ADB

ERD Policy Brief

ECONOMICS AND RESEARCH DEPARTMENT

SERIES No. 28

Higher Oil Prices: Asian Perspectives and Implications for 2004-2005

Cyn-Young Park

Asian Development Bank
http://www.adb.org/Economics

June 2004

Asian Development Bank
6 ADB Avenue, Mandaluyong City
P.O. Box 789
0980 Manila, Philippines
http://www.adb.org/Economics
ISSN: 1655-5260

Printed in the Philippines

Asian Development Bank
P.O. Box 789
0980 Manila
Philippines

June 2004
ISSN 1655-5260

The **ERD Policy Brief Series** is based on papers or notes prepared by ADB staff and their resource persons. The series is designed to provide concise nontechnical accounts of policy issues of topical interest to ADB management, Board of Directors, and staff. Though prepared primarily for internal readership within the ADB, the series may be accessed by interested external readers. Feedback is welcome via e-mail (policybriefs@adb.org). The views expressed herein are those of the authors and do not necessarily reflect the views or policies of the ADB.

ERD POLICY BRIEF NO. 28

Higher Oil Prices: Asian Perspectives and Implications for 2004-2005

Cyn-Young Park

June 2004

Cyn-Young Park is an economist in the Macroeconomics and Finance Research Division of the Economics and Research Department, Asian Development Bank. The author thanks Ifzal Ali, Jean-Pierre Verbiest, and Douglas Brooks for their valuable comments. The author also thanks Lea Sumulong for research assistance.

Introduction

Higher oil prices are descending upon the nascent global economic recovery. Strong demand growth driven by the global recovery, combined with continuing instability in the Middle East, appears to underpin the oil price rally. The latest data on oil production and consumption from the International Energy Agency (IEA) suggest that tight supply conditions continue on higher than expected growth in global demand, partly reflecting fast-growing energy demand from Asia. Given the relatively low inventory level and the limited refinery capacity, effects of supply interruption can be quite detrimental, which spurs speculative activities. The risk premium on fear of terror in addition to the tight market outlook appears to send the price of oil futures even higher in the short run. The development in the futures market—partly responsible for the hike of oil prices—implies that the recent rally in oil prices could stay.

Asia remains particularly vulnerable to an oil shock, because of its high dependence on oil imports. While Asia produces a mere 10 percent of the world crude oil supply, the region consumes about 24 percent of the world crude oil supply.[1] The cost of oil imports is also creeping up in Asia, notably in People's Republic of China (PRC) and India. It is estimated that oil imports cost India $15 billion or 3 percent of its gross domestic product (GDP) in 2003. The PRC imports about $13.4 billion or less than 1 percent of its GDP, but the growth of its oil imports in volume recorded a sharp rate of 24.5 percent from 2001 to 2003.

The *Asian Development Outlook 2004* (ADB 2004) projects oil prices to stay within $28-30 per barrel in 2004, higher than the historic average, but easing to $24-26 in 2005. However, current oil prices have already breached that level and are likely to stay high in the near future. Using the Oxford Economic Forecasting (OEF) model, this

[1] *Key World Energy Statistics* (IEA 2003). Asia includes PRC, Japan, and Korea, in addition to the Asian countries defined in the IEA report.

brief presents two different oil scenarios to shed light on the impact and policy implications of oil price hikes on Asian economies.

Impact on Asian Economies: A Simulation

An oil price shock affects macroeconomic performance through various channels. First, higher oil prices trigger a transfer of income from oil-importing to exporting counties through a shift in the terms of trade. In this process, net oil-importing countries suffer a loss of real national income or GDP. Second, a rise in oil prices reduces industry outputs through higher cost of production. This supply side impact exerts inflationary pressure. Third, the impact of an oil price hike can be amplified by the secondary price effect. While higher input cost on the supply side translates into inflation, higher oil prices directly increase consumer prices via higher prices of imported goods and petroleum products. The higher price levels combined with lower real income further depress domestic demand, leading to an increase in unemployment. Moreover, consumers who sustain a loss of real incomes could seek wage increases, which further feeds into higher production cost, and is then passed on to consumers. The upward spiral of inflation and wages had proved devastating without proper policy responses in earlier episodes of oil shocks.

To quantify the impact of an oil price shock on Asia's economic outlook for 2004-2005, macroeconomic simulations were run using the OEF model. Given the importance of oil imports in Asia, a scenario analysis would allow policymakers to prepare for possible outcomes. Two alternative oil price scenarios are considered. First, a "temporary" hike to $40 per barrel for one year from the second quarter of 2004 to the first quarter of 2005 (Scenario I). Second, a "sustained" high price at $40 per barrel through the end of 2005 (Scenario II). The baseline scenario assumes that oil prices stay constant at $30 per barrel over the entire projection period for 2004-2005.[2]

[2] This baseline assumption of $30 per barrel, though higher than the historic average, is roughly in line with the oil price baseline in ADB (2004). Neither is the alternative of $40 per barrel far from realistic given that the level was actually breached in May 2004, and oil futures indicate an average of $40 for the latter half of 2004. In fact, the benchmark WTI Cushing reached $40.07 per barrel on 11 May 2004 and its monthly average stayed high at $40.24 in May. Since then, oil prices have come down to around $36 per barrel.

Table 1 summarizes the impact of a $10 per barrel hike in oil prices on 10 Asian countries in 2004. The reduction in GDP is limited to 0.2 percent while inflation rises by 0.5 percent for Asia excluding Japan, as the secondary price effect has not fully materialized. Among the net oil-importing Asian countries, Philippines, Singapore, and Thailand are affected the most. In the first year, the most direct impact is felt in trade balances (as a percent of GDP), while the severity of the adverse terms of trade effect varies from country to country, depending on various factors such as the share of oil imports in national income, efficiency of national energy use, and availability of alternative fuels. The results reflect the high dependency of the Asian countries on oil imports. With the exception of Japan, which boasts of relatively higher energy efficiency and lower oil intensity, net oil-importing developing Asia experiences considerable deterioration in its trade balances and corresponding decreases in real income and outputs. The trade balances deteriorate, ranging from -0.3 percent in the PRC, to -1 percent in the Philippines, and to -1.1 percent in Thailand. On the other hand, Indonesia, whose gasoline exports more than compensate its oil imports, gains from the oil price increase; while Malaysia, despite its oil exports, experiences a slight deterioration in its trade accounts and a GDP loss, reflecting the stronger growth in its consumption and imports.

Table 2 presents the simulation results in a year after the oil price increase. In Scenario I, the oil price returns to the baseline oil price of $30 per barrel from the second quarter of 2005 onward after the initial increase by $10 per barrel from the second quarter of 2004 to the first quarter of 2005. Asia excluding Japan would experience a loss of 0.6 percent or $21.7 billion in real GDP. The trade balances recover in 2005, as windfall gains of oil exports are channeled into increased spending by the oil-exporting countries for non-oil exports of oil-importing countries. The simulation shows that the secondary price effect has exerted downward pressure on domestic demand in 2005. Unlike the first year, where the supply side force following the adverse terms of trade shock dominated the impact on the real GDP, the demand side impact through higher price levels in the economic adjustment process further reduces the real income in the second year, despite the dissipating terms of trade effect. Overall, countries that experience higher inflation such as India, Malaysia, Philippines, Singapore, and Thailand suffer proportionately bigger losses in real income.

Table 1. **Impact of an Oil Price Rise on Selected Asian Economies in 2004**
(percentage changes from the base case unless otherwise specified)

	GDP	Trade Balance (% of GDP)	Consumer Prices
ASIA	**-0.1**	**-0.3**	**0.5**
ASIA ex. Japan	**-0.2**	**-0.5**	**0.5**
PRC	-0.2	-0.3	0.1
Hong Kong,China	-0.1	-0.3	0.1
India	-0.2	-0.6	0.7
Indonesia	0.1	0.9	0.5
Japan	-0.1	-0.2	0.4
Korea	-0.2	-0.9	0.3
Malaysia	-0.3	-0.2	0.7
Philippines	-0.4	-1.0	0.7
Singapore	-0.4	-1.1	0.7
Taipei,China	-0.1	-0.7	0.2
Thailand	-0.4	-1.1	0.7

Source: Staff estimates based on OEF model.

Table 2. **Impact of an Oil Price Rise on Selected Asian Economies in 2005**
(Percentage changes from the base case unless otherwise specified)

	Scenario I ($40: 2Q 2004 - 1Q 2005)			**Scenario II** ($40: 2Q 2004 - 4Q 2005)		
	GDP	Trade Balance (% of GDP)	Consumer Prices	GDP	Trade Balance (% of GDP)	Consumer Prices
ASIA	**-0.5**	**0.0**	**0.5**	**-0.6**	**-0.3**	**1.0**
ASIA ex. Japan	**-0.6**	**0.1**	**0.5**	**-0.8**	**-0.4**	**1.1**
PRC	-0.6	0.2	0.3	-0.8	-0.1	0.5
Hong Kong,China	-0.5	-0.5	0.2	-0.6	-0.8	0.3
India	-0.6	-0.1	0.9	-0.8	-0.7	1.7
Indonesia	0.0	0.1	0.6	0.1	0.9	1.3
Japan	-0.4	-0.1	0.3	-0.5	-0.3	0.7
Korea	-0.5	0.0	0.4	-0.6	-0.8	0.8
Malaysia	-0.7	0.8	0.7	-0.9	0.3	1.4
Philippines	-1.5	-0.4	0.7	-1.9	-0.9	1.4
Singapore	-1.2	-0.2	0.6	-1.7	-1.3	1.3
Taipei,China	-0.3	0.0	0.2	-0.4	-0.6	0.3
Thailand	-1.7	-0.1	0.8	-2.2	-1.2	1.5

Source: Staff estimates based on OEF model.

The secondary price effect seems to intensify as the oil price spike stays longer. In Scenario II where the oil price stays at $40 until the end of 2005, inflation climbs by more than 1 percent for Asia as a whole. Accordingly, the loss of real income amounts to 0.8 percent or $28.8 billion for Asia excluding Japan, while the direct impact on the trade balances is little different from the 2004 results. Inflation is particularly higher in India, Indonesia, Malaysia, Philippines, Singapore, and Thailand, increasing by more than one percentage point in 2005. The country variation of price effects is significant, depending on the current inflation and domestic demand conditions. In addition, the pass-through of an oil price increase to domestic prices and/or existing energy price control through tax and subsidies would influence the variation.

Like any other simulation exercise, results here remain only indicative and subject to substantial interpretation in the context of evolving economic situations.[3]

The Oil Shock in the Current Economic Context

Despite the hype, the current price rally is unlikely to match the ferocity of previous oil shocks in terms of its size and impacts. Not only is the price in real terms still considerably below the level that caused painful recessions in the past, but the global economy has also gained substantial resilience to commodity price fluctuations since the first oil shock in 1973 through reduced oil intensity and improved energy efficiency. Against this backdrop, the risk of higher oil prices arises mainly from a possible aggravation of existing imbalances in the global economies. Since the 2001 economic slowdown, many industrialized countries have stretched macroeconomic policies, lowering interest rates and running high public deficits. Low interest rates have fueled housing and asset price

[3] The simulation assumes no changes in exchange rates. If the exchange rates adjust to the adverse terms of trade, the impact on growth is somewhat muted, although inflation climbs a little higher. Nor does the simulation take account of impact on business or consumer confidence, which can affect overall economic activities. There are also risks of greater aggravation in external conditions than accounted for in the simulation. Asia depends on exports for sustainable growth more than ever, even as global recovery still hangs in the balance. Should the oil price hike cause a sharper than expected slowdown in the global economy—particularly the PRC and US economies, both of which take a large share of demand for Asian exports—the growth impact could be more severe.

increases, while supporting consumption and leading to a deterioration in current accounts in major economies, notably the United States. Inflationary pressure associated with higher oil prices could force an interest rate increase earlier and steeper than expected. This could trigger a sudden reversal in consumption and savings behavior, leading to a substantial reduction in demand for Asian exports.

The upside risk in interest rates underpinned by rising uncertainty on the economic outlook could also affect the Asian economies through their emerging financial markets. Higher risk premia combined with weakening currency conditions could make emerging markets' financial assets less attractive, limiting the ability of developing countries to draw on international funds for the shortfall in their balance of payments. Higher oil prices are already exerting pressure on emerging Asian markets, widening their risk spreads reflecting higher risk premia. A sudden withdrawal of portfolio investors particularly with short-term and speculative funds lured by the increase in returns on mature market assets could result in higher costs of capital in the region due to higher risk premium and higher volatility.

Granted Asia remains relatively more vulnerable to higher oil prices, the current economic background features some benign characteristics to help curb the adverse effect of rising oil prices in the region. First, the dollar has depreciated against the currencies of many developing Asian countries over the past two years, mitigating the impact of rising oil prices. Second, significantly higher levels of international reserves and current account surpluses since the Asian crisis provide a cushion against the short-term deterioration in balance of payments. Third, despite the pick-up in domestic demand since last year, inflation has stayed relatively low in many Asian countries, with some economies such as Hong Kong,China and Japan barely escaping from the deflationary risk.

Even so, higher oil prices, if sustained long enough, would soften economic activities in Asia while threatening to tip the delicate balance in the nascent global rebound. Asia's strong economic performance since the latter half of 2003 can be ascribed to robust consumption demand and emergence of intraregional trade. Expansionary macroeconomic policies provided support for the consumption growth. However overly stretched consumer credits associated with expansionary policies caused financial woes in some countries, notably Korea. A similar risk remains in others, if higher oil prices bring real income down and push interest rates up, increasing the debt-servicing burden of the household sector. Despite sturdy domestic demand, firms have yet to regain pricing power, while improving business

investment have not fully taken strong hold in many countries, due to lingering balance sheet problems, remaining slack in capacity, and in some cases political uncertainties (see ADB 2004). Although the firms' inability to pass on higher costs of energy inputs to customers through price increases may moderate the inflationary effect, a squeeze on profits could force a delay in business investment and employment plans, affecting growth potential.

Conclusion

Asia's current economic background remains favorable compared with previous oil shocks, making risks from an oil price increase manageable. Huge foreign reserves in Asia would allow the countries to ride out the negative terms of trade effect. Subdued inflation also provides ample room for necessary policy supports, should the downside risks materialize. Nevertheless, higher oil prices heighten the risk of unbalancing the recovering economies. Key to successful macroeconomic policies in Asia is to carry on the growth momentum through restoring the balance in the domestic economy and mitigating the impact of external risks.

Government policies can help mitigate the adverse impact on the economy. The appropriate policies would vary from country to country, depending on its economic conditions, current cyclical position, existing macroeconomic policies, and exchange rate regime. Asia has experienced a strong rebound since the latter half of 2003, cashing in on the substantial policy support during the latest slump. Against this background, overly expansionary monetary policy may fuel inflation, exacerbating the price effect in the long run. The simulation results point to the significance of the secondary price effect in the region. Monetary authorities should stay vigilant to money and financial market conditions to guard against inflation. However, the tentative recovery requires caution, as excessive monetary tightening and fiscal contraction to curb inflationary pressures could aggravate the recessionary consequences of the oil price rise.

In the face of the adverse terms of trade shock, external policies would warrant a revisit. Drawing heavily on export growth, many Asian economies have resisted nominal appreciation of their currencies regardless of their exchange rate regimes while accumulating a large bulk of foreign exchange reserves. With strong external positions, countries with managed floats could allow more flexibility in their external policies to help reduce the vulnerability to external shocks,

while lowering the cost of holding huge foreign reserves. On the other hand, countries with currency pegs should focus on further market-oriented reforms toward more flexible goods and labor markets in order to maintain substantial flexibility in domestic prices and wages.

The challenges are significant as Asian economies gradually shift from export-driven to domestic demand-led growth to achieve greater resilience against external shocks, while maintaining macroeconomic stability. In this context, the countries should continue structural reforms to foster the investment climate through improving competitiveness, productivity, and corporate governance. Over the medium and long term, sustainability of the recovery and economic growth hinges on the successful implementation of these structural reforms.

Finally, for longer-term solutions to oil price fluctuations Asia should make continuous efforts to reduce its oil dependency and increase energy efficiency. To this end, effective energy policy should be given a priority. The rapid growth of energy use in Asia, which is partly responsible for the oil price hike, is not a temporary phenomenon. The current oil price rally may turn out a blessing in disguise, if the Asian economies successfully embrace necessary technological challenges and find more efficient ways to generate and save energy.

References

Asian Development Bank, 2004. *Asian Development Outlook 2004*.Hong Kong, China: Oxford University Press for the Asian Development Bank.

International Energy Agency, 2003. *Key World Energy Statistics*. Available: http://library.iea.org/bookshop/add.aspx?id=144.

———, 2004. *Analysis of the Impact of High Oil Prices on the Global Economy*. Available: http://library.iea.org/dbtw-wpd/textbase/papers/2004/high_oil_prices.pdf.

ERD POLICY BRIEF SERIES

No. 1 Is Growth Good Enough for the Poor?
Ernesto M. Pernia
October 2001

2 India's Economic Reforms
What Has Been Accomplished?
What Remains to Be Done?
Arvind Panagariya
November 2001

3 Unequal Benefits of Growth in Viet Nam
Indu Bhushan, Erik Bloom, and *Nguyen Minh Thang*
January 2002

4 Is Volatility Built into Today's World Economy?
J. Malcolm Dowling and *J.P. Verbiest*
February 2002

5 What Else Besides Growth Matters to Poverty Reduction? Philippines
Arsenio M. Balisacan and *Ernesto M. Pernia*
February 2002

6 Achieving the Twin Objectives of Efficiency and Equity: Contracting Health Services in Cambodia
Indu Bhushan, Sheryl Keller, and Brad Schwartz
March 2002

7 Causes of the 1997 Asian Financial Crisis: What Can an Early Warning System Model Tell Us?
Juzhong Zhuang and Malcolm Dowling
June 2002

8 The Role of Preferential Trading Arrangements in Asia
Christopher Edmonds and Jean-Pierre Verbiest
July 2002

9 The Doha Round: A Development Perspective
Jean-Pierre Verbiest, Jeffrey Liang, and Lea Sumulong
July 2002

10 Is Economic Openness Good for Regional Development and Poverty Reduction? The Philippines
Ernesto M. Pernia and Pilipinas F. Quising
October 2002

11 Implications of US Dollar Depreciation for Asian Developing Countries
Emma Xiaoqin Fan
November 2002

12 Dangers of Deflation
Douglas H. Brooks and Pilipinas F. Quising
December 2002

13 Infrastructure and Poverty Reduction—What is the Connection?
Ifzal Ali and Ernesto Pernia
January 2003

14 Infrastructure and Poverty Reduction—Making Markets Work for the Poor
Xianbin Yao
May 2003

15 SARS: Economic Impacts and Implications
Emma Xiaoqin Fan
May 2003

16 Emerging Tax Issues: Implications of Globalization and Technology
Kanokpan Lao-Araya
May 2003

17 Pro-Poor Growth—What is It and How is It Important?
Ernesto M. Pernia
June 2003

18 Public–Private Partnership for Competitiveness
Jesus Felipe
June 2003

19 Reviving Asian Economic Growth Requires Further Reforms
Ifzal Ali
June 2003

20 The Millennium Development Goals and Poverty: Are We Counting the World's Poor Right?
M. G. Quibria
July 2003

21 Trade and Poverty: What are the Connections?
Douglas H. Brooks
July 2003

22 Adapting Education to the Global Economy
Olivier Dupriez
September 2003

23 Foreign Direct Investment: The Role of Policy
Douglas H. Brooks and Lea R. Sumulong
December 2003

24 Avian Flu: An Economic Assessment for Selected Developing Countries in Asia
Jean-Pierre A. Verbiest and Charissa N. Castillo
March 2004

25 Purchasing Power Parities and the International Comparison Program in a Globalized World
Bishnu D. Pant
March 2004

26 A Note on Dual/Multiple Exchange Rates
Emma Xiaoqin Fan
May 2004

27 Inclusive Growth for Sustainable Poverty Reduction in Developing Asia: The Enabling Role of Infrastructure Development
Ifzal Ali and *Xianbin Yao*
May 2004

28 Higher Oil Prices: Asian Perspectives and Implications for 2004-2005
Cyn-Young Park
June 2004

For information and to order, write to
Office of External Relations, Asian Development Bank
P.O. Box 789, 0980 Manila, Philippines
or e-mail adbpub@adb.org