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Reasonable and Affordable Wage Adjustment Due to the Currency Crisis

by

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Abstract

We estimate the affordable wage adjustment for various types of firms (by orientation and by share of labor in total cost) on the basis of reasonable estimates of price responses to the currency crisis. We conclude that, to minimize the likelihood of layoffs, no more than 10 percent wage adjustment seem affordable for export-oriented firms. For domestic market-oriented firms, no more than 5 percent is reasonable. There are cases where even zero wage adjustment may not prevent layoffs.

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I. INTRODUCTION

A. Poor State of Manufacturing

In the run-up to the currency crisis, Philippine manufacturing was already experiencing difficulties. The following were telltale signs:

(i) Many manufacturing companies were shifting resources and investment towards real estate and property (EYCO-Nikon, VICMICO, etc.)

(ii) The loss of competitiveness was showing up as a growing trade deficit (13% of GNP in 1997 Q_1)

(iii) Philippine exports was more and more concentrated in electronics and microchips associated with DFIs while indigenous exports were stagnant or retreating.

(iv) Falling share of Manufacturing in total GDP (22.5%).

Thus, the Philippine Manufacturing was already in poor shape despite economic growth based on property and nontraded goods bubbles. The currency crisis is simply the market's way of telling the Philippines: "The prices of your tradeables are too

low and your consumption has too much import content. You must adjust relative prices." The devaluation is such an adjustment.

B. Currency Crisis' Potential Benefits

The devaluation should (a) make exports more profitable so investment will flow toward exports (b) make domestic firms hire more labor and employ less imported inputs whose prices have risen (c) enable domestic producers wrest the domestic market from imported goods by making imports dearer (d) make investment in real estate and property less profitable (e) make Filipinos' consumption depend more on domestic goods (f) reduce the likelihood of a BOP crisis down the line.

C. Payback for Liabilities

The Philippine devaluation is part of a regional currency adjustment where 30% is puny. Thailand, Indonesia, South Korea have all already registered steeper devaluations of 50, 100, 70%, respectively. But this regional adjustment is just a response to the earlier Chinese devaluation (40%) in 1994 and the Mexican devaluation (40%) in 1994 and 1995. The competitive pressure from these earlier devaluations made Asean growth unsustainable. Thus, the regional currency adjustment as well as the Philippine adjustment is, from the start, an amortization on a liability.

D. The extent to which this painful adjustment will translate into a new incentive structure and new consumption and investment behaviors, depends on how domestic prices and wages respond. If domestic prices and wages match the devaluation, no benefit will be realized and we will be back to the febrile, BOP crisis-prone economy.

E. Jobs for Wages Tradeoff

How wages respond is especially important.

(i) At the height of the Mexican crisis in 1995, the government and labor unions signed a "social pact" where increases in wages were postponed in return for employment preservation. For two years, the real wage of labor had not risen and the Mexican economy has rebounded with vengeance. Mexico has become a trade surplus economy and job generation is impressive.

(ii) In 1994 in Germany, after the European currency crisis (the collapse of the ERM and the devaluation of the British pound, the Italian lira and the Spanish peseta), the tripartite conference also agreed on a freeze on wages in return for job generation (because jobs were being phased out in Germany and created in East Europe by German capital). The German economy is now doing very well

with trade surpluses to boot as the German mark has depreciated heavily against the dollar.

(iii) In Thailand, labor has agreed, in fact, to cut or freeze wages to preserve employment.

(iv) The muted labor response in Indonesia and Malaysia suggests that these Asean countries are circling the wagons and cooperating to transform current adversity into future opportunity.

In the globalizing and interdependent world, we cannot close our eyes to developments outside our borders. We most strike a reasonable wage-jobs tradeoff.

Transforming adversity into opportunity is painful and costly and calls for the nation to share in the pain. Whatever gains there are from the devaluation must be shared. The sharing formula must be reasonable and must leave room for job preservation and generation through investments that employ labor. If the sharing is too skewed, jobs will be lost and investment will flow some place else.

This paper estimates (a) reasonable cost of living wage adjustment based on consumption pattern and price increments and (b) the affordable adjustment by firms of various categories (exports or domestic market oriented) and cost structure (high on labor content).

II. REASONABLE COST OF LIVING WAGE ADJUSTMENT

A. 30% Devaluation

Wage adjustment to be reasonable should be related to cost of living. Suppose, the typical worker household has the consumption pattern with 20% imported goods and 80% home goods. The price increment due to the devalution is 30% for imported goods and 5% for home goods (i.e. 1.6 % price rise for every 10% devaluation)

	Share	Price Increment due to Devaluation	
		30%	40%
imported goods (direct & indirect)	20%	30%	40 %
home goods (food, rent, education)	80%	5%	6.4%

Then the upper bound to a reasonable wage adjustment is.

(0.2) x (0.3) + (0.8) x (0.05) = 0.06 + 0.04 or 10.0%

This restores the households consumption level. Note that price increment of 5% is not the inflation level realized. The 5% increment means a 10% realized inflation since pre-devaluation inflation level is already 5%. The devaluation had nothing to do with the original 5% level.

In fact, the 30% price increment on imported goods may be overestimated since the Asean currencies, the Korean Won, and the Japanese Yen are all depreciating. The real increment may be around 20% (the difference of 10% being accounted for byt he difference in outside devaluation and our own), then we have as :

(0.2) x (0.2) + (0.8) x (0.05) = 0.04 + 0.04 = 0.8 or 8.0 %

It appears that the reasonable cost-of-living wage adjustment must range from 8.0% to 10.0% base on expected price increments.

B. 40% Devaluation

If the devaluation is 40%, we have as upper bound
(0.2) x (0.4) + (0.8) x (0.064) = 0.08 + 0.0512 = 0.131 or 13%

If we factor in devaluations elsewhere, we have
(0.2) x (0.3) + (0.8) x (0.032) = 0.06 + 0.0256 = 0.085 or 8.5%

The reasonable wage adjustment range from 8.5 % to 13 %.

III. MAXIMUM AFFORDABLE LABOR COST ADJUSTMENT IN THE EXPORT MANUFACTURING FIRMS (EMFs)

We now estimate the maximum affordable wage adjustment for the export sector.

A. Assumptions of for Simulation

1. Prime rate moves from 15 % to 20 % per annum (33 % rise)
2. Nonlabor Domestic Costs (i.e., power, oil, transport etc.) increase is 8 % on average.

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A. Assumptions of for Simulation

1. Prime rate moves from 15 % to 20 % per annum (33 % rise)
2. Nonlabor Domestic Costs (i.e., power, oil, transport etc.) increase is 8 % on average.

3. Peso moves from ₱ 26.40 to ₱ 34.0/US $ (≈ 30 % devaluation). This assumes that the current crisis rate (≈ ₱40) will fall in the medium term.

4. Initial net profit rate is 10%, the rate that businessmen can get from Treasury Bills (12 % less 20 % final tax) and below which they will close shop.

5. Initial price of the product is $ 4.35; subsequent price falls 8 % due to competitive pressure and more aggressive devaluation of Asean neighbors. Subsequent price is $ 4.00. This price reduction are expected by world community.

6. Total Cost components are grouped into (i) Labor Cost (ii) Non-Labor Domestic Cost (power, transportation, etc.) (iii) Interest Cost [including amortization of principal] (iv) Imported Input Cost.

7. Three types of exports by labor content

   a) with 80 % of Total Cost being labor-cost-high labor content, 5 % NonLabor Domestic Cost and 5 % Interest Cost

   b) with 50 % of Total Cost being labor cost-medium labor content, 10 % NonLabor Domestic Cost and 10 % Interest Cost

   c) with 20 % of Total Cost being labor cost-low labor content, 10 % NonLabor Domestic Cost and 10 % Interest Cost

8. Corporate Income Tax is 35 %. We assume that firms can employ accounting procedures which reduce the tax base and effective corporate income tax to 25 %. Note that this allowance makes the firm's position look better, and raises the affordable labor cost adjustment.

B. Per Unit Cost, Profit and Maximum Wage Adjustment in (EMFs)

Table 1: Per Unit Cost Breakdown and Expected Adjustments (standardized so that Total Cost is always ₱100 per unit initially)

	(1)	(2)		(3)	(4)	(5)	(6)		(7)	(8)	(9)		(10)		(11)
	ER	Labor Cost (₱)		Non-Labor Domestic Cost (₱)	Interest Cost (₱)	Import Cost (₱)	Total Cost (TC) (₱)		Price ($)	Revenue (₱)	Gross Profit (₱)		Net Profit (₱)		Net Profit (%)
A															
(i)	26.4	70.0		10.0	10.00	10.0	100.00		4.35	115.0	15.0		10.0		10.0
(ii)	34.0	70.0		10.8	13.3	13.0	107.10		4.00	136.0	28.9		21.7		20.3
(iii)	34.0	82.9	*	10.8	13.3	13.0	120.00	*	4.00	136.0	15.7	*	11.8	*	10.0
(iv)	34.0	79.9	*	10.8	13.3	13.0	117.20	*	4.00	136.0	18.8	*	14.1	*	12.0
B															
(i)	26.4	50.0		10.0	10.00	30.0	100.00		4.35	115.0	15.0		10.0		10.0
(ii)	34.0	50.0		10.8	13.33	39.0	113.13		4.00	136.0	22.8		17.2		15.2
(iii)	34.0	56.1	*	10.8	13.33	39.0	120.00	*	4.00	136.0	15.7	*	11.8	*	10.0
(iv)	34.0	54.1	*	10.8	13.33	39.0	117.20	*	4.00	136.0	18.8	*	14.1	*	12.0
C															
(i)	26.4	20.0		10.0	10.00	60.0	100.00		4.35	115.0	15.0		10.0		10.0
(ii)	34.0	20.0		10.8	13.33	78.0	122.13		4.00	136.0	13.9		10.4		8.5
(iii)	34.0	17.2	*	10.8	13.33	78.0	120.00	*	4.00	136.0	15.7	*	11.8	*	10.0
(iv)	34.0	15.1	*	10.8	13.33	78.0	117.20	*	4.00	136.0	18.8	*	14.1	*	12.0

Notes

1. TC = (6) = (2) + (3) + (4) + (5)
2. Revenue (P) = (8) = (1) X (7)
3. Gross Profit (P) = (9) = (8) - (6); Net Profit (P) = (10) = (9) X (0.75)
4. Net Profit (%) = (10) / (6)
5. "*" Signifies "computed"; "__ " signifies "arbitrarily fixed"
6. TC [(iii) and (iv)] are computed setting Net Profit (5) at (10%) and (12%), respectively. The formula is:

$$\text{Net Profit (\%)} = \frac{[\text{Revenue (P)} - \text{TC}] \times (0.75)}{\text{TC}}$$

$$\text{TC}^* = \text{Revenue (P)} \div \left[1 + \frac{\text{Net Profit (\%)}}{0.75}\right]$$

$$= (8) \div \left[1 + \frac{(11)}{0.75}\right]$$

7. Labor Cost [(iii) and (iv)] are computed after we get TC* (6)
   Labor Cost = TC* - [(3) + (4) + (5)]

C. Analysis

Note first that in this exercise, EF's get nothing in terms of increased profit rate above TB rate. In other words, this affordable wage adjustment is maximum and leaves no room for firm expansion.

1. **On class of firms under A** *(High labor content 70%; low import content 10%)*

   (i) Initially, the net profit rate is 10 % (11)*

   (ii) with the 30 % devaluation to P 34.0 from ₱ 26.4, the net profit rate jumps to 20.3 % (11), before wage adjustment but with nonlabor cost [(3) + (4) + (5)] higher.

   (iii) If we fix the net profit rate at 10 %, the computed TC* is ₱ 120.3 (6), and the labor cost that is affordable is ₱ 82.9 (2). This is ₱ 13 above the original labor cost ₱ 70 and represents a 18.4 % rise in labor cost.

   (iv) If Treasury Bill rates rise to 12 % (11), the computed total cost TC*=117.2 (6) and affordable labor cost is ₱ 79.9 representing a ₱ 10.0 rise or 14 % rise in affordable labor cost.

   (v) *Conclusion: For A type firms, the maximum affordable rise in labor cost is 18.4% if net TB rate is 10% or 14% if net TB rate is 12%. Any wage adjustment above these will trigger lay-offs.*

2. **On the class of firms under B** *(medium labor content 50%)*

   (i) Initially, net profit (%) is 10% (11).

   (ii) After the devaluation, net profit rate rises to 15% (11) before any wage adjustment but with nonlabor cost higher.

   (iii) If we fix net profit rate at 10%, the computed TC* = 120.0 for the same Revenue (₱). But the nonlabor costs [(3) + (4) + (5)] are higher. The affordable labor cost rises to ₱ 56.1 or a 12% rise.

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* (column 11) or (11) from hereon; number in parenthesis are column number.

(iv) If net TB rate is 12%, TC* is ₱ 117.2 and affordable labor cost is ₱ 54.1 or 8.2% rise.

(v) Conclusion: *For B-Type Firms, the maximum affordable rise in labor cost is 12% if net profit rate is 10% or 8.2% if net profit rate is 12% (i.e., net TB rate is 12%). Wage adjustment above these will trigger lay offs.*

3. **On the class of firms under C** *(low labor content, high import content)*

(i) Initial net profit rate is again 10%.

(ii) After the devaluation and before any wage adjustment net profit rate falls to 8.5% because of the equivalent rise in import cost which was 60% of TC, the 8% rise in nonlabor domestic cost, the 33% rise in interest cost, and the competitive pressure.

(iii) If we fix the net profit rate at 10%, the computed TC* (6) is ₱ 120.3 and the maximum affordable labor cost is now only ₱ 17.2 or a 5.2% reduction.

(iv) At 12% net profit rate, the TC* (6) is ₱ 117.2 and maximum affordable labor cost is ₱ 15.1 or a 24% reduction.

(v) Conclusion: *For type C Firms (with low labor content and high import content), the maximum affordable increase in wages is negative. To maintain employment, this type of firms will require a wage cut.*

IV. MAXIMUM AFFORDABLE WAGE ADJUSTMENT AMONG DOMESTIC MARKET-ORIENTED MANUFACTURING FIRMS (DMFs)

A. DMFs and Devaluation

Domestic market-oriented manufacturing firms (DMFs) benefit from the devaluation only insofar as they compete with imported goods. Devaluation of 30% raises the peso price of imported goods by 30% and thus allows a breathing room for DMFs (protective effect of the devaluation). But their other costs will also rise with the devaluation which erodes the protection-accorded. Furthermore, the extent of cost pass through depends on how dollar price of inputs behave. Imports from Asean and Korea will surely see reduced $ prices. Since the devaluation in the region exceed that of the

Philippines, the cost pass on is rather limited. Unlike the export manufacturing firms (EMF), which have $ revenues, DMFs can, in fact, be hurt by the devaluation if their import-content is very high (which is why) a devaluation induces firms to use more domestic inputs.

B. Additional Assumptions

(1) The maximum price increases that domestic market-oriented manufacturing can push is 8 % despite the 30% devaluation. This is consistent with the assumption is price increase of NonLabor Cost. The reason is that the Philippine economy is now quite open and liberalized which means that cost pass on is more difficult due to competition. But more importantly, our Asean neighbors also devalued more heavily (Thailand 50%; Indonesia 100%; South Korea 70%; Japan 15%) and this eats up most of the 30% potential increases in import prices. If our devaluation is not part of a regionwide crisis, then domestic producers may raise prices to the extent of the devaluation (which constitutes the protective effect of the devaluation).

(2) The adjustment assumptions made previously on Nonlabor Domestic Cost, Interest Cost, and Imported Cost remain here.

C. Per Unit Cost and Profit Adjustments in DMFs

Table 2: Breakdown and Adjustments of Costs Per Unit: DMF by Category

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	ER	Labor Cost (₱)	Non-Labor Domestic Cost (₱)	Interest Cost (₱)	Imputed Import Cost (₱)	Total Cost (TC) (₱)	Price per Unit ($)	Gross Profit (₱)	Net Profit (₱)	Net Profit (%)
A										
(i)	26.4	70.0	10.0	10.00	10.0	100.00	113.3	13.3	10.0	10.0
(ii)	34.0	70.0	10.8	13.30	13.0	107.10	122.4	17.0	12.7	12.1
(iii)	34.0	71.2 *	10.8	13.30	13.0	108.30 *	122.4	14.1	10.6	10.0
(iv)	34.0	68.4 *	10.8	13.30	13.0	105.50 *	122.4	14.1	10.6	12.0
B										
(i)	26.4	50.0	10.0	10.00	30.0	100.00	113.3	13.3	10.0	10.0
(ii)	34.0	50.0	10.8	13.33	39.0	113.13	122.4	9.3	6.9	6.1
(iii)	34.0	45.2 *	10.8	13.33	39.0	108.30 *	122.4	14.1	10.6	10.0
(iv)	34.0	42.4 *	10.8	13.33	39.0	105.50 *	122.4	16.9	12.7	12.0
C										
(i)	26.4	20.0	10.0	10.00	60.0	100.00	113.3	13.3	10.0	10.0
(ii)	34.0	20.0	10.8	13.33	78.0	122.13	122.4	0.27	0.20	0.2
(iii)	34.0	6.2 *	10.8	13.33	78.0	108.30 *	122.4	14.1	10.6	10.0
(iv)	34.0	3.37 *	10.8	13.33	78.0	105.50 *	122.4	12.09	9.1	12.0

D. Analysis

1. For A-type domestic market-oriented firms (DMFs) (high labor content 70%, low import content 10%)

(i) The devaluation raises the per unit profit rate, from 10% to 12% before wage adjustment but after the 8% rise in per unit price and rise in Nonlabor Domestic Cost, Interest Cost, and Import Cost.

ii) If we fix the net profit rate at 10%, the computed TC* warranted is ₱108.3 which leaves the warranted labor cost of ₱ 71.3 or a 1 % rise.

(iii) If we fix the net profit rate at 12%, the computed warranted TC* = ₱105.5 and warranted labor cost is ₱ 68.4 or a drop of 3.7 %.

(iv) This firm will just break even with wage adjustment of 1% or less.

2. For B-type DMF (medium labor content 50%)

(i) The devaluation actually reduces the net profit rate from 10% to 6.1% even before wage adjustment.

(ii) If we fix the net profit rate at 10%, the warranted labor cost is ₱ 45.2 less than ₱ 50.

(iii) At net profit rate at 12%, the warranted labor cost is ₱ 42.4 < ₱ 50.

(iv) This firm will lay off workers in order to survive or will simply stop operating.

3. For C-type DMF (low labor content 20%, high import content 70%)

(i) The devaluation reduces net profit rate to 0.2 % from 10% as 80% of its costs rise or average 30%. But its revenue rises only 8%.

(ii) This type of firms will have to lay off workers, or stop operating.

Thus, the maximum affordable wage adjustment by DMFs is 5% or less. Otherwise, DMFs will either, lay-off workers or close shop.

V. MAXIMUM AFFORDABLE WAGE ADJUSTMENT TO 40% DEVALUATION (₱37) (EMFs)

A. Modified Assumptions

(i) Devaluation settles at 40% (to ₱37/ US $) in the medium term

(ii) Non Labor Domestic Cost rises by 10%.

(iii) Prime rate still moves from 15% to 20%.

(iv) Treasury Bill rate moves from 10 % to 18 % to reflect current rates. We eliminate 10 % TB rate from the simulation as unrealistic.

Table 3: Per Unit Cost, Price and Wage Adjustment (EMFs)

	(1)	(2)	(3)	(4)	(5)	(6)		(7)	(8)	(9)		(10)		(11)
	ER	Labor Cost	Non-Labor Domestic Cost	Interest Cost	Import Cost	Total Cost (TC)		Price	Revenue	Gross Profit		Net Profit		Net Profit
	(₱/US $)	(₱)	(₱)	(₱)	(₱)	(₱)		($)	(₱)	(₱)		(₱)		(%)
A.														
	26.4	70.00	10.0	10.0	10.0	100.0		4.35	115.0	15.0		10.00		10.0
	37.0	70.00	11.0	13.3	14.0	108.3		4.00	148.0	39.7		29.80		27.5
	37.0	81.50	11.0	13.3	14.0	119.3	*	4.00	148.0	18.8	*	14.10	*	18.0
B.														
	26.4	50.00	10.0	10.0	30.0	100.0		4.35	115.0	15.0		10.00		10.0
	37.0	50.00	11.0	13.3	42.0	116.3		4.00	148.0	31.7		23.80		20.4
	37.0	53.05	11.0	13.3	42.0	119.3	*	4.00	148.0	18.8	*	13.60		18.0
C.														
	26.4	20.00	10.0	10.0	60.0	100.0		4.35	115.0	15.0		10.00		10.0
	37.0	20.00	11.0	13.3	84.0	128.3		4.00	148.0	19.7		14.80		11.5
	37.0	11.00	11.0	13.3	84.0	119.3	*	4.00	148.0	18.8	*	14.10		18.0

C. Analysis

1. On Class A Firms *(high labor content, 70%)*

For a 40% devaluation, high labor content EMFs initiallly (i.e., before wage adjustment see their net profit rate rise to 27.5%). If we fix net profit rate at 18%, affordable total cost TC* is ₱ 119.3 and affordable labor cost is ₱ 81.5 per unit or 16.4 % higher.

2. On Class B Firms *(medium labor content, 50%)*

For a 18 % profit rate, affordable labor cost is ₱ 53.05 per unit, or 6 % higher.

3. On Class C Firms *(low labor content, 20%)*

The affordable wage adjustment at 18% net profit rate, wages have to fall 45 % so that layoffs do nor occur.

VI. MAXIMUM AFFORDABLE WAGE ADJUSTMENT TO A 40% DEVALUATION (DMF's)

The bleak outlook for DMF's at 30 % devaluation becomes worse at 40% devaluation. It is clear that layoffs are forthcoming. The DMF's can also shift to become export-oriented to take advantage of the devaluation. This is one of the possible good effect of the devaluation.

VII. SUMMARY

1. The analysis of the cost of living wage adjustment points to between 8% and 10% as reasonable foor a 30% devaluation and between 8.5% to 13% for 40% devaluation.

2. The analysis of the affordable wage adjustment by export firms suggests a range of between negative 5% to positive 18.4 % for a 30% devaluation accompanied by TB rate of 10-14 % and between negative 45% and positive 16.4 % for a 40% devaluation with TB rate of 18.0 %..

3. Our analysis of affordable wage adjustment by domestic market-oriented firms suggest a wage adjustment between negative 5% to positive 1%. The 40% devaluation will mean layoffs and retrenchment for this type of firm.

Conclusions:

(i) We recommend a maximum wage adjustment of 10% for export firms and 3% for domestic market-oriented firms. In any case it appears that the reasonable and affordable upper bound wage adjustment is 10%.

(ii) The 20% wage adjustment announced by the Tripartite Conference suggests layoffs and manufacturing slowdown in 1998.