



# The economic fundamental and economic policy uncertainty of Mainland China and their impacts on Taiwan and Hong Kong<sup>☆</sup>



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## ARTICLE INFO

Available online 28 February 2015

JEL classification:

C12

C22

Keywords:

Economic policy uncertainty

Long-run restriction

Mainland China (the Mainland)

Short-run restriction

Structural vector autoregression (SVAR)

## ABSTRACT

The opening-up of Mainland China has significantly increased its economic relationship with Taiwan and Hong Kong. Trade among Taiwan, Hong Kong and Mainland China has registered record highs in recent years, and capital flow has grown exponentially. The paper applies structural vector autoregressive models to the Taiwan and Hong Kong economies to investigate the impacts of the Chinese economy over the past decade. Identification of the structural shocks is based on the fact that Mainland China has a causal effect on Taiwan and Hong Kong, but not the reverse. Our identification scheme generalizes that in Blanchard and Quah (1989) and considers both short-run restrictions and long-run restrictions. Based on a New Keynesian model, a simple model with four domestic variables namely output, interest rate, price level and real exchange rate, as well as two foreign variables namely Mainland China output and the China monthly index of economic policy uncertainty, is constructed. By considering the short-run and the long-run impacts, we attempt to address the following issues: (i) Is domestic output, or some other domestic variables, affected by the uncertain economic conditions? (ii) Is it a long-run effect, or simply a short-run effect?

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## 1. Introduction

Since the outbreak of the financial tsunami in late 2008, fiscal crisis and debt crisis in countries like the United States and Euro Countries (noticeably Cyprus, Greece, Ireland, Portugal and Spain) have been revoking the interests in economic policy uncertainty. See, for instance, Schweitzer and Shane (2011), Taylor (2012), Baker, Bloom and Davis (2013). A vast number of academic and policy-oriented papers drew heavily on the data sets collected by American economists Baker, Bloom and Davis (see [www.policyuncertainty.com](http://www.policyuncertainty.com)). As of today, apart from U.S. monthly index, Canadian monthly index, Chinese monthly index, European monthly index, and Indian monthly index are also compiled.<sup>1</sup>

Theoretical models concerning how uncertainty damages economic growth can be traced back to Bernanke (1983). Following this line of research, Bloom (2009) argues that uncertainty not only causes firms more cautious about production planning, but also results in difficult financing. Some empirical evidence with firm-level data is found. Using some macroeconomic data, Baker, Bloom, and Davis (2013) assess this type of hypotheses. They run a vector autoregression (VAR) for the U.S. GDP growth, U.S. employment and the U.S. EPU monthly index for economic policy uncertainty, plus other economic factors such as interest rates, inflation and stock-market data. Their impulse responses (see their Fig. 12) show that an increase in policy uncertainty causes drops in both

<sup>☆</sup> The author thanks the Editor, Hamid Beladi, the Guest Co-editors, Shawkat Hammoudeh and Michael McAleer, and an anonymous referee for their helpful comments and suggestions which substantially improved the paper. Partial financial support is due to the National Science Council of Taiwan, grant NSC 101-2410-H-007-013.

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<sup>1</sup> Besides these monthly indexes, they there are also debt ceiling, U.S. daily index as well as equity uncertainty index.

economic growth and employment, though the impacts may not be significant at 90% level. These results are also robust to adding or removing some other variables such as Michigan consumer confidence index. Investigating the 2007–2009 recession and sluggish recovery using the same EPU index, [Stock and Watson \(2012\)](#) obtain a similar conclusion. That said, since policy making is forward looking, the genuine “casualty” is not straightforward to argue.

This paper attempts to address the domestic responses to policy uncertainty of the inter-related economy within the Greater China. In particular, we study the Taiwan and Hong Kong responses to domestic factors as well as to Mainland China factors such as Chinese EPU monthly index. As shown by [Dixit and Pindyck \(1994\)](#), when economic conditions become more uncertain, firms expect higher returns on investment, which include uncertainty premia; and consumers are more prudent on purchasing durable goods. Further, both investors and consumers in the domestic economy (either Taiwan or Hong Kong) will actively manage risks and attempt to reduce exposures to the most sensitive trading partners such as Mainland China in our case.

The increasing integration of the Greater China in the past twenty years, as one may see in the arguments in [Section 2](#), emphasizes Mainland China (henceforth the Mainland) factor. In this paper, we take the structural vector autoregression (SVAR) approach to study the Mainland effect on the *small open* economies, namely Taiwan and Hong Kong. Due to the unavailability of detailed data, we have to skip another economy in Greater China, Macau. Some related studies on Macau can be found in [Lei and Yao \(2009\)](#).

By now it is well known that a SVAR, combined data features with various forms of economic insights. As far as small open economy being the subject, a huge number of papers are found in the literature. Instead of relying solely on reduced form equations and Choleski decomposition, [Cushman and Zha \(1997\)](#) allow the differentiation of the policy reaction function from private sector responses to both policy actions and changes in foreign variables of the Canadian economy.<sup>2</sup> [Kim and Roubini \(2000\)](#) use a SVAR with no recursive contemporaneous effects and the monetary policy shocks are identified by modeling the reaction function of the monetary authorities instead. As New Zealand is a small economy exposed to a lot of external shocks, [Buckle, Kim, Kirkham, McLellan, and Sharma \(2007\)](#) develop a four-block SVAR model to capture New Zealand's dynamics over business cycle fluctuations. Their model turns out to be immune to the price and exchange rate puzzles in regard to monetary policy shocks. [Dungey and Pagan \(2009\)](#) include an overseas sector to the Australian economy to disentangle the effects of shocks from various sources. Recently, [Dungey and Vehbi \(2011\)](#) apply similar models to investigate the historical responses of variables in 5 ASEAN economies (namely Indonesia, Malaysia, the Philippines, Singapore and Thailand) with respect to foreign variables of U.S. or Mainland China.

In this paper, we adopt the identification scheme first suggested by [Breitung, Brüggermann, and Lütkepohl \(2004\)](#) (see also chapter 8 of [Pfaff \(2008\)](#)). First, their approach allows restrictions of cointegration (see, for instance, [Johansen \(1991\)](#)) on a SVAR. Second, considering the so-called B-model (see, for instance, [Amisano and Giannini \(1997\)](#)), restrictions on the contemporaneous impact matrix can be imposed. Third, similar to [Blanchard and Quah \(1989\)](#) who are silent about cointegration, their approach explicitly put conditions on the long-run impact matrix.<sup>3</sup> In addition, for the sake of parsimony, we impose some restrictions on the reduced-form parameters of the VAR.<sup>4</sup> See [Section 5](#) for the details.

The paper is organized as follows. The next section is about the background of the integration among the Mainland, Taiwan and Hong Kong. [Section 3](#) contains the theoretical framework and the econometric model while a data description can be found in [Section 4](#). Empirical analyses are relegated to [Section 5](#). [Section 6](#) concludes.

## 2. Background of the integration in Greater China

After the Chinese Communist Party (CCP) took over the Mainland in 1949, direct investments as well as trade in Taiwan with other countries were not much hindered, except those with the Mainland. People in Taiwan were not allowed to visit the Mainland until 1987. On the one hand, this was a catalyst for the new relations between Taiwan and the Mainland; and on the other hand, some sort of negotiations between the governing bodies on both sides were needed.<sup>5</sup>

With the efforts of the *quasi-official* Taiwan's Straits Exchange Foundation (SEF) and the Mainland's Association for Relations Across the Taiwan Straits (ARATS), the so-called “1992 Consensus” was reached and direct investments and trade re-started in early 1990s. Parallel to numerous meetings held by SEF and ARATS, democratic reforms in Taiwan shifted the government to a political identity more *independent* from the Mainland. Conducting a missile exercise in 1996, the Mainland government warned the pro-independence advocates in Taiwan and this resulted in another Taiwan Strait crisis. The talks between SEF and ARATS adjourned in 1998. Nevertheless, Shui-bian Chen of the Democratic Progressive Party (DPP), who was the President of Taiwan from 2000 to 2008, did officially abandon the 50-year ban on *direct* trade in 2001.

Chen's administration was admittedly pro-Taiwan independence while the Mainland government insisted on the “one China” principle. During the early 2000s, the Mainland continued a military missile buildup which means threats of military action towards Taiwan. That said, in his May 17 statement in 2004, Jintao Hu then the Chairman of the CCP, re-stated the importance of discussing the “three links” (direct postal, direct transportation and direct trade). On the other hand, in 2005, the Anti-Secession Law was passed by the National People's Congress in the Mainland, which formalized “non-peaceful means”, should Taiwan declared independence, when the Mainland government, for the first time after 1949, committed to equal-status-basis negotiations between the two sides. In April 2005, Chan Lien, a key figure of then Taiwan's opposition party Kuomintang (KMT), met Hu in Beijing.

<sup>2</sup> They argue that relative to the foreign U.S. economy, Canada is small and open.

<sup>3</sup> [Pagan and Pesaran \(2008\)](#) survey some SVAR with permanent and transitory shocks and provide some new results.

<sup>4</sup> To meet this end, we modify the R-code “svec” (in the library “vars”). The modified code is available from the author upon request.

<sup>5</sup> Parts of this section are based on various historical accounts in wiki.

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