

Average Monthly Earnings, Compensation of Employees and Unit Labour Cost: Key Concepts and Data Sources

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Introduction

Statistics on employee remuneration and labour costs are produced to meet different user needs. Employee remuneration could take such forms as employee earnings (e.g. average monthly earnings) and returns to labour from production (e.g. compensation of employees). Unit labour cost relates to a broader concept of labour cost to employers and notion of labour productivity. These macroeconomic aggregates are compiled based on administrative records and/or economic surveys.

This article explains the conceptual differences and data sources underlying the compilation of average monthly earnings, compensation of employees and unit labour cost.

Average Monthly Earnings

Average monthly earnings (AME) are compiled based on administrative records of the payroll of Central Provident Fund (CPF) contributors. The data include all full-time and part-time

employees who have contributed to CPF but exclude all identifiable self-employed persons who have made voluntary CPF contributions.

Conceptually, AME consists of all remuneration received before deduction of an employee's CPF contributions and personal income tax. These include basic wage, overtime payments, commissions, allowances and other monetary payments, annual wage supplement (AWS) and variable bonuses.

However, AME excludes employer's CPF contributions. AME also does not take into account certain benefits in kind (e.g. cost of training and medical benefits) and statutory levies on payroll (e.g. foreign worker levy¹, FWL and skill development levy², SDL).

While AME reflects the underlying trends of average employee earnings of Singapore citizens and permanent residents (PRs), it may not reflect the average nominal wage level of the overall economy. The administrative records on AME largely reflect the average nominal wage level of Singapore citizen and PR employees. However, the average nominal

1 Foreign Worker Levy (FWL) is a pricing control mechanism to regulate the demand of relatively unskilled foreign workers in Singapore. Every employer hiring a foreign worker under an S Pass or work permit is required to pay the FWL for each foreign worker hired on either pass.

2 Skills Development Levy (SDL) is paid by employers for all their employees up to the first S\$4,500 of the employees' gross monthly salary. The levy goes into the Skills Development Fund which is used by the Singapore Workforce Development Agency to encourage employers to send their workers for training.

wages of foreign workers holding work passes are not included in the computation of AME as these workers are not required to make CPF contributions³.

Likewise, AME may not be a good proxy of the average labour costs from the employers' perspective as remuneration of foreign workers and statutory levies on payroll are not reflected in the payrolls of CPF contributors.

Compensation of Employees

Compensation of employees (CoE) are estimated using data from administrative records (e.g. AME and employment statistics) and economic surveys (e.g. Census of Manufacturing Activities, Survey of Services and Survey of Financial Institutions) covering goods and services producing industries.

CoE is a national accounting concept measuring the income employers paid to employees for their services rendered. The United Nation's System of National Accounts⁴ (SNA) defines it as total remuneration, in cash or in kind, payable by an enterprise to an employee in return for work done in the period.

Similar to AME, CoE estimates comprise wages and salaries (including allowances and bonuses) and exclude incomes received by the self-employed persons. In the SNA, self-employed incomes are treated as mixed incomes⁵ and are classified under gross operating surplus in the Gross Domestic Product (GDP) by the income approach.

However, CoE is a broader concept of employee remuneration than AME, which includes employer's contribution to CPF, pension funds, payments for employee's insurance premiums and benefits in kind (e.g. medical and welfare benefits).

Data on CoE also include remuneration of foreigners working on work passes in Singapore. Hence, CoE reflects the returns to labour from production processes and is recorded as a component of income-based GDP.

CoE is generally considered a reasonably good proxy reflecting the underlying trends of total labour cost (TLC). Conceptually, TLC consists of CoE received by the employee and other labour-related costs (e.g. FWL and SDL) incurred by the employer (Chart 1). Based on the SNA, other labour-related costs are excluded from the compilation of CoE. However, it is generally observed that CoE accounts for most of TLC.

Unit Labour Cost

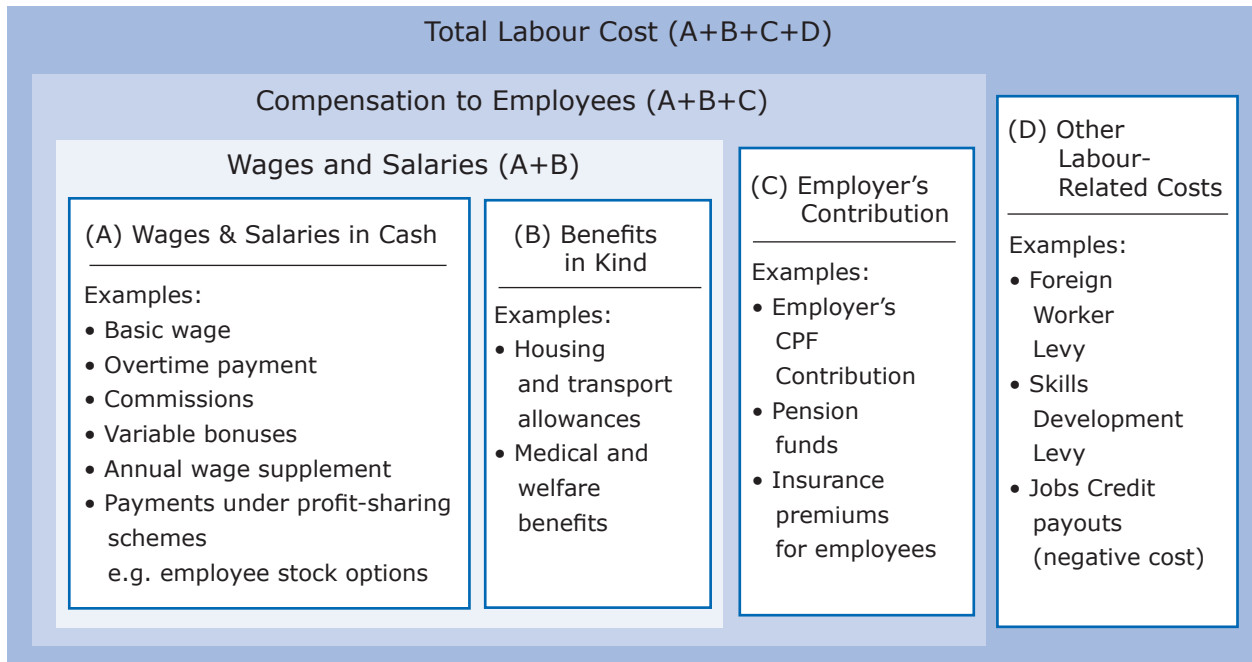
Unit labour cost (ULC) is compiled using both administrative records and economic surveys. It is defined as TLC per unit of real output. As explained, from the employer's perspective, the underlying concept of labour costs is broader than that of CoE (which is viewed more from the employee's perspective). Real value-added at basic prices is generally considered a good proxy of real output necessary for the compilation of ULC.

3 Since 1 August 1995, foreign workers on work passes and their employers are no longer required to make CPF contributions.

4 SNA is an international standard system of national accounts which provides an integrated, complete system accounts, facilitating international comparisons of all significant economic activity. For more information on the UN SNA, please refer to the website: <http://unstats.un.org/unsd/sna1993/introduction.asp>

5 Mixed incomes include remuneration for work done by the self-employed that cannot be separately identified from the returns to the self-employed as entrepreneurs.

CHART 1 CONCEPTUAL FRAMEWORK OF TOTAL LABOUR COST



Mathematically, ULC could be decomposed into average labour cost and real labour productivity as indicated in Equation (1).

From Equation (2), the change in ULC can be approximated as the difference between the change in average labour cost and real labour productivity.

Equation (3) reflects that, ULC, an important indicator of economic competitiveness, will

not rise so long as real labour productivity increases keep pace with labour cost increases.

It is worth noting that the Jobs Credit Scheme was recently introduced in Budget 2009 for one year to encourage businesses to preserve jobs of Singapore citizens and PRs in the current economic downturn. Jobs Credit payouts essentially reduce the costs to employers, and so are netted off from TLC.

$$ULC = \frac{\text{Total Labour Cost}}{\text{Real Value-Added}} \tag{1}$$

$$ULC = \frac{(\text{Total Labour Cost} / \text{No. of Workers})}{(\text{Real Value-Added} / \text{No. of Workers})} \tag{2}$$

$$\Delta ULC \cong \Delta \text{Average Labour Cost} - \Delta \text{Real Labour Productivity} \tag{3}$$

Conclusion

AME comprises of wages and salaries (including bonuses, allowances and commissions) in cash for Singapore citizens and PR employees. It excludes employer's CPF contributions, certain benefits in kinds (e.g. cost of training and medical benefits) and statutory levies on payroll.

CoE is a broader measure of employee remuneration than AME. Unlike AME, data on CoE include remuneration of foreigners working on work passes in Singapore. It comprises wages and salaries in cash and benefits in kind, employer's contribution to CPF and insurance schemes for employees but excludes other labour-related costs.

ULC relates to a broader concept of labour cost to employers (i.e. CoE and other labour-related costs) and notion of labour productivity.

Do You Know?

The Singapore Department of Statistics (DOS) publishes the quarterly ULC for the manufacturing industry and the overall economy.

ULC is an indicator of labour cost in Singapore. It also shows the relationship between average labour cost and real labour productivity when total employment is taken into account.

The quarterly ULC series can be obtained from:

- The Economic Survey of Singapore
- Yearbook of Statistics
- SingStat Time Series Online.

Overseas Visitors

The Singapore Department of Statistics (DOS) received the following visitors over the past six months.

Topics discussed included the collection methodology for international trade in services statistics in Singapore, use of technology for data collection and integration of databases, Singapore's statistical system and the conduct of Census of Population in Singapore.

Other topics of interest included methodology, collection, compilation and analysis of business sentiment surveys, estimation of income mobility metrics using longitudinal data and register-based statistical databases on population and dwellings.

Demonstrations on the tabulation of survey data and exploratory data analysis of sample surveys were also provided.