



### I. Administrative Set-Up

The Division of Trade Information and Economic Indices (DTIEI), Trade Policy and Strategy Office, Ministry of Commerce, oversaw ICP activities. The 2021 DTIEI ICP team comprised 18 officers from the DTIEI and 25 price collectors regularly compiling the consumer price index (CPI), the producer price index, the construction material index, and the export–import price index. The DTIEI also cooperated with several sources specializing in specific sectors to collect data, such as private consultants for machinery and equipment data, the Department of Public Works and Town and Country Planning for the resource mix of construction data, and the Comptroller General's Department for government compensation data. To manage issues on ICP matters, the DTIEI coordinated price collectors, data entry, price validation, and project-related activities. The National Economic and Social Development Board was also involved in the 2021 DTIEI ICP team compiling the estimation of GDP expenditure weights.

Because of the impact of the coronavirus disease (COVID-19) pandemic and government restrictions, most meetings and training between organizations and price collectors were held online. Only staff from the Bangkok metropolitan area physically attended the workshops. Household consumption data collection was also delayed by one quarter (Q) (Q2 of 2021–Q2 of 2022), and the backcasting method was used to adjust for these changes in the survey schedules.

### II. Use of Existing Infrastructure in Collecting International Comparison Program Data

The DTIEI used existing surveys such as the CPI, construction, machinery and equipment, and rental surveys to collect overlapping or closely related ICP items. Out of the 430 household consumption items in the CPI, prices for 222 items were used for the ICP. For some ICP items not covered by these surveys, price collectors conducted additional surveys at similar outlets.

For household consumption and housing rentals, selected provinces were chosen based on the CPI to reflect the purchasing habits of residents in urban and rural areas across five geographic regions of Thailand. Housing volume measures were derived from the 2021 Household Socio-Economic Survey, the Provincial Electricity Authority's 2021 Annual Report, extrapolations from the 2010 Population and Housing Census, and the Department of Provincial Administration data.

### III. Survey Framework

For household consumption items, surveys were conducted across 25 geographic locations, including urban and rural areas in all five regions: the Bangkok metropolitan area and the central, northern, northeastern, and southern regions. For the Bangkok metropolitan area, the ICP covered four districts in Bangkok and one boundary province, all classified as urban areas. For other regions, the ICP covered four urban areas and one rural area per region.

To select outlets with the highest market share within each area, outlets were analyzed and selected based on the volume of sales, location, and cooperation of a price informant or volunteer. Prices were collected weekly, monthly, and quarterly, depending on price movement patterns. For nonhousehold components, machinery and equipment items were collected annually, while some construction items were collected monthly from the Bureau of Trade and Economic Indices database and then converted to annual prices.

The housing rental survey—which covered all of Thailand—was conducted using the same CPI samples. The DTIEI ICP team verified that these samples were suitable for ICP purposes, ensuring that the types and sizes of dwellings matched the ICP catalogue.



### IV. Gross Domestic Product Expenditure Values

GDP expenditures included household and government consumption, GFCF, and net exports. Out of the 155 basic headings required in the ICP, GDP expenditure values were available for 144 basic headings:

- (i) There were 106 basic headings for individual consumption expenditure by households primarily sourced from the 2021. Household Socio-Economic Survey.
- (ii) Three basic headings for the individual consumption expenditure by nonprofit institutions serving households were based on the 2018 Nonprofit Organization Survey.
- (iii) There were 18 basic headings for individual consumption expenditure by government and four basic headings for collective consumption expenditure by government, using data from the Government Fiscal Management Information System's disbursement data based on the classification of the functions of government.
- (iv) There were 10 basic headings of GFCF (in line with the statistical classification of products by activity).
- (v) The basic heading of change in inventories used value-added tax and relevant details from the Individual/Household Consumption Expenditure Survey and imports–exports data to split capital formation.
- (vi) Two basic headings of exports and imports used data from the Bank of Thailand and Thai Customs.
- (vii) Statistical discrepancy was allocated to household, government, and capital formation estimates.

The GDP expenditure values for the remaining 11 basic headings were not estimated for the following reasons:

- (i) Thailand does not follow the classification of individual consumption according to purpose for individual consumption expenditure. While total estimates of net purchases abroad may be available, this cannot be separated from household estimates.
- (ii) Some items and informal economic activities were excluded from the GDP of Thailand.
- (iii) Government final consumption expenditure was not classified by basic heading under the housing item.
- (iv) In terms of GFCF, net acquisitions of valuables were not calculated. Changes in inventories were recorded as flows without beginning and ending stocks.

### V. Data Validation and Quality Control

Prices and data were meticulously checked by comparing them across different geographical areas based on product specifications. Prices with significant variations were flagged, and price collectors were requested to explain any unusual movements. Incorrect price data were corrected as necessary.

Data validation issues identified by the Asian Development Bank ICP team during intereconomy and regional validation workshops were addressed. Intraeconomy workshops were conducted to resolve specific issues. Additionally, prices of household products were further validated by comparing CPI items and data from the previous ICP cycle.

### VI. International Comparison Program Price Collection Tools

The ICP Asia Pacific Software Suite and Microsoft Excel were used to summarize data, analyze the results, validate the prices based on their movements, and identify errors in the data. The price collection tools used for machinery and equipment, construction, housing, and compensation enhanced convenience for users.



### VII. Challenges in the International Comparison Program Implementation

Overall, the most significant challenge in the household consumption component was the wide variation in product specifications, particularly the unit of measure, quality, brand, and size across regions in Thailand. This considerably contributed to the high variation in national prices. To address this issue, the staff identified unusual prices, requested explanations from price collectors, and conducted a field survey in specific areas when necessary.

In the case of machinery and equipment, a similar difficulty was encountered because of rapid changes in the specifications of technological equipment, making it challenging to identify the exact specification (or closely similar ones) as indicated in the product catalogue. Obstacles related to the unit of measure for machinery and equipment and construction further complicated the process. Some large machines are not commonly imported to Thailand, leading to higher made-to-order prices. Additionally, some catalog items were outdated, and finding unspecified items with similar specifications and within an acceptable price range compared to other economies proved challenging.

The 2021 ICP cycle was quite challenging because of the impacts of COVID-19, resulting in the following changes:

- (i) Work schedule changes: Price collection was delayed and extended to 2022. Consequently, the backcasting method was used to carry out these changed survey schedules.
- (ii) Method and price changes:
  - (a) Clothing and footwear. Stores were closed in shopping malls during lockdowns. Thus, some prices were collected through online outlets.
  - (b) Health. Social distancing led to limitations in data collection, so prices were collected through phone calls and online systems. Prices of hand sanitizers (alcohol gel) and face masks drastically increased because of strong demand and supply shortages.
  - (c) Transport. Public transport was suspended during lockdown, prompting price collection through phone calls and online systems. Furthermore, some fares increased because of limited seating and social distancing measures.
  - (d) Education. Educational institutions and tutorial classes shifted to online learning, so prices were collected through phone calls and online systems.
  - (e) Restaurants and hotels. Physical stores were temporarily closed, and service was limited to take-out only. Therefore, prices were collected through phone calls and online systems.
- (iii) Human resources: Staff shortages from infection or illness significantly increased the workload. This was the main factor affecting implementation and delaying ICP activities and operations.

### VIII. Lessons Learned and Future Directions

To increase the overlap between CPI and ICP items, the DTIEI may consider including some ICP products and initiating the structured product description system into the CPI. The DTIEI will hold more intensive training for price collectors to further familiarize them with the ICP specifications, especially the units of measurement. There is also a need to correctly translate the operational guidelines, product lists, and product catalogue into the local (Thai) language. The DTIEI will consider conducting subnational PPP following ICP regional implementation and guidelines, so support from the ICP regional implementing agency will be advantageous. For surveys on machinery and equipment and construction, training from international experts will help better understand the product specifications and validate the prices, thus improving the quality of price data.

*Prepared by the Division of Trade Information and Economic Indices (Valaiphon Chiang-Ngoen, Sirinapa Chuaytruektrong, Pathamaporn Duangboonma, Chawisa Pisanwacharin, Supasiri Rittiron, Jindarat Shibue, Kittisak Sirikhun, Tanaporn Sriklay, Jiraphat Sukantamala, and Patchareeya Tanomchit); edited by the Asian Development Bank ICP team and Melanie Kelleher.*



## Annex 2: List of Members of Core International Comparison Program Team (Division of Trade Information and Economic Indices)

Name	Title	Responsibility
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Wanviga Parktoop	Trade Officer	Deputy National Coordinator (2021–September 2023) National Coordinator (September–December 2023)
Tanaporn Sriklay	Trade Officer	Deputy National Coordinator (September – December 2023)
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Sirinapa Chuaytruektrong	Trade Officer	Household Sector
Pathamaporn Duangboonma	Trade Officer	Household Sector
Jarunee Jindaphaisarn	Trade Officer	Household Sector
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Name	Title	Responsibility
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Siriwan Tongsakul	Trade Officer	Machinery and Equipment Sector
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Wanviga Parktoop	Trade Officer	Government Compensation Sector
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Jindarat Shibue	Plan and Policy Analyst	Gross Domestic Product
Kittisak Sirikhun	Plan and Policy Analyst	Gross Domestic Product