

OECD-ADB-ESCAP WORKSHOP, BANGKOK, 22-26 OCTOBER, 2001

Composite Leading Indicators and Business Tendency Surveys: *Summary Report*

Organisation.

1. The Workshop was held from 22 to 26 October at the UN Conference Centre, Bangkok. It was jointly sponsored by the Organisation for Economic Co-operation and Development, the Asian Development Bank and the UN Economic and Social Commission for Asia and the Pacific. The following countries participated: China, Hong Kong SAR, India, Indonesia, Lao PDR, Malaysia, Philippines, Republic of Korea, Singapore, Thailand, Vietnam.
2. There were two parts to the Workshop: two days for progress reports on implementation of harmonised business tendency surveys in Asia and three days for training in composite leading indicators.

Progress report on implementation of harmonised business tendency surveys in Asia.

3. OECD staff introduced the OECD-EU harmonised business tendency survey programme at the first workshop in Manila, 1999. A second workshop was held in 2000 in Bangkok, at which, the ADB initiated a regional technical assistance project (*RETA*) which provided funds for five countries to introduce harmonised business tendency surveys on a pilot basis: India, Indonesia, the Philippines, Thailand and Vietnam. Other countries not covered by the *RETA* also decided to move towards the harmonised BTS format, including Malaysia, China and Lao PDR. At this third workshop, participants reported their progress since the 2000 meeting. Table 1 summarises the main features of business tendency surveys in Asia; Table 2 summarises the progress that has been made towards harmonisation over the last two years.
4. Points that came up in discussion:
 - Business tendency surveys in several Asian countries cover several industrial sectors. The harmonised system has separate questionnaires for *industry, trade, construction* and *other sectors*. Several questions are specific to particular kinds of activities so that it is difficult to design a single questionnaire for a broad group of industries. The recommended solution is to confine the survey to a single kind of activity and OECD countries have found that *industry* (mining, manufacturing, electricity, gas and water) is the best sector to start with as it is usually the most cyclical.
 - The harmonised form of the questions usually ask respondents to ignore seasonal factors in comparing demand, order books, prices, etc., with the situation in previous or future periods. Some participants felt that respondents could not properly take account of seasonal variations and it would be better to drop this part of the question. Most, though not all, surveys in OECD countries ask respondents to ignore seasonal variations although this remains an area where further research into respondent behaviour is called for. The experience with surveys that ask respondents to discount seasonal factors is that the results are subject to less seasonal variation although it is not totally eliminated.

- Surveys in some countries have long histories. Users are comfortable with the existing questionnaires and may be disconcerted if existing questions are replaced by the new harmonised versions. It was suggested that one possibility would be to run the two sets of questions in parallel for a few periods so that users understand the differences in response to the old and the new harmonised versions.
- Several participants requested advice on how to analyse results of business tendency surveys and how to present them. For example, what are the relative merits of diffusion indices compared with the net balance method; how are replies to be interpreted to questions that refer to a moving, rather than to a fixed, base period?

Training in composite leading indicators.

5. The OECD Secretariat has developed a set of composite leading indicators (CLIs) for its Member countries. The indicator for each country is made up by combining several statistical series that have, in the past, shown cyclical patterns that predate cycles in industrial production by about six months. Because movements in industrial production are highly correlated with movements in Gross Domestic Product the CLIs can predict turning points in GDP, as well as industrial production, with a lead of approximately 6 months.

6. The OECD System of CLIs makes use of "qualitative" information from business tendency surveys as well as monetary and financial variables and statistics on trade, employment, transport, etc. The selection is different for each country but in all cases they include qualitative series from business tendency surveys. These are forward-looking data and they have been found to have good predictive value in all countries. The OECD-ADB-ESCAP programme to encourage wider use of business tendency surveys is thus closely linked with development of composite leading indicators.

7. The training programme was organised around two software packages - *Demetra* which is used for seasonal adjustment of sub-annual statistics and which has been developed by Eurostat, and the *Composite Indicator* software developed by the OECD. For the training session, all participants were provided with PCs, the two software packages and user manuals. The training covered:

- Introduction to the theory of seasonal adjustment and description of X12-RegARIMA, and TRAMO-SEATS;
- Practical application of *Demetra* for seasonal adjustment and relative merits of the two seasonal adjustment methods;
- Introduction to the theory of composite indicators (leading indicators in particular) and description of the OECD system;
- Use of the OECD *Composite Indicator* programme for:
 - Selection of the reference series - GDP, industrial production, or coincident indicators,
 - Definition of the reference cycle by establishing turning points in reference series,
 - Selection of potential leading indicator series and estimation of turning points,
 - Criteria for identifying stable leading indicator series,
 - Standardisation of amplitudes for selected leading indicator series,

- Aggregation (weighted or unweighted) to obtain a composite leading indicator.

8. The participants successfully completed all stages in the training course. Working with a standard set of data, participants were able to construct at least one composite leading indicator. These were then compared with the CLI that had been developed by OECD staff using the same data set.

9. Two participants had already worked on the construction of leading indicators and were invited to share their experience. In China, Mr Shi Faqi of the NBS has constructed CLIs in co-operation with the OECD; in Malaysia, Mr Mohd Yazid Kasim of the Department of Statistics has worked with the US Conference Board to construct leading indicators for Malaysia.

Future programme

10. The participants were unanimous that a further similar workshop in twelve months time would be essential to review further progress with the harmonised BTS and to consolidate the CLI training.

11. As regards **business tendency surveys**, Tables 1 and 2 show that several of the new surveys have only just started. Exchange of experience would be particularly valuable on issues such as sample selection, relations with respondents, improving response rates, collection methods (electronic, paper, fax etc.) data editing and data analysis.

12. As regards **composite leading indicators**, participants at the training session worked with a set of data that had been "pre-selected" by OECD staff and which had already been seasonally adjusted. In working with their own data, participants will need to:

- review what short-term economic series are available in their own countries;
- adjust them for seasonal variations (*Demetra*); and
- run the OECD *Composite Indicator* programme to date the business cycle, find turning points in candidate series and combine the selected series to form composite indicators.

13. At the next meeting, participants will exchange their experience, describe problems and solutions and present preliminary CLIs for their countries.

14. In response to the request by participants for a further meeting, the Secretariats of ESCAP, ADB and OECD agreed to investigate the possibilities of holding a workshop towards the end of 2002. It could take place in Bangkok and would have two main agenda items - composite leading indicators and business tendency surveys.

Supply of BTS results to OECD

15. As noted above, several participants requested advice on how to analyse and present results of business tendency surveys. For this purpose, countries will send to the OECD Excel files containing historical data (balances) from business tendency survey (series corresponding to the harmonised questions). These will be used by the OECD for the preparation of papers for a future workshop on the analysis, interpretation and presentation of business tendency survey data.

16. Countries will send above requested data on a regular basis to the OECD. These data will be stored in a global database with BTS data for both OECD Member countries and non-member countries. These data will be made available via the OECD web site to all countries and institutions contributing to the development of this database.

Table 1. Business tendency surveys in Asia/Pacific region: Survey characteristics

Country/ institute	Start year	Survey periodicity	Sample size	Response Rate (%)	Sector coverage			
					Industry	Construct -ion	Retail trade	Other
China P.R.								
NBS	1994	Quarterly	15 000	90	yes	yes	yes	services
SIC	1990	Quarterly	5 000	na	yes	no	no	no
Bank	1990	Quarterly	5 000	na	yes	no	no	no
China H-K								
NSO	1990	Bi-annual	300	na	yes	yes	no	services
India								
NCAER	1991	Quarterly	1 500	12-23	yes	no	no	no
Bank	1998	Quarterly	2 500	30	yes	no	no	banking
Indonesia								
NSO	1996	Quarterly	na	na	yes	yes	yes	services
Bank	1993	Quarterly	1 000	70-75	yes	yes	yes	services
Korea								
Bank	1991	Quarterly	2 893	90	yes	yes	yes	services
Malaysia								
NSO	1976	Bi-annual	270	100	yes	yes	yes	services
Bank	1976	Quarterly	270		yes	yes	yes	services
MIER	na	Quarterly	750	100	yes	no	no	no
FMM	na	Quarterly	151	na	yes	no	no	no
Bank	na	Annual	421	61-63	yes	yes	no	no
Philippines								
NSO	1999	Annual	112	83	yes	no	no	exporters
Bank	1986	Bi-annual	725	na	yes	yes	yes	services
Singapore								
NSO	1975	Quarterly	1 250	90	no	no	yes	services
Thailand								
NSO	2000	Annual	30 000	na	yes	no	no	no
Bank	1999	Monthly	1 150	35	yes	no	yes	services
Ministry	1993	Quarterly	1 140	60	yes	no	yes	services
NESD	1998	Quarterly	500	20-25	yes	yes	yes	services
Vietnam								
NSO	2000	Monthly	500	na	yes	yes	yes	no

Table 2. Progress with Harmonisation of Business Tendency Surveys in Asia/Pacific region

Country/ institute	Start year	Survey periodicity	New Periodicity or New Survey	Coverage of Harmonised Questions in %		Number of Questions with Harmonised Format in %	
				2000	2001	2000	2001
RETA Financed Institutions							
India							
NCAER	1991	Quarterly	Pilot	0	69	0	7
Indonesia							
NSO	1996	Quarterly	Pilot*	0	100	0	100
Philippines							
Bank	1986	Bi-annual	Quarterly	15	92	8	54
Thailand							
Bank	1999	Monthly		46	92	0	54
Vietnam							
NSO	2000	Monthly		85	100	77	85
Other Institutions							
China P.R.							
NBS	1994	Quarterly		85	100	46	92
SIC	1990	Quarterly		84	84	53	53
China H-K							
NSO	1990	Bi-annual		46	46	0	0
India							
Bank	1998	Quarterly		92	92	38	38
Indonesia							
Bank	1993	Quarterly		30		15	
Korea							
Bank	1991	Quarterly	Monthly	61	46*	23	23*
Lao PDR							
NSO	2001		Pilot		100		100
Malaysia							
NSO	2001		Pilot		77		77
Singapore							
NSO	1975	Quarterly		35	35	35	35
Thailand							
NESD	1998	Quarterly		69	69	23	23