# The Economics of the US Military Bases in the Philippines

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The Aquino government, like its predecessors, is pursuing a policy of dependence on foreign capital. [1] Its preferred patron is the United States. This relationship of dependence has been reinforced by the current shortage in the international money market, further enabling the US government to influence the direction of Philippine economic and foreign policies. And one policy area in which the influence of the US government is most felt concerns the fate of its military facilities at Clark Air Base and Subic Naval Bay.

In the current debate on the presence of the American military bases in the Philippines, the US government prefers that such issues as sovereignty, jurisdiction, nuclear weapons, and vice be excluded from the discussions. [2] It wants the debate to be confined to the economic terrain for, despite budgetary constraints, it is confident that it can commit some resources to the Philippines in a "best effort pledge". Filipinos who favor the retention of the bases also tend to emphasize its importance to the Philippine economy. Parenthetically, the irony in this argument is that it seems to admit that the bases have an insignificant role in the country's national security.


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This article examines the existence of the US military bases vis-a-vis the Philippine economy in terms of the size and impact of base-related spending and the potential for enhanced returns under existing arrangements.

### International Trade Theories

Base-related expenditures may be considered as exports to the United States from the Philippines. The bases are American enclaves in the Philippines and sales to it are classified as Philippine exports. Off-base expenditures by Americans are also Philippine exports for they are analogous to the purchases made by tourists. To estimate the importance of such exports to the domestic economy, we must first review certain theories of international trade.

Orthodox economic theory argues that international trade is beneficial to those countries that engage in it for it enables them to employ idle resources or to utilize such resources more efficiently. In his rent-for-surplus theory, Adam Smith pointed out that the limitations of demand in the domestic market could be overcome by selling abroad. As a consequence, additional labor could be put to work, and a nation's output would increase. This approach is consistent with Keynesian economic theory.

To illustrate Keynesian economic theory, consider all Filipinos employed by the US military bases or by firms supplying the bases with goods and services as workers producing exports. These workers earn wages which they spend on consumption goods other than the exports they produce; the latter are used by the US military and are consequently unavailable for the workers to consume. [3] Thus, other workers must be employed to produce consumption goods for the workers in the bases. They in turn spend their wages on consumption goods that still other Filipinos must produce. And the process goes on. But not all of the value of what is produced goes to the workers. Profits are claimed and taxes are paid. The existence of profits and taxes not spent on consumption goods means that the additional demand is less each round, finally becoming insignificant. The total income (or product) generated by the initial exports is therefore a multiple of the latter.

In the theory of comparative advantage, "free trade" is shown to be preferable to "no trade". Under free trade, a country experiences increased welfare as world production becomes more efficient and the prices of that country's exports become more favorable.

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The presumption in favor of free trade must be qualified, however, for several reasons. First, a country may use its resources to produce other exports. In the case of the Philippines, its comparative advantages with respect to the bases include its location and cheap labor. If it resorts to export-switching rather than to a reduction in exports, the level of welfare it currently enjoys need not decline.

**Table 1. Comparison of 1985 and 1987 Bases Expenditures (in million dollars).**

| | 1985 | 1987 | % Change |
|---|---|---|---|
| **US Air Force** | | | |
| Contracts with local construction companies | 17.9 | 16.0 | -10.6 |
| Local material procurement | 8.9 | 18.0 | 102.2 |
| Contracts for local services | 8.1 | 11.8 | 45.7 |
| Electricity, rents and utilities for US personnel | 23.0 | 28.7 | 24.8 |
| Salaries for Filipino workers | 19.9 | 30.5 | 53.3 |
| Spending by permanently assigned US personnel | 17.6 | 28.4 | 61.4 |
| Allotment checks to dependents or retired US personnel | 4.9 | 4.4 | -10.2 |
| Spending by personnel on leave or temporary duty | 2.0 | 4.0 | 100.0 |
| Civic action/community relations programs | 0.3 | 5.7 | 1,800.0 |
| **TOTAL** | **102.6** | **147.5** | **43.8** |
| **US Navy** | | | |
| Salaries to Filipino workers | 60.7 | 65.9 | 8.6 |
| Contracts with local construction companies | 50.8 | 32.6 | -35.8 |
| Local material procurement | 24.0 | 115.8 | 382.5 |
| Local service contracts | 31.6 | 21.2 | -32.9 |
| Off-base rents and utilities | 7.6 | 24.7 | 225.0 |
| Spending by permanently assigned personnel | 24.7 | 25.1 | 1.6 |
| Spending by sailors/marines on liberty | 40.8 | 37.2 | -8.8 |
| Allotment checks to dependents or retired US personnel | 36.2 | 33.9 | -6.4 |
| Civic action/community relations programs | 1.2 | 3.3 | 175.0 |
| **TOTAL** | **277.6** | **359.7** | **29.6** |
| **Combined US Air Force and US Navy Spending** | **380.2** | **507.2** | **33.4** |

**Source: United States Information Service (1986), p. 20; (1988), p. 20.**

The latter measure may even induce a shift in demand away from import- dependent goods.

Second, the model assumes that imports are paid with foreign exchange earned from exports, a situation that has not occurred in the Philippines since independence. Capital inflows, including foreign aid, have long been a significant source of foreign exchange. Concern has been expressed that the closing of the bases would have a negative impact on foreign aid and capital inflows, particularly from the United States. But should Washington react negatively, its professed desire to assist the reemergence of democracy in and the economic development of the Philippines would appear rather empty.

Third, the model does not take into account the conditions under which economic growth can best take place. And fourth, all interactions between trading partners are assumed to occur in the market place. These last-mentioned items link the economic and political aspects of the debate on the bases and narrow its focus on the issue of whether

the presence of US military facilities in the Philippines and the consequent activities of the United States government have an impact on economic policy-making in the country. The answer to this question is relevant to the formulation of an alternative policy regarding the bases.

If the bases are not removed, however, economic theory suggests that the Philippines could improve its trade position if it raises the price of its exports to the bases. The consequences of increasing the price of labor employed in the bases and the rent for the use of the facilities will be examined. This exercise shall only be illustrative for there are many other goods and services purchased by the bases whose prices could also be increased.

### The Direct Economic Contribution of Base-Related Spending [4]

The two major US facilities in the Philippines are large by almost any measure. Covering some 36,000 acres of land and 26,000 acres of water, Subic Naval Base provides one of the most comprehensive support facilities for the US Navy. Clark Air Base, headquarters of the Thirteenth Air Force, the tactical arm of the US Air Force in the Western Pacific and Indian Ocean, covers more than 130,000 acres. In 1980, there were about 23,000 US military personnel and dependents stationed at the two bases, with an additional 9,000 sailors and marines in port at any one time. [5] Because of their size and, especially for the Subic Naval Base, their specialized economic activity, the two bases affect the Philippine economy.

*Background on the Bases*, a publication of the US Embassy in Manila, provides some information on how the bases affect the Philippine economy. It lists the names of local companies and individual entrepreneurs with whom the US military does business, the projects financed by the Economic Support Fund, and the community relations programs of the US Air Force and Navy. The publication notes that "each year, the American military directly spends over 350 million dollars in the Philippines, a figure equivalent to about 130 pesos for every man, woman, and child in a Philippine population of 55 million". In 1985, over 42,000 Filipinos were employed in the bases and some 380 million dollars were spent on them. In the second edition of the publication, these figures increased to 68,500 Filipino employees and an expenditure in excess of 500 million dollars. [6]

Examining employment first, the Filipino work force in the bases is relatively small in aggregate terms as it only accounts for approximately 0.3 percent of the country's labor force in 1987 (see Table 2). [7] Although this figure is not insignificant, it is doubtful that the consequences of closing the bases on national employment will weigh heavily in debates. On the other hand, the regional impact of a closure would be substantial. Efforts towards job creation, including base conversion activities, will therefore be important.

Between 1985 and 1987, bases expenditures increased by 29 percent (see Table 1). Part of the increase may be the result of better or more liberal accounting to show the importance of the bases to the Philippine economy (e.g., the increase in Navy off-base rents and utilities category). Other increases, however, are more likely the consequence of changes in base policy (e.g., civic action programs and local procurement). It should be borne in mind that this occurred before the 1988 bases agreement and, hence, cannot be explained by its provisions.

In assessing the direct impact of bases spending on the Philippine economy, a comparison between this figure and the values of Philippine GNP and exports is appropriate. The figures provided in the USIS publications show that bases spending was a bit more than 1.25 percent of GNP in 1985 and a bit less than 1.5 percent in 1987. These ratios, however, are overstatements. The goods purchased by the bases undoubtedly have an import content. Lacking more precise information, it is reasonable to assume that the import content of bases expenditures in the Philippine economy is the same as the ratio of Philippine imports to Philippine GNP, i.e., 25 percent. To gain a more accurate measure, the expenditure to GNP ratios must be reduced by 20 percent to 1.02 percent for 1985 and 1.18 for 1987. [8]

Lastly, as shown in Table 2, bases expenditures are a bit over six percent of total exports. [9] Comparing this ratio with the GNP and employment ratios, it is likely that the potential of lost foreign exchange resulting from the closing of the US military facilities will be more significant than the negative impact on either employment or GNP. As discussed in the theory section, there are a number of ways to offset a fall in foreign exchange earn-

**Table 2. Comparison of US Military Bases Employment and Expenditures with Philippine Economic Data.**

| | 1985 | 1987 | Change |
|---|---|---|---|
| **US Military Bases** | | | |
| (a) Expenditures | P 7,604M | P10,344M | P 2,740M |
| (b) Expenditures (corrected for estimated 25 percent import content) | P 6,083M | P 8,275M | P 2,192M |
| (c) Employment | 42,265 | 68,514 | 26,249 |
| **Philippine Economic Data** | | | |
| (d) Gross National Product | P597,743M | P700,459M | P102,716M |
| (e) Exports | P126,571M | P163,472M | P 36,901M |
| (f) Labor Force | 21.24 M | 22.8 M | 1.64 M |
| (g) Unemployment | 2.36 M | 2.09M | |
| **Comparisons** | | | |
| a/d Base Expenditures/GNP | 1.27% | 1.48% | 2.67% |
| b/d Base Expenditures corrected/GNP | 1.02% | 1.18% | 2.13% |
| a/e Base Expenditures/ Exports | 6.01% | 6.37% | 7.42% |
| c/f Employment/Labor Force | 0.20% | 0.30% | 1.60% |
| c/g Employment/Unemployment | 1.79% | 3.28% | |

**Source: National Economic and Development Authority. United States Information Service (1986) pp. 16, 20, and (1988) pp. 16, 20.**

ings due to the closure of the bases -- namely, through additional exports, expenditure switching away from imports, and additional foreign aid, loans, or investment. The point is that the impact is national and efforts to mitigate the problem must be undertaken in the same scale. [10]

That bases expenditures increased during the period 1985 to 1987 is a completely surprising phenomenon. Existing conditions seem to favor the hypothesis that the significance of such expenditures is in decline. For one reason, Washington has adopted budget-tightening measures. For another reason, American presence (military or otherwise) in Southeast Asia has been reduced since the 1970s as the Cold War thawed. And finally, unless the US military assigned to the bases constantly undertake new and varied activities, the impact of the bases on the Philippine economy will not be maintained in its current level.

To test the above hypothesis, it would be useful to have data on bases expenditures over a number of years. Such information, however, is not available except for the year 1966 (Loveday), when bases expenditures were estimated to have been 137.7 million dollars. [11] That figure is 2.28 percent of the 1966 Philippine GNP of 23.24 billion pesos and 12.3 percent of the value of the country's exports.

Comparing the percentage for 1966 with those for 1985 and 1987, we find that the importance of bases expenditure/GNP ratio fell between 35 percent and 45 percent, and the bases expenditure/export ratio declined by half. Given that in 1966, US military involvement in Indochina was in its early stage, it is likely that the 1966 figures were not inflated by Vietnam-related activities. On the other hand, in the mid-1980s, the Philippines was in the midst of a severe crisis. If the average growth of real GNP of 6.3 percent during the 1970s had been sustained during the 1980s (average real GNP growth between 1980 and 1987 was

**Table 3. Contributions of base-related expenditures to Philippine GNP.**

| Estimate | GNP Year | Multiplier | % Contribution to GNP | Total Impact Multiplier | % Contribution to GNP |
|---|---|---|---|---|---|
| 1 | 1966 | 2.0 | 5.0 | | |
| 2 | 1966 | 2.0007 | 3.88 | 7.1378 | 13.86 |
| 3 | 1966 | 1.544 | 3.52 | 4.2052 | 9.57 |
| 4 | 1966 | 1.372 | 3.17 | 3.4317 | 7.93 |
| 5 | 1985 | 1.544 | 1.96 | | |
| 6 | 1987 | 1.544 | 2.29 | | |
| 7 | 1985 | 1.513 | 1.92 | | |
| 8 | 1987 | 1.513 | 2.24 | | |
| 9b | 1985 | 1.513 | 1.43 | | |
| 10b | 1987 | 1.513 | 1.47 | | |

Notes:

a. Estimate 1, Economic Research Associates; 2, other Rand study; 3 and 4, Loveday; 5 and 6, author's calculations using multipliers from 3; 7 through 10, author's estimations.

b. Estimates of what bases contribution would be if real GNP had grown at the 1970s average rate of 6.3 percent during the 1980s rather than the near zero (0.24 percent) real growth that did occur between 1980 and 1987.

**Sources: Douglas Loveday, pp. vi, vii, 22, 24, 39; United States Information Service, p. 20, 23. See also Table 2.**

0.24 percent), the importance of bases expenditure relative to GNP would be between one-fourth and one-third less than those reported in Table 2.

### The Multiplier Impact

It is generally agreed that the economic impact of expenditures by the US military bases goes beyond the actual levels discussed above. Loveday presented a range of estimates for two types of "multiplier" effects. The first is the Keynesian multiplier which will be referred to as the "GNP multiplier". The second multiplier draws attention to the fact that imports are an important part of the intermediate inputs in the production of goods and services consumed in the Philippines. If foreign exchange becomes less available, both imports and the production of import-dependent goods must be reduced. Making some strong (unstated) assumptions about the rigidity of both the structure of production and demand, Loveday argued that the decline in overall economic activity would be a multiple of a fall in foreign exchange earnings. It is, hence, a "total impact multiplier". The model used by Loveday and those used by others to whom he refers, as well as the one to be presented here, are among the most elementary. Loveday is very careful to state the following limitations of his work; qualifications that no doubt should apply to other estimates:

> The result should not be interpreted as a prediction or a projected consequence of base removal; they show a loss-potential that would occur only in the worst possible case.
>
> The estimate, on the other hand, may be regarded as an upper limit of what a prediction of welfare loss following base removal would be... The amount of this reduction would depend on how adaptable the Philippine economy would prove to be. [12]

The GNP multiplier model, nevertheless, provides useful information, not so much about what the actual impact of a US military withdrawal would be on the Philippine economy (for adjustments will be made), but rather about the magnitude of the problem that would need to be addressed. Utilization of the facilities for other purposes, government

**Table 4. Values of yearly rent whose present value equals the estimated cost of moving the bases.**

*Twenty five-year rent*

| Interest rate | Cost of moving the bases: $5 billion | $10 billion |
|---|---|---|
| 5% | $355 million | $709 million |
| 8% | $468 million | $937 million |

*Fifty-year rent*

| Interest rate | Cost of moving the bases: $5 billion | $10 billion |
|---|---|---|
| 5% | $274 million | $548 million |
| 8% | $409 million | $817 million |

*One hundred-year rent*

| Interest rate | Cost of moving the bases: $5 billion | $10 billion |
|---|---|---|
| 5% | $252 million | $504 million |
| 8% | $408 million | $817 million |

spending, increased entrepreneurial activity, changes in the exchange rate and the consequent changes in international trade are just some of the likely measures that would mitigate the extent of any short-term negative impact on GNP.

The same cannot be said, however, about the impact of the constraint multiplier. This is not to imply that the potential loss of foreign exchange is not important -- quite the contrary. This is to argue instead that the contingencies and the sources of foreign exchange are too diverse for Loveday's total impact multiplier to be of use. [13]

Table 3 presents Loveday's multiplier and estimates of the contribution of bases expenditures to GNP and the two studies to which he referred. [14] The table also includes calculations using Loveday's multipliers for 1985 and 1987. [15] Loveday relied on a date series ending between 1964 and 1966 in the estimation of the multiplier. (This author re-estimated the GNP multiplier using more recent data, but the results derived were not very different from Loveday's.) [16]

Loveday argued that his multiplier of 1.544 was the preferred one. Using this multiplier and the data for 1985 and 1987, the estimated contribution of the bases to Philippine GNP has fallen by 35 percent to 45 percent, i.e., the same percentage as the ratio of bases expenditures to GNP.

If the Philippine economy had not run into difficulties in the 1980s, the multiplier would be even smaller. Consider the following example: assume that the annual growth rate of the country's real GNP during the 1980s is the same as the rate in the 1970s -- 6.3 percent as contrasted to the actual 0.24 percent growth rate during the period 1980 to 1987. Assume further that the rate of inflation is the same as the historical record. During the years when the GNP base is large, the contribution of bases expenditures to the Philippine economy is less -- 1.43 percent of GNP in 1985 and 1.47 percent in 1987, about half the 1966 figure.

The figures above suggest a declining trend in the economic importance of the bases to the Philippines -- a decline that would be considerably steeper if the economic crisis of the 1980s had not occurred. The recent substantial policy shift by Washington with respect to US military expenditures in the Philippine economy will affect these ratios in

the short-run, but then the declining trend would reassert itself.

A word should be said about the figures put out by the US Embassy in Manila. *Background on the Bases* estimates the economic importance of the US military facilities in 1982 to be 3.47 percent of Philippine GNP. Noting that base spending had increased since then, its authors claim that the percentage contribution of the bases at the time the publication went off the press would be between 3.5 percent and four percent. These figures are wrong and the discussion in the document is muddled and misleading. No expenditure figure was given for 1982. Loveday's multiplier, we are told, was used in the calculation. But the document incorrectly compared the dollar contribution that Loveday estimated (566 million dollars) using the total impact multiplier with the percentage contribution measured with the use of the GNP multiplier (3.52 percent). The publication goes on to report a bases contribution of 3.47 percent of GNP for 1982, suggesting that there has not been much change in the impact of base-related expenditures over a 20-year period. Unless there was a precipitous drop in military spending between 1982 and 1985 (and the embassy document states the opposite), the analysis in the document is erroneous. Perhaps the total impact multiplier was used in their calculations. In that case, the correct comparison would be between 9.57 percent in 1966 and 3.47 percent in 1982.

Notwithstanding the elementary nature of the models presented here, it is clear that Clark and Subic have a significant impact on the Philippine economy, particularly in terms of expenditures. It is important, however, to reiterate the qualifications made by Loveday. The measurements do not provide a prediction of the economic consequences of packing off the American military. No account is taken of the actions that might be pursued either by the government or by individuals to offset the fall in expenditures and foreign exchange. The percentages can be best seen as an upper bound. That is to say, these percentages can only provide us with some information as to the potential loss in growth that may result from a closure. Given current estimates of a six percent GNP growth rate, the data presented in Table 3 indicate that at most one-third of a year's growth would be lost if the bases are closed down.

On the other hand, if the US withdraws its military facilities from the Philippines, the adverse consequences of this decision will not be shared equally. The brunt of the adjustment will be borne by those whose livelihood is directly or indirectly dependent on the bases. The real issue would be the impact of a closure not on the aggregate economy but on communities surrounding Subic and Clark. This is why studies on the possible conversion of the bases and other economic initiatives that could be undertaken in the affected areas are important.


*Mutual friendship?*

### Alternatives

Having examined the potential losses that would result from the removal of the bases, the discussion will now turn to the potential returns that would accrue to the Philippine economy if the bases are retained. If the prices of Philippine exports to the bases could be increased, the potential for additional returns exists. [16] Of course, if individual workers or suppliers are left to their own devices, it is doubtful whether such an increase in prices would occur. With collective action, however, the potential for additional returns could be realized. There are other areas where changes could be made, i.e., the wage rate for labor and rental for base

lands. There exists a significant disparity in the wages received by Filipinos working in the US military bases at Clark and Subic and those of base workers in other nations, including the United States. For example, a 1977 US Congressional mission to Asia found out that labor in US military facilities costs much cheaper in the Philippines than elsewhere in Asia – that is, 20 dollars for a 24-hour day in the Philippines as compared to 140 dollars in Guam and 160 dollars in Japan. In 1982, wages per

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annum for host-country nationals at Subic Naval Base averaged 2,200 dollars; in South Korea, the same item was measured at 4,600 dollars. [17] The American military appreciates the significance of cheap Filipino labor as the following quotation would reveal:

> Crow Valley, a mock enemy airfield (on Clark Air Base) is built and rebuilt from cane and bamboo for pilots to practice bombing and strafing. "Put together and maintained by local inhabitants who are paid for their labors in rice", says a Clark briefing paper, "these targets cost about a tenth of what they would in the States." [18]

Since the US military wish to hire Filipino labor and the Filipinos are willing to take the jobs at the existing wages, it can be argued that both Filipinos and the US military gain from the current state of affairs. But such gain can be divided in different ways that are not independent of the relative power of the groups involved. The US should be willing to pay Filipino base workers the same wage rate that workers of a different nationality in an alternative base site would get. Although this wage increase may result in a decline in such employment categories as domestic help (most probably hired individually by base personnel), it is unlikely that there would be a significant fall in those employment categories that require skilled labor. The result would depend in part on whether the extra payment is made to the Philippine government on a lump-sum basis or to individual workers.

Consider the following example. In 1987, American spending on the wages and salaries of Filipinos working at Clark and Subic amounted to 90 million dollars. [19] Assuming that the 1987 ratio of payment to Filipinos to payment of workers in other countries is the same as the data referred to above, the savings accumulated by Washington for having the same work done in US bases in other countries amount to: 105.6 million dollars in South Korea; 576 million dollars, Guam; and 672 million dollars, Japan. If the alternative is for the same work to be done in Hawaii or the mainland US, the savings made by the US for having its military facilities located in the Philippines is even more dramatic. Former US Ambassador to the Philippines, William Sullivan, was reported to have said that whatever amount the United States saves in shipbuilding and maintenance costs makes the compensation figure of 900 million dollars for five years seem rather small. [20]

An analysis of the level of the increase in potential benefits should also consider the returns for allowing the US to operate military bases in the Philippines. At the time of the declaration of Philippine independence, the US had free use of certain areas of the country for its military facilities. In the 1970s, however, the Philippine government began demanding rental payments for the bases. An agreement was announced on 1 January 1979, in which then US President Jimmy Carter made a "best effort" pledge to secure 500 million dollars in aid for the Philippines over the next five years in return for the continued use of the bases. This pledge constituted only one-half of the amount offered to the Philippines in December 1976 by then US Secretary of State Henry Kissinger. Marcos, who had reportedly re-

quested seven billion dollars, misjudged his ability to negotiate with the Carter government and turned down Kissinger's offer. [21] In 1983, then US President Ronald Reagan made another "best effort" pledge – this time for 900 million dollars over five years. More recently, Philippine Foreign Secretary Raul Manglapus and US Secretary of State George Schultz signed a two-year agreement for 962 million dollars, an amount double the earlier compensation but substantially less than the 2.4 billion dollars that the Philippine government initially demanded. [22] The latter increase in compensation, however, may be considered somewhat deceptively large. For one thing, the US had increased its aid flows to the Philippines after Marcos was driven from power. For another, the new agreement includes aid items that were not counted in previous agreements. One report put the actual increase at only 80 million dollars per year over current flows. [23]

In setting compensation goals, reference can be made to the opportunity cost of relocating the bases. This is a complicated question because Clark and Subic provide a combination of advantages that would be difficult to duplicate elsewhere. Thus, the cost of moving the bases depends on the alternative location(s) chosen and the functions and capabilities established. In 1985, the relocation of the bases was estimated to cost five billion dollars, up from the three billion dollar-estimate made the year before. Current cost-estimates reach 10 billion dollars.

Assuming that having the bases in the Philippines is itself worth five billion to 10 billion dollars to the US, how much rent should the Philippine government charge annually? Putting the question differently, what stream of payments would add to five billion or 10 billion dollars? Such an exercise requires a given discount rate. The traditional discount rate in social cost-benefit analysis in Third World countries is 10 percent. But in real terms (i.e., the discount rate after the effects of inflation have been removed), the discount rate would be between five percent and eight percent.

Table 4 presents values of rent for 25, 50, and 100 years which have a present value of five billion dollars and 10 billion dollars. As shown in Table 4, at higher interest rates the future is discounted so heavily that the value of the rent quickly ceases to decline significantly as the time period is extended. The values presented, ranging from an annual rent of 400 million dollars to almost one billion dollars, are only illustrative. But they do show that the possibilities are a multiple of existing rent/aid payments for the bases.

Combining the potential for rent and labor payments, one can easily see that substantial sums are involved. For example, consider a relocation cost of 7.5 million dollars. At an eight percent discount rate for 50 years, this would be equivalent to an annual rent of 613 million dollars. To that can be added the savings in labor costs. If the next best alternative base site is Guam, a wage differential of 576 million dollars can be added, giving a total of 1.19 billion dollars. Rounded off, this figure comes to the same amount that the Philippines, in the latest series of negotiations, was asking for as compensation.

It must be emphasized that the above estimates and calculations serve only as examples. In figuring out both the range of advantages of the bases to the United States and the cost of relocation, other factors should be taken into account. For example, will rent/aid be paid in the alternative location? Is it cheaper to conduct navy and air force military operations from the Philippines than elsewhere in the Pacific area because of lower transportation costs? And, what is the cost of purchasing base supplies elsewhere as compared to the amount paid in the Philippines? The sum may be substantially larger than the one billion dollar-estimate made in the example above.

## Conclusion

The basic conclusion that can be drawn from the above analysis is that the Philippines, for the past 40 years, has provided the US with a cut-rate deal: low rent and cheap labor. The cost of closing the bases, therefore, is real but not overwhelming, and is declining. On the other hand, if the maximum compensation is the goal of the Philippine government, it could demand a substantial amount. But then, there is a larger economic issue.

It has been suggested by a Filipino congressman that there is need to undertake studies of base conversion regardless of whether the bases are retained. The result of such a study would be useful to the Philippine government in its negotiations with Washington. Otherwise, it is claimed, the Philippines might have to ask the US to remain. [24] Concern has also been raised over the possibility that, in case of a closure, the US would retaliate by reducing or cancel-

ing its aid to, trade with, and investment in the Philippines. Foreign investors have been asked whether they would stay on if the bases are closed down -- most of them said they would.

Here, the Philippines' dependence on foreign capital reasserts itself. Thus, what becomes more important is not the bases but its larger relationship with the United States. Under such circumstances, the United States, without a doubt, will prevail. As one Philippine representative to the bases negotiation said, "Coming from a country with a per capita income of less than 600 dollars, being offered the sum of 10 billion dollars makes us speechless." [25]

For the Philippines, there are costs for both the removal of the bases and its retention. Referring to the impact of the bases on the Philippine economy, one observer noted, "...the economy of these communities has remained a largely service-oriented economy...Despite the considerable infusion of American dollars in almost half a century of American presence, there is no industrial development to speak of in the areas surrounding Clark and Subic." [26] The economics of the US military bases in the Philippines, indeed, goes beyond sums of money.

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## Notes

1. Charles W. Lindsey, "The Philippine State and Transnational Investment", *Bulletin of Concerned Asian Scholars*, April-June 1987.

2. Patricia Ann Paez, *The Bases Factor: Realpolitik of RP-US Relations* (Manila: Dispatch Press for the Center for Strategic and International Studies of the Philippines, 1985). See also Eduardo Z. Romualdez, *A Question of Sovereignty: The Military Bases and Philippine-American Relations, 1944-1979* (Manila, 1980) and Roland Simbulan, *The Bases of our Insecurity* (Manila: BALAI Fellowship, Inc., 1983).

3. The same argument can be made for investment and government expenditures, but the focus here is on exports.

4. This section is limited to an analysis of the monetary benefits to the Philippine economy from base-related expenditures. Other possible benefits, such as skills training or technology transfer, are not taken up for lack of information.

5. Simbulan, Chapter 4.

6. United States Information Service, *Background on the Bases: American Military Facilities in the Philippines*, 1986 and 1988 editions, N.p.. Two thirds of the increase between 1985 and 1987 is accounted for by domestics. It is likely that such is not an actual increase as it may have only resulted from a refiguring of base-related employment.

No effort is made here to assess the appropriateness of the embassy-supplied figures. The inclusion of some of the listed items is questionable (e.g., civic action might be best considered a Philippine import from the US), and it is unclear how the data for the other items were obtained. The important questions here are whether the employment figures refer to full-time Filipino workers or to part-time workers, and whether these full-time and part-time workers were employed the entire year or for only a part thereof. Another issue is the determination of the import content of bases purchases.

7. No account has been taken of off-base employment that produces goods and services purchased by the bases. This would somehow increase the size of base-related employment but would probably not alter the conclusion. Unfortunately, there is insufficient information to make a determination. The comparison made was with the labor force as a whole. It would be incorrect to limit the labor force figure to non-agricultural workers or to some other smaller group. In terms of occupation, the workforce in the Philippines is too mobile for that approach to provide useful information. On the other hand, it would be useful to breakdown into categories those workers who are more highly skilled. For one reason, such an approach would provide an analysis of the extent to which skilled labor is used vis-a-vis unskilled or semi-skilled labor. Also, it would allow projections of possible increases in unemployment in certain areas requiring skilled labor if the bases are closed down.

8. That is, the correction factor is equal to the ratio of imports to the sum of GNP plus imports [0.25*GNP/(GNP + 0.25*GNP) = 0.20].

The rather significant difference between the employment impact and the GNP impact is due to a number of factors. As previously mentioned, the employment data do not cover expenditures on off- base purchases by the bases. The use of such data would result in an understatement of the true employment ratio. On the other hand, the use of the expenditure/GNP ratio as a proxy, as some have done, may lead to an overstatement of the impact. The bases are urban in character and the jobs offered in the bases are similar to those found in an urban setting. Both factors suggest that the earnings of base workers are higher than that of workers in other areas outside Metro Manila (e.g., the average family income in Metro Manila is twice the average family income nationwide). In addition, the US Embassy claims that the bases provide relatively higher wage rates and that a significant component of the labor force therein are highly skilled workers.

Lastly, the expenditure categories include payments to US dependents and retirees at, no doubt, US scales. All these suggest that the employment ratio should be much less than the expenditure ratio.

9. Since the components of the GNP -- in this case, exports -- are not individually corrected for their import content, the appropriate comparison is between Philippine exports and reported base expenditures.

10. Another potential source of savings in foreign exchange is the amount spent on servicing the country's foreign debt. In 1987, the size of the country's total debt service payments was six times the size of all bases expenditures. If the debate is on how net foreign exchange costs may be reduced, the debt service item in the national budget deserves to be considered as an issue in the debate.

11. Douglas F. Loveday, *The Role of the US Military Bases in the Philippine Economy* (Santa Monica, California: Rand Corporation, 1971). Loveday undertook most of his calculations using a smaller figure of 135.8 million dollars. The difference constitutes expenditures on R & R. Also, the 1966 data omit expenditures on allotment checks to dependents and retired US personnel, and on civic action and community relations.

If these figures are of any magnitude, the impact ratios for 1966 may be considered as understatements.

12. *Ibid*, pp. 19-20, 22.

13. In addition to the above mentioned mitigating factors, this multiplier does not take into consideration the possible substitution of domestic inputs for imported inputs, and the changes in the structure of demand that might occur if certain import-dependent goods become unavailable. A most important consideration is that, although export earnings remain the principal means of obtaining foreign exchange, the capital account (foreign investments, loans, and aid) is also a major source. Any reasonable attempt to model the foreign exchange consequences of a reduction in bases expenditures would have to consider, at the minimum, the substitution effects thereof and the alternative sources of foreign exchange. This author will not attempt, therefore, to measure the impact of a reduction in foreign exchange earnings.

14. Economic Research Associates, "Economic Effects of US Government Expenditures on the Philippine Economy" (University of the Philippines, August 1967). Loveday referred to another earlier study as "an earlier Rand study".

15. Jose Mario Cuyegkeng, "Retention of the US Military Facilities: Economic Argument" (Pasig, Metro Manila: Center for Research and Communication, 1987). Cuyegkeng provided the only other estimate of the potential fall in GNP that I have seen. He did not, however, provide an estimation of the multiplier nor a discussion of his methodology. Thus, it is difficult to make a comparison. In his paper, Cuyegkeng argued that gross domestic product will fall by 2.1 percent if there is a removal of bases' internal exports and compensation. The latter is not included in this discussion.

16. For revenue to increase, demand for goods and services will have to be inelastic.

17. Paez, p. 1.

18. James P. Sterba, "Philippine Rumblings Imperil Bases that are Ideal for US Military", *Wall Street Journal*, 4 September 1985, p. 1.

19. USIS (1988), p. 16.

20. Selected Materials from the Conference on the Alternatives to the US Facilities in the Philippines (Foreign Service Institute: Research and Information Division, 1989).

21. Simbulan, p. 14.

22. Nayan Chanda, "Buying Breathing Space", *Far Eastern Economic Review*, 27 October 1988, p. 14-15.

23. "Philippine Pact Gives US Breather on Key Bases", *Congressional Quarterly Weekly Report*, 22 October 1988.

24. Selected Materials from the Conference on Alternatives, pp. 2-3.

25. "The US- Philippine Relationship in the Next Administration, p. 62 (not entered in the bibliography section).

26. Selected Materials, p. 9.

**Table A1. Expenditures on Gross Domestic Product.**

| Year | RY | CN | IN | GT | XP | MP |
|---|---|---|---|---|---|---|
| 1960 | 87760.5 | 72247.3 | 15809.3 | 6372.8 | 15474.4 | 22143.3 |
| 1961 | 92672.0 | 74106.2 | 18373.0 | 6748.2 | 15986.1 | 22543.5 |
| 1962 | 97136.3 | 76180.8 | 18240.7 | 6932.1 | 18526.8 | 22724.1 |
| 1963 | 103900.6 | 74404.1 | 21623.9 | 7483.4 | 22083.8 | 21854.7 |
| 1964 | 107643.9 | 78420.7 | 24185.2 | 7767.4 | 23387.2 | 26116.8 |
| 1965 | 113181.0 | 80725.4 | 25482.4 | 8081.7 | 26586.8 | 27685.4 |
| 1966 | 118273.7 | 85276.8 | 25729.2 | 8094.3 | 28186.9 | 29013.4 |
| 1967 | 125595.1 | 94151.9 | 29582.5 | 8400.8 | 29116.8 | 35856.7 |
| 1968 | 132506.5 | 102957.1 | 32816.4 | 9274.4 | 25806.7 | 38348.1 |
| 1969 | 138853.6 | 108566.2 | 34548.4 | 10145.4 | 24740.8 | 39049.2 |
| 1970 | 145423.2 | 109930.3 | 33591.7 | 10799.2 | 26479.0 | 35377.0 |
| 1971 | 152547.2 | 114520.6 | 34615.1 | 11831.9 | 27245.2 | 35465.5 |
| 1972 | 161027.9 | 120711.3 | 33274.4 | 13537.3 | 29979.7 | 36474.7 |
| 1973 | 174779.9 | 126123.9 | 37258.3 | 15089.9 | 34219.2 | 37891.2 |
| 1974 | 183451.6 | 134022.8 | 45995.9 | 17113.3 | 30585.3 | 44265.5 |
| 1975 | 195560.5 | 137021.9 | 56103.2 | 18646.0 | 30888.1 | 47098.5 |
| 1976 | 210887.3 | 138082.6 | 64724.2 | 18901.2 | 39841.8 | 47452.6 |
| 1977 | 224068.5 | 147947.1 | 64907.1 | 19156.6 | 42698.3 | 50639.7 |
| 1978 | 236456.6 | 159171.5 | 70116.4 | 19667.5 | 44515.3 | 57013.9 |
| 1979 | 251402.7 | 171979.2 | 78021.8 | 20433.7 | 47543.5 | 66575.3 |
| 1980 | 264700.0 | 177400.1 | 81200.0 | 21200.0 | 53600.0 | 68700.0 |
| 1981 | 274857.9 | 182695.8 | 82919.6 | 21966.3 | 54205.7 | 66929.4 |
| 1982 | 282853.9 | 185269.0 | 79795.7 | 23243.4 | 53600.0 | 69054.2 |

**Source: World Bank, 1987 World Tables.**
(in 1980 million pesos)

## Appendix: Estimate of GNP Multiplier

This article uses the Keynesian demand-side model. Since it is concerned with the consequence of a fall in export spending, the presence of the complex of unutilized resources necessary for an expansion is not required. The model assumes fixed domestic prices and exchange rates. If prices change, appropriate adjustments would have to be made to the result of the model.

Consider the following system:

$$RYt = CNt + INt + GTt + XPt - MPt \quad (1)$$

$$IGXt = INt + GTt + XPt \quad (2)$$

$$CNt = Co + Cy*RYt + ut \quad (3)$$

$$MPt = Mo + Mc*CNt + Mi*IGXt + vt \quad (4)$$

where:

RYt = Gross domestic product in millions of 1980 pesos in year t.

CNt = Private consumption in millions of 1980 pesos in year t.

INt = Gross domestic investment in millions of 1980 pesos in year t.

GTt = Gross government consumption in millions of 1980 pesos in year t.

XPt = Export of goods and non-factor services in millions of 1980 pesos in year t.

MPt = Import of goods and non-factor services in millions of 1980 pesos in year t.

Co, Cy, Mc, and Mi are parameters

ut and vt are disturbance terms

t = 1960, 1982

The data for this model are listed in Table A1.

The only equation that needs some comment is (4). Imports are considered a function of consumption and the exogenous variable: investment, government spending, and exports. In a simple model as this one, it is generally assumed that imports are a function of income. This implies, however, that the initial expenditures of one of the exogenous variables do not have an import component. Loveday assumed the more traditional formulation and then discussed at considerable length how best to account for the import component of exports. In doing so, he implicitly admitted wrongly specifiying his model. The approach here is appropriate. It is assumed here that the exogenous variable have the same effect on imports. The reasons for this are discussed below.

The disturbance terms in the structural equations (3 and 4) are not uncorrelated with the explanatory variable. One solution would be to use two-stage last squares. The estimated coefficient, however, would be biased. On the other hand, ordinary least squares would give an unbiased estimate of the reduced form coefficients for the equation for GDP. These coefficients can be interpreted as the multipliers that are being determined here. The reduced form equation and not the structural equation will, therefore, be estimated.

Solving for GDP, the following results:

$$RYt = (1 - Cy (1 - Mc) - 1* (Co (1 - Mc) - Mo) + (1 - Cy (1 - Mc) - 1* ( (1- Mi)* IGXt) + wt \quad (5)$$

An alternative formulation of equation 4 would be to treat separately the impact of the imports of each of the exogenous variables. This would be reasonable in as much as investment, government spending, and exports involve goods that might have considerably different import requirements. The equation would be as follows:

$$MPt = Mo + Mc*CNt + Mi*INt + Mg*GTt + Mx*XPt + vt \quad (6)$$

Using equation 5 rather than 4, the GDP could be solved for as follows:

RYt = (1 - Cy (1 - Mc)-1* (Co (1 - Mc) - Mo) + (1 - Cy (1 - Mc)-1* ((1 - Mi)*INt) + (1 - Cy (1 - Mc)-1* ((1 - Mg)*GTt) + (1 - Cy (1 - Mc)-18 ((1 - Mx)*XPt) + wt (7)

A maximum likelihood for iterative technique to correct for serial correlation in the estimation of both equations. The results are as follows:

RYt = 34,436 + 1.5129*IGXt

(4.1511) (19.408)

adj. R2 = 0.9048 D.W. = 0.8209 d.f. = 21 (5')

RYt = 20,529 + 0.6687*INt + 5.4365*GTt + 1.4308*XPt (7')

(3.5567) (3.5277) (7.2303) (1.4308)

d.f. = 9 adj. R2 = 0.9633 D.W. = 0.8272

All coefficients are highly significant except the one for exports; it is significant at the 10 percent level. Two problems arose, however, in the estimation process. First, considerable autocorrelation remains in the estimation procedure even after first-order corrections were made. Second, there is very high multicollinearity in equation 7, with correlation coefficients on the order of 0.95 or more. Both conditions have the effect of increasing the variance of the estimated coefficients, although they have different effects on the standard error. For this reason, the t-score must be interpreted with caution.

Examining the coefficient of equation 5', it is very similar to the one estimated by Loveday, although his date was from the 1950s and the first half of the 1960s. The coefficients of equation 7' widely vary. Its coefficient for exports is somewhat lower than that in equation 5'. This suggests that the import content of exports does not vary much. Since equation 7' suffers from very high multicollinearity, equation 5 would be most useful in a multiplier analysis.

In equation 7', the coefficients for government consumption and investment are extreme in value and should therefore be treated with caution. The numbers may simply be the result of an increased variance due to multicollinearity.

The numerator in the coefficients in equation 7 are one minus the marginal propensity to import. The high coefficient for government consumption, if the model is specified correctly, indicates a low import content in government consumption. But even if it were zero, the figure would not seem plausible for it would put the marginal propensity to consume domestically produced goods at 0.82. It may reflect not only the low import content of such expenditures, but also a sensitivity of the multiplier to distribution factors, a consideration not taken into account in the specification of the model. In the estimation made of the structural equations, the coefficient of government consumption was consistently and significantly negative. One plausible interpretation is that government spending results in a reduction of spending by groups that have a higher import propensity.

Equally unusual is the estimation of an investment multiplier that is less than one. This is more easily explained than the high government multiplier since it is generally assumed that investment goods have a high import content. From a policy perspective, it appears that efforts to stimulate the economy through investment spending may not be as fruitful as other avenues. But as noted above, the usefulness of a simple Keynesian model for policy on the expansion side is rather limited.