



Did the global financial crisis alter the oil–gasoline price relationship?

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Abstract

This paper investigated the oil–gasoline price relationship in the UK and USA following the 2007–2008 global financial crisis. The dummy variable approach to testing for structural break and the nonlinear autoregressive distributed lag approach for modeling asymmetry cointegrating relationships were used. The findings indicate that the crisis induced significant structural break in this relationship in both countries. For the UK, we find strong evidence of rockets and feathers effect plus the possibility of firms using the tax system to hide rent-seeking behavior before and after the crisis, which means that the results of Greenwood-Nimmo and Shin (Econ Lett 121:411–416, 2013) are no longer plausible. For the USA, we find significant evidence of the rockets and feathers effect in the post-crisis period when the data are restricted to March 2013; however, this effect disappears once the data are extended to June 2017. These findings suggest that continuous monitoring and other antitrust and consumer welfare policies are required in these economies to preserve competition and the overall social welfare.

Keywords Rockets and feathers effect · Nonlinear ARDL model · Global financial crisis · Antitrust policy

JEL Classification Q43 · C22 · F36 · L40

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1 Introduction

The 2007–2008 global financial crisis (GFC), also called the ‘Great Recession’ or the ‘Second Great Contraction’, is the worst recession the global economy has witnessed since the Great Depression of 1929–1939 (Reinhart and Rogoff 2009; Verick and Islam 2010). This crisis that started in the US housing market has been attributed to a number of complex factors, which we now classify as direct and indirect causes of the crisis. The direct causes include: (i) the bursting of the housing market bubble and simultaneous crashes in other asset bubbles in late 2007; (ii) excessive risk taking through complex financial innovations like Collateralized Debt Obligations (CDOs) and Credit Default Swaps (CDS), resulting in the collapse of the subprime mortgage market and the subsequent collapse of financial institutions like Lehman Brothers; (iii) misperception of risk and systemically flawed methods of risk assessment by banks and non-bank financial institutions coupled with lax financial regulation/supervision despite the risks of financial globalization; and (iv) loose monetary policy (Priewe 2010; Marshall 2009). However, the ultimate causes or indirect events leading up to the crisis include: (i) the high global imbalances in trade and capital flows (e.g., huge accumulation of current account surpluses in China and huge deficits in the USA); (ii) booming global economy wherein oil prices and other commodity prices rose greatly over the period 2004Q4–2007Q4; (iii) the trend of high-income inequality that reduces aggregate demand and increases financial instability, among others (Corden 2008; Priewe 2010). McKibbin and Stoeckel (2009) explain that the shock to the world economy from the commodity price boom was as big as the oil price shock of the 1970s. Overall, it can be seen that several shocks characterize the emergence and escalation of the crisis, like the bursting of the housing bubble; however, the oil price shock following the emergence of the crisis is quite remarkable.

The impact of the crisis is quite diverse and reflects to a large extent the initial conditions, transmission channels and vulnerabilities of economies (Verick and Islam 2010). Indeed, what originally manifested as challenges in the US housing market swiftly spread to the global financial system and then to the real sectors of the global economy. In the financial system, liquidity dried up; interbank lending ground to a halt despite a sharp increase in risk premium on interbank borrowing from close to zero to as high as 5%; and several banks and other non-bank financial institutions across the globe failed. In the real economy, commodity prices crashed as a result of fall in demand; large capital projects such as energy investments were suspended or canceled as corporate borrowings and trade credits dried up; unemployment surged; regional growth rates declined; trade volumes shrank following GDP losses of almost 10% of world output in 2008–2010; fiscal positions deteriorated and ultimately, most advanced economies went into deep recession (McKibbin and Stoeckel 2009; IEA 2009; Priewe 2010; Osakwe 2010). Clearly, global economic activities contracted to unprecedented levels and shortage of credit became persistent. According to the Economic and Social Commission for Western Asia (2009), crude oil prices that reached an all-time high of \$147 a barrel in July 2008 due mainly to a six-year commodity boom cycle driven by demand from the advanced economies spectacularly crashed to an average of \$40 a barrel in December 2008