

The logo of the Asian Development Bank (ADB), consisting of the letters 'ADB' in a white serif font inside a black square.

Technical Assistance Report

Project Number: 51333-001
Knowledge and Support Technical Assistance (KSTA)
June 2018

Deepening Understanding of Macroeconomic Fluctuations in Developing Member Countries for Improved Economic Assessment

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Asian Development Bank

ABBREVIATIONS

ADB	–	Asian Development Bank
ADO	–	<i>Asian Development Outlook</i>
DMC	–	developing member country
TA	–	technical assistance

NOTE

In this report, “\$” refers to United States dollars.

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CONTENTS

	Page
KNOWLEDGE AND SUPPORT TECHNICAL ASSISTANCE AT A GLANCE	
I. INTRODUCTION	1
II. ISSUES	1
III. THE TECHNICAL ASSISTANCE	2
A. Impact and Outcome	2
B. Outputs, Methods, and Activities	2
C. Cost and Financing	3
D. Implementation Arrangements	3
IV. THE PRESIDENT'S DECISION	4
APPENDIXES	
1. Design and Monitoring Framework	5
2. Cost Estimates and Financing Plan	8
3. List of Linked Documents	9

KNOWLEDGE AND SUPPORT TECHNICAL ASSISTANCE AT A GLANCE

1. Basic Data		Project Number: 51333-001
Project Name	Deepening Understanding of Macroeconomic Fluctuations in Developing Member Countries for Improved Economic Assessment	Department/Division ERCD/ERMR
Nature of Activity Modality	Research and Development Regular	Executing Agency Asian Development Bank
Country	REG (INO, THA)	
2. Sector	Subsector(s)	ADB Financing (\$ million)
✓ Public sector management	Economic affairs management	0.50
	Total	0.50
3. Strategic Agenda	Subcomponents	Climate Change Information
Inclusive economic growth (IEG) Regional integration (RCI)	Pillar 1: Economic opportunities, including jobs, created and expanded Pillar 2: Trade and investment Pillar 3: Money and finance	Climate Change impact on the Project Low
4. Drivers of Change	Components	Gender Equity and Mainstreaming
Governance and capacity development (GCD) Knowledge solutions (KNS)	Institutional development Knowledge sharing activities	No gender elements (NGE) ✓
5. Poverty and SDG Targeting		Location Impact
Geographic Targeting Household Targeting SDG Targeting SDG Goals	No No Yes SDG8	Regional High
6. Risk Categorization	Low	
7. Safeguard Categorization	Safeguard Policy Statement does not apply	
8. Financing		
Modality and Sources		Amount (\$ million)
ADB		0.50
Knowledge and Support technical assistance: Technical Assistance Special Fund		0.50
Cofinancing		0.00
None		0.00
Counterpart		0.00
None		0.00
Total		0.50

I. INTRODUCTION

1. The knowledge and support technical assistance (TA) will create knowledge products that enhance the tools for conducting macroeconomic assessments at Asian Development Bank (ADB) headquarters. These products will be disseminated to developing member countries (DMCs), and ADB will support capacity building to provide DMC government officials with a deeper understanding of the patterns and sources of macroeconomic fluctuations. TA outputs will inform policy dialogue between ADB and its DMCs on macroeconomic management in Asian economies.
2. The TA is included in the management-approved annual work program for the Economic Research and Regional Cooperation Department as a research activity on monitoring and evaluating macroeconomic stability in DMCs.

II. ISSUES

3. In line with ADB's mission to serve as a partner and an agent for change in Asia and the Pacific, ADB must continue to expand its role as a knowledge bank that facilitates dialogue on important economic issues and policies among member countries. Recognizing the importance of macroeconomic stability in supporting other objectives such as inclusive growth and poverty reduction; and considering the rapidly changing global and regional economic environment, ADB must strengthen its capacity to conduct timely macroeconomic assessment, deepen its understanding of sources of volatility and risk, and improve the quality of policy dialogues with DMCs.
4. Previous efforts by ADB's research department to enhance macroeconomic assessment set-up a tool kit to gauge economic conditions in real time and forecast future developments. These tools, global projection model¹ for example, are periodically used in evaluations and analyses. The regional TA project Macroeconomic Modeling for Improved Economic Assessment laid the groundwork for undertaking periodic and timely monitoring of economic growth in DMCs.² Among other tools, the regional TA project developed "nowcasting"—a methodology that uses a variety of indicators to provide real-time updates on GDP growth. These updates, in turn, can be used to forecast short-term movements of aggregate economic activities.
5. The regional TA has supported 16 global baseline forecasts for *Asian Development Outlook* (ADO) publications since 2014, using the global projection model to inform ADB's regional assessments. ADB also used this model to conduct simulations to assess the implications of different risks, such as soft and hard landing scenarios of growth in the People's Republic of China, published in an ADB report³; and the risk of a sharper-than-expected interest rate hike in the United States, published in the 2017 ADO.⁴ Indonesia Resident Mission has been using the nowcasting model to support their growth forecasting since Q1 2016. ADB conducted workshops on monitoring economic growth to disseminate ADB work and facilitate the exchange of experiences among DMCs. ADB conducted other workshops on applying financial programming and policy, and forecasting macroeconomic trends using limited data. These activities strengthened the capacity of ADB and DMCs to conduct macroeconomic assessment,

¹ The global projection model was developed by the International Monetary Fund and maintained by the Global Projection Model Network, a team with expertise in forecasting and macromodeling.

² ADB. 2013. *Technical Assistance for Macroeconomic Modeling for Improved Economic Assessment*. Manila.

³ ADB 2016. *Structural Change and Moderating Growth in the People's Republic of China: Implications for Developing Asia and Beyond*. Manila

⁴ ADB. 2017. *Asian Development Outlook: Transcending the Middle-Income Challenge*. Manila.

and reinforced the importance of keeping the tool kit up-to-date to ensure that policy dialogue remained relevant.

6. The growth cycle of an economy—whether it is on an upswing, downswing, or turning point—is another crucial factor to consider when making policy recommendations. In line with an initial assessment of business cycles carried out under the earlier regional TA project, the knowledge and support TA project will further study macroeconomic fluctuations in Asian economies to support ADB's objective of enhancing macroeconomic stability in DMCs.

7. Developing economies in Asia experience frequent ups and downs in economic activity, which can create uncertainty for consumption and investment decisions, hamper growth and obstruct development objectives. Economies are exposed to frequent shocks, the nature and impact of which are still not fully understood. Because of weak data and other constraints, one's capacity to monitor fluctuations and predict macroeconomic cycles is also limited. A turbulent global economic environment creates additional challenges for those tasked with making accurate short-term forecasts.

8. The above factors limit one's understanding of which institutions, instruments, and interventions are most effective in promoting stability and reducing vulnerability to shocks. While some volatility is normal in market-oriented economies, the challenge for policy makers is to improve their ability to forecast and understand this volatility so that they can mitigate it through policy measures.

III. THE TECHNICAL ASSISTANCE

A. Impact and Outcome

9. The TA is aligned with the following impact: improved environment for policy dialogue with DMCs. The TA will have the following outcome: informed policy advice provided to DMCs through timely assessment of macroeconomic trends and deeper understanding of sources of fluctuations.⁵

B. Outputs, Methods, and Activities

10. **Output 1: Tools to monitor macroeconomic developments and analyze potential changes to ADB forecasts are enhanced.** Building on previous TA projects, the knowledge and support TA will improve macroeconomic assessment at ADB by (i) maintaining and extending monitoring activities from the earlier regional TA project, including subscription to CEIC Data Company; and (ii) undertaking research to understand the dynamics of economic cycles over time based on the chronology of business cycle turning points established under the earlier regional TA. The TA will develop empirical and structural tools to better explain macroeconomic fluctuations as inputs to policy analysis. Besides identifying the types of shocks that cause cycles, the models can also be used to identify which policies might effectively shorten an economic slowdown or lengthen an expansion; and stabilize excessive fluctuations in economic activity. Under the TA, the project team will select DMCs in Southeast Asia and East Asia as pilot cases for trialing economic monitoring tools. If the need arises and if sufficient data is available, the TA will consider extending these tools to economies in other subregions. ADB will publish the research and working papers and technical reports on its website. The updated analysis of business cycles will support the ADO publication series.

⁵ The design and monitoring framework is in Appendix 1.

11. **Output 2: Baseline of global economic environment and Asian economies assessed.** ADB will continue to use the global projection model and nowcasting tools to analyze trends in the global economic environment and in DMCs. These analyses, in turn, will inform ADB's regional assessments such as the ADO publication series. In addition, the project team will apply the business cycle analysis to assess economic cycles in the near term and gauge potential risks surrounding these cycles. The project team will select DMCs during TA implementation based on the availability of economic data. Technical reports and working papers created under this output will be published on the ADB website. Baseline scenarios for major industrialized economies and assessment of potential risks surrounding macroeconomic fluctuations will be part of the supporting materials for the ADO publication series and other ADB documents.

12. **Output 3: Capacity of ADB developing member countries to conduct economic assessments enhanced.** The TA project team will conduct training programs, seminars, workshops, and other capacity-building events for central bank and government officials in DMCs. These events will improve economic monitoring capacity within DMCs as well as improve the ability of ADB staff to conduct policy dialogue with DMCs. To disseminate knowledge and results to a wider audience, ADB staff will participate in external forums and conferences as resource persons, and will develop collaborations and knowledge partnerships to contribute to global best practices and enhance ADB's visibility as a knowledge bank. These activities will be articulated in post-mission reports.

C. Cost and Financing

13. The TA is estimated to cost \$500,000, which will be financed on a grant basis by ADB's Technical Assistance Special Fund (TASF 6). The key expenditure items are listed in Appendix 2.

D. Implementation Arrangements

14. ADB will administer the TA. The Macroeconomics Research Division of the Economic Research and Regional Cooperation Department will be directly responsible for TA administration and supervision, management of consultants, procurement, and accomplishment of outputs. Knowledge partnerships may be considered in the implementation of this TA and will be done in accordance with the Staff Instruction on Business Processes for Knowledge Partnerships under Technical Assistance Operations, whenever appropriate.⁶ The project will be implemented from July 2018 and will be completed by June 2020.

15. The implementation arrangements are summarized in the table.

Implementation Arrangements

Aspects	Arrangements		
Indicative implementation period	July 2018–June 2020		
Executing agency	ADB		
Consultants	To be selected and engaged by ADB		
	Selection method	Selection title	Amount

⁶ ADB. 2017. Staff Instruction on Business Processes for Knowledge Partnerships under Technical Assistance Operations. *Compendium of Staff Instructions*. Manila.

Aspects	Arrangements		
	ICS	International (7 person-months)	\$108,000
	ICS	National (36 person-months)	\$60,000
Procurement ^a	To be procured by ADB		
	Direct contracting	3 contracts	\$20,000
	RFQ	2 contracts	\$12,000
Disbursement	The TA resources will be disbursed following ADB's <i>Technical Assistance Disbursement Handbook</i> (2010, as amended from time to time).		
Asset turnover or disposal arrangement upon TA completion	After TA completion, any procured equipment will be disposed of in accordance with Project Administration Instructions 5.09. ^b		

ADB = Asian Development Bank, ICS = individual consultant selection, RFQ = request for quotation, TA = technical assistance.

^a ADB Procurement Policy (2017, as amended from time to time).

^b ADB. 2013. Administering Grant-Financed Technical Assistance Projects. *Project Administration Instructions*. PAI 5.09. Manila.

Source: Asian Development Bank estimates.

16. **Consulting services.** ADB will engage the consultants individually following ADB's Procurement Policy (2017, as amended from time to time) and its associated project administration instructions and/or staff instructions.⁷ Lump-sum payments and output-based contracts will be considered for consulting services. Disbursement under the TA will be in accordance with ADB's *Technical Assistance Disbursement Handbook* (2010, as amended from time to time).

17. **ADB's procurement.** The TA will subscribe to database services from CEIC Data Company for macroeconomic data needed for business cycle tracking. The TA will also procure Eviews software to supplement MATLAB in data processing and analysis as well as laptops capable of processing vast amounts of data. Procurement of most goods and equipment will follow ADB's Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time).

18. **Social media and websites.** The project team will update the website of business cycle databases in a timely manner. The project team will explore other sources of financing for the maintenance of the website before the closing of the project if strong demand for business cycle tracking persists.

IV. THE PRESIDENT'S DECISION

19. The President, acting under the authority delegated by the Board, has approved the provision of technical assistance not exceeding the equivalent of \$500,000 on a grant basis for Deepening Understanding of Macroeconomic Fluctuations in Developing Member Countries for Improved Economic Assessment, and hereby reports this action to the Board.

⁷ Terms of reference for consultants are accessible from the list of linked documents in Appendix 3.

DESIGN AND MONITORING FRAMEWORK

Impact the TA is Aligned with Improved environment for policy dialogue with the DMCs (defined by project).			
Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
<p>Outcome</p> <p>Informed policy advice provided to DMCs through timely assessment of macroeconomic trends and deeper understanding of sources of fluctuations.</p>	<p>By 2019</p> <p>a. Assumptions on global macroeconomic prospects used as the basis for at least four economic projections in ADO publications and other ADB documents (Baseline: four in 2017)</p> <p>b. At least one project-supported assessment of macroeconomic fluctuations is used to guide and evaluate economic analysis and forecasts for selected DMCs per year (Baseline: 0)</p>	<p>a. ADO publication series and other ADB documents</p> <p>b. ADO publication series and other ADB documents</p>	<p>Data and information available from selected DMCs is inaccurate or not provided in a timely manner.</p> <p>Unforeseen large shocks that change the underlying structure of the global economy.</p>
<p>Outputs</p> <p>1. Tools to monitor macroeconomic developments and analyze potential changes to ADB forecasts are enhanced.</p>	<p>By 2018–2020</p> <p>1a. Maintain at least three completed nowcast models for selected DMCs, and expand to other DMCs as demand requires (Baseline: three DMCs in 2017)</p> <p>1b. Maintain and update business cycle tracking for at least nine DMCs (Baseline: nine DMCs in 2017)</p> <p>1c. At least one usable tool to identify causes of macroeconomic fluctuations and conduct policy analysis (Baseline: 0)</p>	<p>1a. Technical reports and working papers</p> <p>1b. ADO publication series, working paper, and website</p> <p>1c. Working paper series</p>	<p>Quality data is lacking, requiring further processing to make data consistent for use in analysis.</p> <p>Changes in statistical methods and/or measurements from official sources.</p> <p>Unforeseen changes in staff availability, time, and resources allocated to produce required outputs.</p> <p>Uncertain demand for nowcasting tools by other DMCs.</p>

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting Mechanisms	Risks
<p>2. Baseline of global economic environment and Asian economies assessed.</p> <p>3. Capacity of ADB DMCs to conduct economic assessments enhanced.</p>	<p>1d. At least two research papers and/or policy briefs on aspects of assessing macroeconomic fluctuations published (Baseline: 0)</p> <p>2a. Maintain at least four baseline scenarios per year for major industrialized economies using global projection model (Baseline: four in 2017)</p> <p>2b. Near-term growth assessment for at least one DMC (Baseline: one DMC in 2017)</p> <p>2c. Assessment of at least one DMC's position in business cycle per year (Baseline: one in 2017)</p> <p>2d. Conduct at least one assessment per year of scenarios on potential risks surrounding macroeconomic fluctuations (Baseline: one in 2017)</p> <p>3a. Conduct at least four training programs, workshops, or seminars for DMCs on assessing macroeconomic trends (Baseline: 0)</p>	<p>1d. Technical reports and working papers</p> <p>2a. ADO publication series and other ADB documents</p> <p>2b. Technical reports and working papers</p> <p>2c. ADO publication series and other ADB documents</p> <p>2d. ADO publication series and other ADB documents</p> <p>3a. Post-mission reports</p>	

<p>Key Activities with Milestones</p> <p>1. Tools to monitor macroeconomic developments and analyze potential changes to ADB forecasts are enhanced.</p> <p>1.1 Maintain and enhance the nowcasting macroeconomic monitoring tools (July 2018–June 2020)</p> <p>1.2 Maintain and update business cycle tracking for selected DMCs (July 2018–June 2020)</p> <p>1.3 Develop tools to identify causes of macroeconomic fluctuations and conduct policy analysis (July 2018–June 2019)</p> <p>1.4 Develop a website for tracking the chronology and other features of business cycles (July 2019–June 2020)</p> <p>1.5 Document procedures in developing tools and write working paper(s) (July 2018–June 2020)</p> <p>2. Baseline of global economic environment and Asian economies assessed.</p> <p>2.1 Fine-tune the global projection model and generate short- to medium-term forecasts (July 2018–June 2020)</p> <p>2.2 Update near-term growth assessment and forecast for selected DMCs (July 2018–June 2020)</p> <p>2.3 Assess potential risks surrounding macroeconomic fluctuations (July 2019–June 2020)</p> <p>3. Capacity of ADB developing member countries to conduct economic assessments enhanced.</p> <p>3.1 Conduct training programs, workshops, or seminars for ADB staff and DMCs on assessing macroeconomic trends (July 2019–June 2020)</p> <p>3.2 Participate in external seminars and conferences (July 2019–June 2020)</p>
<p>Project Management Activities</p> <p>Engage resource persons and consultants (July 2018–June 2019)</p> <p>Procure information technology equipment and information and knowledge services (July 2018–June 2019)</p>
<p>Inputs</p> <p>ADB: \$500,000</p>
<p>Assumptions for Partner Financing</p> <p>Not applicable.</p>

ADB = Asian Development Bank, ADO = Asian Development Outlook, DMC = developing member country.
Source: Asian Development Bank.

COST ESTIMATES AND FINANCING PLAN
(\$'000)

Item	Amount
Asian Development Bank^a	
1. Consultants	
a. Remuneration and per diem	
i. International consultants	108.0
ii. National consultants	60.0
b. International and local travel ^b	50.0
2. Goods ^c	5.0
3. Training, seminars, and conferences ^d	220.0
4. Miscellaneous administration and support costs ^e	27.0
5. Contingencies	30.0
Total	500.0

^a Financed by the Technical Assistance Special Fund (TASF 6) of the Asian Development Bank (ADB).

^b Includes airfare, incidentals, and per diem.

^c Includes purchase of laptops and other computer hardware. The procurement of goods will be done in accordance with ADB's Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time).

^d Includes (i) travel expenses and per diem of ADB staff as resource persons or speakers in international conferences and/or forums to present technical assistance results; (ii) travel expenses and per diem of ADB staff to provide support services in implementing and administering workshops; (iii) honoraria, per diem, and other travel-related expenses of resource persons; (iv) participants' travel costs and per diem; (v) costs of conducting workshops, meetings, and training sessions; (vi) relevant costs, including representation expenses; (vii) costs of snacks served during training sessions, workshops, or conferences for all participants, including ADB staff participants; and (viii) other related costs.

^e Includes subscription to CEIC Data Company, communications, and others.

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/LinkedDocs/?id=51333-001-TAReport>

1. Terms of Reference for Consultants