of children in primary-school age. What explains the remarkable fall in child mortality in Armenia, despite widespread under-nourishment and very low public expenditure in health, requires more careful analysis.

One point, hopefully obvious though not explicitly highlighted above, is that many of the apparent puzzles noted in the paper may largely reflect the poor state of information on the MDG indicators. These indicators are often based on data that are poorer in quality than the average economic statistics. Furthermore, the frequency of surveys on which they are based is usually far less than the ones that provide data on indicators like output and income. Not only are the MDG indicators subject to less change over time than indicators of output and income, but their changes are also captured by the statistical system with longer time lags. For the serious pursuit of the MDG targets, it is essential to improve the quality of information on these indicators so that the progress towards their achievement might be better monitored.

The analysis and evidence above, though limited, suggest that action for accelerated attainment of MDGs is urgently needed. Such action needs to be multidimensional. It should consist of the following components:

1. Rapid employment-intensive growth must be an essential element of the strategy. It not only contributes directly to the attainment of most of the first MDG target and good parts of the second, fourth and fifth MDG targets, it is also essential for the generation of resources for public investment in MDGs (see 2 and 3 below).

2. But it needs to be supplemented by public investment and intervention for the promotion of those MDG elements that embody externalities.

3. The attainment of the MDGs that are public goods must be the matter for public investment and intervention partly because the contribution of private expenditure to their attainment is likely to be small and partly because these MDGs would facilitate the implementation of the employment-intensive growth strategy.

For the countries considered above, with the exception of Cambodia, Laos and Mozambique, the acceleration of growth is of the highest priority. The experience of Cambodia indicates the importance of such growth being sufficiently broad-based and employment intensive. The positive outcome in Mongolia despite slow growth and the apparently negative outcome in Mozambique despite rapid growth underline the importance of adequate public action.

The expansion of development objective from mere growth and (income) poverty reduction to the broader MDG targets implies a basic shift in development policy that has been dominant in recent decent decades. The pursuit of growth with poverty reduction in the era of reforms inspired by the international development agencies could comfortably focus on the increase of the personal income of the poor as the principal instrument, something that could be achieved by promoting employment-intensive growth with no more than a modest role for public income transfer for labour-poor households. Once the importance of achieving the externality-embodying and public-good MDGs is recognised, the inadequacy of this strategy becomes obvious. A much more direct role for the public sector in facilitating access to development targets has to become an integral part of development policy. This requires a basic reorientation of development policy away from the reform programme that for the last several decades has constantly hammered on the theme of a reduction of the role of the state and the curtailment of public expenditure.

Finally, growth in many of the countries discussed above is limited by inadequate capital formation and the paucity of domestic saving. The gross rate of capital formation is 9 per cent in Tajikistan, 16 per cent in Niger, 17 per cent in Zambia and 19 per cent in Burkina Faso and Tanzania as compared to the average of 23 per cent for the low-income countries.[21] For these countries the success in attaining the eighth MDG is almost a prerequisite for the acceleration of economic growth that is a precondition for the achievement of the other MDGs. Unfortunately, as noted earlier, the achievement of the eighth MDG is entirely a matter of action by the advanced industrial countries.[22]

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[21] These rates are for 2004 shown in *World Development Indicators 2006*.

[22]This is notwithstanding the frequent allegation by the development partners—the advanced industrial countries and the international development agencies—that the absence of "good behaviour" on the part of the developing countries is a major limiting factor.

REFERRENCES

Khan 2005:   A. R. Khan, *Growth, Employment and Poverty: An Analysis of the Vital Nexus based on Some Recent UNDP and ILO/SIDA Studies,* Issues in Employment and Poverty Discussion Paper 19, ILO, Geneva, October.

_____ 2007: A. R. Khan, *Asian Experience on Growth, Employment and Poverty, An Overview with Special Reference to the Findings of Some Recent Case Studies,* UNDP Regional Centre in Colombo.

UNDP 2005: *Human Development Report 2005.*

UN 2006: United Nations, *The Millennium Development Goals Report 2006.* New York.

World Bank 2006: *World Development Indicators, Washington, DC.*

_____ 2005: *World Development Indicators, Washington, DC.*