

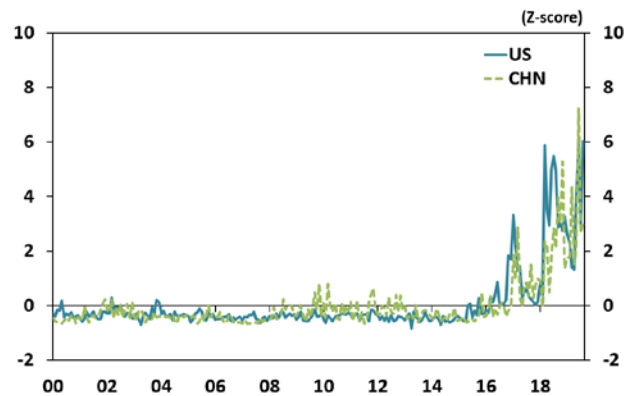
Monetary Policy Challenges in Korea under Global Uncertainty

Kyuil Chung

1. Introduction

The global economic environment has been going through a series of unprecedented events: a US-China trade dispute with no end in sight (Figure 1), the simultaneous rise of geopolitical risks in many places in the world, and resulting policy uncertainties in major economies. All of these pose serious challenges to central banks. Korea, too, cannot avoid the impacts of these global phenomena. In fact, it is one of the countries that is most affected because of its fully open goods and financial markets.

Figure 1 US and China Trade Policy Uncertainty



Note: Trade policy uncertainty is standardized with Z-score.
Source: <http://www.policyuncertainty.com>.

Korea's policy framework to address domestic and/or external shocks was largely overhauled immediately after the Asian Financial Crisis (AFC). Before the AFC, Korea had adopted a managed floating regime and monetary targeting. After experiencing severe capital flow reversals during the crisis period, Korea transformed its policy framework to a free floating system and inflation targeting, under which the central bank conducts monetary policy with a focus only on domestic issues and lets the exchange rate absorb external shocks.

Meanwhile, after the Global Financial Crisis (GFC) the legal mandate of the Bank of Korea (BOK) was extended to include financial stability in addition to the

existing price stability objective. The BOK now operates monetary policy with the aim of having inflation converge to the target in the medium term, while paying attention to financial stability at the same time. Despite this ideal policy framework, the BOK has faced several policy challenges in the current global economic environment.

Against this backdrop, I will describe recent monetary policy in Korea in Section 2, and then discuss monetary policy challenges in Section 3. I will conclude by presenting implications in Section 4.

2. Recent Monetary Policy

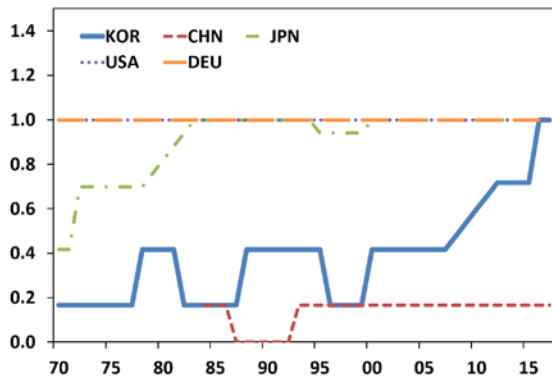
In this section, I first give a brief overview of the macroeconomic structure in Korea before discussing recent monetary policy episodes in detail.

Macroeconomic Structure

High Openness of Goods and Financial Markets

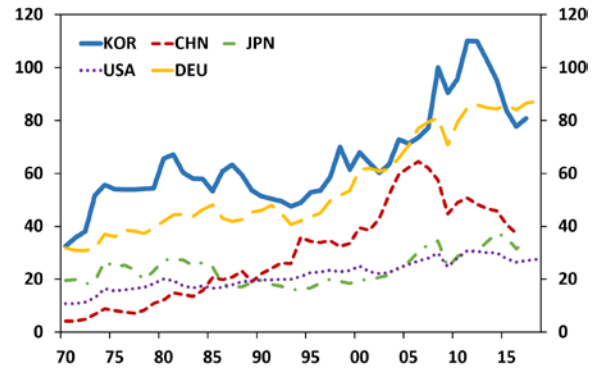
First, Korea's goods and financial markets are almost perfectly open, and manufacturing and services are inseparably integrated into the globally connected network. To be specific, financial openness as measured by the Chinn-Ito Index has risen to the level of the US (Figure 2), and trade dependency has also increased rapidly, surpassing 100 in the mid-2010s (Figure 3). Furthermore, most goods and services in international trade are invoiced in the US dollar (Table 1), which acts as a direct transmission channel of external shocks into Korea. This characteristic makes the Korean economy sensitive to global economic developments.

Figure 2 Capital Market Openness



Source: <http://web.pdx.edu/~ito>.

Figure 3 Trade Dependency



Note: Trade dependency = (export+import) / GDP.
Source: OECD database and author's calculation.

Table 1 Invoicing Currency in Korea's International Trade

(unit: %)

Currency		Exports	Imports
		97.2	94.4
Foreign	USD	84.5	80.2
	Euro	5.6	6.4
	Yen	2.7	6.1
	Yuan	1.7	0.8
Domestic	KRW	2.8	5.6

Note: As of 2018.

Source: Economic Statistics System, Bank of Korea.

Non-Vehicle Currency

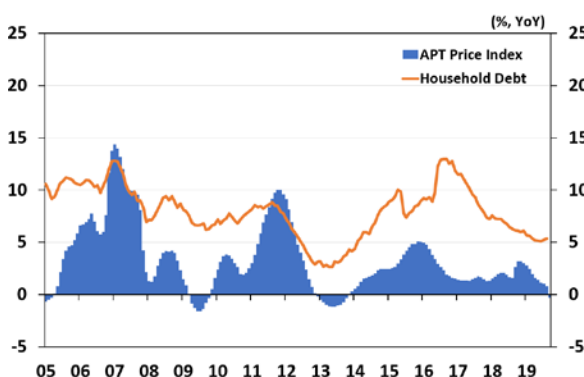
Similar to other small open economies (SOEs), Korea is faced with the problem of *original sin*, which refers to a country's economic difficulty in raising funds in its own currency from international financial markets (Eichengreen *et al.*, 2003).¹ This makes Korea inherently vulnerable to sudden reversals. Korea has also experienced two severe foreign liquidity crunches, during the AFC and the GFC. Hence, Korean policymakers are always concerned about the possibility of capital flight, an external source of financial vulnerability, and are eager to maintain multiple lines of defence for external payment capacity.

¹ This has created a disparity in the international status of the Korean economy in goods and financial markets. For example, Korea is classified as an advanced economy by the IMF from a macroeconomic perspective, but is still considered an emerging economy by the Bank for International Settlements in the context of the non-convertibility of its currency.

High Indebtedness of Households

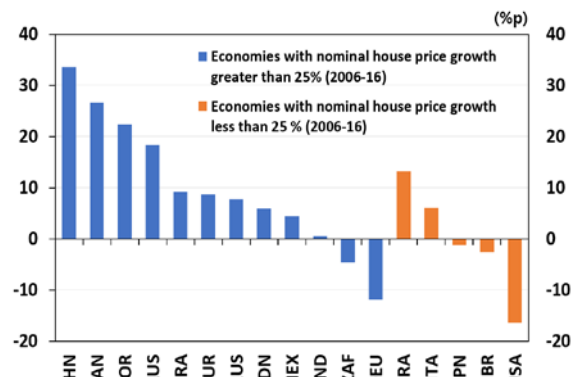
Korea's rapid increase in household debt since the early 2000s has raised concerns about a potential buildup of financial vulnerabilities (Figure 4).² The rate of debt growth has outstripped those of other economies (Figure 5). According to a study conducted by Kim et al. (2010), the fast increase in household debt can be attributed to the liberalization of consumer finance, including housing loans; population aging; and the large share of the self-employed.³ More specifically, around 70 percent of household debt in the banking sector takes the form of home mortgage loans. For this reason, household debt is the most probable source of domestic financial instability.

Figure 4 Household Debt and Housing Prices



Source: Economic Statistics System, Bank of Korea.

Figure 5 Changes in Household Debt to GDP, 2006-16



Source: IMF (2017).

Recent Monetary Policy

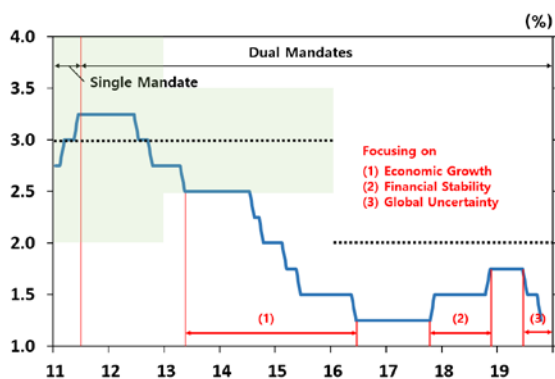
Given the above macroeconomic structure, the BOK has conducted monetary policy to achieve its dual mandate. We can classify the BOK's recent monetary policy chronologically into three episodes. Each episode represents the main priority of the relevant monetary policy decision. Since the last business cycle trough was tentatively set to start from 2013, I will narrow the scope of our explanation to the period since that time. From 2013 to 2016, the BOK took an easy monetary policy stance, before reversing policy gears from 2017 to 2018.

² The household debt to GDP ratio reached 96.9% in 2018.

³ Investments of self-employed businesses are funded substantially by borrowings from commercial banks, which are classified as household debts.

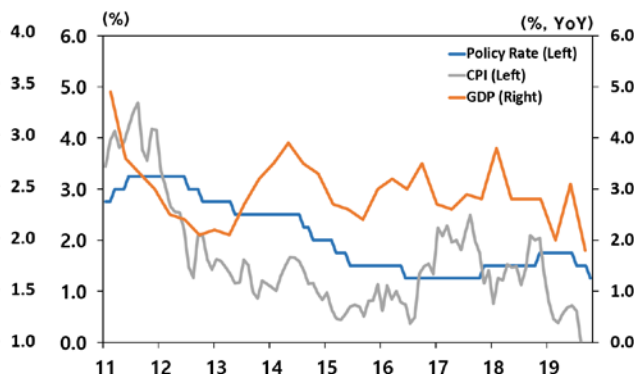
However, the BOK has carried out another round of monetary accommodation this year (Figure 6). I will exposit each case in turn.

Figure 6 Policy Rate



Source: Economic Statistics System, Bank of Korea.

Figure 7 Macroeconomic Conditions and Monetary Policy



Source: Economic Statistics System, Bank of Korea.

Economic Growth

From 2013 to 2016, inflation recorded a downward trend due to an oil price decline and weak domestic/global demand pressure, while financial vulnerabilities originating from capital flight or household debt were not deemed likely to pose an imminent concern to the economy (Figure 7). During this period, a series of adverse shocks occurred, including the sinking of the ferry Sewol (2014), an outbreak of MERS (Middle East Respiratory Syndrome, 2015), and the restructuring of the shipbuilding industry (2016). As downward risks to the economy gradually materialized, the BOK shifted its focus toward growth and took an expansionary stance. As a result, the policy rate declined from 2.50 percent in 2013 to 1.25 percent in 2016, a historic low. The previous low had been 2 percent in 2009, right after the GFC.

Financial Vulnerabilities

From 2017 to 2018 macroeconomic conditions gradually weakened. The growth rate was above the potential rate in 2017 but slowed down afterwards. Inflation was moving around the 2 percent target during the first three quarters of 2017 but fell towards the mid-1 percent level thereafter. On the financial stability side, household debt continued to increase faster than disposable income, and more and more liquidity flooded into the housing sector. In addition, as Fed policy normalization entered full swing over the same period, the US and Korean policy

rate differential reversed,⁴ causing concerns about possible capital outflows (Figure 8, 9).

Given all these conditions, the BOK decided to tackle financial vulnerabilities more actively through monetary policy tightening despite the increased downside risks to the growth projection. The policy rate was raised to 1.50 percent in November 2017 and again to 1.75 percent one year later in November 2018. In this case, financial stability was prioritized when the dual mandate ran into conflict.

We should note here that it took one year for the BOK to raise the policy rate again. During this period, as global trade policy uncertainty mounted, it was very difficult to anticipate future developments and guide policy accordingly. Hence the BOK followed a *wait-and-see* approach and searched for convincing clues for action. This, at times, resulted in a delayed response.

⁴ Interest rate differentials between Korea and the US have been reversed since July 2016 for 10-year government bonds and since March 2018 for policy rates.

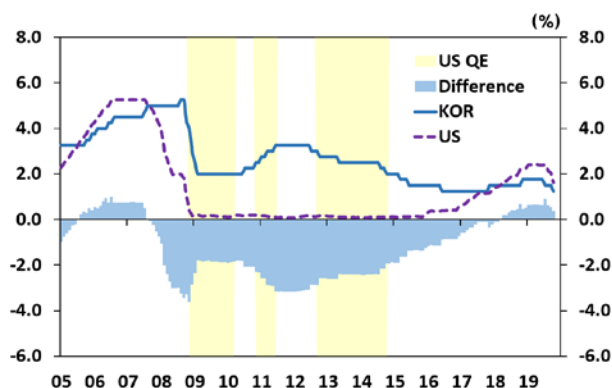
Global Uncertainty and Its Consequences

The US-China trade dispute has escalated further since the second half of 2018, especially in May 2019 when the scope of trade tensions was widened to include transactions with Huawei. These heightened uncertainties have resulted in a large deterioration in international trade, especially in the manufacturing sector. The Korean economy has also been affected by the uncertainty in two ways: weakened demand from China, and the delayed recovery in the global tech cycle. Considering Korea's high dependency on exports and the shares of semiconductors and China-bound goods in its export composition, it is reasonable to say that heightened global uncertainty is the major cause of Korea's downgraded growth rate, to around 2 percent this year from 2.7 percent last year.

In the meantime, the Fed has adopted a policy of mid-cycle adjustments this year, cutting its policy rate as "insurance" against the elevated global uncertainty (Figure 8). The Fed's moves have allowed emerging economies to secure some policy space without concerns about widening interest rates differentials. Korea is no exception here: the BOK has also lowered its policy rate two times, from 1.75 percent to 1.50 percent in July and to 1.25 percent in October, to alleviate the downward risks from economic sluggishness. The most recent policy decision lowered the policy rate back to its historic low, again giving rise to discussion on the effective lower bound.

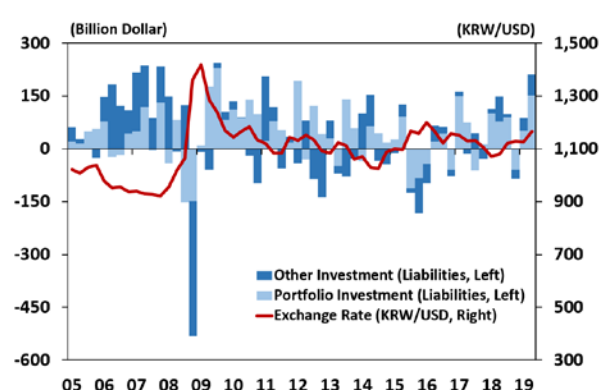
In a nutshell, the BOK has conducted monetary policy to achieve its legal mandate, although priority between the two objectives has changed depending on economic conditions. While the macroeconomic structure functions as a given constraint for the economy and the policymaking process, the recent global uncertainties have left substantial footprints on policy decision-making and economic developments. The effects of uncertainty will be further discussed in the next section.

Figure 8 Monetary Policy: Korea vs. US



Sources: Economic Statistics System, Bank of Korea and Federal Reserve Bank of St. Louis.

Figure 9 Exchange Rate and Capital Flows



Source: Economic Statistics System, Bank of Korea.

3. Monetary Policy Challenges

Based on the recent monetary policy episodes described in the previous section, I will now discuss challenges facing monetary policy in Korea. For the sake of brevity, I will focus on limited policy space, occasional conflicts involving the dual mandate, and the constraints on monetary policy autonomy. Since the difficulties discussed below arise from the inherent characteristics of an SOE with a non-vehicle currency, they are likely to be relevant to not only Korea but all such economies.

Limited Policy Space

As mentioned in Section 2, our current policy rate is 1.25 percent, a historic low. A policy rate at a historically low level will naturally raise questions about the effective lower bound (ELB). However, it is very difficult to define the ELB conceptually⁵ and estimate its level, since we do not know the true data-generating process of the economic system.

Further, the inherent characteristics of SOEs with non-vehicle currencies have made ELB estimates more uncertain. Spillover channels of external shocks may shift the ELB, depending on the sources of shocks and whether they are anticipated. Also, SOEs with non-vehicle currencies are usually constrained by capital flows and cannot be free from uncovered interest parity conditions. Such complexities and uncertainties make ELB estimates significantly variable and occasionally unreliable.⁶

Even though our current concern is how much lower we can go, there will be another challenge in the near future. Monetary policy must properly manage potential risks associated with a low policy rate as the policy rate approaches the ELB.⁷ Caution is particularly required in terms of policy duration and the timing of normalization. For example, a Federal Reserve study found that, for the US economy, it is optimal to delay normalization from the zero lower bound (ZLB) by two or three quarters compared to a normalization scenario without the ZLB

⁵ The ELB of the policy rate in a closed economy can be defined as the level that no longer affects the inflation rate or real economic activities.

⁶ Two severe crises of foreign currency liquidity—the AFC and the GFC—have made Korea more reluctant to lower the policy rate to the zero level.

⁷ Policymakers are concerned about risk management. Among others, refer to Greenspan (2004), and recently Evans (2019), Powell (2018), Barkin (2019), and Rosengren (2019).

constraint (Evans, Courios, Fisher and Krane, 2015). In an SOE with a non-vehicle currency, how long to keep the policy rate at an estimated ELB and when to normalize the policy rate will depend in part on the major economies, especially the US. These ambiguities and constraints create additional challenges for the central banks of SOEs with non-vehicle currencies.

Occasional Conflicts Involving the Dual Mandate

The GFC left a costly lesson that *divine coincidence* does not hold in macroeconomic reality and financial stability is not secured by the stability of both inflation and macroeconomic activity. In 2011, the BOK's legal mandate was extended to financial stability⁸ in order to achieve macroeconomic prudence. Despite the new mandate, however, no policy tools were introduced to supplement the policy rate. This violated the *Tinbergen rule*, which states that the number of policy objectives must equal the number of policy tools if the central bank is to achieve multiple objectives at the same time.

As a result, the BOK has been hard-pressed to achieve both price stability and financial stability simultaneously and is occasionally faced with conflicts between the two mandates, as discussed in Section 2. Such conflicts have at times left monetary policy decisions to the discretion of policymakers without clear priorities between the two objectives, even though it is desirable that the actual operation of monetary policy be based on systematic frameworks and rules. In order to help establish general guidelines concerning the dual mandate, the BOK has performed studies on various topics such as a calculation of the business cycle that accounts for the financial cycle and policy rules with asset prices. But as of yet, unfortunately, there is neither a consensus nor any established practice regarding priorities between competing policy objectives.

Constraints on Monetary Policy Autonomy

Absent the problem of *original sin*, an inflation-targeting monetary policy that responds only to domestic economic activities and allows external shocks to be absorbed through a freely floating exchange rate would work well. However, SOEs with non-vehicle currencies are always concerned about any possibility of sudden capital flow reversals. This caution is strengthened when the economy has

⁸ Among the countries that have adopted multiple mandates, the US and New Zealand have introduced an employment objective, while Korea has added a financial stability mandate due to its experiences undergoing two foreign currency liquidity crises.

an invoicing currency channel and highly integrated financial markets.⁹ As the central bank of a typical SOE with a non-vehicle currency, the BOK needs to look at not only domestic economic conditions but also the monetary policies of advanced economies like the US. As a result, the autonomy of monetary policy in Korea is somewhat constrained.

Uncertainties from recent trade disputes between the US and China place additional constraints on Korea's monetary policy autonomy. This effect is to be expected in an economy like Korea that is highly dependent on trade, since it is difficult to predict how trade conflicts, entangled as they are with matters beyond the economy, will play out in the future. Limited policy autonomy might make a *wait-and-see* approach¹⁰ more attractive to policymakers, since the passage of time could be expected to ease policy risks as uncertainties are resolved. Such a conservative approach, however, would also be accompanied by unwanted side effects, since excessive prudence could preclude the timely and decisive implementation of policy.

4. Concluding Remarks

In this note I reviewed the monetary policy of Korea amid post-GFC global uncertainty and discussed the recent difficulties stemming from characteristics inherent to SOEs with non-vehicle currencies.

As I mentioned above, ELB estimates and the optimal duration of expansionary policy when close to the ELB depend not only on domestic economic activities and inflation but also on conditions in advanced economies with vehicle currencies. To deal effectively with such uncertainty regarding policy space, more in-depth study on the macro-dynamics and interactions between the domestic and foreign economies is required—and the sooner, the better. At the same time, steps must be taken to relax the constraints on policy space attributable to SOEs with non-vehicle currency characteristics; specifically, global financial safety nets should be enhanced.¹¹ As for this, Korea has entered into a number of bilateral and multilateral currency swap agreements with other economies.

Conflicts involving the dual mandate may undermine the central bank's credibility to the public and financial markets due to unclear priority between

⁹ Refer to Zhang (2019), Kearns et al. (2018) for the invoicing currency channel.

¹⁰ In a recent speech, Powell (2019) of the US Federal Reserve stated that “the Committee has adopted a patient, wait-and-see approach to considering any alteration in the stance of policy.”

¹¹ As a result of efforts to secure a solid financial safety net, Korea has made bilateral or multilateral currency swap agreements with countries such as Canada and Switzerland.

competing objectives. To avoid such confusion, the policy authorities should set appropriate priorities through clear and transparent communication.¹² The most commonly raised issues in the context of financial vulnerabilities in Korea include household debt, housing prices, and the potential for a sudden reversal of foreign capital. The central bank should communicate with the public and financial markets regarding the extent to which policymakers will consider such potential vulnerabilities when formulating monetary policy.

A final but still important concern is how SOEs with non-vehicle currencies should handle global uncertainties and how they should deal with constraints on monetary policy. These issues are difficult, and perhaps impossible, for SOEs to solve on their own, since they are structural problems stemming from the *original sin* of SOEs that lack vehicle currencies. In fact, Korea has tried various efforts¹³ to internationalize its own currency, although so far with little success. Several studies indicate that the slow progress in the Korean won's internationalization is attributable to the relatively small size of the Korean economy compared to countries with internationalized currencies, as well as to Korea's volatile inflation and exchange rates and geopolitical risk (Kim et al., 2015). From a global perspective, it is imperative to acknowledge the close connectedness between advanced and emerging economies through global value chains and the dominant currency invoicing channel. Also, as the market shares of emerging economies grow, their spillback effects on advanced economies increase as well. In reflection of structural changes in the world economy, it might be better for policymakers in advanced countries to expand the scope of their policy considerations to include global economies more broadly,¹⁴ an approach that would support the stronger growth of the world economy.

¹² The anchoring of inflation expectations is key to any inflation targeting framework. To keep inflation expectations within the target range, most central banks communicate clearly and transparently with the public and financial markets (Orphanides, 2019).

¹³ For example, Korean won has been exchanged directly with Chinese yuan in the China Foreign Exchange Trade System (CFETS) since 2016. Also, the total amount of won-denominated bond holdings by nonresidents has increased gradually from 66 billion USD in 2010 to 103 billion USD in 2018.

¹⁴ See Obstfeld (2019) for related discussion.

References

- Barkin, Tom (2019), "Risk Management in Monetary Policy," Risk Management Association 2019 Economic Update, September 26, Richmond, Virginia.
- Kim, Kyungsoo, Seung-Gwan Baek, Chi-Young Song, Junhwan Im, and In Huh (2015), "Won Internationalization: Issues, Prospects and Policy Agenda," *Journal of Korean Economic Analysis*, 21(3): 115-184.
- Kim, Wooyoung et al. (2010), *Household Indebtedness in Korea: Causes and Evaluation*, Seoul:Bank of Korea.
- Eichengreen, Barry, Ricard Hausmann, and Ugo Panizza (2003), "Currency Mismatch, Debt Intolerance and Original Sin: Why They Are Not the Same and Why It Matters," NBER Working Papers No.10036.
- Evans, Charles (2019), "Risk Management and the Credibility of Monetary Policy," The New York Association of Business Economists Economic Luncheon, April 15, New York, New York.
- Evans, Charles, Jonas Fisher, Francois Gourio, and Spencer Krane (2015), "Risk Management for Monetary Policy Near the Zero Lower Bound," *Brookings Papers on Economic Activity*, 46(1): 141-219.
- Gopinath, Gita, Emine Boz, Camila Casas, Federico J. Diez, Pierre-Olivier Gourinchas, and Mikkel Plaborg-Moller (2019), "Dominant Currency Paradigm," NBER Working Papers No.22943.
- Greenspan, Alan (2004), "Risk and Uncertainty in Monetary Policy," *American Economic Review*, 94 (2): 33-40.
- International Monetary Fund (2017), *Global Financial Stability Report: Is Growth at Risk?*, Washinton, DC:International Monetary Fund.
- Kearns, Jonathan, Andreas Schrimpf, and Fan Dora Xia (2018), "Explaining Monetary Spillovers: The Matrix Reloaded," BIS Working Papers, No. 757.
- Obstfeld, Maurice (2019), "Global Dimensions of US Monetary Policy," NBER Working Papers No.26039.
- Orphanides, Athanasios (2019), "Monetary Policy Strategy and Its Communication," The Federal Reserve Bank of Kansas City 2019 Jackson Hole Economic Policy Symposium, August 23, Kansas City, Missouri.
- Powell, Jerome H. (2018), "Monetary Policy and Risk Management at a Time of Low Inflation and Low Unemployment," 60th Annual Meeting of the National Association for Business Economics, October 2, Boston, Massachusetts
- Powell, Jerome H. (2019), "Monetary Policy: Normalization and the Road Ahead," The 2019 SIEPR Economic Summit, March 8, Stanford, California
- Rosengren, Eric S. (2019), "Risk Management in Monetary Policymaking," The National Association of Corporate Directors, New England Chapter, March 5, Boston, Massachusetts.
- Zhang, Tony (2019), "Monetary Policy Spillovers through Invoicing Currencies," Unpublished Manuscript.