

International Comparison Program

[01.03]

Construction Survey Form

Global Office



5th Technical Advisory Group Meeting

April 18-19, 2011

Washington DC

International Comparison Programme – 2011 Construction Price Survey

1 Country: China China

2 Currency:

Survey respondent

3 Name:

4 Employer:

5 Type of employer: *(please specify)*
consultant academic research government other

6 Contact details:

7 Telephone no: 8 Email address:

Purpose of the survey

The purpose of this survey is to collect mid year national average prices as paid by contractors for resource inputs to construction work. The prices will contribute to the preparation of Purchasing Power Parities (PPPs) for construction as part of a worldwide exercise coordinated by the World Bank and called the International Comparison Program (ICP). PPPs are currency convertors (as an alternative to market exchange rates) that permit comparisons of construction volumes across countries to be made.

Base date for prices

Ideally, prices should be an average for the year 2011 but a mid year price may be acceptable.

Completion of the survey

Please refer to the Notes page for detailed instructions on completion of the survey.

9 Base date for prices *Eg 06/2011* 10 Adjustment factor (to mid 2011 prices) *Eg 0.98, 1.00, 1.05 etc.*

National average price level

Ideally, the geographical base for this survey should be the national average for country but, if this is not the case, please enter below the geographical base used in the survey and an adjustment factor to bring prices to a national average

11 Geographical base *Eg 0.98, 1.00, 1.05 etc.* 12 National average factor

Geographical variations

Please insert a list of as many regions and/ or cities in your country as possible and show adjustment factors from the geographical base price level. We would like to identify price levels in principal locations even if they are the same as each other or the geographical base. Extra rows can be inserted in the table below, if necessary.

13 Selected regions and cities (and comments if required)	Factor
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
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General notes

i. The intention is to identify, and collect prices for, locally available, commonly used materials and products that are equivalent, if not identical, to the items described in the survey documents. The following notes are intended to assist in selecting and pricing the survey items.

Item descriptions and units

ii. Specified materials and products: Item descriptions in the survey are intended to provide a clear description of the item to be priced. There is, however, a tension between the tightness of the specification and the content of the item to be priced – the tighter the specification, the more country-specific it becomes. If a precise match to the specified material or product is not commonly available or used, the nearest commonly available and used equivalent should be priced and an appropriate note inserted in Column 7.

iii. Proprietary products: Generally, item descriptions in the survey do not use proprietary names but respondents can provide proprietary names in Column 7 if that simplifies the note.

iv. Detailed dimensions of materials: Generally, metric dimensions are stated in the survey documents but these can be replaced by Imperial – or other – dimensions if these are more common in the country. Detailed dimensions of material and products will vary, both between and within countries, for example the dimensions of bricks and blocks or timber sections. Survey respondents should select the nearest locally available and commonly used equivalent to the item described in the survey – and where that varies from the survey description it should be noted in Column 7.

v. Units of measurement: Again, metric units are generally used in the survey documents but other units can be inserted. Alternative units of measurement can also be provided, for example, m² for plywood is preferred but a price per sheet indicating the dimensions of the sheet (length and width) is acceptable; similarly, cement is indicated as per Tonne but per kg or per 50kg bag is acceptable. The items and units should be as normally used in the country. Preferred units are indicated in Column 4 (column 3 in the case of labour) ; alternative units should be inserted in Column 5 (column 4 in the case of labour) and, if any notes are required, these should be inserted in Column 7.

vi. The units indicated for equipment hire are ‘per hour’ but if other units are normally used, for example, ‘per day’ or ‘per week’, these should be indicated in column 5. If the units are per day or per week, please indicate in Column 7, the typical numbers of hours worked per day or per week. It is assumed that equipment will be hired with an operator; if this is not the case, please indicate this in Column 7.

vii. The units indicated for labour are ‘per hour’ but if other units are normally used, these should be indicated in column 4 and the typical numbers of hours worked per alternative unit stated in column 5.

Prices

viii. Prices provided should be those paid by construction contractors to their suppliers. In the case of materials and products, that will typically be the prices paid, after discounts, to manufacturers or intermediaries (agents or merchants), including all non-recoverable taxes; in the case of equipment, it should be the rental charges paid to hire companies or internal hire rates; and, in the case of labour, the cost to the contractor of employing the workers. Informal payment arrangements for labour are common in construction - for example some payment is in the form of wages, subject to taxes and on which employers’ costs are incurred while other payments are in cash - and respondents should bear this in mind when determining what is an ‘average’ wage. There is space for notes on pricing after the material, plant and labour sections and it is important that these are completed by respondents.

ix. Prices should be provided for items that are commonly available and commonly used in the country; they should not be provided for items that match the item description precisely if that involves pricing a ‘special’ item, either not generally available in the country or only available at a premium price.

x. The survey seeks annual and national ‘average’ prices in national currency. Annual averages mean prices that are an average over the survey year (mid-year prices are acceptable) and that average different price levels across the country, across different types and sizes of projects. The following notes are intended to help respondents select appropriate average prices for their country.

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- xi. Geographical location: Construction prices can vary across countries, as a result of local resource and distribution costs, geographic, seismic or climatic conditions, local market conditions, etc, particularly in large countries and sometimes these variations can be significant. Respondents should consider the extent of geographical variations when pricing items and make a judgement on what is a realistic national average.
- xii. Site context: Construction prices can vary depending on detailed site conditions, for example, constrained city centre sites, greenfield sites adjacent to urban areas and remote sites that are difficult to access. When pricing items, respondents should assume reasonable site contexts with good access.
- xiii. Size of projects: The size of projects can influence the cost of resources, particularly materials and equipment – large quantities and long periods of hire, for example, can reduce unit costs and vice versa. Prices should be provided for medium-sized projects, that is, projects which are not unusually small or unusually large.

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Construction materials and products

see pricing notes

1	2	3	4	5	6	7
Ref	Item	Specification notes	Preferred unit	Alternative unit	Unit price	Notes and comments
14	Aggregate for concrete	Clean, hard, strong crushed stone or gravel free of impurities and fine materials in sizes ranging from 9.5 to 37.5mm in diameter.	m3			
15	Sand for concrete and mortar	Fine aggregate washed sharp sand	m3			
16	Softwood for carpentry	Sawn softwood sections for structural use pre-treated (to national standards) eg 50mm x 100mm	m3			
17	Softwood for joinery	Dressed softwood sections for finishing eg 18mm x 120mm	m3			
18	Exterior plywood	Exterior quality plywood 15.5mm thick in standard sheets	m2			
19	Interior plywood	Interior quality plywood 12mm thick in standard sheets	m2			
20	Chipboard sheet	Interior quality chipboard 15mm thick in standard sheets	m2			
21	Petrol/ Gasoline	Standard grade for use in motor vehicles	litre			
22	Diesel fuel	Diesel fuel for use in construction equipment	litre			
23	Oil paint	Oil based paint suitable for top coat finishes to timber surfaces	litre			
24	Emulsion paint	Water based paint suitable for internal plaster surfaces	litre			
25	Ordinary Portland cement	Ordinary Portland cement in bags or bulk delivery	tonne			
26	Ready mix concrete	Typical common mix 1:2:4 cement:sand:20-40mm aggregate, 20N/mm2	m3			
27	Precast concrete slabs	Precast concrete paving slabs 600 x 600 x 50mm thick	m2			
28	Common bricks	Ordinary clay bricks (suitable for render or plaster finish) eg 215mm x 100mm x 65mm thick (715 bricks/m ³)	m3			
29	Facing bricks	Medium quality self finished clay bricks for walling, eg 215mm x 100mm x 65mm thick (715 bricks/m ³)	m3			
30	Hollow concrete blocks	Hollow dense aggregate concrete blocks, 7N/mm2, eg 440mm x 215mm x 140mm thick (76 bricks/m ³)	m3			
31	Solid concrete blocks	Solid dense aggregate concrete blocks, 7N/mm2, eg 440mm x 215mm x 140mm thick (76 bricks/m ³)	m3			
32	Clay roof tiles	Clay plain smooth red machine-made or similar tiles per m2 of roof surface area eg 265mm x 125mm tiles	m2			
33	Concrete roof tiles	Concrete interlocking tiles per m2 of roof surface area eg 420mm x 330mm tiles	m2			
34	Float/ sheet glass	Standard plain glass, clear float, 4mm thick	m2			
35	Double glazing units	Factory made hermetically sealed, medium sized units 0.5 to 2.0 m2 with 4mm glass, 12mm seal	m2			

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36	Ceramic wall tiles	152 x 152 x 5.5mm thick white or light coloured for medium quality domestic use	m2			
37	Plasterboard	12.5mm paper faced taper edged plasterboard in standard sheets	m2			
38	White wash hand basin	Average quality white vitreous china domestic wash hand basin for domestic use, wall hung (excluding taps, trap and pipework)	each			
39	High yield steel reinforcement	Reinforcing bars up to 16mm diameter (excluding cutting and bending)	tonne			
40	Mild steel reinforcement	Reinforcing bars up to 16mm diameter (excluding cutting and bending)	tonne			
41	Structural steel sections	Mild steel I beams approximately 150mm deep and approximately 19 kg/m	tonne			
42	Sheet metal roofing	Twin skin roofing panel comprising colour coated steel or aluminium profiled sheeting outer layer, 100mm insulation, internal liner sheet,	m2			
43	Metal storage tank	Metal storage tank capacity 15m3, thickness of steel, 5mm, typical size, 3.75m x 2m x 2m	each			
44	Cast iron drain pipe	150mm diameter with mechanical coupling joints	m			
45	Copper pipe	15mm copper pipe suitable for mains pressure water.	m			
46	Electric pump	Electric pump for pumping water, temperature range, 5 – 80oC, flow rate 10 litres/second, head pressure, 150 Pa	each			
47	Electric fan	Electric exhaust fan for interior installation, flow rate, 1,000 litres/ second, head pressure, 250 Pa	each			
48	Air-conditioning equipment	Air cooled liquid chiller, refrigerant 407C; reciprocating compressors; twin circuit; integral controls cooling load 400kW	each			
49	Stand-by generator	Diesel generating set for stand-by use, three phase 24V DC, 250KVA output	each			
50	Solar collector	PV solar panels peak output 650W, supply panels only, typically 4.5m2 total area	each			
51	Electricity	Typical average commercial tariff	kWhr			

52 Please provide any other useful comments on the construction materials and products market:

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Construction equipment hire rates

see pricing notes

1	2	3	4	5	6	7
Ref	Item	Specification notes	Preferred unit	Alternative unit	Unit price	Notes and comments
53	Wheeled loader and excavator	1.0m3 loader capacity, 2.35m wide shovel, 6.0m max. dig depth	hour			
54	Tracked tractor	Crawler dozer 159kW with 'U' blade	hour			
55	Skid steer loader	Tipping load, 2,000kg, travel speed, 11.1km/hr	hour			
56	Tandem vibrating roller	Self propelled 5 tonne double vibratory	hour			
57	Compact track loader	Rated operating capacity, 864kg, travel speed, 11.4km/hr	hour			

Supplementary questions on equipment hire

select Yes or No

58 Is there an established construction equipment hire industry in your country?

59 If not can equipment be hired?

60 if Yes, who from?

61 Is equipment always hired with an operator?

62 Is the cost of an operator included in the hire rates you have quoted?

63 Please provide any other useful comments on the local construction equipment market:

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Labour rates

Labour rates should reflect the cost to the contractor of employing the labour and should include any additional costs to the employer for insurance, holidays with pay, pensions, etc. It would be helpful if respondents could indicate in the Notes and comments column typical employment conditions for different types of workers, for example, permanently employed, daily paid, etc.

see pricing notes

1	2	3	4	5	6	7
Ref	Item	Preferred unit	Alternative unit	Number of hours	Unit price	Notes and comments
64	General (unskilled) labourers [1]	Hour				
65	Bricklayer [2]	Hour				
66	Plumber [2]	Hour				
67	Carpenter [2]	Hour				
68	Structural steel worker [2]	Hour				
69	Electrician [2]	Hour				
70	Machine (equipment) operator [2]	Hour				

Notes: [1] this group of construction workers undertakes simple and routine tasks in support of activities performed by more skilled workers. They have usually received little or no formal training. Examples of tasks that they might undertake include loading and unloading materials, digging and filling holes and trenches, spreading gravel and related materials, cleaning and tidying sites and site facilities.
 [2] this group of skilled construction workers has received training in their trade comprising one or more of an apprenticeship, on the job training or training in a technical college or similar institution.

Supplementary questions on construction labour

71 To help us ensure comparability with rates from other countries please confirm that the above rates are :-
 Gross i.e. the cost of labour to the contractor as described above or Nett i.e. the rates paid to workers

	select Gross or Nett

72 Please indicate the overall percentage addition for Gross labour costs against Nett labour rates

73 Please provide any other useful comments on the local construction labour market:

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Approximate project prices

Please provide approximate all-in unit prices for the project types listed below. Please also indicate below the table notes on the methods of measurement used. Generally, prices for buildings should exclude external works, furniture, loose or special equipment and fees for professional services. Prices for civil engineering works should allow for average excavation and earthworks in good ground. Where there is a known range of prices please take a mid point.

		Preferred unit	Alternative unit	Unit rate	Notes and comments
	Residential buildings				
74	Single storey average quality detached house masonry (brick or block) or timber frame	m 2 floor area			
75	Two storey attached house, mass market, centre unit in terrace/row of four units, otherwise as above	m 2 floor area			
76	Low rise apartment, mass market, concrete frame, brick or block infill, walk-up	m 2 floor area			
77	High rise apartment, average quality, concrete frame, brick or block infill	m 2 floor area			
	Non-residential buildings				
78	High rise office/ administrative building, ±20 storey, medium quality, air conditioned, concrete frame	m 2 floor area			
79	Medium rise office/ administrative building, ±10 storey, medium quality, air conditioned, concrete frame	m 2 floor area			
80	Primary school one or two storey, approx. 12 classrooms	m 2 floor area			
81	Factory/ warehouse building, single storey, steel frame and coated steel cladding and roofing	m 2 floor area			
	Civil engineering work				
82	Highway (not motorway) with tarmac surface on level good ground	m2			
83	Length of concrete sewer pipes, 0.5m diameter, average 2 m depth	m length			
84	Length of concrete sewer pipes, 1m diameter, average 3 m depth	m length			

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