# Fighting Unemployment during Recessions: A Review of Fiscal Policies in Theory and Practice*

Pawin Siripraphanukul[a]
Nada Wasi[b]

## I. INTRODUCTION

Economic crises typically involve a profound decline in output and employment. Based on historical data of financial crises around the world, Reinhart and Rogoff (2009) find that on average the unemployment rate rises by 7 percentage points and lasts over four years. Output falls by about 9 percent, with an average duration of roughly two years.

The ongoing crisis that originated in the financial sector of the United States in the late 2000s has affected many countries around the world. By the second quarter of 2008, Japan's GDP shrank by 0.9 percent from the level of the previous quarter, and negative growth rate continued into the first quarter of 2009, reaching –3.8 percent. The output of the United States started to drop in the third quarter of 2008, falling by 1.37 percent compared with that of the previous quarter. In the forth quarter of 2008, Singapore's economy shrank by 4.2 percent. The GDP of the United Kingdom shrank by almost 2.5 percent in the first quarter of 2009, the worst performance since 1980. Thailand felt the impact of the crisis in the forth quarter of 2008, when the economy shrank by 5.09 percent compared with that of the previous quarter. The International Monetary Fund (IMF) has forecast that Thailand's economic growth rate will be –3.5 percent in 2009.

The most recent data from the International Labour Organization (as of November 2009) show that the unemployment rate has risen in almost every country of the world compared with that of 2007. Unemployment in the United States skyrocketed from 4.6 percent to 9.4 percent, the highest rate since September 1983.[1] The unemployment rate in the United Kingdom increased from 5.4 percent to 7.6 percent as of November 2009. Among Asian economies, the figure for Japan's unemployment rate rose from 3.8 percent to 5.4 percent; Singapore's from 2.1 percent to 3.6 percent; and Taiwan's from 3.9 percent to 6.1 percent. For Thailand, the most up-to-date figure for unemployment is 1.8 percent (May 2009), compared with 1.4 percent in 2007.

Prasad and Sorkin (2009) reported that, by the last quarter of 2008, conventional monetary policy appeared to have reached its limit in many countries. Fiscal policy has become essential to help the global economy recover from the global slump. At the November 2008 G-20 Summit, the leaders of the member countries promised to use fiscal measures to stimulate domestic demand in a concerted and coordinated manner in order to boost their economies. Other leaders around the world also announced a set of policies aimed at restoring economic activity and addressing rising unemployment. These policies include rebates on income tax and corporate tax, the issuance of stimulus checks, support for infrastructure projects, making available low-interest loans, employment services as well as the provision of social hardship assistance for those in need.

Given that this is not the first time that these types of policies have been implemented, this article aims to review what we have learned about them from the past. More specifically, we attempt to shed light on the following set of questions: What economic theory predicts about the outcomes of these policies? Which programs were more effective in creating jobs in practice? Were the programs designed to assist the unemployed get back to work successful? Were there any unintended consequences of programs which provided temporary income support during periods of job loss?

In the next section, we review the theoretical underpinnings of these types of policies. Past empirical evidence of the effects on the whole economy and on unemployed workers who participated in such programs is also presented. Government policies implemented since the beginning of the ongoing global crisis in eight selected countries are discussed in section III, with section IV providing the conclusion and discussion.

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[a] *Lecturer, Faculty of Economics, Thammasat University*
[b] *Research Fellow, School of Finance and Economics, University of Technology Sydney; Corresponding author, telephone: +61 9514 3203; email: nada.wasi@gmail.com*

## II. THEORETICAL UNDERPINNINGS AND EMPIRICAL EVIDENCE

In classical economics, an economic system functions best when individuals are free to pursue their self-interest. This doctrine, known as *laissez-faire* (French for "allow to do" or "let it be"), holds that the government should intervene as little as possible because the "invisible hand" of competition would lead to the most efficient outcome.

*Laissez-faire* says virtually nothing about the role of government in mitigating unemployment problems in a time of crisis. Keynes argued that, during a severe economic downturn, the economy is less likely to recover by itself. As optimism dies, businesses would not increase production even when the market mechanism drives interest rates down. The government needs to increase aggregate demand in order to stimulate production and increase employment. In general, Keynes argued for the government to play such a role in stabilizing the economy (see also Musgrave and Musgrave 2005). In section II.A, we discuss various measures that governments could use to increase demand and their empirical evidence. A large component of the stimulus plans adopted by a number of countries is influenced by the Keynesian school.

Another key component is an assortment of programs designed to assist the unemployed, such as income transfer or job-search assistance programs. Such programs target people with labor market disadvantages (low skill, little experience, poor family background), who are considered to be the most vulnerable to the shocks caused by recessions. Equity judgment furnishes the rationale for governments to intervene in the market in such cases. The Keynesian model also considers such programs to be desirable automatic stabilizers.[2] Yet, its aggregate nature does not enable one to analyze the implication of such programs on decisions of the workers (program participants) and the firms involved. In section II.B, we review the job-search matching model, the analytical tools on which economists have relied to understand the role of labor market policies with regard to employment and unemployment.

### A. The Keynesian Model and Evidence at the Aggregate Level

Keynes argued that the government should smooth out fluctuations in the economy. During an economic crisis, counter-cyclical policies which can boost spending or the total demand in the economy should be used. An increase in aggregate demand will in turn stimulate more production and employment.

Recall that aggregate demand can be decomposed into four components: household consumption expenditure (C), private domestic investment (I), government spending (G), and net exports (X-M). In order to boost demand, the authorities could try to increase C, I and G, which can be done through expansionary fiscal and monetary policies. Here, we focus only on expansionary fiscal policies.[3] Various stimulus proposals have been put forward by governments around the world. Below we classify them into three categories corresponding to C, I and G components:

(1) *Stimulus aimed at consumers:* Provisions in this category range from personal income tax reductions or tax rebates to reductions in the contributions from workers for unemployment insurance.

(2) *Stimulus aimed at firms:* Measures in this category attempt to create incentives for firms to increase production or at least not to cut back their current operations. The provisions include wage subsidies, subsidies or reductions in corporate tax rates, and reductions in the employers' contributions to social security insurance, as well as help to enable small businesses to gain access to credit.

(3) *Government spending:* Government (public) spending exists in two forms:

(3.1) *Government consumption*: This form of spending refers to an increase in employment in public sectors or an increase in salary for government employees.

(3.2) *Government investment*: This form of spending involves investment in infrastructures; it has played a major role in all crises in the past. The investment can be for a variety of infrastructures: public transportation, roads, schools, libraries and broadband Internet.

An immediate question arises: by injecting the same amount of money into the economy, which stimulus provision would put back into the economy the most? To answer this question, we can look at the fiscal multiplier associated with each provision. The fiscal multiplier tells us how much GDP is increased from one unit increase in fiscal expenditure on a certain provision, holding other things constant. Table 1 reports the multiplier estimates from empirical studies, most of which are from the United States.

There are some notable results. First, all short-run estimates are generally less than 1, while estimates from the long-run studies range from no effect to 5.1. Second, among the short-run studies, government spending produces the biggest "bang for the buck." Stimulus aimed at consumers comes next, while stimulus aimed at firms is the least effective measure. For stimulus aimed at consumers, most studies report that the increase in the spending of low-income and credit-constrained households is significantly higher than that of high-income households. Third, there is no significant difference between the effects of government consumption and government investment. Multiplier estimates for both of these forms of spending are somewhat similar.

**Table 1 Estimates of Fiscal Multipliers**

| No. | Type | Multiplier estimates | |
|---|---|---|---|
| | | Short-run (1 quarter) | Long-run (1 year or longer) |
| 1. | Stimulus aimed at consumers | 0.2 – 0.4 (Johnson et al. 2006) | 0.7 – 2.3 (Blanchard and Perotti 2002) |
| | | 0.2 (Broda and Parker 2008) | 1.2 – 4.0 (Romer and Romer 2008) |
| | | 0.7 (Blanchard and Perotti 2002) | 0.3 – 1.3 (Zandi 2008) |
| | | 0.2 – 1.0 (Elmendorf and Furman 2008) | 0.0 – 1.0 (Elmendorf and Furman 2008) |
| 2. | Stimulus aimed at firms | 0.2 (Elmendorf and Furman 2008) | 0.2 (Elmendorf and Furman 2008) |
| | | | 0.3 (Zandi 2008) |
| 3. | Government spending | 0.8 – 0.9 (Blanchard and Perotti 2002) | 0.5 – 1.3 (Blanchard and Perotti 2002) |
| | | 1.0 (Elmendorf and Furman 2008) | 1.0 (Elmendorf and Furman 2008) |
| | 3.1 Government consumption | Not applicable | 0.6 – 2.2 (Perotti 2006) |
| | | | 1.4 (Zandi 2008) |
| | 3.2 Government investment | Not applicable | –0.7 – 5.1 (Perotti 2006) |
| | | | 1.6 (Zandi 2008) |

Apart from the effectiveness of these various measures, Spilimbergo et al. (2008) recommended that during a crisis stimulus packages should also be: (1) timely, to address the problem within an appropriate period; (2) large, to deal with the scale of the crisis; (3) lasting, because the crisis could continue for some time; (4) diversified, because the effect of a single measure cannot be certain; (5) contingent, because flexible policy is required to deal with the highly uncertain nature of the crisis; and (6) sustainable, to avoid adverse reactions from the markets, e.g., zero or negative fiscal multipliers.

With these considerations in mind, some recommendations are summarized in Table 2.

## B. Job-search Matching Framework and Evidence at the Individual Level

To analyze the role of labor market policies on the decisions of workers and firms, economists have relied on the job-search matching framework developed in the late 1970s.[4] There is no single form of this model, but all of the models emphasize friction in the market. This means that it takes time and other resources for a worker to find a job that fits. The information in the market is limited. We informally discuss only some basic ideas here and refer interested readers to Holmlund (1998) and Rogerson et al. (2005) for thorough surveys and discussions on the evolution of this model.

**Table 2 Recommendations on Some Popular Fiscal Measures**

| Type of measure | Advantage | Risk |
|---|---|---|
| Stimulus aimed at consumers | Can be implemented very rapidly. | In the literature, involves lower fiscal multipliers than government investment and government consumption. |
| | **Recommendation:** These measures should be directed toward the target groups, such as low-income and credit-constrained people. The government should make it clear that these are just temporary measures. Other supporting measures to increase consumer confidence should also be implemented. | |
| Stimulus aimed at firms | Can be implemented cheaply and rapidly. May provide the labors with valuable skills. | May not stimulate employment, as firms may take a wait-and-see attitude during periods of high uncertainty. |
| | **Recommendation:** These provisions may be ineffective in practice. | |
| Government consumption | Can be implemented more rapidly than public investment. | May not produce any real benefits for the economy, but may increase the public burden in the long run. |
| | **Recommendation:** These provisions should be avoided. | |
| Government investment | Provides the country with long-term supply side-effects and improves productivity. | Takes a long time to implement. May not stimulate the economy within an appropriate time frame. |
| | **Recommendation:** The government should expedite existing projects to reduce lags in implementation. The projects should also be frontloaded (relatively more should be spent in the earlier period). | |

The simplest version, the partial equilibrium framework, e.g., Mortensen (1977), considers only an unemployed worker searching for a job, while taking market conditions as given. In each period, s/he has a job offer that s/he can decide to accept or reject. The wage offers vary within a particular range (wage distribution), and the range is determined by the education and skill of the worker. The unemployed person decides whether to accept or reject the offer by comparing the benefit of getting a job (wage) with the benefit of being unemployed.[5] Some benefits of being unemployed include the possibility of being offered a higher wage if the unemployed person continues to search for a better job, and saving money that might have to be spent on childcare, as well as continuing to receive unemployment benefits.

To understand the policies which also affect the employers' decision (e.g., wage subsidies and employment protection), the general equilibrium version (Mortensen and Pissarides 1994) can be used. This model characterizes the hiring and layoff decisions of firms, discusses how workers and firms meet, and how wages are determined. In addition to explaining the worker's decision to accept a job offer, it describes how workers lose/leave their jobs. The process which determines how firms and workers can match (and hence jobs will be created or destructed) is called "matching technology." This matching function depends on the heterogeneity of workers and jobs, the search intensity of both sides, and the conditions of the labor market. Recessions are times when job destruction rates rise and job creation rates fall.

Wages are viewed as the bargaining outcome between firms and workers. Factors which reduce the cost of being unemployed (e.g., unemployment benefits, labor supply shortages) cause workers to bargain for a higher wage. Factors leading to higher costs for firms when hiring or firing imply that the feasible wage that firms can afford to pay is lower; hence, a smaller number of jobs can be created. In steady-state equilibrium, the flow of jobs created and jobs destroyed must be equal.[6]

Having laid out the mechanism of this model, we now turn to a discussion of its implications for common labor market policies and empirical evidence. Labor market policies are often classified into two types: "passive" and "active." Passive labor market policies refer to policies which provide income support, usually through financial transfers. Active labor market policies refer to programs which assist workers from a disadvantaged background to get a job and/or earn higher wages. In developed countries, both types of programs have already been in place and operated before a recession started. During a crisis, the duration and coverage of their benefits would typically be extended.

### *Passive Labor Market Policies*

*Unemployment insurance*: The main prediction from both the partial and general equilibrium models is that the higher is the unemployment benefit, the longer will unemployed workers stay unemployed. In the partial equilibrium model, unemployment insurance discourages workers from accepting a new job. In the general equilibrium version, unemployment insurance lowers the search effort of workers and increases wage pressure.[7] These adverse incentive effects are supported by empirical evidence. Fredriksson and Holmlund (2003) reported that the estimates of elasticity of expected unemployment duration with respect to benefits vary between 0.2 and 0.9. This means that, if an average spell of unemployment is three months, an increase in benefits by 10 percent would increase the duration of unemployment by two to eight days. However, this disincentive effect could be lower during a recession because jobs are more difficult to find.

*Employment protection legislation:* Common regulations include minimum wages and job security provisions, such as layoff compensation. Employment protection is predicted to reduce layoff rates as such protection makes laying off workers more expensive for firms. In the long run, however, a smaller number of jobs will be created as firms can afford to pay workers less. This implies that the higher is the level of employment protection, the larger and longer will be the effect of the shock on unemployment. Empirical evidence was often obtained by comparing unemployment flows across countries in the Organisation for Economic Co-operation and Development (OECD) where their institutional features are different. The results showed that the longer spell of unemployment and higher unemployment rates in European countries compared with those of the United States could be attributed largely to the higher employment protection and more generous unemployment benefits in the European countries (Blanchard 2000; Mortensen and Pissarides 1999).

We should note that passive labor market policies do have a positive side. As an income cushion for workers who lose their jobs, some extension programs offered by unemployment insurance during a recession have been successful in meeting workers' needs (Nicholson and Needels 2006). As we have seen in section II.A., extending unemployment benefits may be a more effective tool for stimulating the economy than injecting money into high-income households. Recent debates among economists concerning social insurance programs focus not on whether the programs should exist, but rather on how they should be redesigned so that they do not create disincentives to work. Some plausible ways for accomplishing this goal include paying benefits at a declining rate over the spell of unemployment; cutting benefits if the recipient workers do not search for jobs; and devising incentives for people to save money as their own unemployment insurance.[8] Other policies also regarded as useful alternatives are active policies, which are discussed below.

### *Active Labor Market Policies*

The mechanism of active labor market policies is rather obvious in theory, but as we shall see, their impacts are not clear-cut empirically. *Employment services*, such as job search assistance, and counseling, can be viewed as facilitating the job arrival rate by reducing the cost of searching and by improving workers' job-searching skills. *Job training programs*, if successful, arguably improve the prospect of wage offer distribution (see, for example, Heckman et al. 1999). *Wage and employment subsidies,* such as social security payment offset, help to subsidize the employers' cost of hiring and to encourage firms to keep employees who might otherwise have been laid off.

*Programs which directly generate jobs*, such as subsidized loans for expanded and newly launched small and medium-sized enterprises (SMEs) or public works projects, are also considered active labor market programs. This case can be viewed as the government increases the number of firms in the market. However, such new firms will survive only if they could compete with others over the long term.

Empirical evidence obtained from the reviews by Betcherman et al. (2004) and Dar and Tzannatos (1999) is summarized in Table 3. Together they reviewed 159 studies and evaluated the effectiveness of each program based on the participants' reemployment and earnings. We report the evidence from all studies and from developing countries separately.

(1) *Job search assistance programs* (employment services) generally had positive impacts on the post-program employment and earnings of participants (16 out of 26, and 11 out of 17, respectively). While costs were relatively low, their impacts were limited during an economic downturn. In addition, the coverage and effectiveness of these services remain unclear in developing countries where many labor market transactions are informal.

(2) *Training programs* are classified into three types.

(2.1) *Training for the unemployed* often increased the employment opportunities of participants but did not result in higher earnings for them. On-the-job training programs seemed to work best where there was active employer involvement.[9] One explanation for unsuccessful cases is that the programs were targeted at unskilled and less able (and possibly poorly motivated) workers.

(2.2) *Retraining for workers involved in mass layoff programs* often had no positive impacts, especially on earnings (only 1 out of 6).

(2.3) *Training for youth* is almost always unsuccessful in improving labor market outcomes. Only a single program out of 11 showed a positive impact in developed countries. However, all five studies in developing countries reported positive impacts. All these successful interventions shared some common features: training was more comprehensive than typical training programs, and when carried out in partnership with the private sector, they ensured that the workers' skills would meet labor demand.

(3) *Wage and employment subsidies* are unlikely to be effective. Most programs showed that participants were less likely to be employed and earned less than those who did not participate after the subsidy ended. Recall that such programs are classified as a stimulus aimed at firms in the earlier section where their arguable advantage is creating valuable skills to the labor force. Here, however, the evidence challenges that argument.

**Table 3 Empirical Studies on the Effects of Active Labor Market Programs**

| | | | | Impact on employment | | | Impact on earnings | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | No. of studies | Positive | Non-positive | Not clear | Positive | Non-positive | Not clear |
| 1 | **Job search assistance** | All studies | 26 | 16 | 5 | 1 | 11 | 5 | 1 |
| | | Developing countries | 2 | 1 | 1 | | | 1 | |
| 2 | **Training programs** | | | | | | | | |
| | 2.1 Training for the unemployed | All studies | 49 | 28 | 11 | | 15 | 14 | |
| | | Developing countries | 4 | 1 | 3 | | 1 | 3 | |
| | 2.2 Retraining for workers involved | All studies | 9 | 4 | 3 | 1 | 1 | 2 | 3 |
| | in mass layoffs | Developing countries | 1 | | | 1 | | 1 | |
| | 2.3 Training programs for youth | All studies | 19 | 6 | 10 | 1 | 3 | 9 | |
| | | Developing countries | 5 | 5 | | | 2 | 1 | |
| 3 | **Wage and unemployment subsidies** | All studies | 23 | 7 | 14 | 2 | 5 | 6 | 1 |
| | | Developing countries | 1 | 1 | | | | 1 | |
| 4 | **Programs creating jobs directly** | | | | | | | | |
| | 4.1 Public works programs | All studies | 20 | 7 | 11 | 2 | 0 | 4 | 1 |
| | | Developing countries | 1 | | | 1 | | | |
| | | | | | Survival rate | | | | |
| | | | | | high | low | | | |
| | 4.2 Microenterprise development/ | All studies | 13 | | 8 | 2 | 3 | 2 | |
| | self-employment assistance | Developing countries | - | | | | | | |

Note: Modified from Betcherman et al. (2004).

(4) *Programs which directly generate jobs*:

(4.1) *Public works programs* were found to provide an effective short-term safety net, but not to improve the future labor market prospects for the participants. In this case, microevidence supports the previous recommendation that this provision should be avoided.

(4.2) *Microenterprise development/self-employment assistance programs* (financial and advisory support) were evaluated based on whether or not the business survived. In eight out of 10 studies, the survival rate was high. However, the take-up rates of this kind of program were very low because the unemployed were looking for jobs rather than entrepreneurial opportunities.

### *Other Counter-cyclical Policies:*

All other government policies which help to stabilize the economy arguably can improve the efficiency of the matching process. It should be noted that labor market conditions comprise one of the factors that determine matching technology. Empirically, at least two long-term studies (Imbens and Lynch 2006 for youth workers, and Fang and Keane 2004 for single mothers) found that the probability of (re)employment could be attributed to both the incentive structure of government programs and macroeconomic conditions.

Having reviewed the evidence from the past, we now turn to discuss the current situation and current practices.

## III. THE ONGOING ECONOMIC CRISIS[10]

In this section, we provide an overview of the impact of the ongoing economic crisis on labor markets in eight selected economies and their fiscal policy responses: the United States, where the crisis started; the United Kingdom and Japan, which were affected by the crisis earlier than any other developed countries; Singapore and Malaysia, two highly open Southeast Asian economies with ratios of international trade to GDP being more than 150 percent; and Taiwan, Vietnam and Indonesia, with shares of exports to GDP being 64 percent, 70 percent and 29 percent, respectively. For Thailand, the level of openness is close to that of Taiwan and Vietnam (interested readers may wish to refer to Worawan et al. (2009) for greater detail about Thailand). In section III.A, we look at how the crisis originated in the financial and housing sectors in the United States, from which it spread out to other sectors and other countries. Section III.B reports the various fiscal policy responses and their initial effects.

### A. Impact on the Labor Market

Let us start by looking at an aggregate picture of these selected countries. The top and bottom panels of Table 4 report the percentage change in annual GDP and unemployment rates from 2006 to 2009, respectively; the table also lists the figures for Thailand.[11]

We can see that in 2007 five out of the eight economies still enjoyed higher GDP growth rates than they did in 2006. In all countries, the unemployment rates were no greater than in 2006. However, in 2008 the picture looked different. All GDP growth rates had slowed down and for Japan even went negative. The unemployment rates had risen in all the economies except Indonesia. The situation got worse in 2009 when the estimates of GDP growth were negative in most of the countries.

In Table 5, we further document when the crisis began to affect each economy and which industries were hit the hardest. There are a number of channels through which a crisis can spread from one sector to another, and from one economy to another. In view of the collapse of the housing and financial markets in the United States, the immediate impact was job losses in the construction and finance sectors. The next to be affected was manufacturing which supplied the housing sector with goods and services, e.g., concrete and steel. As the adverse effects were transmitted next to the suppliers and so on, the crisis began to spread to other countries too.

The first impact was job loss in well-integrated financial companies, located mainly in European countries and Japan. In the first half of 2008, the only countries affected were the United Kingdom and Japan; finance was among the key sectors affected. Subsequently, job losses implied income losses and cut-backs in spending by consumers affected by the troubled sectors in the troubled countries. This meant that the demand for the exports (including tourism) of other countries trading with them would weaken. The crisis also adversely affected the access of firms to credit. The difficulty faced by foreign investors in acquiring finance would result in their projects being delayed or cancelled. If domestic banks were also less willing to lend, SMEs were likely to be suffer the greatest impact. SMEs are typically less able than large firms to finance operations on their own.

It is worth noting that often there was a lag between the date that the crisis commenced and when the unemployment rate started to rise. In the United States, the unemployment rate did not rise until May 2008. In the United Kingdom, while the number of vacancies had fallen when the crisis started, the unemployment rate was not affected until the last quarter of 2008, which was partly due to the institutional features of its labor market. As mentioned previously, it is more costly for firms in European countries to lay off workers than it is in the United States. Many firms in the United Kingdom avoided layoffs by using some other measures, such as extending the Christmas/New Year holiday period or announcing temporary plant closures. Besides job losses, cutting production could result in pay-cuts or a reduction in non-cash benefits. The unemployment rate alone may not reflect the full impact of production cuts on the labor market.

**Table 4 Annual Percentage Changes in GDP and Unemployment Rate in Selected Economies, 2006-2009**

| Annual percentage change in GDP | 2006 | 2007 | 2008 | 2009* |
|---|---|---|---|---|
| United States[1] | 2.7 | 2.1 | 0.4 | –2.7 |
| United Kingdom[1] | 2.9 | 2.6 | 0.7 | –4.4 |
| Japan[1] | 2.0 | 2.3 | –0.7 | –5.4 |
| Singapore[1] | 8.4 | 7.8 | 1.1 | –3.3 |
| Malaysia[1] | 5.8 | 6.2 | 4.6 | –3.6 |
| Taiwan[1] | 4.8 | 5.7 | 0.1 | –4.1 |
| Vietnam[1] | 8.2 | 8.5 | 6.2 | 4.6 |
| Indonesia[1] | 5.5 | 6.3 | 6.1 | 4.0 |
| Thailand[1] | 5.2 | 4.9 | 2.6 | –3.5 |
| **Unemployment rate (%)** | **2006** | **2007** | **2008** | **2009+** |
| United States[1] | 4.6 | 4.6 | 5.8 | 9.4 |
| United Kingdom[1] | 5.4 | 5.4 | 5.5 | 7.6 |
| Japan[1] | 4.1 | 3.8 | 4.0 | 5.4 |
| Singapore[1] | 3.6 | 3.0 | 3.2 | 3.6 |
| Malaysia[2] | 3.3 | 3.3 | 3.4 | 4.0 |
| Taiwan[1] | 3.9 | 3.9 | 4.1 | 6.1 |
| Vietnam[3] | 4.8 | 4.6 | 4.7 | |
| Indonesia[2] | 10.4 | 9.4 | 8.4 | 8.1 |
| Thailand[4] | 1.5 | 1.2 | 1.3 | 1.8 |

1 International Monetary Fund, World Economic Outlook Database.
2 International Labour Organization.
3 General Statistical Office of Vietnam.
4 National Statistical Office of Thailand.
* Estimates.
\+ The most up-to-date report.

**Table 5 Period When Crisis Started and Key Sectors Affected in Selected Economies**

| Economy | Period when crisis started | Key sectors affected |
|---|---|---|
| **United States** | 4th quarter, 2007 | Finance, construction, manufacturing, motor vehicles, professional and business |
| **United Kingdom** | 2nd quarter, 2008 | Finance, business and services, distribution, hotels and restaurants |
| **Japan** | 2nd quarter, 2008 | Finance, automobiles and parts, machinery, electronic equipment |
| **Singapore** | 4th quarter, 2008 | Manufacturing, services, machinery, electronic equipment, finance |
| **Malaysia** | 4th quarter, 2008 | Electrical goods and electronics, textiles, crude oil, gas, palm oil |
| **Taiwan** | 4th quarter, 2008 | Electronic equipment, personal computers, automobile parts, machinery |
| **Vietnam** | 3rd quarter, 2008 | Manufacturing, electronic equipment, seafood processing, tourism |
| **Indonesia** | 4th quarter, 2008 | Consumer durables, manufacturing, chemical products, workers in Malaysia returning home |

In Japan, negative GDP growth was driven by the declines in private consumption, private investment and export (all declining by 0.4 percent). A severe reduction in the number of part-time jobs (–20 percent) also occurred, although in the first quarter of 2009, the ratio of temporary to permanent workers rose by 0.75 percent.

Singapore and Malaysia are highly open economies. In Singapore, the deterioration of external demand has affected every industry except construction. In the first quarter of 2009, the manufacturing sector shrank by 26.1 percent and the service sector by 5.2 percent. Similarly, the crisis was transmitted to Malaysia through declines in exports and investment. In addition, Malaysia has faced a sharp decline in prices of commodity exports, crude oil, gas, and palm oil. Besides instituting temporary layoffs, some troubled firms used cuts in pay, or in hours worked.

Taiwan and Vietnam share a similar degree of openness. The key sectors affected (listed in Table 5) are export-oriented industries. However, each had its own problems before the global crisis started. Taiwan had an excess supply of workers with college degrees. The number of college students tripled in the past decade, but the curricula of Taiwan's universities do not match the requirements of its industries. The Vietnamese government was struggling with twin deficits and inflation. Tight monetary and thrifty spending policies were in place in early 2008. With skyrocketing inflation, some of the remaining workers also faced negative real wages.

The story of Indonesia is somewhat different. The impact Indonesia felt as a result of the external shock has been minimal owing to its limited exposure. However, industries heavily reliant on exports unavoidably had to cut back operations and institute layoffs. A further concern is that, because Indonesia has a large number of citizens working abroad, several thousand of them have had to return home, especially those who had been working in palm oil or rubber plantations in Malaysia.

### B. Fiscal Policy Responses

Once the economic downturn became a global crisis, IMF and the European Union called for fiscal stimulation.[12] In response, policymakers in the G-20 countries jointly announced the launch of fiscal stimulus packages. By the first quarter of 2009, leaders around the world had announced a set of policies to deal with the crisis and the unemployment it caused. Table 6 summarizes the responses, focusing on policies aimed at combating the problem of unemployment.

The first step of the United States, the United Kingdom and Japan was to stabilize the financial system[13] in order to bring back jobs in the financial sector, increase confidence and restore the capacity of banks to lend. We can see some common fiscal measures, which include cutting taxes for individuals and businesses, spending on infrastructure, investing in energy efficiency and clean technologies, especially in developed countries, and assisting SMEs to access capital. The actual composition of such measures differs across countries. For instance, tax cuts accounted for 70 percent of the measures in Indonesia, 20 percent in the United States and Singapore, and less than 1 percent in Malaysia and Vietnam.

Some lessons seem to have been learned from the past. Most stimulus provisions have been aimed at consumers, especially low and middle-income households, rather than at firms. To ensure that the money injected would be spent quickly, Taiwan initiated a consumer voucher program.[14]

The labor policies commonly used to help unemployed workers were various forms of temporary income support programs, the extension of unemployment benefit programs, and training and job-matching programs. Many countries, such as Taiwan and the United Kingdom, focused on programs which brought together government and industry to ensure that the skills of workers would be matched with those needed by the industries. Some policies were in place to tackle economy-specific problems. The United Kingdom focused on unemployed youth, whereas Taiwan focused on unemployed graduates. Vietnam introduced minimum wage regulations to deal with the problem of negative real wages.

Only a small number of studies have attempted to estimate the effects of these policies so far. In the United States, Broda and Parker (2008) employed household spending data to estimate the effectiveness of the 2008 tax rebate program. They found that only about 19 percent of the tax rebates were spent in the second quarter of 2008, accumulating to only 33 percent in the third quarter. Relying on survey data, Shapiro and Slamrod (2009) concluded that about one-third of the rebates were spent during the quarter in which the consumers received them. These studies imply that the United States tax rebate program has had a limited positive impact.

The first stimulus package of Malaysia was criticized for benefiting only the construction sector, which employs a substantial number of foreign workers. Reports from Taiwan showed that only a small number of consumer vouchers had not been picked up by the deadline (NT$ 500 million of a total of NT$ 83.75 billion). Of the total vouchers issued, 81 percent had been cashed.

The Indonesian labor market is still relatively strong, especially with regard to the construction and agricultural sectors. In February 2009, the unemployment rate was 0.3 percentage points lower than it had been in the same period in 2008. However, this is more likely due to the spending of the legislative election candidates in the earlier period than the just-implemented stimulus.

## IV. CONCLUSION AND DISCUSSION

Economic crises typically involve the profound decline in output and rise in unemployment. In a crisis time, fiscal policies have played a key role in many countries. This article reviewed the role of fiscal policies in mitigating unemployment problem during recessions. Starting from theoretical perspectives, the Keynesian and Job search-matching models were laid out. Then, the past evidences of these policies on the whole economy and on the unemployed were presented. Both types of evidences suggest that there is no one-size-fits-all solution. A successful intervention needs to be well-designed, targeted, implemented in a timely manner, and not imposing public burden in the long-run. Current practices in several countries have been modified to reflect the lessons learned from the past.

Other important issues should also be mentioned. First, when comparing estimates across empirical studies, it should be kept in mind that their divergent results might be explained by the data used and/or the particular empirical methods employed. Second, another relevant question not addressed is: “Are these government programs worthwhile social investments?” If workers who participated in job training programs would have landed a job anyway, regardless of the existence of the program, the government then has created deadweight losses to the society. The evidence concerning cost-benefit studies is rather limited.

Finally, one fact seems to have been overlooked: the United States learned more about the effects of its past policies partly because its government, when implementing the policies, also designed a data-collection strategy and/or randomized experiments to study the effects afterward. Because labor markets, institutions, and economic conditions can differ greatly across countries, collecting data and conducting evaluation studies in our own country should be valuable for guiding our own policies in the future.

**Table 6 Government Policies Implemented since the Onset of the Ongoing Crisis in Selected Economies**

| Economy | Government policies | Budget | Key components |
|---|---|---|---|
| **United States** | Economic Stimulus Act of 2008 (February 2008) | US$ 151.7 billion | Individual tax rebate ($106.7 billion); business tax incentive ($44.8 billion) |
| | American Recovery and Reinvestment Act of 2009 (February 2009) | US$ 787 billion | Individual tax relief ($237 billion); healthcare programs ($147.7 billion), education ($90.9 billion); unemployment benefits, food stamps, active labor market policies ($82.5 billion), infrastructure ($80.9 billion) |
| | Unemployment Compensation Extension Act of 2008 (November 2008) | | Extend benefits from 26 weeks to 46 weeks (or 59 weeks in states with high unemployment rates) |
| **United Kingdom** | United Kingdom Fiscal Stimulus (November 2008) | £20 billion | Income tax cuts, cuts in value added tax; Small Business Finance Scheme; and an additional $1.3 billion for helping the unemployed to get a job |
| | European Economic Recovery Plan (December 2008) | | European Union members are asked to<br>(i) spend 1.5 percent of their GDP to stimulate demand<br>(ii) invest in energy efficiency/low carbon emission technology are made to stimulate the economy |
| **Japan** | Comprehensive Immediate Package (August 2008) | ¥ 11.5 trillion | Stabilize financial sector; support cost of living; improve infrastructure to support "green" energy |
| | Economic Policy Package: Measures to Support People's Daily Lives (October 2008) | ¥ 26.9 trillion | Guarantees for small and medium-sized enterprises (¥20 trillion); tax rebate; tax reduction for home buyers |
| | Immediate Policy Package to Safegaurd People's Daily Lives (December 2008) | ¥ 37 trillion | Stabilize financial sector (¥33 trillion); help unemployed (¥1.1 trillion); stimulate employment (¥1 trillion) |
| | Policy Package to Address the Economic Crisis (April 2009) | ¥ 56.8 trillion | Financial sector (¥41.8 trillion); employment (¥2.5 trillion); low-carbon revolution (¥2.2 trillion); healthcare and childcare (¥2.8 trillion); social safety net (¥2.2 trillion); infrastructure (¥3.8 trillion) |
| **Singapore** | Resilience Package (January 2009) | S$ 20.5 billion | Job creation (S$ 5.1 billion); stimulate bank lending (S$ 5.8 billion); infrastructure, health and education (S$ 4.4 billion); tax relief for business (S$ 2.6 billion); supporting families in trouble (S$ 2.6 billion) |
| **Malaysia** | Stimulus Package (November 2008) | MYR 7 billion | Mostly infrastructure |
| | Second Stimulus Package (March 2009) | MYR 60 billion (2 years) | Job creation (M$ 15 billion); guaranteed funds (M$ 25 billion); equity investment (M$ 10 billion); private finance initiatives (M$ 7 billion); tax incentives (M$ 3 billion) |
| **Taiwan** | Economic Stimulus Package (November 2008) | NT$ 482.9 billion (4 years) | Consumption voucher; infrastructure (NT$ 386 billion); tax exemption/grants for newly launched small and medium-sized enterprises; incentives for employers, joint training to match graduates with industries |
| **Vietnam** | Stimulus Package (January 2009) | Dong 17 trillion | Assist small and medium-sized enterprises to access capital; unemployment subsidy; tax reduction in value added tax, corporate income tax; low-interest loans for vocational training |
| | Unemployment Insurance | | Came into effect on January 1, 2009; firms are allowed to postpone their contribution |
| | Minimum Wage Regulation | | |
| **Indonesia** | Stimulus Package (February 2009) | Rp 73.3 trillion | Infrastructure and empowerment for rural residents (Rp. 12.2 trillion); roads and irrigation (Rp. 2.2 trillion); tax cut for personal income, corporate and value added tax (Rp. 56.3 trillion) |

## ENDNOTES

[1] The US Bureau of Labor Statistics reported a slightly higher figure at 10 percent.

[2] Taylor (2000) argued that automatic stabilizers are more desirable than discretionary fiscal policies. Feldstein (2005) provided other rationales for an unemployment insurance program.

[3] Monetary policies are normally implemented by the central bank. A common example is cutting interest rates.

[4] The neoclassical labor-leisure choice model is still the major framework used to analyze labor supply response to changes in wage or income taxes.

[5] Formally, maximizing the present value of lifetime utility.

[6] This implies that positive vacancies and positive unemployment coexist in equilibrium. This feature distinguishes the job-search matching framework from the neoclassical model. In the latter model, vacancies and unemployment cannot coexist in equilibrium because wages should adjust to drive excess labor supply to zero.

[7] There are also two other theoretical predictions. First, the fixed payment duration of unemployment benefit implies that the exit rate from unemployment increases as workers approach the time when their benefits are due to expire. Second, if workers require a certain amount of work experience to qualify for the unemployment insurance benefits, getting a job would be more attractive for workers who currently are not eligible.

[8] For further discussion, see Fredriksson and Holmlund (2003), Feldstein (2005), and Nicholson and Needels (2006).

[9] Heckman et al. (1999) reached a similar conclusion that "…the benefits are modest, and at worst participation in (a) government program is harmful.… But, at the same time, there is substantial heterogeneity in the impacts of these programs."

[10] The data in this section are obtained from various news and government websites. The complete references are available upon request.

[11] The unemployment figures might not be fully comparable across countries. For example, if one compares Thailand vs. the United States, the Thai unemployment rate would appear to be much lower. This could be due partly to the differences in definitions. In the US data, derived from the current population survey, "employed" consists of people aged 15 years or older who (1) do any work for pay or profit; (2) work at least 15 hours without pay for a family business/farm; and (3) are not in military services. In the Thai Labor Force Survey, the definitions of (1) and (3) are similar to those of the United States, but for (2), people who work at least one hour without pay for a family business/farm are counted as "employed." The ratios of the first two groups are strikingly different. In 2005, for the United States, the ratio was 90.7 to 0.09. For Thailand, the ratio was 76.7 to 19.1.

[12] IMF called for a stimulus of 2 percent of GDP from all countries while the European Union called for 1.5 percent of GDP to be used as a stimulus by its members.

[13] The United States and the United Kingdom passed separate bills for stabilizing their financial systems. Hence, they are not listed in this table.

[14] Vouchers are coupons for goods and services issued to consumers valid until September 2009.

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**Thailand Development Research Institute**

*565 Ramkhamhaeng Soi 39, Wangthonglang District, Bangkok 10310 Thailand*
*Tel: 66 2 718 5460, 718 5678-89; Fax: 66 2 718 5461-2*
*Email: publications@tdri.or.th; Web site: http://www.tdri.or.th*