Economic Policy Uncertainty Indices for Chile

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Abstract

We construct two indices of Economic Policy Uncertainty (EPU) for the Chilean economy using a news-based approach in the spirit of Baker et al. (2016) which is to our knowledge the first attempt to do so for this country. This allows us to reconstruct 23 years of EPU for this economy. The indices tend to increase with major events such as reforms and economic crises. In particular, it shows spikes during the Asian crisis, the great recession and the domestic reforms driven in 2014.

1 Introduction

Economic policy uncertainty (EPU, hereafter) has been a major issue for the world economy in recent years. Some prominent examples of raises in EPU are the 2008 financial crisis, the Brexit referendum, the US elections, the peace referendum in Colombia and so on.

Although EPU is assumed as a sort of feeling by most people, there are few countries which have reliable measures of it. Baker et al. (2016) have proposed a methodology, based on frequency count of articles in newspapers, to measure EPU and host a site which contains EPU indices for 16 major countries[1]. They also host an EPU index for Europe, developed by themselves, and an index of global economic policy uncertainty developed by Davis (2016).

In this brief document, we explain the construction of two economic policy uncertainty indices for the Chilean economy. This is the first attempt to measure EPU in this economy using a news-based approach. The first index which we label simply as EPU aims to measure uncertainty related to domestic and foreign events which are written in Chilean newspapers. The second index called EPUC intends to capture only domestic EPU. Finally, we also give a brief road map of major EPU events that have affected this economy throughout the years.

2 Indices Construction

We construct Economic Policy Uncertainty (EPU) indices for Chile based on frequency counts of articles using the methodology proposed in Baker et al. (2016).

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[1]See www.policyuncertainty.com

As in the case of the Netherlands, Chile also presents a small and open economy nature. As such, we construct two different EPU indices in the spirit of Kroese et al. (2015). The first index, which we label simply as EPU, captures all policy-related economic uncertainty present in Chilean newspapers. The second index, which we call EPUC, seeks to capture domestic policy-related economic uncertainty only.

We construct the indices as follows. First, we access a unique database which contains all the digital archives of articles published by "*El Mercurio*" and "*La Segunda*", two of the most important newspapers in the country, from 1993 until today. Second, we make a monthly raw count of articles that contain at least one word of each of the following categories: Economic (E), Chile (C), Policy (P) and Uncertainty (U). The only difference between the EPU and the EPUC is that while the first is constructed using the E, P and U category, thus ignoring the word "Chile" (C term), the second do consider this C term. Table 1 and Table 2 provides a detailed account of the terms used in the text search.

With these raw counts in hand, we proceed as Baker et al. (2016) to construct the indices. Here we present the detailed construction that apply for both indices. First, we scale the raw count by the total number of articles published by each newspaper in each month. Then, we compute the standard deviation of this scaled counts between January 1993 and October 2016 and divide the scaled count of each newspaper by its respective standard deviation to obtain a normalized measure for each newspaper. We then take a simple average in each month of these normalized measures in order to obtain a unique monthly series. Finally, we adjust these series to have a mean of 100. The resulting series correspond to the EPU and the EPUC.

Figure 1 shows the evolution of both indices for Chile between January 1993 to October 2016. We have also label some of the most important episodes for this economy during this period which we will explain next.

3 A Road Map to Chilean EPU

As it can be seen from Figure 1 EPU has varied considerably in the last decades, where the peaks reflect, for instance, the Asian Crisis, the 2008 financial crisis and the discussion of reforms driven by the actual government.

Early 90's were relatively calm years with respect to EPU for the Chilean economy that ended abruptly when the Asian crisis hit. Indeed in the years prior to the Asian crisis, January 1993 to November 1997, the EPU index shows an average value of 72 points and the EPUC index shows an average value of 64, well below the mean of the series. The fear of an Asian crisis first stroke the Chilean economy on December 1997 where the EPU and the EPUC index showed a huge spike of 194 and 209 respectively. But was in the next year, with the Russian crisis and the contagion to the rest of the emerging countries where the indices increase more than 2.5 their mean value[2].

At the beginning of 1999 most of the EPU had been dispelled but the index does not return to the levels observed previous to the crisis. The first years of the new millennia were years

[2]The value of the EPU was 249 on September 1998 and the EPUC was 270 in the same month.

of high uncertainty, marked by the Dot-Com bubble, the Gulf War II and others geopolitical factors that kept on the verge food and commodity prices, as is the case of copper which is of vital importance to the Chilean economy.

The second semester of year 2003 it is noted that began a period of great moderation that lasted until the collapse in international capital markets in 2008, which we know today as the Great Recession. There are two interesting things to note in the period that followed the Lehman Brothers bankruptcy: the speed at which EPU was dissolved and the limited impact that EPU received from the 27F Chilean earthquake.

The next significant shock of uncertainty to the country was the European debt crisis. In 2011, Greece fell into default and we observe worries about whether this fact were to traduce in a systematic collapse in several important European countries that were highly indebted.

Apparently, EPU has increased in recent years, even surpassing the levels exhibited in the Asian crisis or the Great Recession. 2014 and 2015 were years marked for several reforms and announcements of reforms including a tax reform, a labor reform, a constitutional reform and a reform to the pension system. As it is shown in Figure 1, both peaks in 2014 were associated to reforms driven by the actual government: the tax reform which gets constitutional approval during August of that year and the labor reform that entered to discussion in the congress at the end of December. Despite the fact that in 2015 several articles mentioned news associated to these reforms, the peak correspond to July: the month where China was suffering great turbulences in its financial market. According to the indices, worries about China's economy, the low price of copper and the economic reforms are some of the factors behind the recent increase in Chilean EPU.

To get a glance on how does our indices compare to global EPU, Figure 2 shows the evolution of our EPUC index with the Global Economic Policy Uncertainty (GEPU) index constructed by Davis (2016)[3]. To make the EPUC comparable to the GEPU, we do the same standardization process as before for the EPUC but considering the period between January 1997 to August 2016.

From 1997 to the middle of 2003, the EPUC index was remarkably above the GEPU index. After that period, we observe a great moderation in both indices which ended with the Great Recession. While both indices showed a peak in the middle of 2008, thereafter the GEPU index was consistently above the EPUC index until 2014[4]. As discussed previously, the Chilean economy experienced increases in EPU during 2014 due to a tax and a labor reform. Interestingly in this period the GEPU index was significantly below the level showed by our EPUC index. This indicates, at least in some degree, that an important part of this EPU observed in Chile was due to internal causes and not by global causes. In recent months, these indices have tend to align with the EPUC index showing the same tendency as the GEPU index but in less degree indicating that there is higher EPU levels in the global economy than in its Chilean counterpart.

[3]Given the similarity between our indices we choose to compare the GEPU with our EPUC index. Main results are not sensible to this choice. Moreover, we consider the GEPU index which take the weights using PPP and not current prices.

[4]This is consistent with a common idea presents in the Chilean environment that the economy was not hit at the same level by the 2008 financial crisis as the global economy did.

4 Conclusion

We have constructed two EPU indices for the Chilean economy using a news-based approach in the spirit of Baker et al. (2016): an EPU index which captures both domestic and foreign EPU and an EPUC index which seeks to measure domestic EPU only. We have seen that these indices behave well in the sense that they increase during major events such as political reforms or economic crises.

When compared to the Global Economic Uncertainty Index (GEPU) developed by Davis (2016), we see that our EPUC index tracks the global tendency well but differs in the magnitude, suggesting that our measure of economic policy uncertainty for the Chilean economy is different from what it has been in the rest of the world.

Years to come are going to be plagued by an erratic behavior in EPU with its corresponding effect over important macroeconomic variables as extensive economic literature has suggested. Thus having measures of EPU will be a valuable asset in the next years. With the construction of these indices, we expect to contribute to this challenge.

Table 1. Keywords in English

Category	Words
Economic (E)	Any word beginning with "*econ*", such as to include words like "*economist*", "*economic*" and "*economy*".
Policy (P)	Politic* *or* tax* *or* regulation *or* regulations *or* tax collection *or* reform *or* congress *or* senate *or* congressman *or* fiscal spending *or* public spending *or* fiscal deficit *or* public debt *or* fiscal budget *or* Central Bank *or* Ministry of Finance
Uncertainty (U)	Uncertain or uncertainty
Chile (C)	Any words beginning with "Chile".

Note: An * is included to account for words that begin with the word previous to the symbol. For instance, "*tax**" include both the word *tax* and *taxes* and "*Chile*" include both *Chile* and *Chilean*.

Table 2. Keywords in Spanish

Category	Words
Economic (E)	Any word beginning with "*econ*", such as to include words like "*economista*", "*económico*" and "*economía*".
Policy (P)	Política* *or* impuesto* *or* regulación *or* regulaciones *or* recaudación *or* reforma *or* congreso *or* senado* *or* diputad* *or* gasto fiscal *or* gasto público *or* déficit fiscal *or* deuda pública *or* presupuesto fiscal *or* Banco Central *or* Ministerio de Hacienda
Uncertainty (U)	Incertidumbre or incierto
Chile (C)	Any words beginning with "Chile".

Note: An * is included to account for any word that begin with the word previous to the symbol. For instance, "*impuesto**" include both the word *impuesto* and *impuestos* and "*Chile*" include both *Chile* and *Chileno* or *Chilena*.

Fig. 1. EPU Indices for Chile

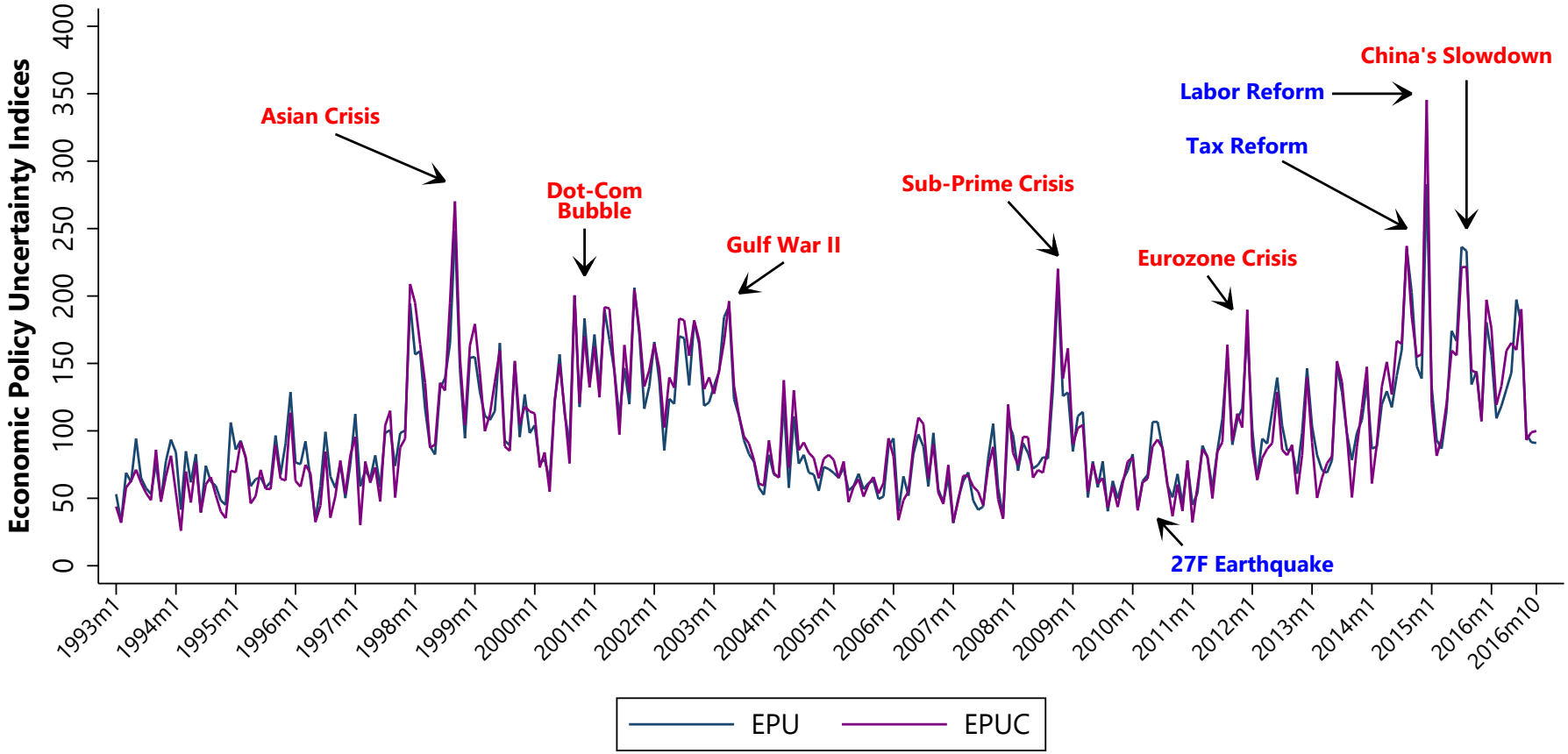
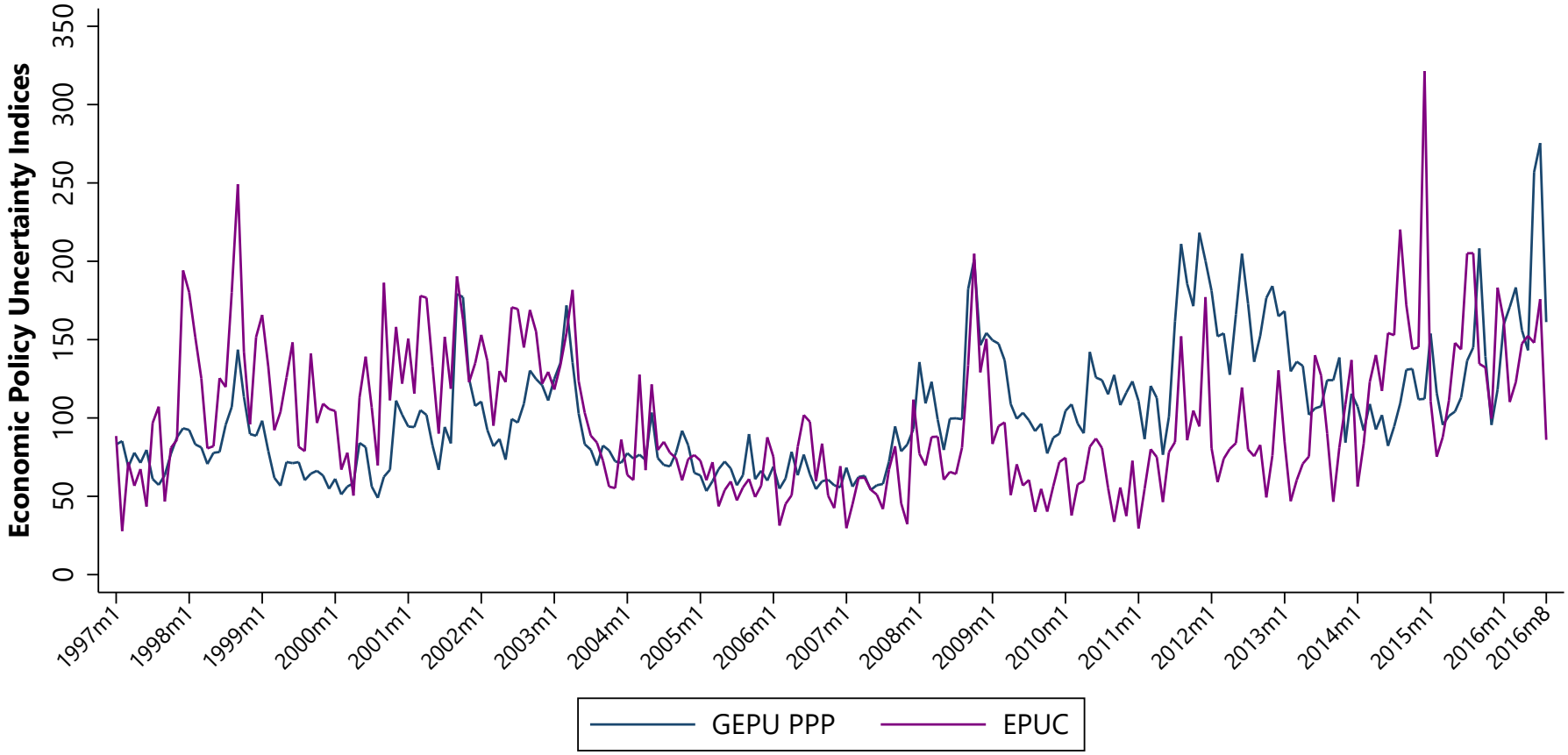


Fig. 2. GEPU PPP and EPUC, January 1997 to August 2016



References

Baker, Scott R., Nicholas Bloom, and Steven J. Davis, "Measuring Economic Policy Uncertainty," *The Quarterly Journal of Economics*, 2016, *131* (4), 1593–1636.

Davis, Steven J., "An Index of Global Economic Policy Uncertainty," Working Paper 22740, National Bureau of Economic Research October 2016.

Kroese, Lars, Suzanne Kok, and Jante Parlevliet, "Beleidsonzekerheid in Nederland," *Economisch Statistische Berichten*, 2015, *4715*, 464–467.