



ความท้าทายทางเศรษฐกิจและการเงินในโลกยุคหลังวิกฤต

ดอน นาครทรรพ
เทียนทิพ สุพานิช
จิตตาภา ประจวบเหมาะ
เกศสรินทร์ ดันสุวรรณรัตน์

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ความท้าทายทางด้านเศรษฐกิจและการเงินในโลกยุคหลังวิกฤติ

ดอน นาครทรรพ เทียนทิพ สุพานิช จิตตภา ประจวบเหมาะ และเกศสรินทร์ ต้นสุวรรณรัตน์*
สาขนโยบายการเงิน
ธนาคารแห่งประเทศไทย

กันยายน 2552

ข้อคิดเห็นที่ปรากฏในบทความนี้เป็นความเห็นของผู้เขียน
ซึ่งไม่จำเป็นต้องสอดคล้องกับความเห็นของธนาคารแห่งประเทศไทย

บทคัดย่อ

นับตั้งแต่โลกต้องเผชิญกับภาวะเศรษฐกิจถดถอยครั้งรุนแรงที่สุดนับแต่ Great Depression เป็นต้นมา สภาพแวดล้อมทางเศรษฐกิจและการเงินของโลกได้เปลี่ยนแปลงไปอย่างมาก การเปลี่ยนแปลงนี้เกิดจากปัจจัยหลักสองประการ คือ การปรับตัวของภาวะความไม่สมดุลของโลก (global imbalances) จากวิกฤตเศรษฐกิจ และการดำเนินนโยบายของภาครัฐเพื่อแก้ไขปัญหาในภาคการเงินและระดมทุนฟื้นตัวของเศรษฐกิจโลก ผลของปรากฏการณ์นี้คาดว่าจะส่งผลสำคัญต่อภูมิทัศน์ของโลกในอนาคตอย่างไม่เคยเกิดขึ้นมาก่อน ด้วยเหตุนี้ ธนาคารกลางจึงมีความจำเป็นที่จะต้องคาดการณ์ล่วงหน้าถึงทิศทางการเปลี่ยนแปลงของตัวแปรทางเศรษฐกิจที่เกิดจากปัจจัยดังกล่าว เพื่อปรับยุทธศาสตร์ในดำเนินนโยบายการเงินที่เหมาะสมต่อไป

เพื่อสร้างความเข้าใจกับสาธารณชนถึงความท้าทายที่อาจเกิดขึ้นในอนาคตอันใกล้ บทความนี้จะมุ่งที่จะตอบคำถามสำคัญสองประการ ได้แก่ (1) สภาพแวดล้อมของเศรษฐกิจการเงินโลกจะเปลี่ยนแปลงไปอย่างไรในระยะห้าปีข้างหน้า และ (2) ความเสี่ยงและความท้าทายจากการเปลี่ยนแปลงดังกล่าวต่อตลาดเกิดใหม่มีอะไรบ้าง การศึกษานี้ได้ชี้ให้เห็นถึงอิทธิพลของกระแสความเชื่อมโยงของเศรษฐกิจการเงินโลก และบทบาทของภาครัฐในการฟื้นฟูเศรษฐกิจ ต่อการเปลี่ยนสภาพแวดล้อมของเศรษฐกิจการเงินโลกอย่างมีนัยสำคัญ

* ผู้เขียนขอขอบคุณ ดร. วชิรา อารมย์ดี ผู้อำนวยการฝ่ายเศรษฐกิจระหว่างประเทศ สำหรับข้อเสนอแนะและแนวคิดที่เป็นประโยชน์อย่างมาก ซึ่งมีส่วนช่วยให้บทความมีความสมบูรณ์ยิ่งขึ้น นอกจากนี้ ผู้เขียนขอขอบคุณ ดร.อังภา ไวกวามดี รองผู้จัดการ ด้านเสถียรภาพการเงิน คุณไพบุลย์ กิตติศรีกังวาน ผู้ช่วยผู้จัดการสาขานโยบายการเงิน ดร.อมรา ศรีพิชิต ผู้อำนวยการอาวุโส ฝ่ายเศรษฐกิจในประเทศ ดร.พิชิต ภัทรวิมลพร ผู้อำนวยการ ฝ่ายเศรษฐกิจในประเทศ ดร.ทิตนันทน์ มัลลิกะมาส ผู้อำนวยการ ฝ่ายวิจัยเศรษฐกิจ และ ดร.อศวิณ อาชญา ผู้บริหารทีม สำหรับข้อแนะนำที่เป็นประโยชน์ นอกจากนี้ ผู้เขียนยังได้รับความอนุเคราะห์ข้อมูลจาก คุณกฤตินันท์ เวียงวังชัย คุณวราภรณ์ หงส์กัญญา และคุณวัชรพันธุ์ ธนประกอบ

บทสรุปผู้บริหาร

นับตั้งแต่โลกต้องเผชิญกับภาวะเศรษฐกิจถดถอยครั้งรุนแรงที่สุดนับแต่ Great Depression เป็นต้นมา สภาพแวดล้อมทางเศรษฐกิจและการเงินของโลกได้เปลี่ยนแปลงไปอย่างมาก การเปลี่ยนแปลงนี้เกิดจากปัจจัยหลักสองประการ คือ การปรับตัวของภาวะความไม่สมดุลของโลก (global imbalances) และการดำเนินนโยบายของภาครัฐเพื่อแก้ไขปัญหาในภาคการเงินและระดมทุน การฟื้นตัวของเศรษฐกิจโลก

ผลของภาวะเศรษฐกิจถดถอยครั้งใหญ่ การปรับตัวของภาวะความไม่สมดุลในโลก รวมถึงการดำเนินมาตรการแทรกแซงของภาครัฐดังกล่าวจะมีนัยสำคัญต่อการฟื้นตัวและเสถียรภาพของเศรษฐกิจโลกในระยะต่อไป เพื่อสร้างความเข้าใจกับสาธารณชนถึงความท้าทายที่รอคอยอยู่ในอนาคตอันใกล้ งานวิจัยนี้จึงมุ่งที่จะตอบคำถามสำคัญสองประการ คือ (1) สภาพแวดล้อมของเศรษฐกิจการเงินโลกจะเปลี่ยนแปลงไปอย่างไร และ (2) ความเสี่ยงและความท้าทายจากการเปลี่ยนแปลงดังกล่าวต่อตลาดเกิดใหม่มีอะไรบ้าง

หากย้อนดูสิ่งที่มาของวิกฤตการณ์ทางการเงินโลกครั้งนี้ จะพบว่ามีสาเหตุสำคัญมาจากการใช้จ่ายและการก่อหนี้ที่เกินตัวของประเทศสหรัฐ ฯ ดังปรากฏให้เห็นในรูปของการขาดดุลบัญชีเดินสะพัดเป็นจำนวนมากเป็นเวลาดำเนินไปหลายปี ขณะที่ภูมิภาคเอเชียเป็นฝ่ายเกินดุลจำนวนมากมหาศาลและเงินดังกล่าวได้ถูกนำไปใช้ในการชดเชยการขาดดุลบัญชีเดินสะพัดของประเทศสหรัฐ ฯ ภายใต้สถานะอัตราดอกเบี้ยต่ำจากการดำเนินนโยบายการเงินแบบผ่อนคลายของธนาคารกลางเป็นระยะเวลาต่อเนื่อง การขาดระบบตรวจสอบและควบคุมความเสี่ยงของภาคการเงินที่เหมาะสม ได้จูงใจให้ภาคเอกชนจัดสรรเงินทุนไปในกิจกรรมที่ให้ผลตอบแทนและความเสี่ยงสูง นำสู่การขยายตัวแบบฟองสบู่ ราคาสินทรัพย์เพิ่มขึ้นอย่างรวดเร็ว พร้อม ๆ ไปด้วยภาระหนี้สินที่เพิ่มขึ้นของภาคครัวเรือนและภาคธุรกิจ

ภาวะดังกล่าวไม่อาจดำรงอยู่ได้อย่างยั่งยืน การเพิ่มขึ้นของราคาน้ำมันและราคาสินค้าเกษตรในช่วงหลังปี 2546 ได้ส่งผลให้เกิดแรงกดดันด้านเงินเฟ้อและความวิตกกังวลเกี่ยวกับปัญหาฟองสบู่ในสหรัฐ ฯ ส่งผลให้ธนาคารกลางสหรัฐ ฯ ปรับเพิ่มอัตราดอกเบี้ยนโยบายอย่างต่อเนื่อง ในช่วงนี้เศรษฐกิจได้เริ่มชะลอตัวจากผลของราคาน้ำมันและราคาสินค้าโภคภัณฑ์ที่สูงขึ้น ส่งผลให้รายได้และขีดความสามารถในการชำระหนี้ของลูกหนี้ โดยเฉพาะในตลาด Sub-prime ลดลงและการผิมนัดชำระหนี้เพิ่มสูงขึ้นและเกิดเป็นวิกฤตการณ์สินเชื่อด้วยคุณภาพในช่วงกลางปี 2550 ส่งผลกระทบต่อความมั่นคงของสถาบันการเงินเป็นวงกว้าง ปัญหาดังกล่าวได้ขยายขอบเขตเป็นวิกฤตการณ์ทางการเงินที่ส่งผลกระทบต่อทั่วโลกในปลายไตรมาสที่ 3 ของปี 2551

วิกฤติการณ์ทางการเงินดังกล่าวได้ลุกลามเข้าสู่ภาคเศรษฐกิจจริงและก่อให้เกิดผลกระทบสำคัญ คือ เศรษฐกิจของประเทศต่าง ๆ ในโลกหดตัวอย่างรุนแรงในทิศทางเดียวกัน การปรับตัวของภาวะความไม่สมดุลในโลก (Global imbalance) และ การเข้าแทรกแซงระบบเศรษฐกิจของธนาคารกลางและรัฐบาลด้วยจำนวนเงินมหาศาลผ่านมาตรการต่าง ๆ ที่ไม่เคยปรากฏมาก่อน ได้แก่ 1) การลดอัตราดอกเบี้ยนโยบายลงมากอย่างรวดเร็วจนทำให้อัตราดอกเบี้ยนโยบายของประเทศต่าง ๆ ลดลงต่ำสุดเป็นประวัติการณ์ 2) การอัดฉีดสภาพคล่องให้แก่สถาบันการเงินที่มีปัญหา ทั้งในรูปแบบของการเข้าถือหุ้นในสถาบันการเงิน การปล่อยกู้ให้สถาบันการเงิน การรับซื้อสินทรัพย์ที่มีปัญหา รวมทั้งการปล่อยกู้ให้กับรัฐบาลเพื่อใช้จ่ายในการแก้ไขปัญหาเศรษฐกิจ ซึ่งทำให้งบดุลของธนาคารกลางและปริมาณเงินเพิ่มขึ้นอย่างรวดเร็ว 3) การดำเนินนโยบายการคลัง โดยการออกมาตรการเพื่อกระตุ้นเศรษฐกิจขนาดใหญ่ ซึ่งทำให้ภาระหนี้สาธารณะในประเทศอุตสาหกรรมเพิ่มขึ้นอย่างรวดเร็วและมีแนวโน้มเพิ่มขึ้นต่อไปอย่างน่าเป็นห่วง

ผลการศึกษาแสดงให้เห็นว่า ความเสี่ยงของเศรษฐกิจโลกในระยะห้าปีข้างหน้ายังมีอยู่มาก สาเหตุสำคัญเกิดจากการหดตัวอย่างรุนแรงของภาคครัวเรือนและปัญหาสถาบันการเงินที่ยังเรื้อรังในประเทศอุตสาหกรรม เป็นเงื่อนไขสำคัญที่จะส่งผลให้เศรษฐกิจโลกมีแนวโน้มที่จะขยายตัวในอัตราที่ต่ำ ประกอบกับผลของการดำเนินมาตรการในการแก้ไขปัญหาในระยะสั้นของภาครัฐ ซึ่งแม้จะช่วยชะลอภาวะเศรษฐกิจตกต่ำ แต่มีแนวโน้มจะส่งผลให้เศรษฐกิจโลกไม่สามารถปรับตัวเข้าสู่ภาวะปกติได้ในระยะเวลาอันสั้น และมีความเสี่ยงที่จะเกิดปัญหาเสถียรภาพทางเศรษฐกิจในระยะปานกลางถึงระยะยาว

ผลจากวิกฤติที่เกิดขึ้นได้ทำให้ภาวะความไม่สมดุลในโลกปรับลดลงบ้าง สะท้อนจากการขาดดุลบัญชีเดินสะพัดของสหรัฐที่ได้ปรับลดลงมาก รวมถึงอัตราการออมที่ปรับเพิ่มขึ้น อันเป็นผลจากการลดลงอย่างฉับพลันของความมั่งคั่ง ของผู้บริโภคภายหลังการล่มสลายของตลาดอสังหาริมทรัพย์และตลาดหุ้น อย่างไรก็ตาม ในระยะยาวกระบวนการในการปรับลดความไม่สมดุลในโลกนี้จะดำเนินอย่างค่อยไปค่อยไปและอาศัยระยะเวลา การลดการนำเข้าของสหรัฐซึ่งเดิมเคยเป็นผู้ซื้อรายใหญ่ในตลาดการค้าโลก จะผลักดันให้กลุ่มประเทศเกิดใหม่ จำเป็นต้องปรับโครงสร้างเศรษฐกิจของตน โดยลดการพึ่งพาการส่งออก และปล่อยให้อัตราแลกเปลี่ยนมีความยืดหยุ่นมากขึ้น ส่งผลให้เงินดอลลาร์ สรอ. มีแนวโน้มอ่อนค่าอย่างต่อเนื่องในระยะยาว

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Challenges in the New Global Macroeconomic and Financial Environment

Don Nakornthab
Jittapa Prachuabmoh
Tientip Subhanij
Kessarín Tansuwanarat*

*Monetary Policy Group
Bank of Thailand*

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*The views expressed in this paper are those of the authors
and do not necessarily represent those of the Bank of Thailand.*

Abstract

This paper presents our forward-looking conjecture of the global macroeconomic and financial environment over the next five years. Among the key unfolding developments we look at are advanced economies' monetary and fiscal policy exits and the remaining global imbalances. According to our analysis, policymakers in emerging market economies should be prepared for a world with slower growth, higher inflation, declining USD trend, and higher costs of capital. The policy challenges identified in this paper include the export-led growth model, public debt management, monetary policy communications, foreign exchange reserve accumulation, and financial markets development.

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1. Introduction

The current global financial crisis has dramatically changed the global economic landscape as well as the agenda of central banks and fiscal authorities around the world. The crisis and the policy responses essentially mark the end to the era of excess whose foundation was built on excessive liquidity, excessive de-regulation, excessive leverage, and excessive risk taking. Thinking that the good old times will return once the crisis dust settles will therefore be a fatal mistake for businesses as well as for policymakers.

In this paper, we present an “educated conjecture” of what lies ahead. Specifically, we attempt to provide answers to two questions: (1) how will the post-crisis macroeconomic and financial environment look like in a five-year timeframe and (2) what are the risks and challenges for emerging market economies in this environment? The main objective of our analysis is to raise awareness on potential channels of vulnerabilities awaiting policymakers in the post-crisis world.

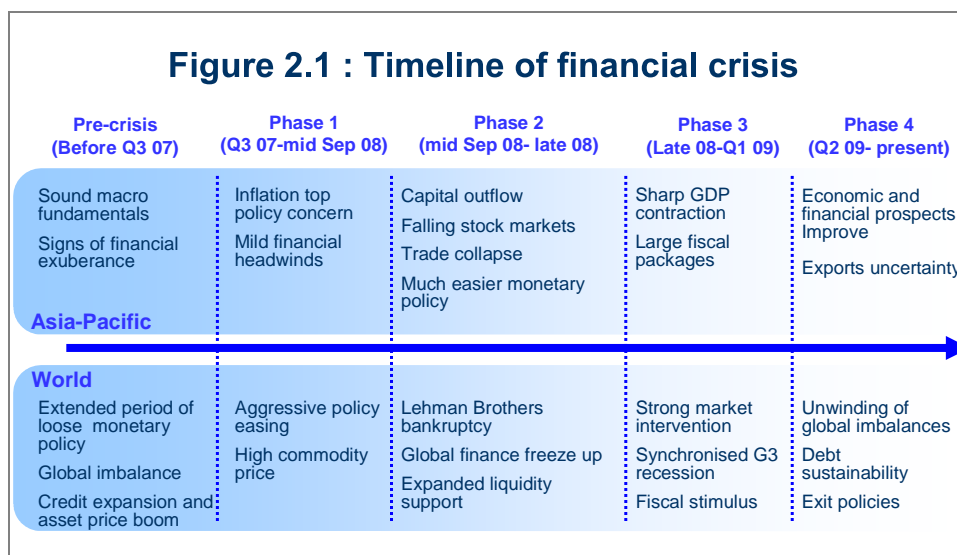
To answer our research questions, we briefly review the fallout of the current crisis and the policy responses as a backdrop for what will come next. To keep our analysis focused, we pick four aspects of the post-crisis environment that we deem to have the greatest implications for emerging market economies’ macroeconomic and financial-sector policies. The four aspects are global economic growth, global inflation, the USD trend, and the costs of capital. The policy challenges identified in this paper include the export-led growth model, public debt management, monetary policy communications, foreign exchange reserve accumulation, and financial markets development.

The rest of this paper is organized as follows. Section 2 looks at the origin of the current crisis and its fallout from a historical perspective. Section 3 details the extraordinary monetary and fiscal policy responses to the crisis. Section 4 portrays the two still unfolding macro developments that will shape the post-crisis landscape, namely, the path of advanced economies’ policy exits and the remaining global imbalances. Section 5 identifies the risks and challenges facing emerging market policymakers in the post-crisis world. Finally, Section 6 concludes.

2. The end of the era of excess

2.1 Current crisis and its causes

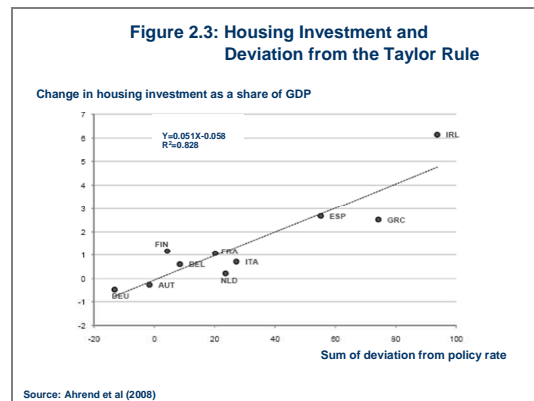
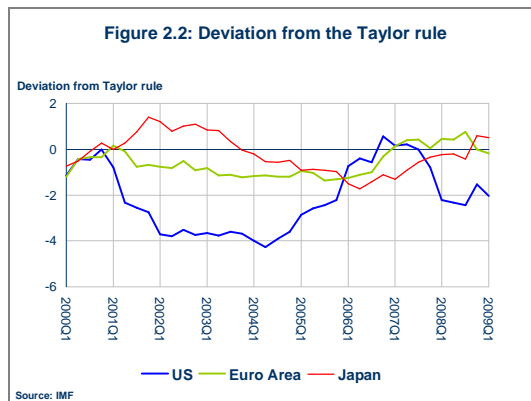
The favorable world economic and financial environment came to an abrupt end in the second half of 2007. The world economy entered a period of unprecedented financial market turmoil, which began in the U.S. Subprime mortgage market. At the same time, inflation increased noticeably in 2007 and 2008. Although this was largely due to increases in commodity and oil prices, it led to worries that central bank may lose ability to control inflation. After that, inflation started to fall across the world, and deflation fear was rising. Central banks reacted by aggressively cutting policy interest rates, particularly since the fall of 2008, together with massive liquidity injection. Economic environment, however, worsened considerably and government in advanced economies had to introduce bank bailouts and announce large fiscal stimulus packages. Figure 2.1 traces the chronology of events before and after the crisis.



The crisis had many explanations. These include both the macro and micro factors. The macro factors were low interest rates and global imbalances. The micro factors include excessive risk-taking as exemplified by the relaxation of lending standards, inadequate executive remuneration policies that rewarded excessively short-term profits, the excessive reliance on ratings, and the massive reliance on short-term wholesale funding with the belief that markets will always be liquid. In this paper, we argue that despite the several existing financial weaknesses in the financial sector, the underlying reasons for the crisis were macroeconomic factors. Looking at the history, financial crises have frequently been caused by monetary excesses, leading to a boom and bust cycle, in the same way that the housing boom and bust led to the recent financial turmoil in the United States and other countries. In this section, therefore, we look at the pre-crisis causes of the current turmoil in terms of the underlying monetary excesses, the housing boom and global imbalances and discuss these developments in turn.

2.1.1 When the monetary excess began

Looking at actual policy rates and those implied by the Taylor rule, we can see that actual interest rate decision fell much below what the Taylor rule suggested in both the U.S. and Europe. This provides an empirical measure that monetary policy was quite relaxed for an extended period of time (Figure 2.2). This unusually big deviation from the Taylor rule is an evidence of the presence of monetary excesses during the period leading up to the housing boom. During this time, the Fed action was discretionary as they deviated from the regular way of conducting policy in order to address deflation fear from the experience of Japan in the 1990s. This unusually low interest rate policy was an important factor contributing to the housing boom phenomenon. It is interesting to note that interest rates at other central banks during the pre-crisis period also deviated from what a Taylor rule would predict. Recent study shows that deviations from the Taylor rule explain a large part of housing boom in the OECD countries (Ahrend, Cournède and Price, 2008). There were close connections between the sum of deviations from the policy rule and the change in housing investment as a share of GDP (Figure 2.3).



2.1.2 The global imbalance story

Another argument of what causes the financial crisis is that low interest rates in 2002-2004 were caused by global factors beyond the control of the monetary authorities. This explanation is also appealing because long-term interest rates remained low for a while even after the short-term Federal Funds rate started increasing. This alternative explanation argues that there was an excess of world savings which pushed interest rates down in many countries. The global imbalances view of the crisis argues that a glut of money from countries with high savings rates, such as China and the oil-producing countries, came flooding into the U.S. This kept U.S. interest rates low and fuelled the credit boom and the related boom in the prices of assets, such as houses and equity, whose collapse precipitated the financial crisis¹. A possible long-term fix for the problems of the world economy would, therefore, involve figuring out what to do about these imbalances (See Box I for more details).

The implications from these developments is that despite several explanations of what caused the financial crisis, it may be fair to say that too low policy rate for too long has played a large part in triggering off the crisis in the first place. For the reason that government intervention could play a major part in influencing interest rates and generating liquidity in the financial system, in section 3 we shall discuss the government's responses and their exit strategies following the aftermath of this great financial crisis in more detail.

2.2 Current crisis from a historical perspective

2.2.1 Key characteristics of past crises

It is illustrative to understand the key characteristics of past crises, in order to see what the challenge will be in the future. This section draws key stylized facts of experiences on recessions and financial crises for the advanced economies over the past 50 years². In general, recessions in the advanced economies over the past two decades have been less frequent and milder, while the period of expansions have been longer. This period of good time has been named the "Great Moderation".

¹ Paul Krugman, an economist and New York Times columnist, and Hank Paulson, a former American Treasury Secretary, have put "global imbalances" or the huge current-account surpluses run by countries like China, alongside America's huge deficit at the root of the financial crisis.

² According to IMF (2009a), these include 122 recessions, and 15 are associated with financial crises.

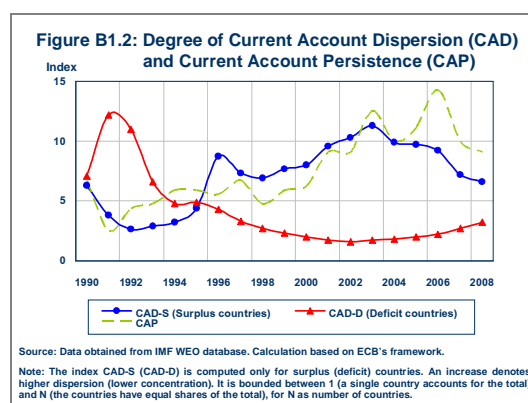
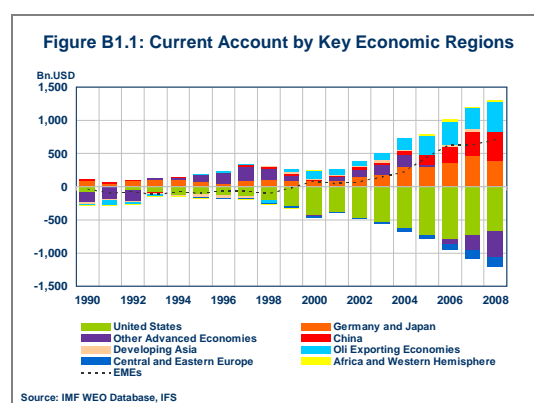
Box I: The stage of global imbalances before the crisis

In looking at the causes of current crisis, many have focused on the regulatory failure in the financial sector and the improper behavior of market participants. However, many economists think that global imbalances lie at the root of current financial disaster.

Large and persistent current account deficit in the U.S. along with an increasing number of emerging market economies (EMEs) simultaneously running widening current account surpluses has been recognized as one of the most worrying features of the global economy since 2001. The concerns were not only put on the path such unsustainable trade imbalance would be corrected but also the way it set the stage for the U.S. credit market to burst and an impact on the global financial system. As massive surpluses have made the world awash with “saving glut” for quite a time, U.S. interest rates were depressed to be artificially low, spurring the unsustainable debt-driven consumer boom in the U.S. as well as excessive risk-taking activities such as the creation of the subprime-related financial products- the preconditions for today’s crisis.

The U.S. current account deficit mounted from \$385 billion or 3.9 percent of GDP in 2001 to reach its peak in 2006 at \$788 billion or 6.1 percent of GDP. Despite a noticeable drop since the start of the financial meltdown in mid-2008, the U.S. current account deficit remained high at 5 percent of GDP.

Massive U.S. deficit mirrors the surpluses in EMEs (see Figure B1.1). Aggregated current account position of EMEs expanded more than 15 times, up from \$46.6 billion in 2001 to \$714.4 billion in 2008. Whilst the oil-exporting countries immensely benefited from the sharp rise in oil prices, developing Asia shifted its growth engine from domestic demand being harshly hit since South East Asian crisis in 1997 towards exports. China, in particular, had weak domestic demand for consumption goods due to the high precautionary saving, and were persuaded to bring export-led policy into play.



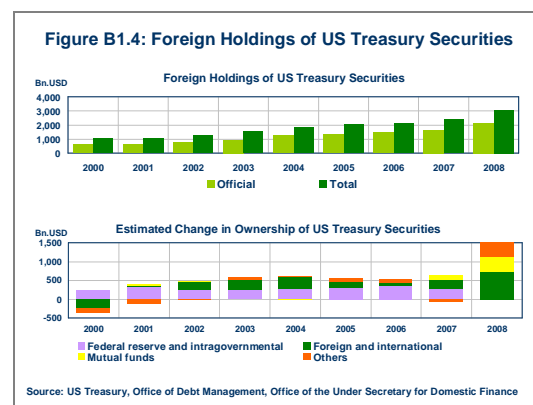
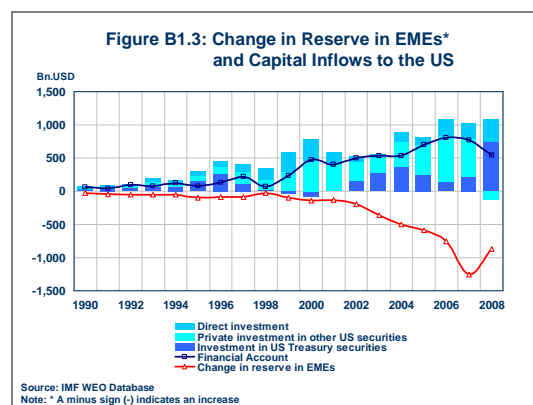
As reflected in Figure B1.2*, global current account imbalance had become more concentrated and persistent over the last decade. Whilst global deficits had been overwhelmingly accounted by single country (i.e. the U.S.), surpluses had spread over increasing number of economies. On a bilateral basis, almost 50% of the U.S. trade deficit in 1990 was accounted for by Japan (37.0%) and Germany (8.5%). But the share of the U.S. trade deficit to these two partners continuously dropped, to below 15% in 2008, as a result of higher bilateral U.S. deficit to the rest of the world.

In addition, a strong persistence of current account position was observed throughout the period. By looking at individual countries' current account balance, it reveals that most economic regions have run continued surpluses or deficits rather than switching from one to the other. Since 1980, the U.S. has never run a surplus except in 1991.

It is generally agreed that the U.S. could not forever be the buyer of last resort and the major part of the adjustment of global trade position was expected to come through the exchange rate realignment- a broad-based USD depreciation. But as aforementioned that most EMEs have been heavily reliance on export sector, they resisted allowing their currencies to appreciate against USD through foreign reserve accumulation by central banks. During 2001-2008, EMEs international reserve went up by \$733.0 billion, or \$122.2 billion per year on average (see Figure B1.3).

EMEs did not park surplus foreign exchange anywhere else but in the U.S. Figure B1.3 clearly shows that inward capital flows to the U.S. mirror change in EMEs' international reserve. Foreign investments in the U.S. were mostly in form of government bond and other government-backed securities. Foreign holdings of U.S. Treasury securities went up from \$1.0 trillion in 2001 to reach \$3.1 trillion in 2008, accounting for 28.8% of total outstanding (Figure B1.4). The recycled hot money had helped keeping U.S. interest rate at artificially low levels; thus facilitated the debt-financing consumption of U.S. households, drove U.S. saving rates down and encouraged financial agents to take extensive risk in order to attain higher yield.

Before the crisis, many economists had urged for internationally coordinative efforts to reduce the global imbalance to prevent the world from a synchronized crisis. However, the rising number of countries accounting for global surpluses complicated their unwinding processes. The run-up in oil prices in the first half of 2008 added further to the imbalances. As a result, global imbalances had persisted well until the collapse of Lehman Brothers sent shock waves around the world.



* The current account dispersion and persistence indices were constructed following the European Central Bank (ECB)'s framework published in the ECB Occasional Paper No 78 January 2008.

Typically, economic growth associated with historical financial crises has usually been driven by overly optimistic expectations for growth in income and wealth, which resulted in over-valued asset prices. But when expectations are not met, restoring household balance sheets and adjusting prices downward towards something approaching realistic value require sharp adjustments in private behavior (Bordo, 2008). Consequently, the main reason recessions associated with financial crises are so much worse is the decline in private consumption and tight credit conditions. For

this reason, recessions associated with financial crises have been more severe and longer lasting than recessions associated with other shocks. Although the recovery of domestic private demand from financial crises is weak compared to other non-financial crisis related recession, if countries could benefit from relatively strong demand in the rest of the world, this would help them export their way out of recession.

However, recessions that are associated with both financial crises and global downturns have been even more severe and long-lasting. Recessions that are highly synchronized across countries have been longer and deeper than those confined to one region. Recoveries from these recessions have typically been weak, with exports playing a much more limited role than in less synchronized recessions.

Table 2.1: Recessions and Recoveries of Past Crises

	Duration ¹		Amplitude ²	
	Recession	Recovery	Recession	Recovery ³
All	3.64	3.22	-2.71	4.05
By driver of recession				
Financial crisis	5.67	5.64	-3.39	2.21
Other	3.36	2.95	-2.61	4.29
By extent of synchronization				
Highly synchronized	4.54	4.19	-3.45	3.66
Other	3.25	2.82	-2.39	4.21
Recessions associated with financial crisis that are highly synchronized				
Mean	7.33	6.75	-4.82	2.82

Source: IMF

Note:

¹ Number of quarters from peak to trough or from trough to the next peak

² Percent change in real GDP from peak to trough or from trough to the next peak

³ Percent increase in real GDP after one year

From Table 2.1. In a typical recession, GDP falls by about two and three fourth percent. A typical recession persists for about a year and the economy typically recovers to its previous peak output in less than a year. On the other hand, recessions associated with financial crises have typically been more severe and protracted. Highly synchronized recession associated with financial crisis episodes are longer and deeper than other recessions. Since 1960, there have been 6 recessions out of

the 122 cases that fit this description: Finland (1990), France (1992), Germany (1980), Greece (1992), Italy (1992), and Sweden (1990). On average, these recessions lasted almost two years and during these recessions GDP fell by more than four and three fourth percent.

Looking at policy responses, monetary policy seems to have played an important role in ending recessions and strengthening recoveries. In terms of fiscal policy, fiscal stimulus appears to be particularly helpful during recessions associated with financial crises. Despite this, the impact of fiscal policy on the strength of the recovery is found to be smaller for economies that have higher levels of public debt³. Table 2.2 summarizes the characteristics of past financial crisis and contrasts it with the current crisis.

The implications of these findings for the current situation are intuitive. The current downturn is global in nature and is associated with a deep financial turmoil. Accordingly, the downturn is likely to be unusually severe, and the recovery to normal growth path is expected to be quite slow. Therefore, many economists looking for historical parallels for the current episode focus on the Great Depression of the 1930s, by far the deepest and longest recession in the history of most advanced economies. In the next subsection, we discuss the main features of the Great Depression.

³ Reinhart and Rogoff (2008) find that financial crises are often associated with sharp increases in public debt, posing concerns about debt sustainability.

Table 2.2: Comparison of the advanced economies' previous crisis to current crisis

Previous advanced economies' crises	This crisis
Most leading indicators were run-up in equity and house prices	High equity and house prices were presented before the crisis
Deep and lasting effects on asset price and employment for 5-6 years, even with monetary and fiscal policy support	Asset prices and unemployment are severely affected. However, there is much more support from monetary policy and fiscal stimulus
Massive increases in government debt	Massive increases in government debt
Crisis were individual or regional in nature	Global in nature
Took on average two years and more than 3 years for the 5 severe cases ⁴ to return to trend growth	May take a long time to return to trend growth?

2.2.2 The Great Depression

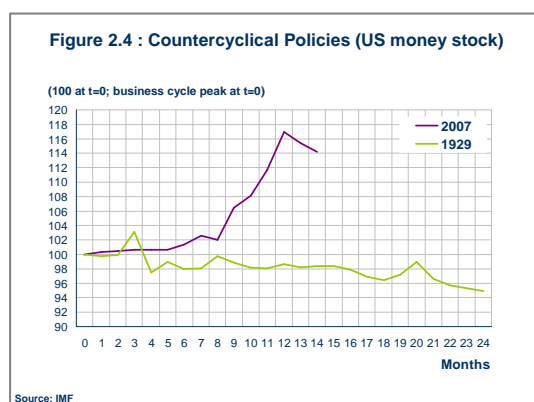
Because of the characteristics of the recent downturn, economists often compare the current downturn to the Great Depression of the 1930s, which is the most severe recession in the history of most advanced economies. An important common feature is that the U.S. economy is at the heart of both crises and like the Great Depression the current crisis has had a global impact. This sets the current crisis and the Great Depression apart from many other financial crises, which have normally happened in smaller economies and had more limited global impact. Looking at the initial conditions, both crises were preceded by rapid credit expansion and financial innovation which led to high leverage and vulnerabilities to adverse shocks. Liquidity and funding problems of banks and other financial intermediaries also play a key role in the financial sector transmission in both crises.

However, there are several differences that could set this crisis apart from the Great depression which will likely affect the recovery path. First, the credit boom in the 1920s was more specific to the United States, but the boom during 2004–07 was global and there were increased risk-taking as well as leverage in both advanced and emerging market economies. Second, the levels of economic and financial integration are now much higher, so U.S. financial turmoil has a larger impact on global financial system than in the 1930s. Third, global economic conditions were weaker in mid-1929. Germany was already in a recession, and inflation were decreasing in Germany, the United Kingdom, and the United States before the start of the U.S. recession. On the contrary, inflation in mid-2008 was above target in most economies, and so providing some initial cushion. Fourth, in the Great Depression, liquidity and funding pressures were a result of the decline in the deposit base. In the current crisis, because of the existence of deposit insurance, there was less risk of the runs on deposits. The funding problems lie instead in the reliance on wholesale funding in short-term money markets, particularly those issuing or holding U.S. mortgage securities and derivatives.

Despite the difference in mechanism, the effects on the behavior of financial intermediaries are similar. Funding problems have led to balance sheet contraction and deleveraging, pressure on asset sales, increased demand for liquid assets, resulting in reduced lending. These led to the decrease in external funds available for borrowers and the rise in cost of funds.

⁴ The most severe crises include Finland (1990Q2-1993Q2), Japan (1993Q2-1993Q4), Norway (1988Q2-1988Q4), Spain (1978Q3-1979Q1) and Sweden (1990Q2-1993Q1).

The main question is will these effects lead to the economic downturn as bad as the Great Depression? It should be noted that stimulative policy responses were almost absent in the early stages of the Great Depression. In the current downturn, however, there has been strong, swift actions in terms of macroeconomic policy support.



Major central banks have intervened extensively to provide financial systems with liquidity and lowered policy interest rates to an unprecedented level. Reflecting these policy efforts, the U.S. money stock has expanded rapidly, rather than contracting (Figure 2.4). Moreover, unlike today, there was little international cooperation during the Great Depression, given political tension among the major countries, and widespread protectionism (see Table 2.3 for comparison of the two crises).

Table 2.3: Comparison of the current crisis to the Great depression

The Great depression	This crisis
Crisis started from the U.S.	Crisis started from the U.S.
Has global impact	Has global impact
Rapid credit expansion and financial innovation were main causes	Rapid credit expansion and financial innovation were main causes
Boom was specific to the U.S.	Boom was global
Less financial integration	More financial integration and hence U.S. financial shocks have a larger impact on global financial system
Initial economic conditions were weaker, e.g. recession and low inflation	Inflation was above target prior to crisis
Funding problems arose from erosion of deposit base	Funding problems arose from wholesale funding
Counter-cyclical policy was absent in the early stage and little international cooperation	Strong, quick fiscal and monetary policy support and international cooperation

In sum, unprecedented policy support, an international monetary system that provides for flexible adjustment and more favorable initial macroeconomic conditions are the key features that distinguish the current crisis from the Great Depression. The traumatic financial sector adjustment seen in the early 1930s has been avoided, and as a result declines in activity and inflation in the United States and other major economies have so far been less severe.⁵

⁵ The alternative view based on the study by Eichengreen and O'Rourke (2009) is that the economy is now plummeting like it did in the Great Depression. World industrial production, trade and stock markets are diving faster now than during 1929-30. They argue that contrasting the two episodes by comparing America then and now is misleading since the Great Depression was a global phenomenon. They argue that if we look globally, the "Great Recession" name of the current crisis is too optimistic. What matters in the future is how policy responses in the current episode can rescue the decline.

3. The policy responses: extraordinary time, extraordinary measures

This crisis is extraordinary in many ways. Apart from its historic impact, the crisis witnessed a highly symbolic episode of international policy cooperation. There was the announcement of a coordinated interest rate cut by the ECB and five other major central banks (the Bank of Canada, the Bank of England, the Federal Reserve, Sveriges Riksbank and the Swiss National Bank) in October 2008. This coordinated interest rate cut was unprecedented by historical standards and was interpreted as a sign of the strong commitment of the international central banking community. Conventional Monetary policy that acted as a first line of defense against the crisis appears to have reached their limits in many countries. Policy interest rates in many countries-- including the U.S., U.K. and Japan--are now close to the zero nominal interest rate floor. Moreover, the implosion of financial systems in many economies has rendered monetary transmission mechanisms far less effective. Given this environment, fiscal policy has become essential to kick-start the global recovery or, at a minimum, to prevent global growth from declining further. This section discusses the main features of monetary and fiscal policy responses after the financial turmoil.

3.1 Monetary policy responses

3.1.1 Conventional measures

In the early stage of the crisis, the primary focus of the authorities was to address liquidity problems in the financial system. To mitigate the reluctance among banks to lend to each other, in particular, in the uncollateralised interbank market as well as to restore confidence, authorities reinforced this by providing guarantees on lending and deposits. Lending guarantees have been introduced in all major advanced economies, likewise the deposit guarantees, except in the case of Japan.

As the financial crisis intensifies, monetary policies have been eased substantially to support demand and counter deflationary risks. To different degree, policy interest rates have been cut across the board in many advanced economies since August 2007, and later for emerging economies. For instance, in the United States, the target Federal Funds rate has been cut to near zero (setting a range of 0-0.25 percent) by the end of 2008. Likewise, the policy interest rates in the Euro Area and United Kingdom have also been cut aggressively to 1.0 and 0.5 percent.

Nonetheless, with the limited scope for lowering interest rates and reduced impact of lower policy rate resulting from credit market disruptions, central banks have explored more on unconventional measures to further ease monetary conditions and support credit intermediation. In a number of cases, central banks have intervened to an unprecedented degree in the financial system, particularly after the incidence of the failure of Lehman Brothers and the rescue of American International Group (AIG). Diverse arrays of new instruments have been introduced, ranging from deposit guarantees, liquidity support, asset purchases, and to recapitalization, to ensure credit flows throughout the financial system (See Table 3.1).

Table 3.1 Advanced economies: Response to the Financial Turmoil

Measures	Advanced economies			
	U.S.	UK	Euro Area	Japan
Liquidity¹	√	√	√	√
Guarantees				
- Lending guarantees	√	√	√	√
- Deposit guarantees	Increased limit	Increased limit	Increase limit	-
Recapitalisation²	√	√	√	√
Buyer of last resort	√	-	-	√
Monetary Policy				
- Cumulative interest rate change	-425 bps	-500 bps	-325 bps	-40bps
- Current level	0-0.25%	0.5%	1.0%	0.1%

Source: FED, BOE, ECB, BOJ and Reuters

Remarks

1. Measures include various actions taken to inject liquidity in the market to both domestic and foreign financial institutions through foreign central banks
2. Measures include capital injection into financial institutions or purchase of assets
3. Since end-2007

3.1.2 Unconventional measures

Interventions have been regarded as unprecedented because they are bold, unusually fast, and extremely diverse. The need to strengthen liquidity provision in order to address the global liquidity squeeze and ease pressures in international money markets has also led to central banks adjusting their operational frameworks in order to increase their effectiveness and expanding their ability to reach markets under stress. Some central banks have extended lending to institutions other than banks, including non-bank financial institutions and even directly to the real sector. Direct lending to the real sector represents a significant deviation from the traditional central banking practice of using banks as the main channel of transmission of central bank liquidity.

Unconventional measures introduced as response to current crisis can be classified into 4 types according to their objectives, namely (i) liquidity facilities; (ii) credit easing; (iii) quantitative easing and; and (iv) financial rescue (see Table 3.2).

First, *liquidity facilities* provide liquidity to financial firms both domestically and internationally. They are mainly to support the central banks' function as lender-of-last resort, in particular during the ongoing financial crisis. Central banks worldwide have adjusted their liquidity management framework, particularly to expand both their lists of eligible collateral and eligible counterparties (to entities not customarily included in the list of direct central bank counterparties). The objective is to reduce the need for fire sales of assets and reassurances financial institutions and their counterparties that those institutions will have access to liquidity as needed.

Another aspect of liquidity provision facilities is to provide liquidity to foreign commercial banks via the intermediation of foreign central banks counterparts, i.e. foreign currency facilities or liquidity swap lines. This arrangement is called "Foreign Exchange Swaps" in the case of United States. In December 2007, the Federal Reserve have agreed to provide the unlimited credit swap line to the European

Central Bank, Swiss National Bank, Bank of England and later to the Bank of Japan. In return, those central banks also agreed to provide liquidity of their corresponding currencies to the Fed.

Second, *credit easing*, given rising credit risk and tight credit conditions, central banks have eased credit condition by outright purchase of private sector securities – items that in normal circumstance have not been held by the central banks. The objective is to facilitate the extension of credits to households and business by bypassing the intermediation through banking system. Many central banks in advanced economies have pursued this strategy in response to the current crisis as financial sector difficulties lie at the heart of this crisis, causing disruption in credit channel transmission mechanism.

Apart from easing credit conditions, this type of measure also helps clean up balance sheets of providers of securities as it transfers toxic assets from sellers to purchasers, in this case the central banks. Financial intermediation function of troubled financial institutions is thus expected to resume to normalcy as soon as their balance sheets problems have been solved. Nevertheless, this could instead adversely affect central banks, who have to hold asset with ‘lower-than-norm’ quality. As a consequence, central banks could face difficult time in unwinding such assets or could experience a greater loss when marking to market.

Third, *quantitative easing* is conducted through an outright purchase of government securities. This measure is aimed to reduce interest rate along the term structure, lowering the cost and improving the availability of credit for households and businesses.

Table 3.2 Central banks’ unconventional measures

Type	Measure	Purpose	Central Bank
Liquidity Provision	<ul style="list-style-type: none"> Expansion of eligible collateral, counterparty Expansion of terms for regular operations 	Enhance liquidity provision in money markets	<ul style="list-style-type: none"> Most central banks in advanced countries Some EMEs
	Unlimited liquidity provision in market operations		ECB, BOJ
	Currency swap arrangements between central banks	Facilitate foreign currency provision globally	<ul style="list-style-type: none"> Fed with 14 central banks SNB with ECB
	Lending government securities in exchange for illiquid securities	Assist repo and other collateralized transactions	Fed, BOE
	Foreign currency provision in domestic markets	Ease conditions in foreign currency funding markets	Most central banks in advanced countries
Credit Easing	Outright purchase of private sector securities	<ul style="list-style-type: none"> Facilitate credit extension to HH and business Support mortgage and housing market Provide backup liquidity Restore securitization market 	Fed, ECB, BOE, BOJ, SNB
Quantitative Easing	Outright purchase of government securities	<ul style="list-style-type: none"> Reduce interest rate in various maturities Boost the supply of money and credit 	Fed, BOE, BOJ
Rescue Operation	Directly injected money and/or loan giving	Relieve banking constraint	Fed, BOE

Source: IMF (2009)

It is worth noting that quantitative easing currently adopted is similar to those adopted by the Bank of Japan during (BOJ) March 2001- March 2006. BOJ decided to change the operating target from the uncollateralized overnight call rate to current account balances (CABs) – commercial banks' excess reserves at the BOJ. CABs were targeted to increase from ¥5 to ¥30-35 trillion by January 2004 via the purchase of long-term Japanese Government Bonds (JGBs) and expand later to wider range of stocks and asset-backed securities. The difference of BOJ's measures on quantitative easing and those adopted by other central banks response to the current crisis is that measures to clean up balance sheets of both financial institutions and businesses were introduced parallel to quantitative easing measures. This is to ensure that intermediation would resume shortly after financial system have normalized.

Fourth, *financial rescue* for specific institution, namely Bear Stearns and American Institution Group (AIG) by the Federal Reserve and Northern Rock by the Bank of England. Systematically important institution is what has been the main focus of central banks, in order to avoid major disruptions in financial market. In summary, these unconventional measures have, in most cases, increased the size of the central banks' balance sheets, and in a few cases increased their direct credit risk exposure.

3.1.3 Impacts of unconventional measures

As a consequence, central banks' balance sheets in many advanced economies have been expanded to the large magnitude. Balance sheet of the Federal Reserve markedly expanded from \$0.9 billion in June 2008 to \$2.07 billion in June 2009, in line with the expansion in commercial banks' deposits at the Federal Reserve that rose substantially during the same period. Likewise, ECB balance sheet expanded from €1.3 billion in early-2008 to €1.8 billion in mid-2009. Bank of England's balance sheet has also swelled from £100 billion to £226 billion. The significant escalation in the Bank of England Asset Purchase Facility Fund (BEAPPF) took place in March 2009, where the purchases of asset (including gilt-edged securities) in pursuit of its monetary policy aims were allowed. This is generally known as the 'Quantitative Easing' policy.

These similar patterns of the central banks' balance sheets were observed widely, posing concerns on how central banks can unwind their position appropriately, and to be more precise in terms of timing, speed and sequencing. The most challenging part probably is to strike the right balance in withdrawing from the monetary stimulus. Unwinding too early would interrupt the recovery path, while unwinding too late could risk inflation and even eroding credibility of the central bank.

3.2 Fiscal policy response

At the November 2008 G-20 Summit in Washington, DC, the leaders of the G-20 countries promised to "use fiscal measures to stimulate domestic demand to rapid effect, as appropriate, while maintaining a policy framework conducive to fiscal sustainability". In this section, we discuss the size of fiscal stimulus packages as announced by the authorities and compiled by the IMF. We present the big picture of the fiscal stimulus packages in light of three key criteria: size, composition and speed.

Box II: International efforts in response to the crisis

In the light of current crisis, various measures have been imposed focusing not only on the national level but also at the international level. Greater international cooperation is needed to avoid exacerbating cross-boarder strains, as well as mitigate undesirable impacts from beggar-thy-neighbour policies.

Shortly after the blowout of the financial crisis in September 2008, in particular the series of failure of the large financial institutions in U.S. and Europe, leaders of group of advanced and major emerging economies, G20, have met in Washington D.C. in November 2008 to address the problem of financial instability and to restore confidence in global trade and financial system. Building on such momentum, the G20 leaders met again in April 2009 at the London Summit to follow up their action plans agreed from the meeting in Washington DC and follow up their implementations in 5 key following areas: (a) restoring growth and jobs; (b) strengthening financial supervision and regulation: (c) strengthening global financial institution and (d) resisting protectionism and promoting global trade and investment and (e) ensuring a fair and sustainable recovery for all.

Restoring growth and jobs

In restoring growth and jobs, G20 leaders agreed to restore domestic lending and international capital flows. In this light, they support the banking systems by providing liquidity, recapitalization of financial institutions and address decisively the problem of impaired assets.

Strengthening financial supervision and regulation

G20 agreed to build a stronger domestically supervisory and regulatory framework to promote integrity and transparency as well as reduce reliance on inappropriately risky sources of financing and discourage excessive risk-taking. On the international front, they aimed to establish the much greater consistency and systematic cooperation between countries to reduce scope for regulatory arbitrage. Main elements regarding this issue are:

- To establish a new Financial Stability Board (FSB). With the collaboration with the IMF, FSB is aimed to provide early warning of macroeconomic and financial risks and the actions needed to address them;
- To extend regulation and oversight to all systemically important financial institutions, instruments and markets (including hedge funds);
- To take action against non-cooperative jurisdiction, including tax haven in terms of sanctions in order to protect public finances and financial systems;
- To extend regulatory oversight and registration to Credit Rating Agencies to ensure they meet the international code of good practice, particularly to prevent unacceptable conflicts of interest.

Strengthening global financial institution

In strengthening global financial institution, G20 agreed to make financial resources available to support growth in emerging market and developing countries. G20 is also determined to reform and modernize those institutions, particularly the International Monetary Fund, in order to enhance the Fund's legitimacy and effectiveness. One way to meet this objective, G20 leaders agreed in London that emerging and developing economies, including the poorest, should have greater voice and representation as well as improve IFIs' mandates, scope and governance structures.

Resisting protectionism and promoting global trade and investment

To avoid the repetition of the historic mistakes of protectionism resulting from the Great Depression, G20 reiterated the importance of resisting protectionism and promoting global trade and investment. They reaffirm the commitment made in Washington to refrain from raising new barriers to trade in goods and services, imposing new export restrictions, or implementing World Trade Organisation (WTO) inconsistent measures to stimulate exports. G20 also ensures availability of at least \$250 billion over the next two years to support trade finance and commits to reach the balanced conclusion of the Doha Development Round.

Ensuring a fair and sustainable recovery for all

In addition to promote growth and strengthen regulation, G20 is also determined to lay the foundation for a fair and sustainable world economy as the current crisis has a large impact on the vulnerable in the poorest countries. Commitment to reach the Millennium Development Goals is reaffirmed, while resources is made available for social protection for the poorest countries – including the investment in long-term food security – as well as for concessionary and flexible finance within the Debt Sustainability Framework.

In an interconnected world, the effectiveness of stimulus is contingent on how coordinated it is across countries. If the sizes of the stimulus packages (relative to domestic GDP) are very different across countries or if the effects of some countries' stimulus packages are back loaded, then there could be leakage of stimulus from countries that act early and forcefully. Thus, lack of coordination could reduce the effectiveness of fiscal stimulus globally. Given the current downturn, large front-loaded stimulus packages that are coordinated internationally are necessary for effectively reviving the global economy and boost private sector confidence. So far, authorities in G-20 countries have acted on their leaders' joint announcement in November 2008 to use fiscal stimulus in a coordinated manner. Some countries like China and the U.S. have responded with large packages.

3.2.1 Size, composition and speed

Almost all countries in the G-20⁶ have announced fiscal stimulus measures. On average, the total amount of stimulus in the G-20 that has been planned or has been adopted is about 0.6 percent of GDP in 2008, 2 percent of GDP in 2009 and 1.5 percent of GDP in 2010. Measures for 2009 in the U.S. stimulus package amount to 2 percent of its GDP and the corresponding numbers for China and Japan are 3.1 percent and 2.4 percent, respectively. Measures for 2010 in the U.S. stimulus package amount to 1.8 percent of GDP, China's 2.7 percent, and Germany's 2.0 percent.

The crisis is having a significant impact on fiscal position in the G-20 countries. Overall, deficits are forecasted to increase by 5.5 percent of GDP in 2009 and 2010, both with respect to 2007 pre-crisis levels and excluding losses from financial sector support (see Table 3.2). Fiscal deficits in advanced G-20 countries are estimated to be larger than other G-20 countries in both years, reflecting weaker growth prospects in 2009 before a better outlook in 2010.

⁶ The G-20 countries constitute over three-quarters of global GDP (on a market exchange rate basis) and over two-thirds of the world's population. For the detail of their cooperations, see Box II.

Most countries that have announced a series of stimulus packages have increased the share of spending (compared to tax cuts) in recent period. For example, Germany's stimulus in November 2008 was largely composed of tax cuts. The second stimulus package announced in January 2009 was largely biased towards spending. Similar features can be found in the stimulus measures announced in Australia and Spain. Overall, spending represents more than three-quarters of stimulus planned for 2009 with particular emphasis on increased spending for infrastructure. Spending share is expected to drop to two-thirds in 2010. Revenue measures have targeted mostly on households via cuts in personal income and indirect taxes (Figure 3.1)

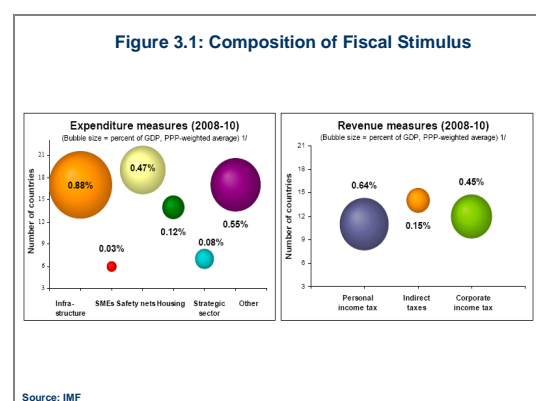


Table 3.2: G-20 Countries: Fiscal Expansion

(in percent, change with respect to pre-crisis year 2007)

Countries	2009			2010		
	Overall Balance	Crisis-Related Discretionary Measures	Other Factors	Overall Balance	Crisis-Related Discretionary Measures	Other Factors
All	-5.5	-2.0	-3.5	-5.5	-1.6	-3.8
Advanced Countries	-5.9	-1.9	-4.0	-6.2	-1.6	-4.5
Emerging Economies	-5.0	-2.2	-2.8	-4.4	-1.6	-2.8

Source: IMF
Note: Exclude losses from financial sector support

Countries vary in the degree of front-loading of their stimulus packages. This partially depends on the budget process in each country—countries may not announce stimulus for the future though they intend to enact it as part of their regular budget process. Overall, there is a large amount of front-loading in the stimulus packages of the G-20 countries, with most of the stimulus taking effect in 2009. This in part reflects different beliefs about the duration of the recession. We should also note that some countries recognized the coming crisis and already implemented stimulus plans some time in 2008. These include, for example, China, Japan, Korea, Spain, U.K. and the U.S.

3.2.2 Measures to support financial and other sectors

Table 3.3: Support for Financial and Other Sectors and Upfront Financing Need

(As of June 2009; in percent of 2008 GDP unless otherwise noted)

	Capital injection ¹	Purchase of Assets and Lending by Treasury ²	Guarantees ³	Liquidity Provision and Other Support by Central Bank ⁴	Upfront Government Financing ⁵
G-20 Average	2.2	3.5	8.8	9.3	3.6
Advanced Economies	3.4	5.3	14.0	6.9	5.5
(In billions of US\$)	1,149	1,937	4,646	2,514	1,849
Emerging Economies	0.2	0.3	0.1	13.6	0.4
(In billions of US\$)	22	3.8	7	1,605	47

Source: IMF
Note: Exclude losses from financial sector support. Average are based on PPP GDP weights
1 2 3 5 Indicate announced amounts, and not actual uptake
4 Indicate the actual changes in central bank balance sheets from June 2007 to April 2009.

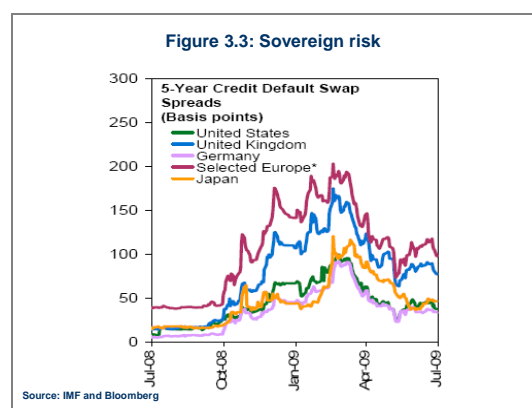
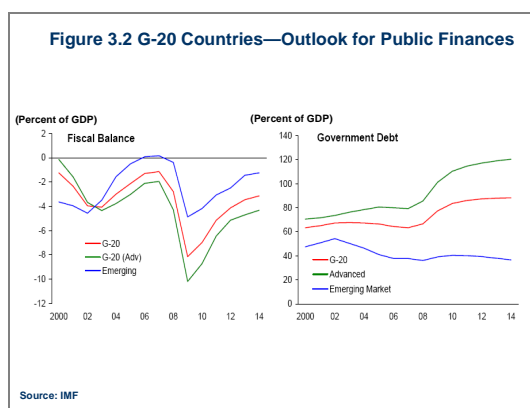
Governments and central banks have also continued to provide direct support to the financial and other sectors. While support measures have been huge, short-run impacts on government financing requirements have been minimal. For example, guarantees do not require immediate government financing, and institutions providing other support measures are mostly not the government, but are institutions such as central banks, state-owned financial institutions, and

others. Upfront financing needs of the government associated with financial support measures are estimated to be 5.5 percent of GDP for the advanced G-20 countries, while the amount is significantly less in emerging G-20 (0.4percent of GDP).

3.2.3 Impact of fiscal stimulus

Fiscal balances will be severely affected by the crisis in the short run. For G-20 advanced economies, fiscal balances are projected to worsen, on average, by 8 percent of GDP in 2009 relative to 2007 and government debt is projected to be over 100 percent of GDP in the next 5 years (Figure 3.2). For the advanced countries, half of the deterioration is due to fiscal stimulus and financial sector support.

As a consequence, sovereign yield curves have steepened substantially. This reflects in part improved economic prospects and reduced worries of deflation. Nevertheless, this could reflect concerns about the ability of markets to absorb the supply of new government bonds and expected rising public debt levels in many advanced market economies. This increased focus on fiscal sustainability may have also been reflected in sovereign credit default swap spreads still remaining above the pre-crisis period (Figure 3.3).



The bottom line is although excessive government borrowing to finance large budget deficits could itself generate instability and raise serious concerns about medium-term sustainability of fiscal positions in economies that are building up public debt at a rapid pace, fiscal stimulus still play a crucial role in stabilizing the world economy in the short-run, especially when conventional monetary policy appears to have reached its limit in many countries. Given the current weak economic situation and the lack of other tools, the world may have little choice but to engage in massive front-loaded fiscal expansion. This is because the consequences of doing too little, as history tells us, could be even worse.

4. An educated conjecture of the two still unfolding macro developments

In this section, we attempt to portray two important macro developments that at the moment are still unfolding. They are advanced economies' macro policy exit (with special focus on the Fed), and the remaining global imbalances. The former is a new defining variable in the post-crisis era while the latter was a major risk factor before the crisis.

4.1 The path of policy exits and their consequences

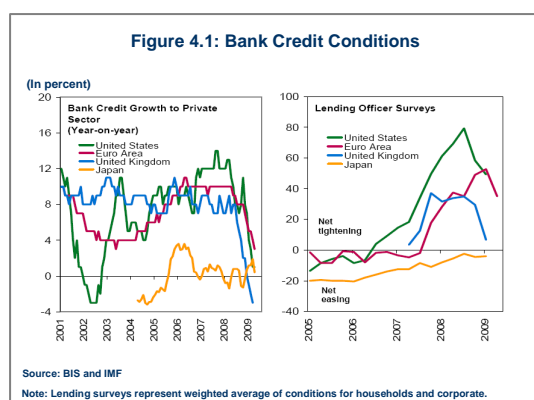
As discussed in the earlier section, in response to the crisis, central banks and government around the world have intervened to an unprecedented extent in the financial system. Within four months after the fall of Lehman Brothers, some

advanced economies had made commitments of more than 40 percent of GDP (28 percent, on average, in G-20 countries).

Now as the financial market normalize and economies start to recover, there has been wide spread discussion regarding the possibility of central bank exit from the current intervention.⁷ But how soon will this be and whether it is still premature to anticipate the exit? This section discusses the preconditions of the exit policies in the advanced economies, with some emphasis on the Fed's strategy. We then assess the outlook and risk from the exit policy.

4.1.1 Sequencing for policy exit

Given the long and variable lags of monetary policy, central banks are widely aware of the need to be pre-emptive. However, in exiting monetary policy stimulus, central banks in advanced economies will need to be mindful of many complications going forward. First, there is the need to monitor the consequences on asset prices of central bank balance sheet downsizing. This is because central banks are in the position to stabilize the market, not destabilize it by drastic measures such as direct sales of assets. Second, central banks should ensure consistency with fiscal policy. This may be particularly difficult as the termination of unconventional measures is constrained by fiscal needs to run fiscal deficits, the large amount of government support adopted over the past year and the range of additional proposals in waiting, and uncertainty regarding announcement effects and implementation lags. Third, public expectation regarding the exit policy should be properly managed to avoid the rise in inflation expectations.



In approaching the exit, central banks will likely consider four conditions. First, based on the reason why the unconventional measures were introduced in the first place, central banks will want to ensure that financial system stabilizes and banking sector starts lending again. In terms of financial stability, it seems that concerns regarding liquidity and counterparty risks in the banking sector have declined. However, so far the large amount of excess reserves that central

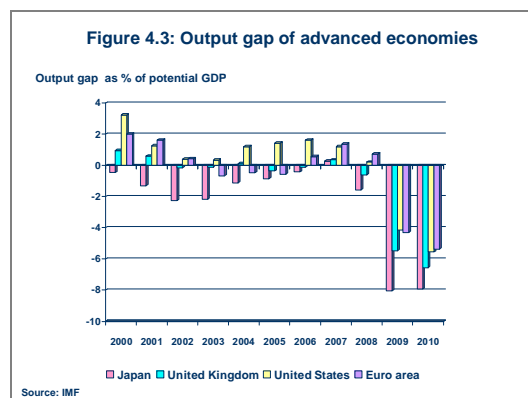
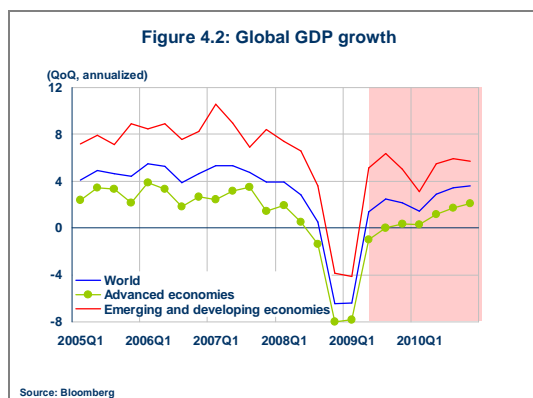
banks provide to the market has not translated into lending growth. Despite unconventional policies aimed at stimulating credit to the real sectors, bank lending remains constrained. Overall bank credit growth continues to diminish, as deleveraging pressures persist (Figure 4.1).

The second condition is the signs of economic recovery. Central banks would normally wait for signs of economic growth and sustained contraction in output gap before tightening monetary policy. Currently, economic growth has picked up but the economies are still growing less than potential. Output gap and unemployment in G3 countries remain significant (Figure 4.2 and 4.3).

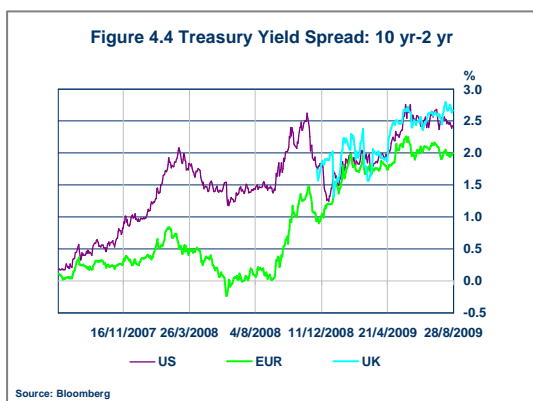
The third condition is the impact on asset prices of central bank balance sheet adjustment. The sequence and pace of this asset reduction will most likely influence

⁷ See, for example, Monetary Policy Report to the Congress, Board of Governors of the Federal Reserve System, July 2009.

the pricing of the asset. The expansion and diversification of central bank balance sheets have occurred within a short period of time, particularly the Fed, that subsequent unwinding without proper management of the balance sheet will cause a rise in long-term interest rates and possibly re-tighten financial market conditions.



For this reason, we expect almost all central banks to attempt to minimize the impact on asset prices by restructuring and terminating existing liquidity-supply facilities, i.e. no expansion or roll-over to reduce the size of their balance sheet, but avoiding measures such as direct sales of asset to ensure financial market stability. With this mindset, the Fed could curb on new liquidity supply to banks such as the Term Auction Facility (TAF), while delaying the unwinding of asset purchase programme such as the Mortgage-Backed Securities (MBS). The BOE will also likely restrict asset sales to short-term assets and postpone the sales of long-term assets such as government bonds. As a general principle, it is quite likely that asset sales will be the last option and will be avoided if possible during the process of balance sheet adjustment by the Fed and other central banks. After exiting the unconventional measures, the rate hike will then follow.



Fourth, central banks need to ensure that the exit strategy does not place burden on future public debt or put pressure on long-term yield. Currently, the yield curve has steepened in many countries and government debt in advanced economies is projected to be over 100 percent and increasing. The recent rise in longer-term treasury (Figure 4.4) has been driven in part by investors' concern about the longer term inflationary implications of higher public debt.

Given these conditions, we foresee central banks taking a very gradual approach towards the exit policy. This exiting pace, however, rests on the degree of inflationary pressure. A sharp increase in inflation expectations would obstruct the gradual approach to shrinking balance sheet and central banks may need to sell holdings such as long-dated government bonds. But without a sharp rise in inflation expectations, it is likely that the possibility of rate hike by major central banks will not happen before the second half of 2010 (see Table 4.1 for the summary of likely exit strategies).

In terms of fiscal policy exit, the sharp increase in government debt and the need to run fiscal stimulus discussed earlier will complicate the management of monetary

policy. Sargent and Wallace (1981) highlight the difficulties of the co-existence of monetary policy where fiscal policy is unsustainable. Monetary authority will likely lose its ability to control inflation whenever the rate of interest exceeds economic growth. Therefore, exiting from the current state of monetary policy too soon will increase the debt to GDP ratio, resulting in more bond finance, higher interest payments and deficits. In the end, deficit financing will require more money growth, leading to higher inflation.

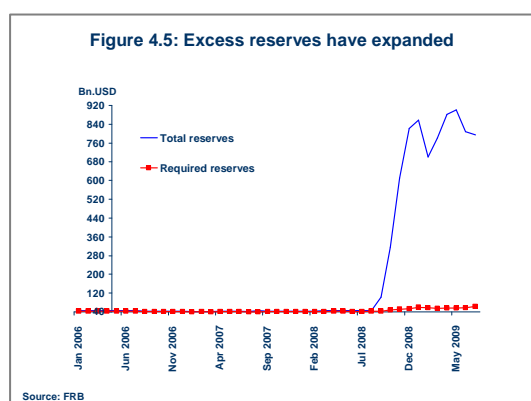
In making fiscal adjustment, government will need to consider two conditions. First, a too quick withdrawal of fiscal stimulus would prolong economic downturn. Second, a delayed withdrawal could raise investors' concerns about debt sustainability, resulting in higher interest rates on government bonds and increasing risk on government debt position. At this stage, however, with unemployment still high and banking sectors not yet lending normally, we foresee no fiscal policy exit in the near future and any significant fiscal adjustment would be premature over the next five years.

Table 4.1: Exit Outlook of Major Central Banks

	Outlook for Exit Strategies	Note
US	<ul style="list-style-type: none"> - Maintenance of unconventional measures until 2010 - No rate hike until 2011 - Balance sheet downsizing esp. liquidity provision programs can be automatically unwound. Asset sales as final choice 	<ul style="list-style-type: none"> -Unemployment concern -Regional Fed presidents have discussed exit strategy but the majority favours maintaining unconventional measures
Euro	<ul style="list-style-type: none"> - Unconventional measures with time limit - Balance sheet downsizing in 1H 2010 and rate hike in 2H 2010 - Balance sheet downsizing through shorter terms for unlimited long-term lending and add spread to long-term lending 	<ul style="list-style-type: none"> -Inflation concern -Expectations for another rate cut have reduced
UK	<ul style="list-style-type: none"> - Asset purchases may be increased - Balance sheet downsizing and simultaneous switch to rate hike in 2010 - Short-term asset sales and avoid long-term asset sales 	<ul style="list-style-type: none"> -BOE view: Too soon to withdraw liquidity but not too early to prepare exit strategies
Japan	<ul style="list-style-type: none"> - Balance sheet downsizing via completion of private-sector debt purchase and reduction in liquidity supply - No policy rate hike until 2011 	<ul style="list-style-type: none"> -Exit from unconventional measures such as private debt purchase will be matched by decreased demand

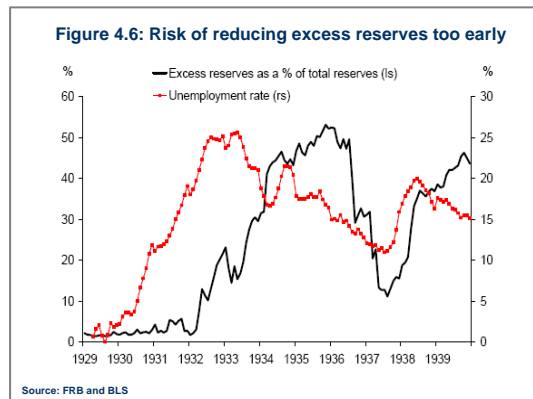
Note: As of end-June 2009

4.1.2 Outlook and Fed's exit strategy



The question of how the Fed will exit from its current unprecedented stance has become quite important as the market and the economy started to stabilize. To set a perspective, it is illustrative to look at total bank reserves and the required reserves. As of July 2009, total bank reserves are about \$800 billion, of which about \$60 billion are required reserves. The rest is excess reserves which have expanded abruptly and substantially since September 2008 (Figure 4.5).

This increase in reserves is unprecedented in history and banks are free to lend them out. This could happen as soon as the economy recovers and banks are ready to make full use of the reserves in extending new loans. As a result, money supply could expand very significantly, resulting in very high inflation. For this reason, the Fed will want to manage these excess reserves so as to avoid a surge in future inflation.

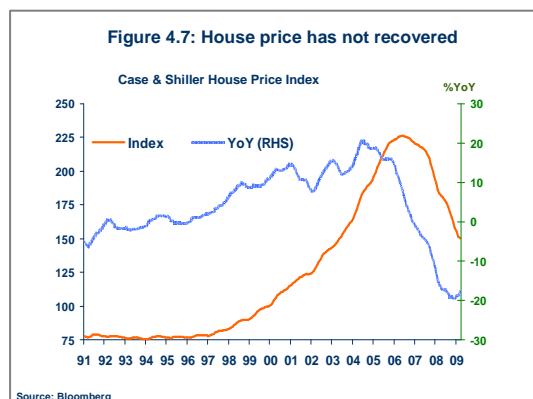


Despite concern about this mega expansion of excess reserves, key lessons in the past should also influence Fed's decision ahead. History has shown that getting the exit right from a massive dose of government support can be a very difficult task. In the past, Fed had made two mistakes and so will likely consider these lessons when deciding on the timing of exit from the current monetary policy stance. The first lesson was a sharp contraction of excess reserves in the

banking system in 1936-37 that soon led to a large increase in the unemployment rate. During this period, a too quick exit substantially caused the downturn (Figure 4.6). The second lesson was the long period of very low rates and slow pace of rate increase strategy that the Fed pursued during 2003-04. Based on different variants of the Taylor rule and a number of recent research (Taylor, 2009), the Fed should have begun to raise rates as much as a year sooner, and proceeded at a faster pace. The relatively low interest rate path that the Fed followed during this period is widely seen as having contributed to the bubble and eventual economic and financial crisis that result.

It should be noted that comparing to the past, the Fed's expansion of the reserve base is substantially larger than the experience during either the Great Depression where the reserve base was doubled or the experience during Japan's lost decade. A key risk that concerns the Fed, therefore, will be its ability to use its monetary policy tools to control a large volume of excess reserves.

More recently, money markets have returned much closer to normal conditions and the liquidity facilities have been drawn down. Despite this, the Fed's balance sheet has remained expanded as the Fed's credit easing program has picked up. Judging from this, what is especially challenging will be the exit from the Fed's MBS purchase program because of its dominance in a market that remains very fragile. In addition, house price continues to trend lower and is not expected to bottom until sometime well into the first half of 2010 (Figure 4.7).

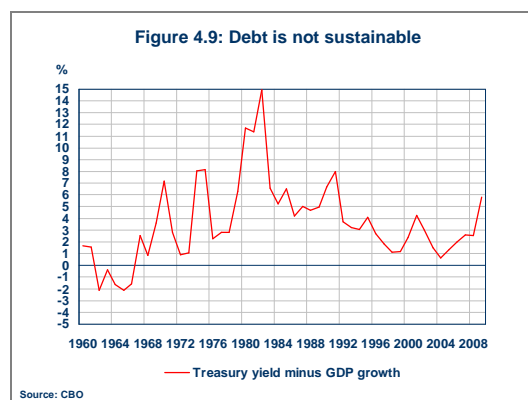
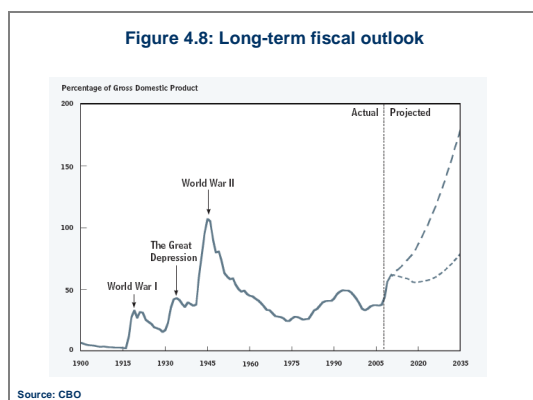


In this context, the Fed will face a difficult choice between terminating and expanding its MBS purchase program, with risks on one side for the housing market and the economy, and on the other side for the further expansion of its balance sheet. The Fed's likely exit sequence will differ somewhat from the entry sequence -- the Liquidity facilities will be run off first, though they will most likely not all be terminated until after rate increases have begun. Next, the credit

easing/asset purchase programs will be slowed and then phased out. Finally, policy interest rates will begin to rise.⁸

As discussed earlier, fiscal policy adds another dimension of risk to the monetary exit decision, in two ways: by introducing more conditions to the growth outlook, and by raising the risk to inflation resulting from an unstable government debt position. The Congressional Budget Office (2009) recently updated its long-term projections, and the picture is not so good (Figure 4.8). Under a more realistic alternative scenario (in which the tax cuts are extended and medical spending is assumed to follow a more plausible growth path), debt rises towards 200% of GDP.

Currently the prevailing conditions point to public debt instability. Budget projections show the primary budget to be in deficit for the decade ahead. And for the past several decades, the yield on government bonds on average has exceeded the rate of growth of GDP. This upward pressure on yields will worsen the instability of the U.S. government debt position (Figure 4.9).



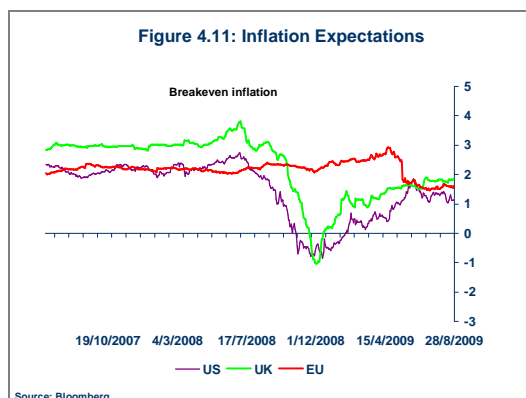
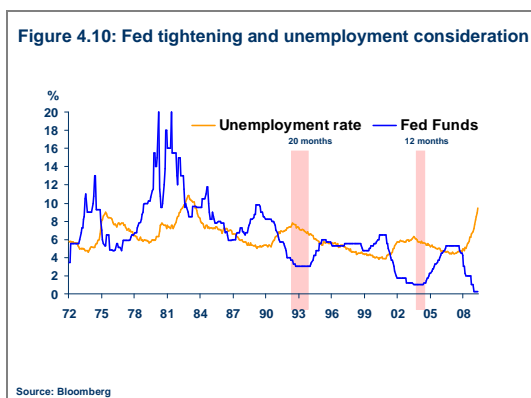
In terms of monetary policy management, unstable debt puts the central bank in a great dilemma. On the one hand, the central bank can allow interest rates to rise, which will tend to depress growth and raise unemployment, and worsen the debt problem. Both of these outcomes will be politically unpopular. But if, on the other hand, central bank, and Fed in particular yield to political pressure and holds interest rates down to achieve its unemployment target and lessen debt instability, central banks end up monetizing the debt and letting inflation to spiral out of control.

We project that the Fed will likely face increasing pressure as the debt level rises. We see current conditions are pointing towards situation that has existed in the past when debt monetization has resulted in elevated inflation. Typically this occurs during time of war, but the debt levels now being projected for the U.S. suggest that the risk are rising (Figure 4.8).

Given the many constraints mentioned above, the Fed should be on hold in raising rate until 2011. In the recent past, the Fed has not tightened policy rate until the unemployment rate has been in decline for at least a year, except in the early 1980s when this lag was shorter, but inflation was also much higher (Figure 4.10). Although inflation expectations currently remain stable (Figure 4.11), this slow exit approach

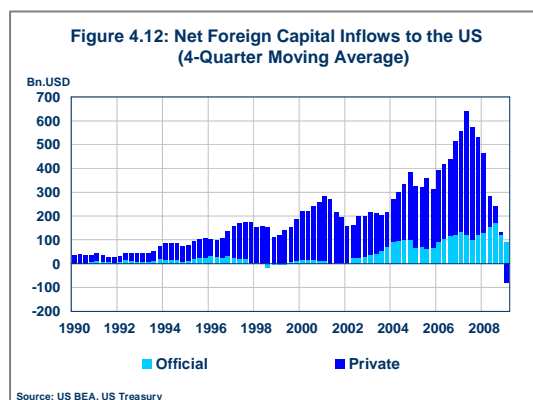
⁸ The alternative view is that the increase in the Fed's balance sheet need not be reversed before they hike policy rate. This is because remunerating excess reserves at the policy rate would allow for the policy rate to be increased prior to draining reserves from the banking sector (BIS, 2009). In this way, the Fed can continue to support certain asset market, e.g. MBS.

could raise inflation expectations and heighten the risks of inflation in the longer-term.⁹



4.2 Remaining global imbalances

A staple of the era of excess, global imbalances reflect disequilibria that had been overlooked by most parties during the old good days when the world was surrounded by the high-growth and low-inflation environment. (For the stage of global imbalance before the crisis, see Box I.) As what underlying this unevenness were country-level internal consumption-production disproportion, saving-investment disparity as well as economic structure, the soft-landing solution to such imbalances requires coordinated responses of governments and central banks around the world. However, the increasing number of countries involving in global imbalances complicated such dissolution. For this reason, some observers believed that the disorderly unwinding of global imbalances would be inevitable.



by Figure 4.12, the fall in net U.S. inflows was accounted for primarily by the fall in private inflows. The correction of global imbalances was brought about not by the collapse in the rest of the world's willingness to accumulate the U.S. dollar but by the collapse of the financial sector of the advanced economies, or as Setser (2009), one of the most outspoken critics of Bretton Woods II, admitted, "The chain of risk intermediation broke down in New York and London before it broke down in Beijing, Moscow or Riyadh."

The unwinding of global imbalances that accompanied the implosion of the crisis was indeed disorderly. Yet, except for the synchronized global meltdown, the unwinding of global imbalances was unlike anything its doomsayers had predicted. Most importantly, it was not a dollar crisis. The so-called Bretton Woods II regime in which emerging market economies finance the U.S. deficits through fixed or heavily-managed exchange rates against the U.S. dollar has remained firmly intact (Dooley et.al, 2009). As vividly illustrated

⁹ Goldman Sachs also recently views a rate hike in 2011 when the labor market is more likely to be recovering (Hatzius, 2009).

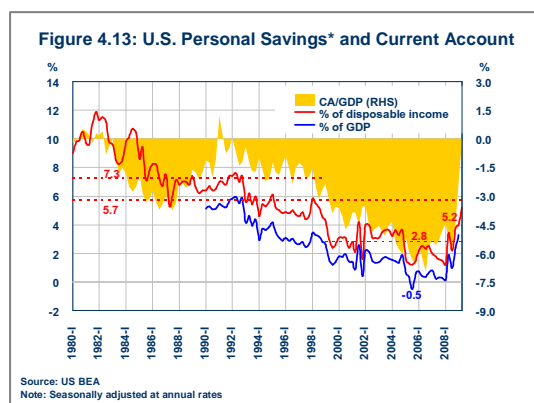
Going forward, what will happen to the remaining global imbalances remains an open question. Some observers believe that the crisis marks the beginning to the end of global imbalances while others believe global balances will re-emerge once the global recession is over. The former group is further divided into those who think the subsequent adjustment of global imbalances will be orderly and those who think there could still be a hard landing. The latter group is further divided into those who think the renewed imbalances will be sustained and those who think they will sow the seed for the next global crisis.

Our view is that the hard-landing scenario is unlikely. Most importantly, the crisis has significantly reduced the size of imbalances on both the surplus and the deficit sides. Moreover, except for U.S. government debt, we cannot think of any potential bubbles in sight that will precipitate the sharp correction of global imbalances. Finally, the apparent “stickiness” of official flows further limits the possibility of the sudden unwinding of the global imbalance through the sizable capital flow reversals.

On the other hand, we do not think global imbalances can persist indefinitely. Over the long term, we think post-crisis global growth rebalancing and emerging market economies’ financial market developments will help reduce global saving disparity. In addition, given that the U.S. economic policies described in the previous subsection will likely reduce the attractiveness of USD-denominated assets, we also see the future dissolution of the Bretton Woods II arrangement that has long fed the imbalances.

Our conjecture is therefore that global imbalances will unwind in a gradual and orderly manner. In what follows, we describe the factors that will contribute to the secular reduction of global imbalances in more detail.

4.2.1 The rise in the U.S. household savings



The rise in personal saving rate is a fundamental requirement for narrower U.S. current account deficits. During the era of excess when people had high confidence about job security and access to cheap and easy credit and residential and portfolio investments showed brilliant prospect, the U.S. personal saving rate dropped dramatically to average at 2.8%. As percentage of GDP, the U.S. savings were also on a decline and slid into the negative territory in late 2005 for the first time since early 1930s. As shown in Figure 4.13, mirroring these developments were the ballooning U.S. current account deficits.

The burst of the equity and the housing bubbles, which had been the miracle sources of purchasing power that allowed U.S. households to consume beyond their means, turned the U.S. saving rate to above 4% in the first half of 2009, the highest rate since 1998. Given the sharp turnaround in the U.S. household saving rate, it is no surprise to see that the IMF has projected the U.S. current account deficits to shrink dramatically to less than 3% of GDP this year.

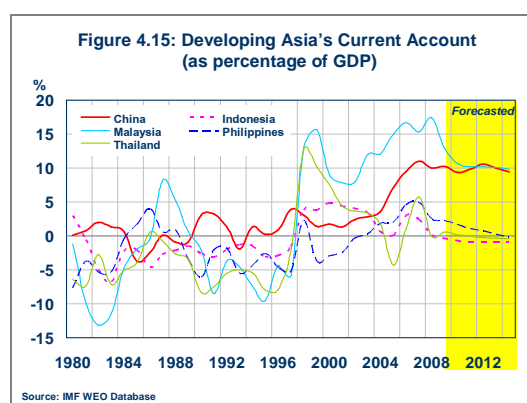
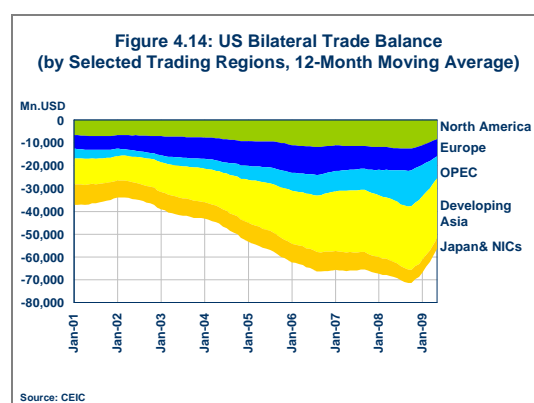
While some think U.S. consumers will go back to a consumption spree once the economy rebounds, we do not expect to see the U.S. household savings rate falling back to the pre-crisis level again. This is because the crisis has likely left a deep

scar on both U.S. households and their lenders just like the 1997 Asian crisis did to Thai banks and Thai corporates. In addition, tighter financial regulation and impaired balance sheets of financial institutions will act as a further restraint on the availability of credit as well as make the cost of borrowing higher.

4.2.2 Economic restructuring in emerging market economies

We see three reforms in emerging market economies to facilitate the unwinding of global imbalances.

a.) Less reliance on export: An adjustment in the U.S. contribution to global imbalances should have substantial spillover effects on the rest of the world. The reduction in the U.S. current account implies compressed aggregate trade surpluses in the key trading partners (see Figures 4.14-15). In particular, falling U.S. spending will weigh on consumer goods exporters and their suppliers. To avoid adverse impacts (such as lower employment in the real sector) from the inevitable decline of the U.S. demand and to achieve a more balanced growth strategy, some emerging market economies will be inclined to shift from export-led growth model to a “new development paradigm” based on domestic demand-led growth.



Diversification of emerging market economies' economic base away from over-reliance on external trade will not only help to rebalance trade flows, but also give one less incentive for these countries to keep their currencies undervalued through accumulation of foreign exchange reserves, one of the most important reasons behind global imbalances in the pre-crisis era.

Less emerging market economies' role in anchoring their currencies, in tandem with financial flow unwinding (to be discussed in the subsequent parts), will likely lead to gradual slide of U.S. dollar in the next phase. Here, a reinforcing loop presents: weak U.S. dollar should make foreign goods more expensive to Americans and make American goods less expensive to the rest of the world which will depress U.S. imports but boost U.S. exports even more. This would progressively support global growth rebalancing.

b.) Lower precautionary saving in China: China is the U.S. key trading partner and also accounts for almost 90% of the ex-Japan Asia's overall current account surplus. Besides goods, China is the main world's capital exporter. Thus China is another key player besides the U.S. in an international rebalancing story. For global trade imbalances to reduce, it is necessary that China consumes more goods and services produced both indigenously and outside.

As all know, China has the lowest share of private consumption to GDP in Asia. This results from remarkably high savings, especially for precautionary purpose and educational expenditures. Along the country's transitional path from a state-directed economy towards a more market-oriented one, Chinese households have increased their savings to insure themselves from adverse impacts associated with increased economic uncertainty.

In a need to reduce their high national saving rates, Chinese government is urged to invest in the social safety net programs. These include medical and healthcare services, public education especially in the rural and interior areas where more than two-third of the population locate, public retirement systems which would reduce household retirement savings, financial reforms to increase accessibility to credits for households, and also a support to a development of private health insurance market which would efficiently reduce the need for individuals to build up funds for potential medical expenses. This series of programs is expected to free-up part of Chinese savings for additional imports.

c.) Financial market developments: As time passes, emerging economy financial markets will expand and deepen. Part of this is a natural consequence of an economic progress. But a number of emerging market economies have also been active at accelerating their financial market deepening. In Asia, several countries have implemented development plans for their financial institution system and capital markets. At a regional level, there are also efforts to push forward an Asian-wide bond market with the Asian Bond Funds as a starting point. All of these developments will over the long term further encourage more capital to stay within the region.

4.2.3 “Saving drain” to replace “saving glut” in surplus countries

If the pre-crisis era was characterized by saving glut in surplus countries, then the post-crisis era will likely be characterized by saving drain. The current crisis makes government around the world including in high saving countries deplete their resources through a variety of sizable fiscal spending. This saving drain, therefore, will underlie a reduction of global imbalance in years ahead.

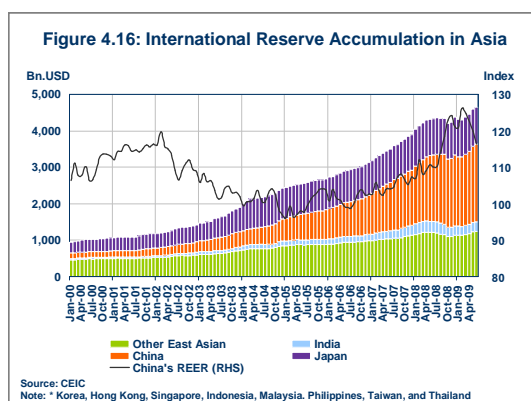
4.2.4 Diversification of international reserve & portfolio investment away from USD-denominated assets

Having witnessed the 1997 crisis, many emerging market economies, particularly those in Asia, have piled up foreign exchange reserve as an insurance for capital flights and as the means to keep their exchange rates competitive. The poster child of reserve accumulation is China, whose foreign reserves total more than \$2 trillion, approximately two-thirds of which are believed to be in USD assets.

If the calculation by Feldstein (2008) that the U.S. dollar must depreciate by at least 40% in order to shift resources towards higher production and lower consumption of traded goods especially imports is correct, it will be politically difficult for emerging market central banks to hold U.S. dollar assets. Furthermore, with insufficient compensation due to aggressive Fed cuts during crisis time and inflation fear associated with the Fed's QE exit¹⁰, foreign central banks and private investors will be induced to diversify their investment away from U.S. dollar assets.

¹⁰ Even with the Fed's rate increases down the road, on a risk-adjusted return basis, the U.S. dollar is likely to be less attractive than a number of major currencies.

Over the next couple years however, global imbalances may re-emerge temporarily as certain short-term factors dominate the secular forces. First, cyclical factors point towards a renewed widening of the U.S. trade deficits once the recession ends. The bulk of the reduced U.S. trade deficits reflect collapse in domestic demand and sharply lower oil prices. Second, with fragile economic recovery, a number of emerging market economies will be disinclined to stop stimulating their exports through exchange rate manipulation, leaving international reserves to further up for some time. Moreover, as the global economy starts to pick up, it will be even harder politically not to favor the export sector. Finally, the experiences of Eastern Europe (capital account crises) and in certain countries like Russia and South Korea (currency defense) during the current crisis have perhaps strengthened the developing world's desire for "self-insurance" through reserve hoarding. These portray risks for the global imbalance to remerge and hang about for a while once the U.S. recession ends.



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5. The risks and challenges in the new environment for emerging market economies

This section identifies the risks and challenges facing emerging market policymakers in the post-crisis world. The section begins what we see as the salient features of the post-crisis global macroeconomic and financial environment and their associated policy implications. These features correspond to the four aspects of the post-crisis global economy we deem to be most important for future macro and financial-sector policies.¹¹ The four aspects are global growth, global inflation, the USD trend, and the costs of capital. The rationales behind our conjectures are drawn from materials in the preceding section plus some additional assumptions. Table 5.1 summarizes the essence of our analysis that will follow.

Table 5.1: Four salient features of the post-crisis environment

Features	Key drivers	Policy implications for EMEs
1. Slower global growth	Tepid recovery in advanced economies (multi-year de-leveraging of bank and household balance sheets); protectionism elements	Applicability of the export-led growth model; fiscal stimulus; public debt management
2. Higher inflation	Advanced economies' monetary and fiscal policies; inflation expectations; global output gap; commodity price trends	Monetary policy credibility and communications
3. Secular decline of the US dollar	Waning safe-haven effect: U.S. economic fundamentals; commodity price trends	Reserve accumulation policy; exchange rate policy
4. Higher costs of capital	Lower risk appetite; de-leveraging; reduction in cost-border lending and equity flows; supplies of government debt; re-regulation	Domestic financial market development; public debt management

¹¹ For a list of comprehensive changes (economic as well as environmental, social, and geopolitics, among others) in the post-crisis environment, see NESDB (2009).

Salient feature #1: Slower global growth

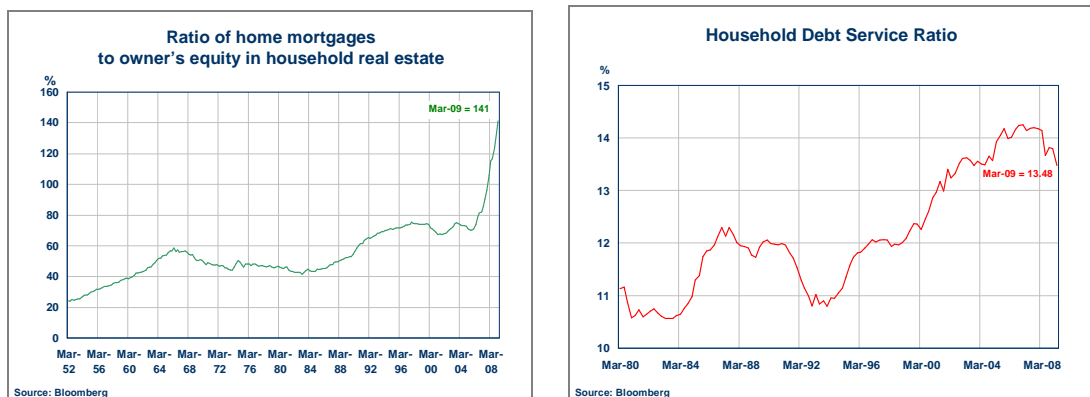
As mentioned in Section 2, on a global scale, the current crisis in the beginning looked very much like it was going to be a repeat of the Great Depression. The good news is that, thanks to the prompt and unprecedented policy responses that we see in Section 3, the world will not be going down the same path it did seventy-some years ago. In fact, recent indicators suggest that the global recovery has already started.

Nevertheless, the recovery will be sluggish with a possibility of intermittent setbacks. In fact, a double u, a triple u, and even a damped sine curve have all been used to describe the recovery path by some observers.

This is because the current crisis is not only a synchronized global crisis but also a balance sheet crisis for major developed economies. Historically, it took previous standalone balance sheet crises three to five years to get the affected economies back on track, and the recoveries were not always smooth. An illustrative case here is Thailand, the center of the 1997 Asian Financial Crisis. The economy appeared to be in a v-shaped recovery in 1999-2000, before being humbled by a temporary setback in 2001. While the authorities' responses were different then and now (initially tight versus loose macro policies), the Thai case serves to remind us of the fragility of a balance-sheet-crisis recovery. In fact, in the current circumstance, it is difficult to tell with certainty whether the resumption in private demand will be strong enough as a growth driver when the front-loaded fiscal stimulus in major economies runs out of steam. The risk of a double-dip recession, while small, has certainly not been eliminated.

But even if the global economy manages to recover smoothly, growth will be tepid. From a demand-side perspective, what differentiates the post-crisis world from the pre-crisis one is the conspicuous absence of robust U.S. consumption spending that underlined global growth in the era of excess. The current crisis has been a big blow to U.S. households' balance sheet. From the U.S. flows of fund data, more than \$13 trillion of U.S. households' net worth has evaporated between its peak in 2007Q2 and 2009Q1. Of this figure, \$3.9 trillion came from the fall in owners' equity in real estate (the value of owned home minus the value of mortgage debt) which consequently sent the ratio of mortgage debt to home equity to a record high of 141% (Figure 5.1).

Figure 5.1: A long road to de-leveraging for U.S. households



Adding on top of the massive wealth destruction is the shock to income of U.S. households. The U.S. unemployment rate is likely to stay high well into 2011 as businesses remain cautious about hiring. The CBO (2009) puts its projected U.S.

2011 unemployment rate at 9.1% while the corresponding figure from the Office of Management and the Budget is 8.6%. Cumulatively till July 2009, the total decline in employment adds up to 4.8 percent of its pre-recession level, marking the largest percentage loss of jobs in any recession since 1950. Given the bleak income prospect and the ultra-normal leverage ratio, the de-leveraging of U.S. households' balance sheets is likely to stretch out over several years.

Another negative for global growth that should not be overlooked is some protectionism elements that are likely to spring up as a consequence of this crisis. Given lessons from the Great Depression, a full-fledged trade war is probably the last option of any government. Instead, protectionism elements are likely to take more subtle forms such as Buy American and Buy China campaigns and an assortment of non-tariff barriers. The latter is a real possibility given that governments will likely twist their fiscal stimulus measures towards supporting domestic industries and domestic employment.

Finally, there is an issue of the impact of the crisis on global potential output. Here one needs to distinguish between potential output level and potential output growth. On the former, the historical evidence is rather clear: financial crises reduce potential output. Furceri and Mourougane (2009) finds that financial crises permanently decrease the level of potential output of crisis-hit OECD countries between 1.5% and 2-4% on average and up to nearly 4% in the case of the severe crises. A recent study by the IMF (2009f) which analyses 88 banking crises over the past four decades also reaches a similar conclusion.

On the other hand, empirical evidence is mixed in the case of potential GDP growth. According to a recent study by the EU commission (2009), potential output growth fell after crises in half of the case considered but increased in the other half. The EU finding is supported by IMF (2009f) which finds that on average post-crisis potential GDP growth is unaffected by a crisis.

Empirical evidence notwithstanding, we think global potential growth will face many headwinds over the next five years. Among the factors that will constrain the growth of global potential output are re-regulation, government intervention, existence of zombie financial institutions, higher future taxation (from fiscal retrenchment), higher cost of capital, decaying capital stock, and a higher natural rate of unemployment due to hysteresis effects. Nevertheless, it is difficult, if not impossible, to quantify the impacts of these factors on global potential growth.

But regardless of how the current crisis affects global potential growth, actual global growth will be lower than the pre-crisis one for the reasons that we have described and the fact that global growth between 2002 and 2007 was already above trend. The most visible consequence of this slower growth will be a less buoyant global trade.

The expected protracted period of lackluster world trade presents a tall challenge for emerging market economies particularly the export-dependent ones. In fact, only emerging economies with large domestic markets like China, India, and Indonesia have managed to register positive growth during this crisis while the rest have fared badly.

The outlook for global trade therefore calls for a re-examination of the export-led growth model adopted by a number of emerging market economies. While policymakers in these countries seem to be aware of the need to get more out of domestic demand, certain action like the resisting of currency appreciation pressure

suggests still some export addictions. Such will be a potential impediment for growth rebalancing going forward.

In many emerging market economies, China included, aggressive fiscal measures have been deployed to cushion the fall in external demand. Against this backdrop, the key policy challenge is to prevent the fiscal stimulus from ending up “pointless, political, and pork-filled” in the language of Mankiw (2008). At the same time, the authorities will also need to strike a balance between having the stimulus running out of steam prematurely and overdoing it to the point that it will lead to fiscal dominance and/or fiscal sustainability problems. Finally, given that stimulus spending in most countries is heavily debt financed, effective public debt management must also be high on the policy agenda.

Salient feature #2: higher inflation

Unlike global growth, the outlook for inflation over the next five years remains a wild card. At one extreme, there are people who believe that the world, or at least the crisis-centered advanced economies, is in a liquidity trap and will follow Japan’s experience with a prolonged period of negative or near zero inflation. At the other extreme, there are people who believe that the world will end up with stagflation, a period with subdued growth and high inflation.

We do not believe in either extreme. We expect global inflation to pick up once the recovery gains momentum, surpassing its pre-crisis average of about three and a half percent but not high enough to precipitate a stagflation. Specifically, we expect global inflation to creep up to 4-5% by the end of our five-year timeframe. While this may not seem dramatic, it is significant when compared to a consensus view which put post-crisis global inflation below the pre-crisis average. For example, the much quoted IMF WEO forecast put the global inflation rate at roughly 3% for the 2012-2014 period, which we think will turn out to be an underestimation.

Our conjecture is based on a modern Phillips curve framework which attributes sources of inflation to resource utilization, inflation expectations, and supply shocks. We discuss them in turn.

First, resource utilization explains much of inflation development in the near term. At the moment, the world is dominated by disinflationary forces created by excess capacity. The collapse in global demand has left idle much of the world’s capacities which were put in place to satisfy the five-percent global growth during the era of excess. Official estimates of the output gap, the difference between actual and potential output, a closely watched indicator of slack by policymakers, for both the U.S. and the Euro area for 2010 are astonishingly high at negative seven percent and negative six percent, respectively (CBO (2009) and OECD (2009)). Data from the IMF April 2009 WEO database shows slightly narrower numbers at -5.5% and -5.3%.

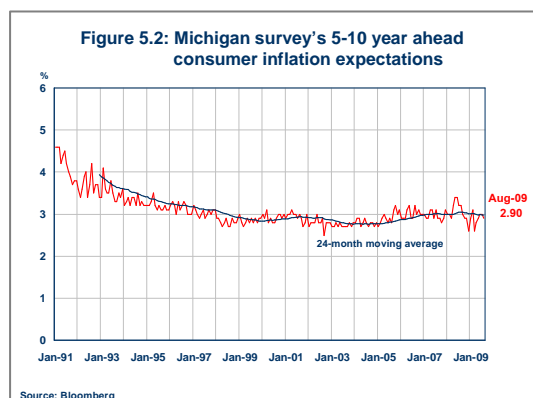
The proponents of the deflation/low inflation camp cite the massive size of these output gaps and the anticipated subdued global growth as their central argument that it will take years for the global economy to absorb the spare capacity. While we also believe that the output gap story is the main culprit of the current disinflationary environment, we are inclined to discount it as the argument for continuing low inflation three to five years down the road. Our conjecture here is that the current official output gap estimates will likely turn out to be grossly overestimated when we look back a couple years from now.

The problem of real-time output gap overestimation during an economic slowdown is well documented in the literature. Orphanides (2003) was among the first to point out the connection between the Fed's output gap overestimation and the Great inflation of the late 1970s. With actual output readily observable, the problem of output gap overestimation comes primarily from the underestimation of the fall in potential output which will be corrected only as more data becomes available. Indeed, given our earlier discussion of the ex post impact of financial crisis on potential output, the falls in the level of potential output embedded in the official projections appear small relative to what one would have expected from the severity of the crisis and historical experiences.

Real-time measurement issues aside, alternative measures of output gap also suggest a much less excess capacity. A simple application of the Hodrik Prescott (HP) trend to the IMF WEO forecast of U.S. real GDP through 2014 to reduce the end-point problem finds the resulting output gap of -4.0% for 2010. Using a more novel approach, Weidner and Williams (2009) calculate their own measure of output gap of only -2.0% for 2009Q1 compared to the CBO's -6.2%. In their paper, Weidner and Williams argue forcefully that the CBO estimate is inconsistent with the behavior of the U.S. core inflation which should have been much lower than observed had the output gap been in the range of six percent.

All of these mean that, in the absence of double dip recessions, output gaps in major developed economics and hence the world as a whole may narrow significantly in the second half of our five-year timeframe to the point that they no longer act as a brake on inflation.¹² In fact, output gap overestimation has been used as an argument by people from the stagflation camp that central banks will tighten too late given their misperception of the output gap. Nevertheless, we think this argument is overblown. After all, we think advanced economy central banks, especially the Fed, have learned grave lessons from the past and are fully aware of the problem of output gap overestimation. So the policy mistakes of the 1970s seem unlikely to be repeated.

Beyond a two-year horizon, we think inflation expectations will be the most important determinant of inflation developments. It is here where the major central banks' timing and pacing of exit and the fiscal burdens matter. If high inflation is going to be unleashed, it will be because policies allow inflation expectations to move higher. Given the challenges of monetary and fiscal policy exits identified in Section 4, stagflation, although unlikely in our view, cannot be completely ruled out. In fact, if our conjecture of future inflation will err, it will err on the upside rather than the downside.



Because there is no data on global inflation expectations, we look at the U.S. for an indication. So far, both market- and survey-based indicators of medium-terms inflation expectations in the U.S. seem to be well anchored despite the talk that the Fed will withdraw liquidity too late either intentionally or unintentionally. Nevertheless, as time passes, we expect medium-term inflation expectations in the U.S. to drift upwards to a new higher

¹² Interestingly, despite its projected large output gap for the U.S., CBO (2009) reckons the U.S. output gap to be closed completely by 2013, riding on the back of robust projected real GDP growth of 4.7% in 2012-2013, more than a full percentage point above the corresponding IMF WEO forecast.

equilibrium. To us, it is simply incomprehensible that the massive public debt and the future entitlement burden will have no impact on long-term inflation expectations. Still, if the Fed does not fumble in its policy exit, run-away inflation expectations like in the late 1970s will be unlikely.¹³

The final source of inflation in the post-crisis world comes from rising commodity price trends. While it is difficult to predict commodity prices in the short run, three fundamental reasons point to increasing commodity price trends over the next five years. First, improvements in the global economic environment will lend support to sustained commodity price increases. Second, as large emerging market economies, particularly China and India, grow larger out of this crisis, demand for industrial-linked commodities like crude oil and base metals will be mounting. Third, as Section 4 mentions, China has been active in lining up deals involving natural resources as one way to hedge its U.S. dollar exposure and also future commodity price increases. It is conceivable that other countries may follow suit either through direct investments or through commodity-linked bonds. But even with China alone, the incremental demand for strategic commodities should be sizable, contributing to their upward price pressures. Nevertheless, we view a sharp run up in commodity prices as unlikely. This is because we think the fragility of the global recovery will keep excessive commodity price increases in check.

What are the implications of higher inflation for emerging market economies? Most importantly, central banks will find it more difficult to achieve low domestic inflation when import prices are rising. For inflation targeters, higher inflation could also translate into more frequent target misses. The task to maintain price stability will be particularly challenging for countries with weak economic recovery as well as those with high public debt. Finally, given the expected recurrence of commodity price shocks, policy communication and policy credibility will be critical to prevent a runaway in inflation expectations that will lead to inflation spiral.

Salient feature #3: Secular decline of the U.S. dollar

After inflation, the direction of the U.S. dollar is our next biggest conjecture. Given that the U.S. economy is at the epicenter of the current global crisis, the holdup of the U.S. dollar is remarkable. In fact, the collapse of the U.S. dollar is one of the three predictions by the doomsayers of the era of excess that failed to materialize.¹⁴

Nevertheless, our conviction is that while the U.S. dollar will remain the number one global reserve currency, it is heading for a long-term decline in value vis-à-vis emerging market currencies. Our reasons are as follows.

First on our list is the improved risk sentiment. The main reason for the strength of the U.S. dollar from 2008Q4 to 2009Q1 was the increase in the liquidity premium that led to the so-called safe-haven flows into the U.S. dollar. As the crisis deepened and spread around the globe, investors fled perhaps every other currencies except the yen for the U.S. dollar. With the continued easing of global financial stress, the safe-haven effect of the U.S. dollar has waned. Unless the global financial market gets into trouble again, there will be one less support for the USD value.

¹³ From a global perspective, the fact that the Fed gets its exit right may not be sufficient to restrain global inflation if the other central banks engaging in QE fail to exit in time. Such scenario therefore represents an additional upside risk to our conjecture of global inflation.

¹⁴ The other two predictions are a capital account crisis for the U.S. and the discontinuation of USD reserve accumulation by emerging economies.

In the near term, growth and interest rate differentials between the U.S. economy and emerging market economies will be the major negative factors against the U.S. dollar. The expected tepid recovery in the U.S. will make the more robust recovery of the emerging market economies stand out and the USD assets less attractive. Furthermore, even if the Fed's first rate hike comes earlier than what we have anticipated in Section 4, most emerging market economies will likely have begun their tightening cycle before then, widening the interest rate gap in favor of emerging market currencies.

Another negative for the U.S. dollar is the rising commodity price trend. Here the causation runs two ways and reinforces each other. In one direction, traders use commodity to bet against the U.S. dollar. So an expected fall in the USD value translates into higher prices. In the other direction, higher commodity (particular oil) prices worsen the U.S. current account which is bad for the U.S. dollar. Moreover, a number of economies including the Australian dollar, the Canadian dollar and several EM currencies have direct long exposure to commodities and tend to outperform on rising commodity prices.

From a long-term perspective, the U.S. massive fiscal burden weighs heavily against the U.S. dollar. The risk that the U.S. might inflate away their debt only makes its currency prospects worse.

Against these backdrops, it is no surprise that countries with large USD reserve exposures, notably the BRICs countries, have expressed their discomfort with the future of the U.S. dollar. Besides the safe-heaven flows, the other major reason for the remarkable hold up of the U.S. dollar is that these countries, China in particular, are reluctant to allow significant appreciation of their currencies against the U.S. dollar. On top of the desire to maintain competitive exchange rates, there are concerns about valuation losses involved here. Beyond reserve diversification which can only go so far given the size of their USD holding, these countries are now actively trying to find their ways out of the "dollar trap." Examples of such efforts are China's pilot RMB settlement program on its cross-border bilateral trades with Hong Kong, Macao, and ASEAN and RMB650bn bilateral currency swap agreements with six central banks (Korea, Hong Kong, Malaysia, Indonesia, Belarus, and Argentina). The success of these efforts will pave way for greater internationalization of the RMB, allowing China to let its currency appreciate without worrying about balance sheet losses. The appreciation of the RMB will in turn lead the way for the rest of Asia. After all, the export-dependent Asian economies seem to care more about how their currencies stand relative to others rather than to the U.S. dollar.

Despite all the aforementioned negatives against the U.S. dollar, the decline in the USD value will likely be a part of a gradual adjustment process, for in the immediate future there are no other alternatives to the U.S. dollar (see Box II) not to mention that it is also in the best interest of the international community to do everything to prevent a dollar crash.

Still, the weakening USD trend poses challenges to emerging market economies' exchange rate and reserve management policies. On exchange rate policy, depending on the stage of economic development, some countries may benefit while some may lose from trying to hang on to the U.S. dollar. For countries in the early stage of development, pegging to the U.S. dollar is likely to be a boon particularly when the lower-valued domestic currencies help jumpstart the underdeveloped export sectors. It is an undeniable fact that a number of countries benefited markedly from the fall of the U.S. dollar after the Plaza Accord through a USD peg that contributed to structural transformation of their economies. However, for other

countries, an attempt to hang on to the U.S. dollar may turn out to be a losing proposition, attracting destabilizing speculative flows instead of FDI flows.

On reserve management policy, the implication is more clear-cut. The more USD reserves one has, the more one stands to lose from the declining USD value. Reserve diversification will help, but it will not solve all the problems as long as one still has to hold the U.S. dollar for purposes other than the store of value (e.g., for foreign exchange intervention or for international transaction). This is why China has been so vocal about the direction of the U.S. dollar and the U.S. economic policies. Emerging market economies will therefore have to weigh the benefits of more accumulation of USD reserves against the cost arising from its expected fall in value.

Box III Alternative reserve currencies

The Fed's ballooned balance sheet and the U.S. long-term budget outlook in the aftermath of the crisis have raised a concern over inflationary pressure and declining value of USD. This fear threatens the USD status as the world number one's reserve currency. In this Box, we review the possibility that some currencies may overtake the U.S. dollar in the coming years. These include the euro, Chinese renminbi, commodity-linked currency as well as the special drawing rights (SDRs).

The euro: The euro has been considered as a potential rival to the dollar as a reserve currency since its first launch in 1999. However, the euro has merely marginally squeezed the share of the USD in the world official reserve basket regardless of its successful role as international invoicing currency. The euro, being the second most widely held international reserve currency, accounts for only 30% of total, compared to 65% for the USD (see Figure B3.1). For the euro to eventually become a dominant reserve currency, it requires vast number of countries as a group to simultaneously shift their holdings to the euro. Because the euro's internal cohesion has been frequently questioned during this crisis, this swing seems to be unlikely.

Chinese renminbi: Regarding China's fast growing nature and current status as the world's second largest trading country and third-biggest economy, the renminbi could naturally become an international and reserve currency. In addition, the authorities have recently encouraged the use of renminbi in international trade settlement and investment through series of measures such as tax breaks, trade finance, currency swap deals with neighboring central banks, and initiatives to allow foreign companies to issue renminbi-denominated bonds and IPOs. It is viewed that the promote of renminbi trade settlement might result in the nearly \$2 trillion worth of cross-border trade flows be settled in renminbi, making it one of the top three currencies used in global trade (Hongbin, 2009).

Nonetheless, to let Chinese renminbi achieve a reserve currency status, many other developments such as financial liberalization, continued domestic financial reforms, and bond markets deepening are needed in China. These should be multi-year in process. Basing on the historic scene when the UK pound sterling was dethroned by USD, Chinese renminbi is expected to replace the USD as a reserve currency around 2050 (Reisen, 2009).

Commodity currency: Other than two main rival currencies to USD, some also recommend to link a unit of currency to a basket of commodities. Notwithstanding its feasibility, the commodity currencies would be highly volatile due to the cyclical

nature of commodity prices. This currency setting may also channel extra benefits to commodity exporting countries, leading to foreseeable problems.

The SDR: Recently, BRIC officials as well as many experts including Stiglitz have thought of SDR which have been introduced for 40 years.* In fact, rather than being a medium of exchange (McCallum,2009), the SDR serves as a unit of account whose value is set by a basket of fixed amount of USD, euro, yen and pound sterling. The SDR has never been used in the cross-boarded trade and financing or offered remarkable network benefits like the USD. This might be the reason why the proportion of SDR in global reserve is only a tiny fraction.

It is suggested that one possible way for the SDR to achieve the major reserve currency status is a creation and allocation of new SDR to the IMF's members. However, its size must be extremely large. Possible new SDR allocation of \$250 million, as supported by G-20 leaders, will result in an up of the share of SDR in total international reserves to no more than 4%. Adopting SDRs as a reserve asset is technically feasible, but still far from real in a foreseeable future.

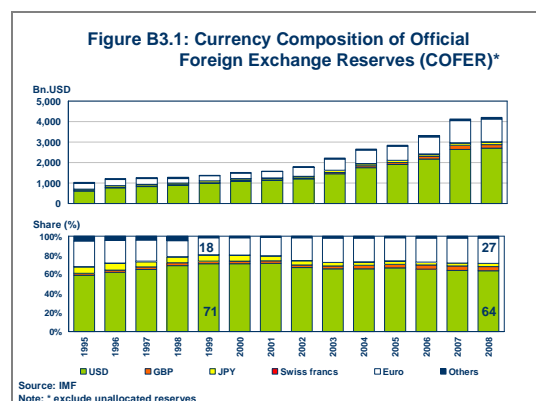


Table B3.2: The General SDR Allocations

Year	Amount (in billion)	
	SDR	USD-equivalent*
1970-72	9.3	14.5
1979-81	12.1	18.9
August 2009	161.2	252.1

* conversion rate: SDR/USD = 1.56392 (as of August 28, 2009)

* Specifically, China called for a re-weighting of the SDR basket to include currencies of BRICs and other large economies according to their GDP shares, which in effect would reduce the weight of the U.S. dollar from the current level of 44% to 27%.

Salient feature #4: Higher costs of capital

One of the most distinguishing features of the era of excess was cheap money. The current global crisis effectively spells an end to that. In a world that has been de-risk-taking, de-levered, saddled with high public debt, and more tightly regulated, the costs of capital will inevitably be higher.

One of a few good things about this crisis is that it has made people become more risk conscious whether they are lenders, investors, borrowers, or policymakers. In this more risk-conscious world, both the market and policymakers will be less tolerant to excessive leverage. So one ingredient that had fed the great bubble will be kept in check in the post-crisis environment. However, a more risk-averse person will demand a higher risk premium as a compensation for taking the same amount of risk.

Everything equal, the higher required risk premium will add to the costs of capital and reduces the supply of loanable funds both domestically and internationally. Moreover, with government in affected advanced economies taking more control of the banking

sector, lending policies in these countries could also become more domestically oriented. A direct consequence of all these will be less robust global capital flows, which together with expected less buoyant global trade, has let some people to dub the post-crisis world and era of de-globalization.

Separately contributing to the scarcity of global capital flows is the de-leveraging of financial institutions and, to a lesser extent, of households in developed economies. Since the beginning of the crisis, cross-border lending has dried up, with the international syndication market taking the hardest hit. Given that the de-leveraging process may take years, those wish to tap the global debt market must prepare to pay higher.

On the demand side, the large pile of government debt will drive up the real interest rate in most economies, as governments compete with the private sector for the limited supply of loanable funds. In the next couple years, we may not see this yet, for private-sector demand will likely remain subdued. But as economic recoveries gain momentum, pressure will mount on the real interest rate even after taking out the impact of central bank tightening expected along the side then. For the U.S., a weakening U.S. dollar will exert a further upward pressure on treasury yields and subsequently on the costs of capital of the U.S. economy as a whole.

Finally, re-regulation will add directly to the operating costs of financial institutions. While new regulation details are still evolving, financial institutions will likely end up having to hold more capital and to incur higher compliance costs.

In this environment, the challenge for emerging market economies will be how to move forward when facing with the higher risk premium and the reduced availability of external funds. For countries relying on external debt financing, the biggest risk will be to get shut out from the international debt market and/or find their external funding needs unmet. The problem will be most acute for countries perceived to have debt sustainability problems. As a result, careful public debt management along with a strong external position will be necessary to avoid the potential disruption of capital flows.

One caveat is in order. While we expect overall global capital flows to be less buoyant in our five-year timeframe, it is possible, even likely, to see renewed surge in capital inflows to emerging market economies in certain regions of the world. This is because one aftermath of this crisis is a more visible bifurcation of emerging market economies into two groups – one with weak and one with strong initial conditions with respect to economic fundamentals (El-Erian, 2009). For countries in the latter group, the curse in the blessings is the risk of a destabilizing asset price boom that may complicate the job of monetary policymakers.

But whatever group of emerging market economies one falls into, a robust and efficient financial market will go a long way as a means for self protection. A deeper local funding market not only reduces the need for external financing but also helps intermediate the capital inflows (provided that domestic regulation and supervision do what they are supposed to do).

We end this section with a major policy challenge that does not directly relate to the four salient post-crisis features but is too important to ignore. That is the integration of financial stability objective with monetary stability objective. After all, the crisis resulted from the interplay between monetary policy and financial imbalances. The severity of this crisis has very much discredited the Greenspan doctrine of a “risk management approach to monetary policy” in which the role of the central bank

should be limited to reacting ex post to the unwinding of asset price bubbles. This challenge is not specific to advanced economies, but also applies to emerging market economies that do not want to repeat the formers' pre-crisis missteps.

Given practical complications such as how to identify a speculative bubble and how to coordinate the use of prudential measures with an interest rate policy, overcoming this challenge is easier said than done. Among the key questions which at the moment still have no answer are whether the much advocated macro-prudential supervision and regulation will on its own be sufficient with respect to the prevention of an asset price bubble, whether monetary policy should also directly or indirectly target asset prices, and if so, how. Also, it must be recognized that it is not just the stock market and the property market that may fall prey to instability problems. Given the increasing supplies of public debt and the associated solvency risks, the bond market may find itself in trouble too. One way to approach these problems is to wait for the solutions of the advanced economies and modify them to fit the economic and financial structure of one's economy. However, the problem with this strategy is that the destabilizing bubble may emerge sooner than one thinks, especially for emerging market economies perceived to have good growth potentials.

6. Conclusions

The global economic landscape is undergoing significant changes. In this paper, we present our conjecture of the global macroeconomic and financial environment over the next five years. Based on this conjecture, we discuss the risks and challenges facing emerging market policymakers in the new environment.

We pay particular attention to two developments that many observers think will likely shape the post-crisis environment, namely, the path of advanced economies' macroeconomic policies and the remaining global imbalances. With regards to the former, our view is that the difficulties and the uncertainties surrounding advanced economy policy exits present the major threat to the global economy in the next five years. Nevertheless, we have faith that policymakers in advanced economies will be able to avoid the disastrous outcomes. Regarding the latter, our view is that the worst is over, with the remaining imbalances to unwind orderly.

Despite our optimism, emerging economy policymakers will find their lives in the post-crisis world challenging. If our conjecture is correct, the global economic environment after the era of excess will be characterized by slower growth, higher inflation, declining U.S. dollar, and higher costs of capital. To successfully navigate this environment, policymakers need to be aware of what they have to overcome in terms of policy, which for some may require a bold move to break away from successful strategies of the old era.

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