

Staff Papers No 68

**Economic Openness and Effectiveness of
Counter Cyclical Macroeconomic Policies in
the Context of Global Economic Slowdown**
Experiences of the SEACEN Countries

Lim Choon Seng Vincent



The South East Asian Central Banks
Research and Training Centre
(The SEACEN Centre)
Kuala Lumpur Malaysia

Staff Papers No. 68

**Economic Openness and Effectiveness of
Counter Cyclical Macroeconomic Policies in
the Context of Global Economic Slowdown:
*Experiences of the SEACEN Countries***

Lim Choon Seng, Vincent



The South East Asian Central Banks
Research and Training Centre
(The SEACEN Centre)
Kuala Lumpur, Malaysia

Staff Papers No. 68

**Economic Openness and Effectiveness of Counter Cyclical
Macroeconomic Policies in the Context of Global Economic
Slowdown: *Experiences of the SEACEN Countries***

© 2003, The SEACEN Centre

Published by The South East Asian Central Banks
Research and Training Centre (The SEACEN Centre)
Lorong Universiti A
59100 Kuala Lumpur
Malaysia

Tel. No.: (603) 7958-5600

Fax No.: (603) 7957-4616

Telex: MA 30201

Cable: SEACEN KUALA LUMPUR

ISBN: 983-9478-30-3

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form by any system, electronic, mechanical, photocopying, recording or otherwise, without the prior permission of the copyright holder.

Printed in Malaysia by Graphic Stationers Sdn. Bhd.

FOREWORD

Since the 1997 financial crisis, many countries had resorted to use macroeconomic policies as counter cyclical tools. Subsequently, debates were centered on whether either expansionary fiscal and monetary policies in time of crisis are deemed necessary to boost the economies for a solid rebound. After the September 11 event in the United States, more and more countries have begun to turn to fiscal spending to stimulate output growth. However, there is some debate concerning the effectiveness of fiscal spending in economies that is investment and export-driven. As such, this paper intends to provide some insights into whether counter-cyclical macroeconomic policies, in particular fiscal spending is effective tools to stabilizing and stimulating the economy in the context of the open economic structure.

Mr. Vincent Lim Choon Seng, Economist at the SEACEN Centre undertakes this project. Mr. Lim would like to thank research colleagues, in particular Mrs. Kanaengnid, Tantigate-Quah Acting Assistant Research Director, SEACEN for their support. Mr. Lim also wish to thank member banks and Dr. Delano Villanueva, former Research Head, SEACEN and ex-Advisor to the IMF for providing valuable comments and suggestions. However, the views as expressed in this paper are those of the author's and do not necessarily reflect those of the SEACEN Centre nor its constituent member banks and monetary authorities.

Dr. Subarjo Joyosumarto
Executive Director
The SEACEN Centre
Kuala Lumpur
May 2003

**Economic Openness and Effectiveness of Counter Cyclical
Macroeconomic Policies in the Context of Global Economic Slowdown:
*Experiences of the SEACEN Countries***

Abstract

Within the SEACEN region, fiscal expenditures are actively being used as counter cyclical policy to alleviate the negative impact of the slowdown in the external sector. This was particularly evident in Malaysia, Singapore, Taiwan and Thailand. The purpose of this paper is to examine whether such counter cyclical fiscal policy is appropriate for SEACEN open economies that are mainly investment and export-driven.

Empirical analysis using panel data indicates that, although economic openness tends to limit the effectiveness of fiscal policy, fiscal expenditures do contribute to economic recovery during a recession. Thus, fiscal policy is a viable option as part of a counter cyclical package for most SEACEN countries with sustainable fiscal and debt position. In addition, accompanying monetary policy and financial reforms are supportive of an efficient counter cyclical fiscal policy.

TABLE OF CONTENTS

	Page
FOREWORD	iii
ABSTRACT	iv
TABLE OF CONTENTS	v
LIST OF TABLES AND CHARTS	vi
REFERENCES	25
1. INTRODUCTION	1
2. COUNTER CYCLICAL FISCAL POLICY	2
3. THE FINANCIAL CRISIS OF 1997	6
4. THE SEPTEMBER 11 EVENT	8
5. EMPIRICAL EVIDENCE	13
6. CONCLUSION	19

LIST OF TABLES AND CHARTS

TABLE	Page
1. Panel Unit Root Test	15
2. Panel Data Estimation	16
CHART	
1. Real GDP Growth (%)	9
2. Fiscal Budget Balance (% of GDP)	9
3. Rolling Estimates and Real GDP	17
4. Real Domestic Demand (% Changes)	21
5. Key Interest Rates (%)	22
6. Central Government Debt (% of GDP)	23
7. Capital Expenditure (% of GDP)	24

Economic Openness and Effectiveness of Counter Cyclical Macroeconomic Policies in the Context of Global Economic Slowdown: Experiences of the SEACEN Countries

1. Introduction

Economic slowdown in recent years has revived the debate concerning the effectiveness of counter cyclical policies, in particular that of monetary and fiscal policies. Since the publication of John Maynard Keynes's *General Theory of Employment, Interest and Money* in 1936, Keynesian economists in the 1950s strongly argue that budget deficits during recessions are a valuable tool to stimulate output while monetary policy is only useful to control inflationary pressures. For countries that experienced economic recession and export slowdown, Keynesian counter cyclical policies become attractive propositions.¹

In the 1992 recession, the U.S. Congress resisted attempts to use fiscal policy to counteract the economic slowdown. In 1993, similar proposals by President Clinton were also rejected.² One main reason given was the large federal deficits in early 1990s (Taylor, 2000). Since the September 11, 2001 event in the United States, interest in fiscal stimulus has revived. Both the Congress and the President signaled the use of fiscal policy to counteract the slowdown by passing into law the Economic Recovery Act of March 2002 (Walsh, 2002). In the Euro area, debate has resurfaced as to whether the strict medium-term budget deficit targets should be relaxed to allow for budget deficits in the face of weakened activity. Within the SEACEN region, countries that have the capacity to do so are trying to use fiscal policy to alleviate the negative impact of the slowdown in the external sector.

Yet the effectiveness of these policies remains an open question. Since many of the SEACEN economies are clearly not consumption driven but investment and export-driven, this begs the question of whether there is any difference between a fiscal stimulus applied to a relatively closed economy

-
1. The fiscal transparency recommendation by the IMF does not set standards for fiscal policy *per se* but rather on how fiscal policy should be conducted.
 2. Bayoumi and Eichengreen (1995) and Levinson (1998) show for the US that the inability of the US government to use fiscal policy to smooth the business cycle leads to increase in output volatility.

and one that is applied to a very open one. Does economic openness reinforce or diminish the effectiveness of such policies? This paper intends to provide some insights into whether counter-cyclical macroeconomic policies meant to stabilising and stimulating the economy would be effective under such circumstances. Specifically, it aims to:

1. review SEACEN countries' counter-cyclical measures, in particular fiscal measures;
2. assess the efficacy and effectiveness of such measures in the context of the open economic structure;
3. identify fiscal measures that would be most effective in promoting growth without jeopardizing economic stability; and,
4. recommend policy options, if any, to mitigate the impact of economic slowdown.

2. Counter Cyclical Fiscal Policy

Under the typical Keynesian model in the standard IS/LM framework, government expenditures generate income through the fiscal policy multiplier.³ There are at least two issues to be addressed when fiscal spending is used as counter cyclical policy. First, what is the size of the multiplier and how does one maximize it and second, how to ensure that the fiscal deficit would not turn procyclical in the long run.

One theoretical argument against the use of fiscal policy is the Ricardian effect. In theory, as deficits increase the accumulation of debts, the public will be made to realize that eventually these debts would have to be compensated by higher taxes. Fiscal stimulus merely postpones taxation and this would lead to higher private savings hence reducing the stimulus effect. This effect is best described by Barro (1989): '[T]he Ricardian approach to budget deficits amounts to the statement that the government's fiscal impact is summarized by the present value of its expenditure. Given this present value, rearrangement of the timing of the taxes-as implied by the deficits-have no first-order effect

3. In theory, fiscal consolidation may be expansionary. To the extent that cuts in government wages and transfers are viewed as permanent, they would lead to expectations of lower future taxes (Alesina et al, 1998). Also a reduction in public wages that leads to lower private wage increase would lower production costs, thereby increasing profitability and competitiveness, and stimulating investment and export (Alesina et al, 1999). Fiscal consolidation may in fact be expansionary if the initial level of public debt is already high. A reduction in public debt could increase aggregate demand via the wealth effect (Perotti, 1999).

on the economy. Secondly-order effects arise for various reasons, which include the distorting effect of taxes’.

Based on the Ricardian theory, real variables would be invariant to any path of the deficits in the long run. There are, however, two theoretical objections (Dornbusch and Fisher, 1994). One is that economic agents have finite lives and future tax burdens may not be their concern, as those who receive benefits now may not be the ones to pay off debt in the next period. Following a fiscal stimulus, people may also smooth their spending over a period of time. Secondly, since people are liquidity constrained, tax cuts would lead to increased consumption. Furthermore, in a recession, any income (such as transfers) generated by fiscal spending would also ease liquidity constraints, leading to more consumption. However, there are circumstances where the Ricardian response may indeed take place. For example, when there is a possibility that in the *near future* fiscal expansion may have to be eventually reversed (Hemming and et al. 2002). In such a case, economic agents may save more to compensate for higher future taxes.

If fiscal expenditures lead to higher interest rates and thus in higher costs of capital, private investment would suffer, resulting in lower long-term growth. On the other hand, in economies when interest rates are already very low, the use of stimulative monetary policy during a recession may also be inappropriate because of risks that short-term interest rates could approach their lower bound of zero (Taylor, 2000).⁴ The case of Japan is a good example of how fiscal implementation could be tricky in such an environment. Krugman (1999) has called the Japanese government spending “the largest peacetime fiscal stimulus in history” but doubted whether fiscal expenditure could be sufficiently large to be effective in practice. Others suggest that a monetary financed fiscal stimulus may be needed to combat the recession (Seidman, 2001). Japan, according to Heller (2002), does have the blessing of the IMF, although in general the IMF does not support the active use of fiscal policy for counter cyclical purposes. The IMF’s reasons for a modest fiscal stimulus are that real growth may be needed to ensure fiscal sustainability and that the Japanese economy serves as a locomotive for many countries in the region and the global economy at large. The need for orderly restructuring of the Japanese financial and debt sectors would make fiscal stimulus less controversial.

4. However, Meltzer (1999) notes that even when the short-term interest is zero, an increase in money supply could be stimulative because other asset prices, including the exchange rate, would change. In some cases, rigid fiscal rules may hamper fiscal flexibility, and large adjustments to fiscal policy may be difficult to make in practice (Taylor, 1997).

According to Fisher (2002), countries must be given the opportunity to be able to use fiscal policy as a counter cyclical tool to combat recession when both the deficit and public debts are at sustainable levels. This is because the burden on stimulative monetary policy may be excessive (Economist, 1999). Furthermore, Taylor suggests “if for some reason monetary policy cannot react to real variables, it may be advisable to have fiscal policy compensate.” This is true when monetary policy is constrained by exogenous events, such as world interest rates or in extreme cases when monetary policy is used exclusively to react to inflation. In addition, during an economic slowdown, the “leakage” of fiscal policy may be minimized as the marginal propensity to import out of government expenditure is offset by import compression and lower income.

However, fiscal policy ought to be designed in such a way that budget deficits are expected during recessions, but such deficits should be reversed by running surpluses during economic booms. In practice, however, deficits may keep rising even during good times and when too large would constrain the use of counter cyclical fiscal policy during bad times. Ocampo (2002) notes that “the lack of fiscal discipline during booms is extremely costly, and that “go-stop” cycles significantly reduce the efficiency of public-sector spending”. For example, Fischer (2001) has argued that in the European Union, the Stability and Growth Pact *per se* was not the problem but rather the EU member countries did not reduce budget deficits sufficiently in good times to allow their effective use during recessions.

During a recession, if the government is already experiencing a large deficit, there is a natural fear that an increase in spending may lead to higher long-term interest rates. The associated uncertainty may also lead to cautious savings. In addition, during an economic slowdown, larger budget deficits tend to occur, as tax revenue is reduced due to declining economic activity. In such a case, an expansionary fiscal policy may even turn pro cyclical when government fails to generate enough surplus during good times (Talvi and Wegh, 2000).⁵ However, typically, in developing countries, the pro cyclical nature of fiscal policy could be explained by the fact that developing countries may face financing constraints in world capital markets.⁶

5. In another case, “a principal source of vulnerability is a high proportion of non-discretionary spending to total spending” (Hemming and Petrie, 2002).

6. Financing persistent budget deficits without international capital may result in a rise in real interest rates, rising deficits and larger issuance of bonds (Rojas-Suárez, 1992).

Another foreseeable problem of counter cyclical fiscal policy is the lag factor. There are basically two kinds of lags. Inside lags involve time taken to put in place the appropriate counter cyclical measures, while outside lags consist of time taken for the counter cyclical measures to affect aggregate demand. In general the lags involving fiscal policy are much longer than monetary policy. Specifically, the lag period of discretionary fiscal measures includes the recognition lag (the time taken to recognize that action is required), the decision lag, and the implementation lag. In the case of monetary policy, interest rates can be adjusted rather quickly. Fiscal spending may take many months.⁷ The inside lags of fiscal policy depend on political processes (Hemming and et al. 2002). In addition, as outside lags could be long, fiscal deficits may have to be relatively large for several years before a sustainable economic recovery could take place. To reduce lags, Von Hagen and Harden (1995), Eichengreen et al. (1996), and Seidman (2001) have even proposed a 'national fiscal council' similar to an independent central bank to set optimal amounts of borrowing and spending over the business cycle.⁸

One reason for an effective counter cyclical fiscal policy in developing countries is the lack of fiscal automatic stabilizers.⁹ In developed countries, automatic stabilizers ensure budget deficits during recessions and budget surpluses during inflationary booms without an explicit change in fiscal policies. For example, unemployment benefits rise automatically as unemployment rises and similarly tax payments decline during recessions. For the U.S., Auerbach and Feenberg (2000) note that automatic stabilizers could offset about 8 percent the impact of an economic shock to GDP. However, in developing countries, such devices may not be very effective as developing countries lack the extensive social insurance and progressive income tax systems (Lane, 2002). Also the government sector as percent of GDP tends to be smaller.

7. Changes in interest rates affect a modest number of business and consumer decisions (Cecchetti, 2002). On the other hand, Ocampo (2002) argues that excessive reliance on counter cyclical fiscal policy may result in "substantial distributive effects, as the recipients of goods and services provided by the public sector are not the same agents as those that benefit from private spending".
8. For SEACEN countries, it is unlikely that the formation of a national fiscal council is feasible at this stage. Therefore, it is vital that monetary authorities and the government must work together on the design and implementation of macroeconomic policies.
9. Automatic stabilizers also shorten inside lags.

In general, according to the Mundell-Fleming Model, the effectiveness of counter cyclical fiscal policy in a small open economy depends on whether the exchange rate is fixed or floating.¹⁰ Under a floating exchange rate, only monetary policy can affect income as changes in fiscal policy are offset by induced changes in the exchange rate. However, in the fixed exchange rate regime, fiscal policy is effective as money supply is needed to maintaining the exchange rate and to alter the level of international reserves. Mundell's (1962) idea of a "policy mix" is one wherein monetary and fiscal policies are used to simultaneously attain internal and external targets under a fixed exchange rate. If monetary policy is used to achieve external balance and fiscal policy is assigned to achieve internal balance, there will be no trade off between external and internal balance. For example, under perfect capital mobility and a deficit in the balance of payments, fiscal expansion and monetary contraction could reduce unemployment while at the same time ensure sufficient capital inflows.¹¹

3. The Financial Crisis of 1997

The IMF rescue package of the 1997 financial crisis consists of four elements (Radelet and Sachs, 1998). (i) A loan package to support repayment of debts. Some debts were partially suspended, either based on unilateral or collective agreement; (ii) A macroeconomic framework of budget surplus, high nominal interest rates and restricted domestic credit; (iii) A reform program aiming at restructuring the financial sectors; and, (iv) Other liberalization agenda to increase transparency and competitiveness, including trade reforms,

10. The effectiveness is also affected by price flexibility. In a closed economy, higher prices following fiscal expansion will reduce aggregate demand while in an open economy, the response of the fiscal multiplier would depend on how prices respond to changes in the exchange rate.

11. However, as pointed out by Obstfeld (2000), Mundell's theoretical model has two drawbacks. First the capital account was specified by Mundell as a flow function of interest-rate levels. This is not very plausible as the above specification means "capital would flow at a uniform speed forever even in the face of a constant domestic-foreign interest differential." The second is the definition of external balance in terms of official reserve flows. Obstfeld argues that it is more appropriate to define it in terms of "attaining some satisfactory sustainable paths for domestic consumption and investment." Also to maintain a permanently higher interest rate with the sole purpose of maintaining the balance of payment equilibrium would be infeasible as "such a policy—crowding out of domestic investment and an ongoing buildup of external debt—would eventually call for a sharp drop in consumption".

privatization, and implementation of “good” corporate governance. As noted by the IMF, “the center piece of each program is not a set of austerity measures to restore macroeconomic balance, but a set of far-reaching structural reforms” (Camdessus, 1998).¹²

According to the IMF, sufficiently tight fiscal and monetary policies in times of crisis may be necessary to help restore confidence and prepare the foundation for a solid rebound. The required degree of fiscal adjustment depends on, among others, “the need to contribute sufficiently to the process of current account adjustment and to the correction of earlier excesses in the public sectors [while sufficiently tight monetary policy is needed to] resist excessive exchange rate depreciation.... As fundamental policy weaknesses are addressed and confidence restored, the interest rate can subsequently be allowed to return to more normal levels, which would help to support activity, and experience suggests that premature easing can exacerbate a crisis.” (IMF, 1997).

Criticisms of the IMF’s resolution to the crisis were directed mainly at the fiscal and monetary tightening, which led to higher interest rates. The initial fiscal program for Indonesia and Thailand involved a tightening of fiscal balances. The idea is that subsequently the current account deficits would move in line with the rest of the economic fundamentals, dissipating panics in the financial market. In Mexico, the IMF policies had worked extremely well and fast. Interest rates, which went up as high as 70-80 percent for several months, gradually eased once the exchange rate stabilized (Goldstein, 1998).

However, in line with macroeconomic projections, *ex-ante* monetary and fiscal policies were actually not excessively tight (The World Bank, 1998), and the IMF showed some degree of *flexibility* in the implementation of policies, particularly fiscal policy. Larsen (2002) notes that the IMF did in fact allow public finance to exert a stimulating impact on their economies. He notes that between 1996-98 the increase in the budget deficit or swings from surplus to deficit as a percentage of GDP ranges from 3.6 percent for Indonesia to 4.8

12. However, the closure of banks, as part of structural reforms, was heavily criticized for creating panics, leading to several bank runs. The IMF did recognize the possibility but argued that any delay in policy adjustments would probably have resulted in larger losses, thus perpetuating banking sector problems. This is because of the “combination of a weak financial system and inadequate macroeconomic policies — with weakness in one area feeding on and exacerbating problems in the other “ (Fischer, 1998).

percent in Thailand. He notes that in Thailand and Korea, budget deficits clearly played an important stabilizing role and that deficits were allowed to grow rapidly when economic downturn was steeper than expected but he argues that since recovery materialized in all the crisis-inflicted countries, further stimulus may not be justified. Although Malaysia did not follow the IMF programme, it is interesting to note that Malaysia initially tightened fiscal and monetary policies. Many public infrastructure projects were postponed and Interest rates were gradually increased. Malaysia reversed its policy stance following a sharp contraction in economic activity.

4. The September 11 Event

The September 11, 2001 event, which directly affected the U.S. economy, generated further recessionary tendencies to the crisis-inflicted countries (Chart 1). Although the immediate impact was on global trade placing additional downward pressure on export volumes and commodity prices, in the SEACEN region trade in services, especially tourism, and the financial sector showed immediate signs of being adversely affected. As a consequence, capital flows fell as risk premiums rose, leading to a slowdown in overall economic activity.

Since the September 11 incident, at one time or another, as part of the counter cyclical policy package, Malaysia, Singapore, Taiwan and Thailand have actively implemented fiscal stimulus measures (Chart 2). These countries announced supplementary budgets.¹³ However, Indonesia, the Philippines, Sri Lanka and Thailand have since shifted to fiscal rationalization and consolidation. Meanwhile, monetary policy was also in general accommodative.

13. These stimulative measures include social safety nets.

Chart 1: Real GDP Growth (%)

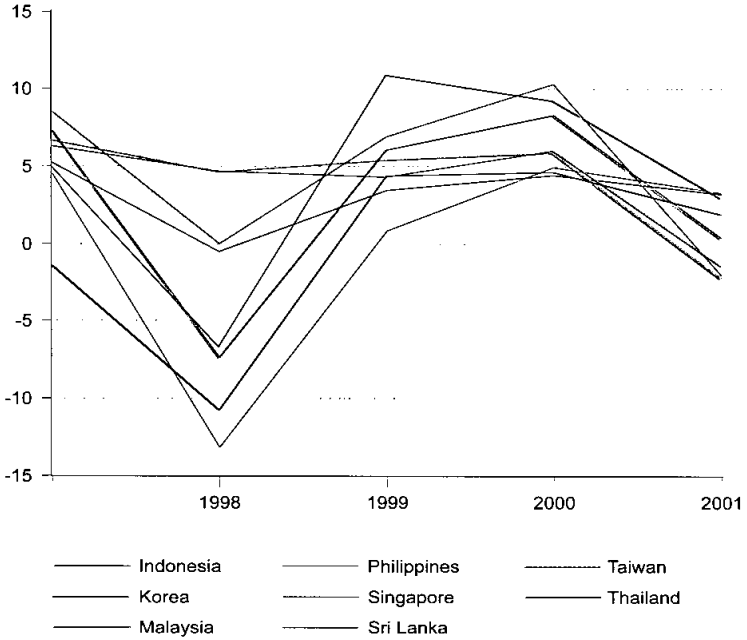
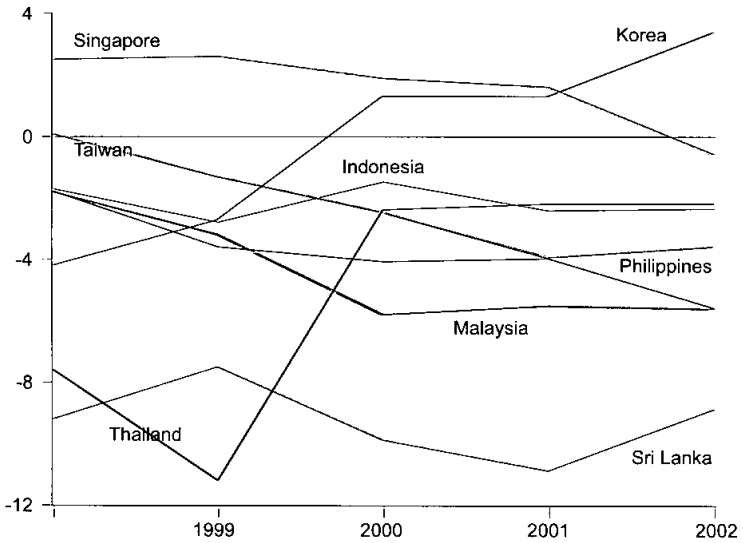


Chart 2: Fiscal Budget Balance (% of GDP)



Since the 1997 financial crisis, Indonesia has continued its policy commitment under the IMF programme, which was aimed at restoring medium-term fiscal sustainability and supporting economic recovery through limited fiscal stimulus in an environment of weak private sector activity. Due to a relatively large debt burden, Indonesia took several steps to contain fiscal deficits. It adopted measures to increase revenue by broadening the tax base, and improving tax collection and administration. However, the deficit in 2001 stood at 2.4 percent of GDP, about a percentage point higher than in 2000. Meanwhile the 2002 budget remained prudent and contained two strategic objectives aimed at reducing the size of the budget deficit and reducing the ratio of total government debt to GDP. This was to be achieved through higher domestic revenues from both taxes and non-taxes, improved efficiency of state expenditures, reduced subsidies, balanced funds for regional autonomy, and less reliance on external financing. Meanwhile, monetary policy remained tight to dampen inflationary pressures.

Since the financial crisis, Korea has embarked on a series of economic reforms to achieve a fast recovery to enable the authority to repay US\$700 million to the IMF. In the second half of 2000, Korea experienced yet another economic slowdown resulting in the approval of a supplementary budget in June 2001, aimed at reducing local governments' liabilities, stabilizing the national health insurance fund and preparing for natural disasters. However, the budget in 2001 remained in surplus at 1.3 percent of GDP, due to strong revenue growth. The fiscal expansion continued into the second half of 2002 to include cuts in income and corporate tax rates. Fiscal expenditure rose by 6.6 percent and 24.2 percent in the first and second quarters, respectively, in comparison to the respective quarters of the previous year. However, in the third quarter of 2002, amidst strong economic recovery, fiscal policy reverted to a neutral regime. Korea is expected to register a larger fiscal surplus in 2002.¹⁴ Monetary policy remained flexible with the main focus being on the stability of financial markets and the prevention of a sharp slowdown in the economy.

In Malaysia, the federal government budget recorded five-year consecutive surpluses from 1993 through 1997. Following the 1997 crisis, the immediate response was one of restrictive macro economic policies. However from 1998 onwards, fiscal policy turned expansionary to sustain domestic

14. Korea's sovereign credit rating was upgraded to the pre-crisis 'A' grade during the first half of 2002, reflecting early repayments to the IMF, adequate levels of foreign reserves, and progress in restructuring the banking and corporate sectors.

demand, with the federal government budget incurring deficits. In 2001 alone, additional fiscal stimulus was announced. The fiscal stimulus programme was largely focused in the area of education and training, infrastructure and industrial development. Emphasis was accorded on projects that could be implemented quickly for maximum impact on domestic demand and meet social-economic objectives, as well as meet the longer-term objective of increasing productivity. Meanwhile, the 2002 budget emphasized spending with higher multiplier effects, such as promoting the private sector's resilience and competitiveness, developing skilled manpower and technological competence, and expediting the restructuring of the financial and corporate sectors. It also aimed at ensuring a more equitable distribution of wealth. Malaysia's fiscal deficit stood at 5.5 percent of GDP in 2001 and 5.6 percent in 2002. Meanwhile monetary policy remained accommodative with low and stable interest rates to support fiscal policy in stimulating domestic demand and maintaining financial stability and business activities.

The Philippines followed a strict fiscal discipline in 2001 with overall expenditure remaining prudent in the wake of the widening of the fiscal deficit to 4.1 percent of GDP in 2000, which exceeded the target of 3.75 percent set by the IMF programme. The national government limited its spending on items such as subsidies and equity to government-owned or controlled corporations. Austerity measures were adopted and only core expenditures on education, health, agriculture, housing and social welfare were implemented. Nevertheless, the fiscal deficit still stood at around 4 percent of GDP. In 2002, the government stepped up the consolidation process, aiming at keeping the deficit down. However, a larger deficit of around 5 percent in 2002 came about, owing to lower revenue and higher expenditures particularly on infrastructure and agriculture to prepare the country for the impact of the El-Nino phenomenon. Meanwhile, monetary policy, which focused at maintaining stable prices, was accommodative from the last quarter of 2001 through the first quarter of 2002. However, with imminent inflationary risk, monetary policy shifted to a cautious stance in the second quarter of 2002. For instance, BSP policy rates were maintained at their March 2002 levels until the end of the year. At 7.0 percent for overnight borrowing rate and 9.25 percent for lending rate, such rates were at their lowest levels in 10 years.

In 2001, to mitigate the slowdown, Singapore launched two supplementary budgets, mainly to provide a more conducive environment and improvement of competitiveness of domestic firms, in particular the small medium scale industries (SMI's). These packages amounted to \$13.5 billion (8.4 percent of GDP), featuring a series of tax reduction and fee rebates for individuals

and businesses as well as transfers to the public via several projects, such as the New Singapore Shares and the Skills Development Fund. Although the Singapore economy contracted by 2.4 percent in 2001, after registering a 9.4 percent growth in 2000, overall, the revenue raised was still sufficient to finance total expenditure. Fiscal balance (defined as operating revenue less operating and developing expenditure) stood at a surplus of around 1.7 percent of GDP in Fiscal Year (FY) 2001 a smaller surplus of around 1.1 percent of GDP is expected for FY2002. Meanwhile, monetary policy continued to focus on low and stable inflation.

In 2001, due to a sharp decline in domestic activity as well as imports which affected revenue and privatization targets, increased spending on defense and relief package to investors and vulnerable groups, Sri Lanka suffered a significant deterioration in the fiscal situation with a budget deficit of 10.9 percent of GDP. In addition, some of the fiscal adjustments announced in the budget were not implemented. However, the government financed the deficit by borrowing from commercial banks, thus avoiding the creation of high-powered money. The 2002 budget included several measures to strengthen fiscal consolidation. The Fiscal Management (Responsibility) Act was introduced to impose limits on the fiscal deficit and public debt.

In 2001, Taiwan suffered from economic recession for the first time in five decades. This prompted the government to adopt an expansionary fiscal stance. Expenditures were mainly concentrated on legal obligations such as subsidies, social welfare spending and the national health program as well as full-fledged efforts to accelerate implementation of public works and infra structural projects. Taiwan's central authorities have begun to rely largely on domestic bonds and bank loans to finance the fiscal gap. In May 2002, Taiwan launched the Challenge 2008 Six-Year National Development Plan with US\$74 billion investment for economic growth. Tax incentives and preferential loan programs were also adopted to stimulate domestic investment. Meanwhile, monetary policy was used aggressively when the Central Bank cut policy rates nine times in 2001 and fourteen times in 2002.

Thailand has made use of fiscal stimulus since 1999. In 2001, budget allocations were made to support the rural economy and SME's. The government has implemented the decentralized approach by transferring the budget and allocating additional revenue to the local government. Combined with budgetary support for the restructuring of the financial sector, public debt has risen to around 55.1% of GDP at the end of September 2002. Beginning in 2003 the government plans to bring down public debt to less

than 55 percent of GDP by enhancing fiscal revenue through improved tax administration, and by monitoring closely its contingent liabilities and related risk factors. Thailand has adjusted its monetary policy in order to suit the changing economic situation. In June 2001, the Bank of Thailand tightened monetary policy to slow down capital outflows. The fiscal program focused on training and expenditures on agriculture, tourism and the SME sector. By year-end, monetary policy was relaxed to facilitate the fiscal policy stance.

5. Empirical evidence¹⁵

In this paper, an attempt is made to investigate the relative effectiveness regarding monetary and fiscal policies in generating growth during recession. Panel data analysis is used primarily for two reasons: (1) data limitation for each individual country during the recession period; and (2) broad coverage of SEACEN countries. The study is limited to include fiscal, monetary and the degree of openness as measured by the ratio of total exports and imports to GDP.

The model to be estimated is

$$\text{GDPR}_{it} = \alpha_{it} + \beta_{1it} \text{EXPR} + \beta_{2it} \text{MSR} + \varepsilon_{it} \quad (1)$$

Where i = cross section unit of $1 \dots n$, $t = 1, \dots T$, the number of observation,¹⁶ GDPR= Real GDP growth, EXPR= growth rate of fiscal spending and MSR=Money supply growth.

The level of economic openness, proxied by OPEN (Nominal exports plus imports as a percentage of GDP) is also included to test the interaction between EXPR and OPEN.¹⁷

15. Compared to monetary policy, there is relatively less work done on the effectiveness of fiscal policy. 'One reason why relatively little empirical work has been done is probably the difficulty in assembling the necessary data at high enough frequency and over sufficiently long periods (Perotti, 2002).

16. The general equation consists of Indonesia, Korea, Malaysia, Philippines, Singapore, Sri Lanka, Taiwan and Thailand. Estimation periods run from 1985-2001. Data are all yearly and are obtained from various issues of the SEACEN Financial Statistics, IFS,IMF and Key Indicators, ADB. All data, except INTER, are in log differences and in local currencies.

17. See Nair Reichert U., and Weinhold D., (2001). In general, the ratio of total imports plus exports as a percentage of GDP has gradually increased over the years.

$$\beta_k = \beta_{k0} + \beta_{k1} \text{OPEN}_{it} \quad (2)$$

In order to test whether the coefficients of EXPR depends on the level of openness to trade, we have $k=1$.

By substituting (2) into (1), we derive the model

$$\text{GDPR}_{it} = \alpha_{it} + \beta_{1it} \text{EXPR} + \beta_{2it} \text{MSR} + \beta_{3it} \text{INTER} + \theta_{it} \quad (3)^{18}$$

Where INTER is the interaction term (multiplication) between OPEN with EXPR.

Recent analysis of non-stationary data of unit roots and cointegration has been extended to non-stationary panel data series. The analysis of non-stationary data combines the best of both worlds: non-stationary data from cross-section time series and increased power from the panel (Chiang and Kao, 2000).

In our case, as growth rates are used,¹⁹ *a priori* each individual series is expected to contain no unit roots and therefore the panel data are expected to be stationary. Nevertheless, various versions of the Levin and Lin (1993) tests, the Im, Pesaran and Shin (1997) tests and Harris and Tzavalis (1999) tests are used to detect the existence of panel unit roots. In addition, we also re-estimate a sub-sample for equation (3) using the data set from the 1997 Asian financial crisis.

Table 1 shows that as expected, various tests of Harris and Tzavalis(1999), Im, Pesaran and Shin (1997), Levin and Lin (1992), and Breitung (2001) panel unit roots reject the null hypothesis of unit roots, implying that these variables are stationary. As all these variables are stationary, linear combination of these variables would also be stationary. For example, cross-section regressions would not be spurious. While it is not necessary to conduct panel cointegration test, the Pedroni (1995) and Kao (1999) cointegration tests confirm the existence of cointegration.

18. A 'casuality' assessment between the variables. While it is preferred that the study should be able to analyze whether there is a discernable difference in the effectiveness of macroeconomic policies between countries that have different degrees of openness, insufficient data, particularly during the crisis period make it statistically impractical to do so.

19. With the exception of INTER.

Table 1: Panel Unit Root Test²⁰

	GDPR	EXPR	MSR	INTER
Harris and Tzavalis (1999) 1/	Reject H_0	Reject H_0	Reject H_0	Reject H_0
Im, Pesaran and Shin (1997) 2/	Reject H_0	Reject H_0	Reject H_0	Reject H_0
Levin and Lin (1992) 3/	Reject H_0	Reject H_0	Reject H_0	Reject H_0
Breitung(2001)	Reject H_0	Reject H_0	Reject H_0	Reject H_0
Conclusion	No unit roots	No Unit roots	No Unit roots	No unit roots

1/ Model 1a, 1b & 1c

2/ LM_bar Test with time trend and without time trend, with serial correlation

3/ with serial correlation

From Table 2, in equation (i), it appears that from 1986 to 2001, fiscal spending and money supply are somewhat responsible for GDP growth. Over the sixteen-year period, the coefficient of government spending (EXPR) is smaller than that of money supply (MSR), indicating that on average, monetary policy is relatively more effective than fiscal policy in demand management. However, during the recession period, it appears that fiscal policy is more effective. By just examining the coefficient of fiscal spending in isolation, it has increased nearly threefold, from 0.038 (equation (i), sample: 1986-2001) to 0.117 (equation (ii), sample: 1997-2001).²¹ However, using the rolling estimates, the coefficient of the interaction (INTER) between fiscal spending and economic openness is significant for all period estimated. This indicates that economic openness has somewhat hampered the transmission process of fiscal spending to GDP growth.²² After taking into account the interaction factor, although

20. H_0 : The series has a unit root, all statistics at 0.01 percent.

21. Equation (ii) also has a good fit with the adjusted r-squared of around 0.94.

22. In one recent study of the effectiveness of fiscal policy in the OECD countries, Perotti (2002) notes that the magnitude of fiscal multiplier has become smaller over times. He notes that the estimated effects of fiscal policy tend to be small but positive and that the government spending multipliers larger than 1 tend to be the exception. He notes that perhaps credit markets have probably become more developed and thus customers are not as liquidity constrained as before, leading to a decline in the government spending multipliers.

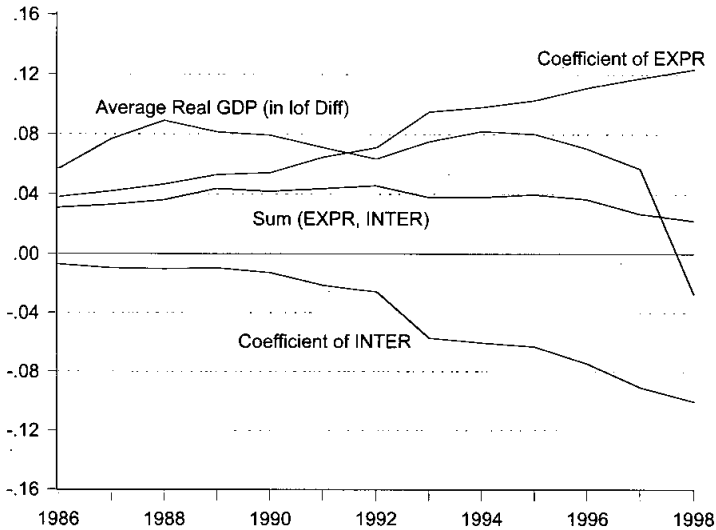
Table 2: Panel Data Estimation

Variable	(i)	(ii)
INTER	-0.007 -2.349 **	-0.091 -18.080 ***
MSR	0.146 ** 2.349	-0.168 -1.745
EXPR	0.038 ** 2.134	0.117 *** 37.292
INDO_C	0.085 ** 2.536	1.095 *** 15.597
KOR_C	0.1135 *** 2.701	1.091 *** 12.807
MAL_C	0.2114 *** 2.651	2.203 *** 15.180
PHI_C	0.2064 ** 2.2095	2.606 *** 17.128
SIN_C	0.2078 *** 2.866	2.065 *** 16.880
SRI_C	0.0202 ** 2.318	2.465 *** 17.100
TAI_C	0.1573 *** 2.803	1.537 *** 17.259
THAI_C	0.1782 *** 3.296	1.376 *** 16.856
R ²	0.467	0.944
Adjusted R ²	0.421	0.924
Prob(F-Statistics)	0.000	0.000
Durbin-Watson Statistics	1.514	2.486

Estimations using the GLS, cross section weights with White Heteroskedasticity-Consistent Standard Errors & Covariance are based on panel data from 1986-2001 for equation (i) with 128 observations. The dependent Variable is real GDP Growth (GDPR.) The bias-corrected t-statistics are reported in parentheses. (*),(**), (***) denote the coefficient is significantly different from zero at ten, five and one percent level respectively. Equation (ii) uses sample from 1997-2001 with 40 observations.

the effectiveness of fiscal spending declines somewhat since 1997, it appears that the effectiveness of fiscal spending is consistently considerable throughout the period (Chart 3). Fiscal policy is still *Keynesian* during the recession period implying that during the recession years of 1997-2001, government expenditure plays a role in contributing to economic recovery. On average between 1997-2001, a 10 percent increase in government expenditure will increase real GDP growth by around 0.26 percent. It also appears that there is considerable degree of heterogeneity of cross sectional effect, with the coefficients of the constant term showing considerable variation. ²³

Chart 3: Rolling Estimates and Real GDP



Coefficients of EXPR and INTER from rolling equation (3). All coefficients of EXPR and INTER are significant at least at 0.05 percent. Sum (EXPR and INTER) is the sum of the coefficient INTER and EXPR. Year represents the beginning of sample size. (For example, 1990 uses sample size from 1990-1998).

23. Insufficient data render impossible the estimation of separate equations for each country. Also, in light of Perotti's (2002) comments summarized in footnote 15, our empirical study should be viewed with some caution.

To summarize:

During the 1997 Asian financial crisis, initial fiscal and monetary targets in the crisis countries were contractionary. But as the recession grew worse, these targets turned expansionary. In most SEACEN countries, such counter cyclical policies were helped by the fact that either the fiscal budget prior to the crisis was in surplus or balance. Since the September 11, 2001 event, public spending increased to sustain domestic demand, to alleviate the negative impact of the slowdown in the external sector. This was particular evident in Malaysia, Singapore, Taiwan and Thailand. However, budgetary concerns have limited the use of fiscal stimulus in Indonesia and the Philippines and Sri Lanka. For these countries, priority should be given to addressing existing structural problems while attempting to achieve macroeconomic balance. One way is to speed up the privatization process to relieve fiscal constraints. If economic fundamentals remain strong as shown as in the Philippines, monetary policy remained effective. The case of the Philippines shows that if fiscal policy were eased, it would have exerted pressure on interest rates and thus constraining the implementation of monetary policy (Pandey and Weerasinghe, forthcoming). On the other hand, Korea managed to reduce its fiscal deficit for some years after 1997, though the absolute value of spending remained relatively large. Strong revenue growth enabled the fiscal balance to eventually turn into surplus.

- The panel data results indicate that, changes in fiscal policy appears to have had some impact on economic activity during the entire sample period as well as during the recession period. Leakages such as those through imports that would have reduced the effectiveness of the fiscal spending appear minimal for most periods. However, the slight decline of the multiplier effect during the 1997 Asian crisis may be due to the higher leverage of corporate, as opposed to national, debt. In addition, there were structural weaknesses in the financial sector, which may have reduced the effectiveness of the policy transmission process. However, fiscal policy remains *positively Keynesian*.

- In Malaysia, counter cyclical fiscal policy was adopted much later than other countries following the 1997 financial crisis.²⁴ While others were moderating their fiscal expansion, Malaysia continued to enhance fiscal stimulus mainly through discretionary means, supported by the turnaround in economic activity and higher oil prices. Malaysia's fiscal dynamics was also enhanced by the low level of federal government debt (by international standards). Malaysia also imposed capital controls and fixed its currency to the US dollar and undergone several significant structural changes. Singapore, though generally conservative as far as fiscal policy is concerned, has begun to use fiscal policy as part of the overall counter cyclical package.

6. Conclusion

Small economies in particular those with flexible exchange rates are constantly subjected to the contagion effect, exchange rate instability, speculative capital flows, shifts in market sentiments, and constant scrutiny of macroeconomic policy.²⁵ The management of economic expansion and volatility requires a set of tools consistent with a set of flexible macroeconomic policies (fiscal, monetary and exchange rate) and a system of strict prudential regulation with a clear counter cyclical orientation (Ocampo, 2002).

In a recession, it may be necessary to design a mix of monetary and fiscal policy in which fiscal policy is geared towards stabilizing economic activity and sustaining domestic demand and monetary policy towards providing a conducive environment to support fiscal policy. To enhance the effectiveness

-
24. On 24 March 1998, an additional expenditure of RM1 billion was also provided for socio-economic projects to protect the more vulnerable segments of society. It should also be noted that the Malaysian authorities had made proposals to introduce a budget deficit as early as January-February 1998. They were deferred on the advice of Fund staff who cautioned that a deficit budget would send the wrong signal to the markets and urged for tighter fiscal and monetary policy to stabilise the ringgit. In fact in March 1998, the appeal made during the Article IV February-March 1998 to accommodate a small deficit was turned down by the Fund. During the consultations, the Fund insisted on a surplus of 2.5% of GNP. The final compromise was a surplus of 0.5%. Convinced however that the Fund advice was not appropriate, the authorities unilaterally announced an additional RM7 billion expenditure in May 1998. It should also be noted that Malaysia entered the crisis at a later stage.
25. It must be pointed out that countries must have strong fundamentals in order to withstand the volatility in international flows of goods and capital. The worst outcome can be expected for a country that has poor fundamentals and maintain an inflexible exchange rate regime.

of counter cyclical fiscal policy, there must be a coordinated liquidity support to stabilize domestic financial markets. It is also important to undertake reforms in the banking and corporate sectors.

In the longer run, “expansionary policies”, whether fiscal or monetary, must still be assessed against the risks to long-term sustainability. Increased government spending and rising sovereign debt could lead not only to the deterioration of the balance sheet of the public sector but also to possible structural changes, such as permanently higher future tax levels. High levels of debt may limit the ability of fiscal policy to face future challenges.²⁶ However, it must be emphasized that the sovereign debt rating for the majority of SEACEN countries remain reasonably good and public debt levels are manageable. While built-in automatic stabilizers may not be effective in developing countries, it is worthwhile to investigate and fine-tune the components to suit domestic requirements, in particular, in the design and operation of tax and expenditure programmes (Hemming and Petrie, 2002).

Government spending should help boost private investments to increase productivity growth. A number of studies have reported the importance of government investment-economic growth linkage (Munnell (1990), Berndt and Hasson (1992), and Cashin (1994)). But as with other kinds of investment, the quality of investment matters. Although empirically these variables are difficult to quantify, in general government expenditures on the infrastructure would normally increase the productivity of the private sector (Gerson, 1998). In any case, the response lag of public investment expenditure is rather long. Therefore, it is crucial to speed up the implementation process. In addition, it is important that fiscal spending be designed in such a way as to include social safety nets to protect vulnerable groups (Ocampo, 2002).

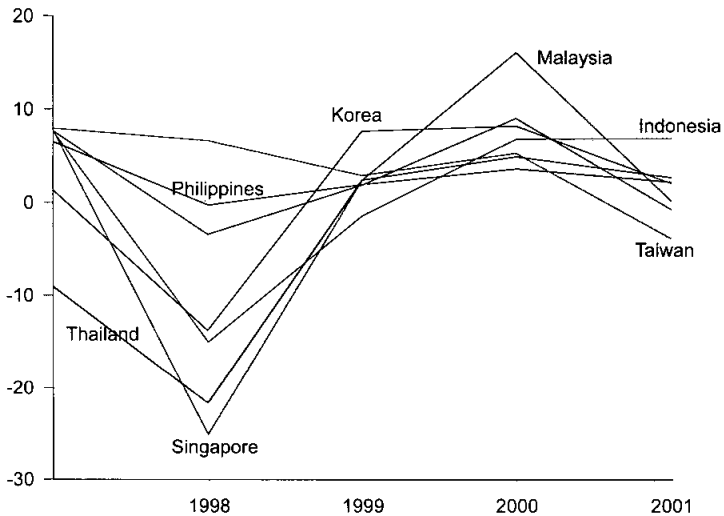
Hemming et al. (2002) note that the “proper fiscal response to a downturn in the economy will depend on a range of factors” and that the following key questions should be answered:

1. *“What is the source of a downturn in economic activity? Fiscal policy will be more effective if output is constrained on the demand side, in which case the presumption should be that a fiscal expansion is appropriate.”* Apart from deteriorating external demand, in 1998 domestic

26. The larger the share of debt payments in total fiscal spending, the less effective is fiscal policy in generating growth.

demand declined by over 20 percent in some SEACEN countries and many SEACEN countries also registered negative growth in domestic demand in 2001 (Chart 4). In this scenario, there is probably a need to boost and sustain domestic demand and fiscal expansion is likely to be able to remove constraints on the demand side.

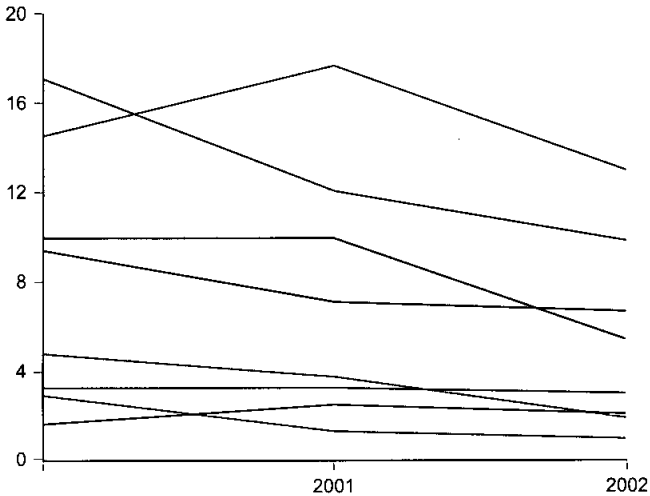
Chart 4: Real Domestic Demand (% Changes)



2. ***“How responsive are interest rates, the exchange rate and prices to a fiscal expansion? This will determine the extent of crowding out, and whether fiscal multipliers are fairly large or fairly small.”*** Currently, inflation in SEACEN countries excluding Myanmar is not a major concern, averaging about 2.1 in 2002 as compared to 2.4 percent in 2001.²⁷ The subdued inflation rate is partly due to stable exchange rate and utility prices. Furthermore, in several SEACEN countries that pursued fiscal expansion, such as Malaysia and Taiwan, key interest rates have remained, on average, consistently low (Chart 2 & 5).

27. SEACEN Trends and Outlook, 2003

Chart 5: Key Interest Rates (%)



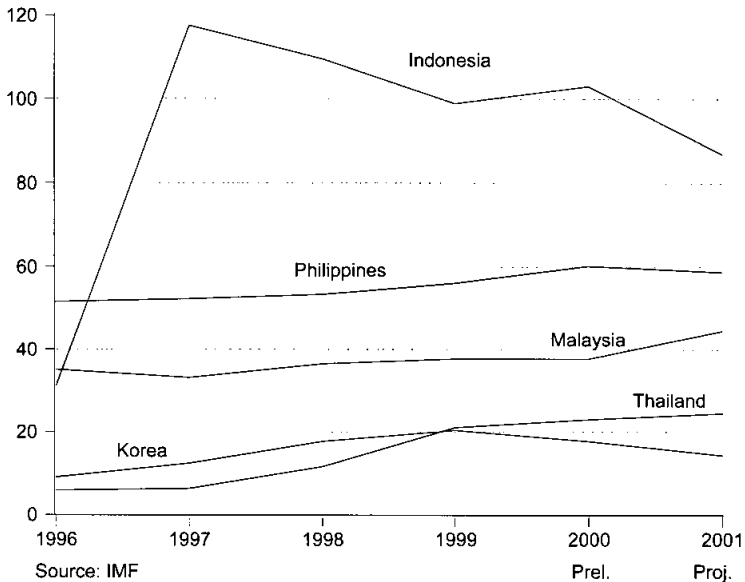
- Indonesia (SBI, 1 month)
- Korea (3-year Corporate Bond)
- Malaysia (Average 3-month Interbank)
- Philippines (91-day Treasury Bill)
- Singapore (3-months Domestic Interbank)
- Sri Lanka (Repo)
- Taiwan (Overnight interbank Call-loan)
- Thailand (PR-14 days)

3. ***“Are accompanying policies supportive? An accompanying monetary expansion will limit crowding out through interest rates and exchange rates.”*** The answer is yes. Monetary policy is generally accommodative but of limited inflationary consequences, giving monetary policy room for maneuver. Strong supportive banking and reforms policies in the banking sector help to remove structural rigidities and improve the effectiveness of policy responses.

4. ***“Is fiscal expansion likely to be permanent and is government debt sustainable? This will influence whether a fiscal expansion could lead to higher risk premia and increased uncertainty, in which case a fiscal***

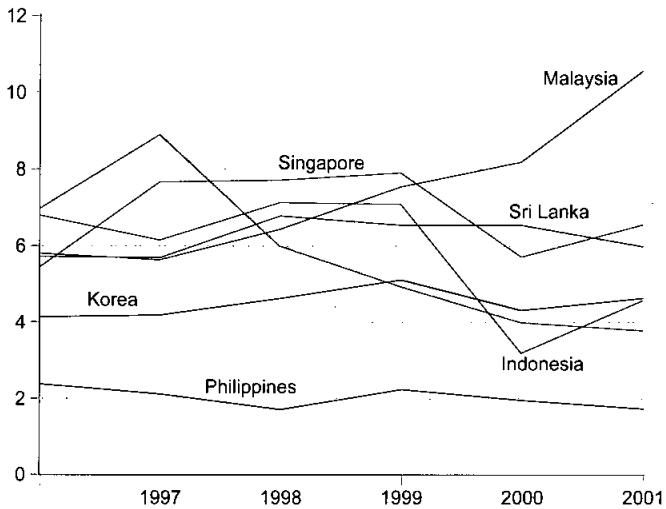
contraction may be appropriate.” Apart from Indonesia and to some extent the Philippines, the central government debt as a percent of GDP remains low (Chart 6). Malaysia, Singapore and Taiwan that introduced various fiscal stimulus packages will face no difficulties in terms of fiscal and debt sustainability. Korea and Thailand have some scope for fiscal expansion and there is no imminent vulnerability in the debt sector. They have begun to rationalize fiscal spending to reduce future debt burdens.

Chart 6: Central Government Debt (% of GDP)



5. *“What is the composition of a fiscal expansion or contraction? Increase in spending tends to be associated with larger fiscal multipliers than tax cuts...The distinction between productive and unproductive spending may also matter.”* In Malaysia and Korea, capital expenditure as a percent of GDP has been on the rise (Chart 7). Singapore and Indonesia have also experienced some increase in capital expenditure in 2001.

Chart 7: Capital Expenditure (% of GDP)



Notwithstanding the fact that prior to September 11, 2001 a large part of the public debt in some of the SEACEN countries had already been incurred as a result of financial restructuring, fiscal policies still remain a viable policy option as public debt remains at manageable and sustainable levels. However, since the open economies of the region are especially vulnerable to significant risks, it is extremely important for SEACEN countries to retain fiscal flexibility so that they could implement counter cyclical fiscal policies when required by macroeconomic circumstances.

References

1. Asian Development Bank, *Asian Development Outlook*, Various Issues.
2. Asian Development Bank, *Asia Economic Monitor*, Various Issues.
3. Alesina, Alberto, Roberto Perotti and Joce Tavares, The Political Economy and Fiscal Adjustments, *Brooking Papers on Economic Activity*, 1998(1), 1998.
4. Alesina Alberto, Silvia Ardanga, Roberto Perotti and Fabio Schiantarelli, Fiscal Policy, Profits and Investment, *NBER Working Paper*, No. 7207, July 1999.
5. Auerbach A.J., and Kevin A. Hassett *Fiscal Policy and Uncertainty*, presented on 11 July 2002 at the Conference on Stabilizing the Economy: What Roles for Fiscal and Monetary Policy? sponsored by the Greenberg Center for Geo Economic Studies at the Council on Foreign Relations, with the support of International Finance.
6. Auerbach Alan and Daniel Feenberg, The significance of Federal Taxes as Automatic Stabilizer, *NBER working paper*, No. 7662, 2000.
7. Auerbach Alan J., *Is there a Role for Discretionary Fiscal Policy*, Paper presented at a Conference sponsored by the Federal Reserve Bank of Kansas City on Rethinking Stabilization Policy, Jackson Hole, WY, August 29-31, 2002.
8. Baldacci E., Cangiano M., Mahfouz S., and Schimmelpfennig A, *The Effectiveness of Fiscal Policy in Stimulating Economic Activity: An Empirical Investigation*, Paper presented at Second Annual Research Conference organized by the IMF, Washington, November 29-30, 2001.
9. Barro Robert J., The Ricardian Approach to Budget Deficits, *Journal of Economic Perspectives*, No. 3, Spring, 1989.
10. Barro, Robert J., "Are Government Bonds Net Wealth?" *Journal of Political Economy*, 82, 1974.
11. Bayoumi and Eichengreen, Restraining Yourself: The Implications Of Fiscal Rules For Economic Stabilization, *IMF Staff Papers*, 42,1, 1995.

12. Bergsten, Fred C., APEC to the Rescue, *The Economist*, 7th November 1998.
13. Blanchard Olivier and Roberto Perotti, An Empirical Characterization of the Dynamic Effects of Changes In Government Spending And Taxes On Output, *NBER Working Paper*, No: 7269, July 1999.
14. Breitung J., The Local Power of Some Unit Roots Tests For Panel Data, *Advances In Econometrics*, No.15, 2000.
15. Budnevich L. Carlos, Counter cyclical Fiscal Policy, *Discussion Paper*, No.2002/41 UNU/Wider, 2002.
16. Camdessus, Michel, *The IMF and its Programs in Asia*, Remarks at the Council of Foreign Relations, New York, 6 February 1998.
17. Cashin, Paul, Government Spending, Taxes and Economic Growth, IMF WP/94/92, *IMF Working Paper*, 1994.
18. Cecchetti G. Stephenm, *The Problem with Fiscal Policy*, Occasional Essay on Current Policy Issues No.18, Department of Economics, Ohio State University, January 2002,
<http://economics.sbs.ohio-state.edu/cecchetti/pdf/cpi18.pdf>.
19. Chiang M-H and Kao. C., *Non Stationary Panel Time Series using NPT 1.1- A user Guide*, Centre for Policy Research, Syracuse University, USA, 2000.
20. Clark Glen, *Budget Speech*, Legislative Assembly of British Columbia, 1993.
21. Dornbusch Rudiger and Fischer Stanley, *Macroeconomics*, Sixth Edition, International Edition, 1994.
22. Economist, *Fiscal Flexibility: Could Finance Ministers Learn a Few Tricks from Central Bankers*, 27 November, 1999
23. Eichengreen Barry, Ricardo Hausmann, and Jürgen von Hagen, 1996, "Reforming Budgetary Institutions in Latin America: The Case for a National Fiscal Council", Banco Interamericano de Desarrollo, IDB *Working Paper*, No. 011, 1996.

24. Fischer S., *The Asian Crisis: Lessons for the Future*, Speech delivered at HKMA Fifth Distinguished Lecture, 21 May 2002, www.info.gov.hk/hkma/eng/speeches/speechs/joseph/20020521ea.htm
25. Fischer, Stanley, *The IMF and the Financial Sector*, Introductory Remarks given at the Seminar on Financial Risks, System Stability, and Economic Globalization, Washington D.C., June 5, 2000.
26. Fischer, Stanley, *Economic Crises and the Financial Sector*, prepared for the Federal Deposit Insurance Corporation, Conference on Deposit Insurance, Mayflower Hotel, Washington D.C., September 10, 1998.
27. Federal Reserve Bank of San Francisco, *The role of Fiscal Policy*, *FRBSF Economic Letter*, No 2002-26, September 6 2002.
28. Gerson Philip, *The Impact of Fiscal Policy Variables on Output Growth*, *IMF Working Paper*, WP/98/1, January 1998.
29. Goldstein, Morris, *The Asian Financial Crisis: Causes, Cures, and Systemic Implications*, Institute For International Economies, Washington D.C., June 1998.
30. Harris, Richard D.F. and Tzavalis E., *Inference for Unit Roots in Dynamic Panels where the Time Dimension is Fixed*, *Journal of Econometrics*, Volume 91, Issue 2, August 1999.
31. Heller S. Peter, *Considering the IMF's Perspective on a "sound Fiscal Policy*, paper presented at an EPRU-Network Conference on Danish and International Economic Policy, at the Institute of Economics, University of Copenhagen, May 23-24, 2002,
32. Hemming R., Kell M., and Mahfouz S., *The Effectiveness of Fiscal Policy in Stimulating Economic Activity: A Review of the Literature*, *IMF Working Paper*, WP/02/208, December 2002.
33. Hemming R., and Petrie M., *A Framework for Assessing Fiscal Vulnerability, in Government At Risk, Contingent Liabilities and Fiscal Risk*, Hana Polackova Brix and Allen Schick (editors), The International Bank for Reconstruction and Development/ The World Bank, 2002.
34. Hemming R., Mahfouz S., and Schimmelpfennig A., *Fiscal Policy and Economic Activity During Recessions in Advance Economies*, *IMF Working Paper*, WP/02/87, May 2002.

35. Im, K.S., M.H. Pesaran, and Y. Shin, "Testing for Unit Roots in Heterogeneous Panels", *Working Paper*, No. 9526, Cambridge University, 1995.
36. International Monetary Fund, *Letter of Intent, Indonesia*, April 9, 2002, <http://www.imf.org/External/NP/LOI/2002/idn/01/>
37. Kao C., Spurious and Residual-based Tests for Cointegration in Panel Data, *Journal of Econometrics*, 90, 1999.
38. Kanitta M., Lee I. H., Liu O., Khatri Y., Tamirisa N., Moore M., and Krysl M. H., Malaysia: From Crisis to Recovery, *IMF Occasional Paper*, No. 207, 2001.
39. Krugman, Paul R., "Time on the Cross: Can Fiscal Stimulus Save Japan?" 1999, Paul Krugman's website, <http://web.mit.edu/krugman/www/SCURVE.htm>.
40. Lane R. Philip, *Business Cycles and Macroeconomic Policy in Emerging Market Economies*, Version: June 2002 prepared for the Council on Foreign Relations/International Finance conference on "Stabilizing the Economy: What Roles for Fiscal and Monetary Policy?", July 11 2002. <http://www.economics.tcd.ie/plane>.
41. Lane R. Philip, *Cyclical Behaviour of Fiscal Policy: Evidence from the OECD*, Institute for International Integration Studies, Trinity College Dublin and CEPR, February 2002.
42. Larsen Fleming, The role of Fiscal Policy in Crisis Situation, *Response to Point de vue de Joseph E. Stiglitz, "L'actualité de Keynes," Les Echos*, June 3, 2002. <Http://www.imf.org/external/np/vc/2002/061702.htm>
43. Laurence S. Seidman and Kenneth A. Lewis, *Automatic Fiscal Policy: A New Design*, *International Finance*, 5 (2), Summer 2002.
44. Lawrence Seidman, Reviving Fiscal Policy, *Challenge*, May/June 2001.
45. Levin, A. and C.F. Lin, *Unit Root Tests in Panel Data: Asymptotic and Finite-Sample Properties*, unpublished manuscript, University of California, San Diego, 1993.

46. Levison, A. Balanced Budgets and Business Cycle: Evidence from the States, *National Tax Journal*, 51, 4, 1998.
47. Meltzer, Allan, *Commentary Monetary Policy at Zero Inflation in New Challenges for Monetary Policy*, Federal Reserve Bank of Kansas, Proceedings of a Conference at Jackson Hole, Wyoming, August 1999.
48. Minsky, H, *Can't "It" Happen Again? Essays on Instability and Finance*, Armonk, N.Y. M.E. Sharpe, Inc, 1982.
49. Mundell R., The Appropriate Use of Monetary and Fiscal Policy under Fixed Exchange Rates, *IMF Staff Papers*, No. 9, March 1962.
50. Munnell, Alica H, Why has Productivity Growth Declined, *New England Economic Review*, Vol.1. No.3, 1990.
51. Nair-Reichert U., and Weinhold D., Causality Tests for Cross-country Panels: A new look at FDI and Economic Growth in Developing Countries, *Oxford Bulletin of Economics and Statistics*, 63,2, 2001.
52. Obstfeld, Maurice, International Macroeconomics: *Beyond the Mundell-Fleming Model*, December 2000, *The Mundell-Fleming Lecture*, presented at the First Annual Research Conference of the International Monetary Fund, November 9-10, 2000, Washington, D.C., December 2000.
53. Ocampo J.A., *Developing countries' Anti-cyclical Policies in a Globalized World*, European Commission for Latin America and the Caribbean (ECLAC) June 2002.
<http://www.eclac.cl/publicaciones/SecretariaEjecutiva/0/LCL1740PI/lcl1740i.pdf>.
54. Pandey R. P., and P. N. Weerasinghe, Global Economic Slowdown: Macroeconomic Impact and Policy Options, *Staff paper*, The SEACEN Centre, Forthcoming.
55. Pedroni P., *Panel Cointegration: Asymptotic and Finite Sample Properties of Pooled Time Series with an Application to the PPP Hypothesis*, Manuscript, Department of Economics, Indiana University, 1995.
<http://www.iue.it/Personal/Perotti/papers/isom2002revisionsept02.pdf>.

56. Perotti Roberto, *Estimating the Effects of Fiscal Policy in OECD countries*, Paper presented at the ISOM conference, Frankfurt, September 2002. <http://www.iue.it/Personal/Perotti/papers/isom2002revisionsept02.pdf>.
57. Perotti Roberto. Fiscal Policy in good Times and Bad, *Quarterly Journal of Economics*, Vol:114, November 1999.
58. Radelet, Steven, and Jeffrey Sachs, *The East Asian Financial Crisis, Diagnosis, Remedies, Prospects*, Harvard Institute for International Development, 20 April 1998.
59. Rojas-Suárez, Iliana, From the Debt Crisis Towards Economic Stability: An Analysis of the Consistency of Macroeconomic Policies in Mexico, *IMF Working Paper*, WP/92/17, March 1992.
60. Romer, Christina D. and David Romer, *What Ends Recessions?* in S. Fischer and J. Rotemberg, (editors), *NBER Macroeconomics Annual*, 1994.
61. SEACEN Member Banks, *SEACEN member bank's questionnaire reply to SEACEN Economic Trends and Outlook*, 2003.
62. Sunderland Alan, Fiscal Crises and Aggregate Demand: Can High Public Debt Reverse the Effects of Fiscal Policy, *Journal Of Public Economics*. Vol.65, August 1997.
63. Talvi E., Wegh A. Carlos, Tax Base Variability and Procyclical Fiscal Policy, *NBER working paper*, No. 7499, January 2000.
64. Taylor J., *The Policy Rule Mix: A Macroeconomic Policy Evaluation*, prepared for the Robert A. Mundell Festschrift Conference, organized by Guillermo Calvo, Rudi Dornbusch, and Maurice Obstfeld and held at the World Bank, Washington, D.C., October 24, 1997.
65. Taylor, J, Reassessing Discretionary Fiscal Policy, *Journal of Economic Perspectives*, Vol.14, No.3, Summer, 2000.
66. The World Bank, *Asia, The Road to Recovery*, , The World Bank's Website, 1998.

67. U.S President, *Economic Report of the President*, February, 1992.
68. Villanueva D., and C.S. Lim, Optimal Policy Mix, *Staff Paper*, No.62, The SEACEN Centre, 2000.
69. Von Hagen, Jurgen and Ian. Harden, Budget Processes and Commitment to Fiscal Discipline, *European Economic Review*, Vol. 39, 1995.
70. Walsh E. Carl, The Role of Fiscal Policy, Federal Reserve Bank of San Francisco, *Economic Letter*, Number 2002-26, September, 2002.

STAFF PAPERS

Staff Papers No.	Title	Author
52	Market-Oriented Central Banking	<i>Vicente B. Kaldepeñas, Jr.</i>
53	Money, Income, Prices and Causality: the Nepalese Case	<i>Danda Pani Paudel</i>
54	Structural Changes and Policy Issues in Asean Financial Markets	<i>Vicente B. Valdepeñas, Jr.</i>
55	Savings Mobilization: The Case of Indonesia	<i>Mulyana Soekarni</i>
56	International Cooperation in Central Banking	<i>Vicente B. Valdepeñas, Jr.</i>
57	Social and Political Factors in a Model of Endogenous Economic Growth and Distribution: An Application to the Philippines	<i>Delano Villanueva</i>
58	Exports and Economic Development	<i>Delano Villanueva</i>
59	The Effects of Government Policy and Capital Liberalisation on Private Saving in SEACEN Countries	<i>Seung-Je Hong</i>
60	The Macroeconomic Dimension of Monetary Policy	<i>Delano Villanueva</i>
61	Asset Price Inflation and Control Measures in Selected SEACEN Countries	<i>Edited by Diwa C. Guinigundo Bangko Sentral ng Pilipinas</i>
62	Optimal Policy Mix under Financial Crisis	<i>Delano Villanueva Lim Choon-Seng, Vincent</i>
63	Sustainability of the Current Account Deficits	<i>Lim Choon-Seng, Vincent Delano Villanueva</i>
64	Soundness of Financial Institutions and Economic Growth: Lessons from the Asian Financial Crisis	<i>Gloria O. Pasadilla</i>
65	Financial Stability Through Systemic Financial Reforms the Asian Experiences	<i>Pichit Patrawimolpon</i>
66	Determination of Equilibrium Real Exchange Rate in Selected SEACEN Countries	<i>Song Ouk-Heon Lim Choon Seng, Vincent</i>
67	Impact of Stock Market on Monetary Policy in the SEACEN Countries	<i>Jung Jee Young Lim Choon Seng, Vincent</i>

A complete list of the Staff Papers series can be obtained from:
 The Library and Information Unit
 The SEACEN Centre
 Lorong Universiti A
 59100 Kuala Lumpur
 Malaysia