



CONSTRUCTION INDUSTRY COUNCIL

建造業議會

Demand and Supply Forecast of Hong Kong Construction Workforce for 2012 to 2016

September 2012



Disclaimer

Whilst reasonable efforts have been made to ensure the accuracy of the information contained in this publication, the CIC nevertheless would encourage readers to seek appropriate independent advice from their professional advisers where possible and readers should not treat or rely on this publication as a substitute for such professional advice for taking any relevant actions.

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Preamble

- The study was carefully conducted but inevitably based on a web of assumptions and incomplete basic data, such as lack of data of RMAA works and primary data of private projects.
- Therefore, the figures of the report are only ballpark figures and provide an indication of general trends of manpower situation. There is a need to enhance the forecast model to improve its accuracy.
- The figures must not be taken at face value and must be considered with all assumptions taken, the inherent limitations and the need for enhancements.

Background

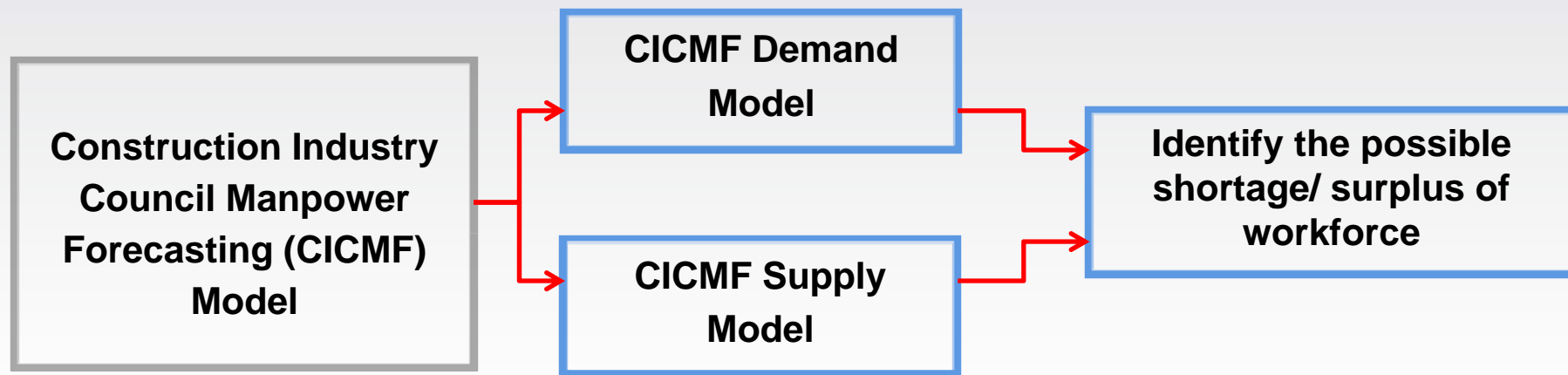
Purpose of the Study:

To assess any shortage of manpower and minimize any imbalance workforce in the construction industry

Coverage of the Study:

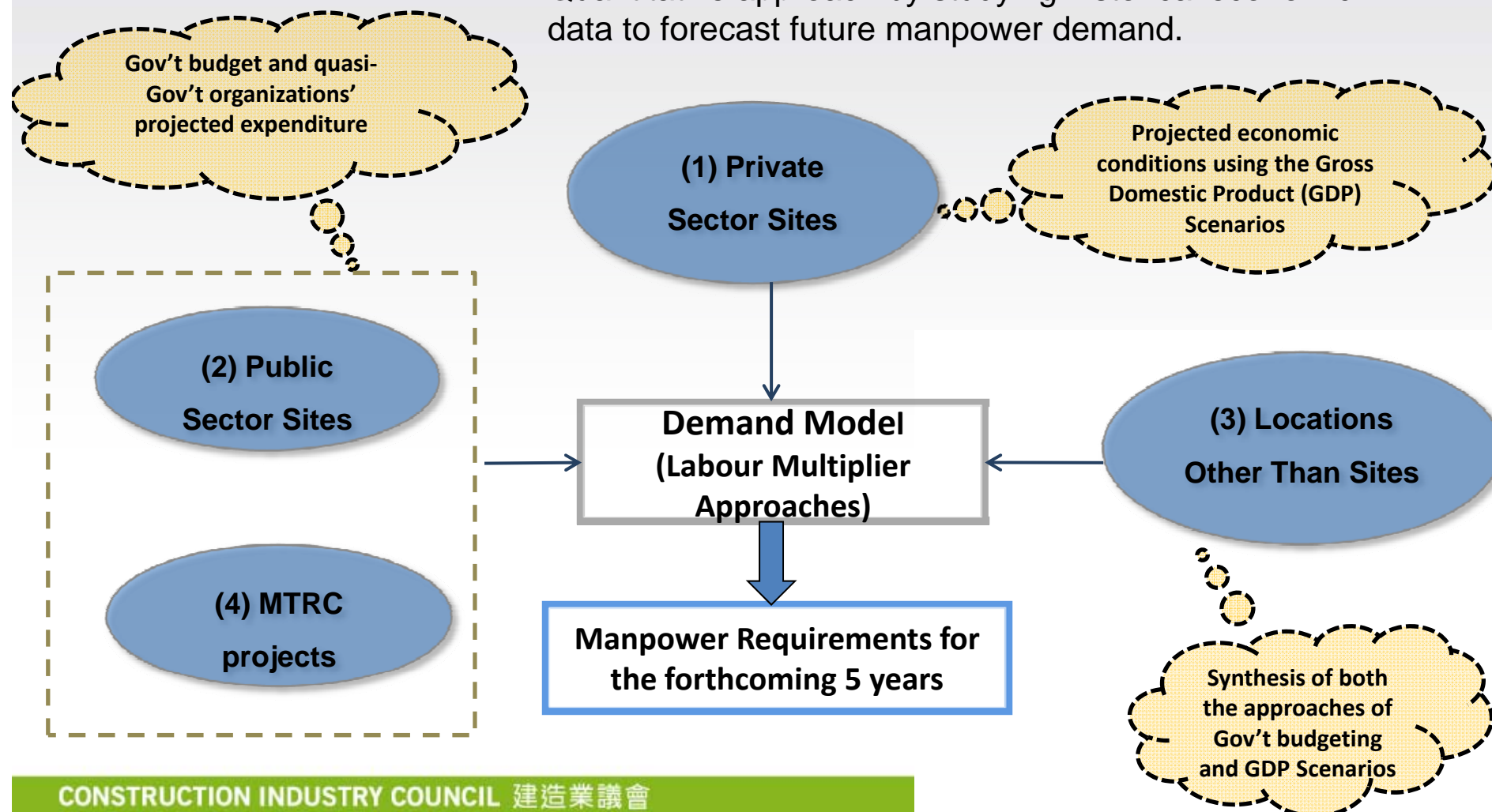
- Construction workers;
- Site supervisors;
- Off-site technicians (draftsmen, QS technicians and E&M technicians)

Manpower Forecast Model



Demand Model

Quantitative approach by studying historical economic data to forecast future manpower demand.

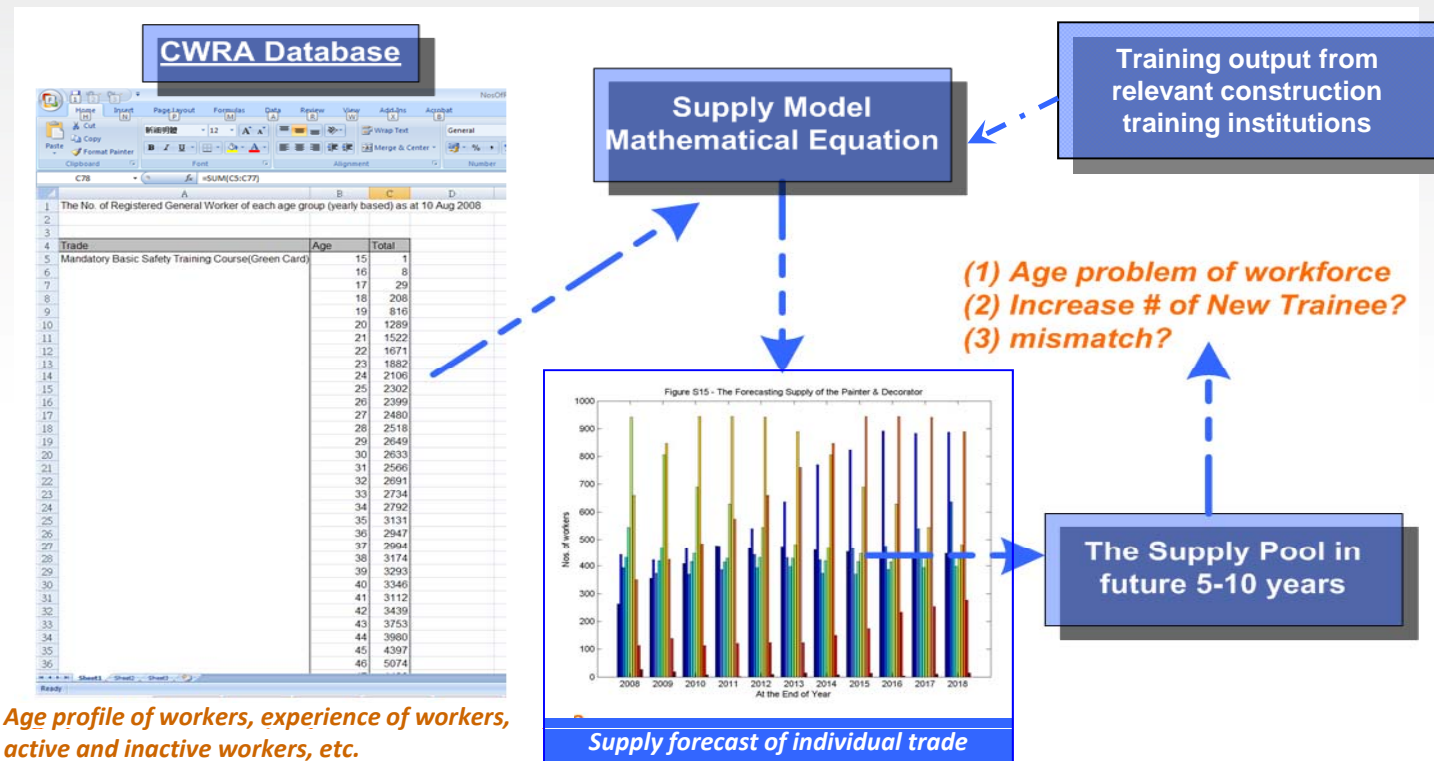


Major Assumptions for Demand Model

- A GDP scenario representing a neutral projection of economic conditions would be used to project construction expenditure of the private sector;
- Shares of private sectors: residential buildings (70%); commercial buildings (30%);
- Expenditure of government funding would be spent within specified financial years and on schedule;
- Number of working day per year for a worker is 200 (private sector sites) and 260 (public sector sites, locations other than sites and MTRC projects).

Supply Model

Stock-flow approach is adopted to link existing pool of construction personnel with some major variables, such as numbers of new entrants and retirement.



Major Assumptions for Supply Model

Construction Workers

- New entrants mainly come from trainees of Construction Industry Council (CIC) with wastage included.

Site Supervisors & Off-site Technicians

- Numbers of supervisors and technicians are estimated from Vocational Training Council manpower survey
- Age distribution is estimated from green card records of CIC.

Trade Classification List in Manpower Model

(1) Construction Workers

- ◆ There are 99 trades specified in the Construction Workers Registration Ordinance. However, data from the industry are not recorded according to these 99 trades.
- ◆ Therefore, a list of 52 trade groups is developed based on trades adopted in:
 - Form GF527 (public projects)
 - Private project data
 - MTR project data
- ◆ Because of aggregation of input data, the model is unable to forecast the number of workers of individual trades in a trade group.

Trade Classification List in Manpower Model

- (2) Site Supervisors
(based on Vocational Training Council
manpower survey)
- (3) Off-site Technicians:
 - ◆ Draftsmen
 - ◆ QS Technicians
 - ◆ E&M Technicians

Trade Classification List in Manpower Model

No.	Skilled Labour	No.	Skilled Labour	No.	Skilled Labour
1	Bar Bender & Fixer [or Steelbender	21	Structural Steel Erector	41	Landscape Worker
2	Concretor	22	Rigger/Metal Formwork Erector	42	track worker
3	Drainlayer	23	Asphalter (Road Construction)	43	Piling Worker
4	Plumber	24	Construction Plant Mechanic [or Fitter]	44	Pipelayer
5	Leveler	25	Diver	45	Shotfirer
6	Scaffolder	26	Electrical Fitter (incl. Electrician)	46	Tunnel Worker
7	Carpenter (Formwork)	27	Mechanical Fitter	47	Marine Craft Crew
8	Joiner	28	Refrigeration/AC/Ventilation Mechanic	48	Diver's Linesman
9	Plant & Equipment Operator (Load Shifting) [or Plant Operator (exc. driver, bulldozer driver, etc.)]	29	Fire Service Mechanic	49	Miner
10	Truck Driver	30	Lift and Escalator Mechanic	50	Shotcretor (Nozzleman)
11	Rock-Breaking Driller [or Pneumatic Driller]	31	Building Services Maintenance Mechanic	51	stevedore
12	General Welder	32	Cable Jointer (Power)	52	General Worker
13	Metal Worker	33	Asphalter (Waterproof)	<u>Supervisors & Technicians</u>	
14	Glazier	34	Tiler	53	Site Supervisors
15	Painter & Decorator	35	Roofer	54	Draftsmen
16	Plasterer Terrazzo & Granolithic Worker	36	Waterproofer	55	QS Technicians
17	Bricklayer	37	Material Lab Labour	56	E&M Technicians
18	Marble Worker	38	Gas Piper		
19	Mason (incl. rubble mason, splitting mason and ashlar mason)	39	Drywall worker		
20	Structural Steel Welder	40	False Ceiling Worker		

Forecast Manpower Conditions

(1) Construction Workers with Severe Shortage

Trade No.	Trade Name	Trade No.	Trade Name
1	Bar Bender & Fixer	16	Plaster Terrazzo & Granolithic Worker
3	Drainlayer	17	Bricklayer
4	Plumber	18	Marble Worker
5	Leveler	22	Rigger/ Metal Formwork Erector
7	Carpenter	27	Mechanical Fitter
11	Rock-bearing Driller	29	Fire Service Mechanic
13	Metal Workers	52	General Workers
14	Glazier		

Forecast Manpower Conditions

(3) Aging problem of construction workers

- Trades facing acute aging problems include:

Concretor	General Welder
Drainlayer	Metal Worker
Plumber	Mechanical Fitter
Carpenter	Fire Service Mechanic
Joiner	Track worker
Plant & Equipment Operator	Piling Worker
Plasterer Terrazzo & Granolithic Worker	Pipelaye
Asphalter (Road Construction)	

Forecast Manpower Conditions

(4) Site Supervisors & Off-site Technicians

Types	Observations
Site Supervisors	Starting from year 2013, the shortage become acute.
Draftsmen	The current supply of draftsmen is not sufficient. The problem will become serious in year 2013.
QS Technicians	The current supply of QS technicians is not sufficient to fulfil the forecast demand.
E&M Technicians	The shortage of E&M technicians will become acute in year 2013.

The Way Forward

An enhancement study will be carried out to improve accuracy of the forecasting models and expand the coverage of forecast.

Enquiries

Request for reading the full report or enquiry on this report may be made to the CIC Secretariat at:

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Thank you