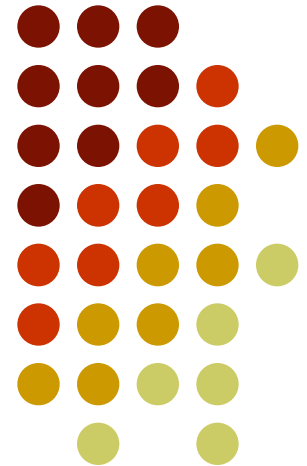


# CONSTRUCTION PPPS IN THE 2005 ASIA ICP UPDATE

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Asia 2009 ICP Update: Regional Meeting, Manila, May 2009



# CONSTRUCTION SURVEY: Elementary Components



## 1. Materials

- Aggregate for Concrete
- Plywood
- Portland Cement
- Reinforcing Steel
- Sand used for Concrete and Cement Mortar
- Structural Steel

## 2. Equipment

- Backhoe
- Vibratory Plate Compactor
- Sand Filter

## 3. Labor

- Skilled Labor
- Unskilled Labor



## Main Assumptions for 2009

1. Each Construction BH is determined by a combination of Materials, Labor and Equipment Cost Factors (via regression, in logs):

$$PPP_j^i = C_{mat}^j * P_{mat}^i + C_{eqp}^j * P_{eqp}^i + C_{lab}^j * P_{lab}^i + c$$

2. Materials, Labor and Equipment Cost Factors are determined by a combination of the respective individual elementary components via the CPD procedure (regression):

$$y_{nc} = \ln p_{nc} = \alpha_1 D_1 + \alpha_2 D_2 + \dots + \alpha_C D_C + \eta_1 D_1^* + \eta_2 D_2^* + \dots + \eta_N D_N^* + u_{nc}$$

where  $D_c$  ( $c=1,2,\dots,C$ ) and  $D_n^*$  are respectively country and commodity dummy variables

3. PPPs based on this short-cut method are estimated for 2005, as well as adjustment coefficients to go from 11 elementary components to the actual 2005 construction PPPs. Those adjustment factors will be used to adjust the construction PPPs based on 11 elementary components in 2009.

# Regression results for individual Construction BHs



	<i>Elasticities</i>			R <sup>2</sup>
	materials	equipment	labor	
<b>Civil engineering works</b>	53.4%	16.3%	23.1%	0.9714
std.err	6.6%	3.6%	1.7%	
<b>Residential buildings</b>	59.2%	7.7%	34.6%	0.9754
std.err	7.5%	4.1%	1.9%	
<b>Non-residential buildings</b>	56.6%	7.7%	36.1%	0.9778
std.err	7.3%	4.0%	1.8%	

# PLIs for Construction inputs by country (CPD regression on 11 elementary construction components)



PLIs	BAN	BHU	BRU	PRC	FIJ	HKG	INO	IND	IRN	CAM	LAO	SRI	MAC	MON	MAL	NEP	PAK	PHI	SIN	THA	TAP	VIE
materials	1.44	1.18	1.51	0.80	2.40	1.00	1.40	1.47	0.82	0.87	1.07	1.36	1.20	0.88	1.05	1.10	1.33	1.02	1.06	1.07	1.20	0.88
equipment	0.36	0.47	0.63	0.37	1.01	1.00	0.67	0.47	0.39	0.74	0.38	0.48	1.01	0.23	0.36	0.61	0.47	0.48	0.54	0.43	0.81	0.08
labor	0.04	0.04	0.24	0.12	0.34	1.00	0.08	0.05	0.17	0.05	0.05	0.07	0.86	0.05	0.18	0.03	0.06	0.09	0.37	0.09	0.82	0.05

# Construction PLIs: actual, simulated and adjustment factor (Construction category aggregated from BHs using EKS)



PLIs	BAN	BHU	BRU	PRC	FIJ	HKG	INO	IND	IRN	CAM	LAO	SRI	MAC	MON	MAL	NEP	PAK	PHI	SIN	THA	TAP	VIE
<b>ACTUAL</b>	0.37	0.35	0.74	0.44	1.12	1.00	0.49	0.43	0.41	0.31	0.31	0.44	1.01	0.29	0.45	0.34	0.41	0.42	0.70	0.41	0.83	0.27
<b>SIMULATED</b>	0.40	0.36	0.76	0.40	1.14	1.00	0.53	0.45	0.46	0.34	0.37	0.47	1.07	0.32	0.53	0.34	0.45	0.43	0.71	0.45	0.98	0.27
<b>ADJUSTMENT</b>	0.92	0.97	0.97	1.10	0.98	1.00	0.92	0.97	0.89	0.91	0.85	0.93	0.94	0.92	0.85	1.00	0.91	0.99	0.99	0.90	0.84	0.99

# Construction PLIs: Actual vs Simulated

