

PRODUCING EXPORT AND IMPORT PRICE INDICES (XMPI) IN BHUTAN

Documentation of process
and results



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This is a study of how the Bhutan National Statistics Bureau began producing Import and Export Price Indices (XMPI) using existing administrative data. This was made possible through support from the Regional Programme on Economics Statistics in Asia and the Pacific run by United Nations Economic and Social Commission for Asia and the Pacific (ESCAP)

and supported by Department for International Development (DFID). This study was developed by the National Statistics Bureau (NSB) of Bhutan and ESCAP. It documents the context and process followed to support other countries thinking of producing XMPIs. This is one of five studies of successful projects and aims to advance statistics in Asia and the Pacific through shared knowledge and experience.

Authors:

Penjor Gyeltshen and Bikash Gurung (NSB, Bhutan), Michael Biddington and Jessica Gardner (ESCAP)

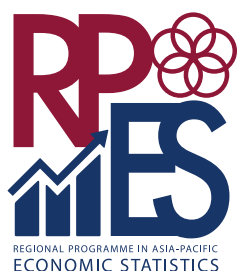
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Rikke Munk Hansen and Eileen P. Capilit (ESCAP)

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Acronyms

BTC	Bhutan Trade Classification
CIF	Cost, Insurance and Freight
CPI	Consumer Price Index
CV	Coefficient of Variation
DFID	Department of International Development
DRC	Department of Revenue and Customs
FOB	Free-on-board
GDP	Gross Domestic Product
NSB	National Statistics Bureau
PPI	Producer Price Index
RPES	Regional Programme on Economic Statistics
UNESCAP	United Nation Economic and Social Commission for Asia and the Pacific
US IPI	United States Import Price Index
XMPI	Export and Import Price Index

I. EXECUTIVE SUMMARY

Export and Import Price Indices (XMPIs) are needed to strengthen the economic statistics of Bhutan. Historically, Bhutan used the Consumer Price Index (CPI) to deflate the import and export components of the Gross Domestic Product (GDP). This approach resulted in biased results as CPI is meant to capture changes in prices of goods and services consumed by households rather than movements of prices of goods and services that went into external trade. The basket of goods and services used for CPI compilation is therefore not suitable as the basis for deflating import and export components of the GDP and will give a different result to using XMPIs.

In Bhutan, exports of electricity comprise about 40% of total exports and only around 2% of the total household expenditure in the CPI. This implies that if export prices fluctuate, this may not be significantly felt by households and would have little impact on the overall CPI given the small share of electricity in the CPI. Even if electricity prices for both exports and households change in the same way at the same time, total XMPIs and the total CPI will vary substantially due to the different shares of electricity.

As an import-driven economy, XMPIs are extremely useful for Bhutan, serving as an indicator of inflationary trend expected to impact consumers. Any increase in the price of imported commodities at the point of entry will be passed on to final consumers. XMPIs will alert both consumers and policy makers about the expected inflation in the market and help develop interventions to control it.

Steps involved in producing the XMPIs

The National Statistics Bureau (NSB) and the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) worked together on the project, commencing in 2017. Developing the Bhutan XMPIs involved six steps:

1. Data assessment – establish the project team which included an international expert, NSB staff and ESCAP; assess data availability and suitability, document methodology and train NSB staff in how to compile XMPIs.
2. Consultation – solicit inputs from data suppliers in the Department of Revenue and Customs (DRC) and data users in the NSB's national accounts team.
3. System development and pre-test – the NSB staff together with the international consultant prepared detailed documentation and an Excel spreadsheet for NSB to compile the data and produce the index.
4. Data compilation – data from the Department of Revenue and Customs, the Druk Green Power Corporation, inputs to the Producer Price Index and from the United States Price Index were compiled.
5. Data processing, estimations and validations – data processed, and limitations of data assessed, validated and edited to ensure an accurate and reliable XMPIs. Various checks and adjustments made.

6. Training and documentation - The NSB team was trained in each step of the process so they could continue the work independently. Detailed documentation of the steps and process involved in producing the index was developed to support institutionalization; ensure consistency in producing the XMPIs; and continuity when there is staff turnover in the future.

Outcomes and lessons learned

The estimated XMPIs from 2014 produced quite different results to the CPI that had previously been used as deflators for imports and exports in the GDP. Apart from being a more appropriate deflator for national accounts, the XMPIs are also useful to signal market changes likely to flow to consumer level in time for policy interventions.

The project has strengthened economic statistics in Bhutan and provided valuable capacity development for the NSB Prices Team in particular.

Lessons learnt and recommendations for others:

- Trade statistics from administrative sources are fit for XMPI
- Building on existing systems is practical and requires minimal training
- Establishing strong relationships, trust and institutional mechanisms among agencies are fundamental to regularly producing the XMPI
- Working with experts accelerates capacity development
- Detailed documentation is necessary to guide institutes in their current and future work

II. BACKGROUND AND CONTEXT

The National Statistics Bureau (NSB) is the main agency responsible for producing statistics to support evidence-based decision making in Bhutan. One of its responsibilities is to produce economic statistics to monitor and assist government in framing policy for sustainable economic development. Price statistics provide an important macroeconomic indicator for monetary and fiscal policy making. NSB currently compiles the monthly consumer price index (CPI) and the quarterly Producer Price Index (PPI) only.

Producing Export and Import Price Indices (XMPIs) for Bhutan is an important step in strengthening the economic statistics of the country and will substantially improve GDP estimates. The need for XMPIs was recommended in an assessment of the Bhutan Statistical System conducted by ESCAP in 2011. The index is part of the core set of economic statistics measuring average price change of goods and services exported and imported. It also serves as fundamental input to the national accounts as a deflator to measure exports and imports and their corresponding growth rates at real or constant prices.

electricity increases it has a substantial impact on the total export index but not necessarily the overall CPI, unless the cost to household changes by a significantly higher magnitude (rate) than the export index. Even if both prices increase equally at the same time, the total or aggregated XMPI and the CPI will vary substantially due to the different share electricity has of the total value.

As an import-driven economy, XMPIs are extremely useful for Bhutan as an indicator of the inflationary trend expected to occur at the consumer level. Any increase in the price of imported commodities at the point of entry will be passed on to final consumers. XMPIs will alert both consumers and policymakers about the expected inflation in the market and help in developing interventions to control it.

Good quality administrative data makes it relatively easy to produce the XMPIs. In the case of Bhutan, the Department of Revenue and Customs (DRC) compiles and publishes trade statistics quarterly. Using these data, NSB could develop the index without additional resources for data collection. The DRC data contains information

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