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Effects of International Food Price Shocks on Political Institutions in Low-Income Countries: Evidence from an International Food Net-Export Price Index

RABAH AREZKI [a,c] and MARKUS BRUECKNER [b,*]

[a] *International Monetary Fund, Washington, USA*
[b] *National University of Singapore, Singapore*
[c] *Brookings Institution, Washington DC, USA*

Summary. — We examine the effects of variations in the international food prices on political institutions in low-income countries. Our empirical analysis exploits that the economic impact of changes in the international food prices differs across countries depending on whether countries are net food importers or exporters. We construct an international food net-export price index that captures this heterogeneity. Our panel fixed effects analysis yields that in low-income countries within-country variations in the international food net-export price index are significantly negatively related to democratic institutions. We further explore the mechanisms driving this relationship along the economic and the conflict dimensions.

Key words — food prices, polity, low-income countries

1. INTRODUCTION

It is often claimed by policy makers and the media that increases in international food prices put at stake the socio-political stability of the world's poorest countries. Former World Bank's President Zoellick for example claimed at the joint World-Bank International Monetary Fund (IMF) 2008 spring meeting that a drastic increase in food prices could mean "seven lost years" in the fight against worldwide poverty. At the same meeting former IMF's managing director Strauss-Kahn expressed that "... the consequences [of food price increases] on the population in a large set of countries ... will be terrible ... disruptions may occur in the economic environment ... so that at the end of the day most governments, having done well during the last 5 or 10 years, will see what they have done totally destroyed, and their legitimacy facing the population destroyed also." [1] The question of whether and to what extent variations in the international food prices affect the political institutions of the world's poorest countries is therefore of high policy relevance. Yet, little formal empirical evidence exists on the link between political institutions in poor countries and international food price shocks.

In order to advance our understanding of the link between international food prices and political institutions in poor countries, this paper explores empirically in a panel of over 60 low-income countries the within-country relationship between political institutions and a country-specific international food net-export price index that is driven by variations in the international food prices. The economic impact of variations in the international food prices varies across poor countries depending on whether these countries are net food importers or exporters. To capture this heterogeneity, we construct a country-specific food net-export price index that uses variations in the international food prices multiplied by countries' food net-export shares. Because this index is country specific, we are able to apply in our empirical analysis rigorous panel data estimation techniques that account for both country and time fixed effects.

Our main finding is a significant negative relationship between within-country variations in the international food net-export price index and democratic institutions in low-income countries: a one standard deviation increase in the international food net-export price index significantly reduced low-income countries' Polity2 score by over 0.05 units. This effect is equal to about 0.03 standard deviations of the within-country change in low-income countries' Polity2 score during the sample period, which spans nearly four decades. We document that this finding is robust to different measures of democracy, time periods, and estimation techniques as well as the control for country-specific weather shocks.

A telling country episode that fits the pattern documented by our regressions is Fiji during the sugar price boom of 2004–06. Sugar is Fiji's largest commodity export, comprising more than 20% of total exports. The international price of sugar doubled over the 2004–06 period. In 2006 the military staged a coup, seizing executive authority from the democratically elected prime minister. [2] Fiji's Polity2 score declined from 6 to −3 and remained there for the following years. Other country examples that fit this pattern are Thailand and Bangladesh; both of which are exporters of rice. Following the over 40% increase in the international rice price during 2004–06, the 2006 military coup in Thailand brought to an end over 15 years of free and fair elections. In Bangladesh, attempts at democratic rule after independence in 1971 were shattered when the military assumed firm control of the state in 1975, following the more than doubling of the international rice price during 1972–1974. [3]

Our paper is most closely related to the literature on the effects that economic shocks have on political institutions.

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Acemoglu and Robinson (2001, 2006) develop a formal theory of democratization where temporary income shocks can give rise to a "democratic window of opportunity." In their theory, temporary income shocks induce a change in political institutions (which are viewed as durable) because these shocks change de facto political power. Changes in political institutions thus occur because of changes in the temporary bargaining power of citizens for institutional change and the costs faced by the elite to extend the franchise. An important implication of the theory is that economic shocks which increase the threat of a revolution by the citizens must not necessarily lead to democratization: if the economic costs of democracy are large for the elite then the elite may well be willing to bear the costs of fighting the revolution.

Motivated by the window-of-opportunity theory, we explore the mechanism through which changes in the international food net-export price index affect countries' polity scores along the economic and the conflict dimensions. Along the economic dimension, our empirical analysis shows that within-country changes in the international food net-export price index are significantly positively related to growth in Gross Domestic Product (GDP) per capita and investment (the terms-of-trade effect). Despite these increases being associated with higher economic surplus, our results suggest that democratic institutions deteriorated during periods of increases in the international food price index. This, in turn, suggests that, beyond the increase in average income, increases in the international food net-export price index had important distributive consequences in low-income countries. Our empirical analysis shows that within-country changes in the international food net-export price index are significantly negatively correlated with private consumption and significantly positively correlated with income inequality. Thus, consumption in low-income countries decreased during times of increases in the international food net-export price index and there was also a widening in the gap between rich and poor.

Beyond the economic dimension, we provide additional insights into the mechanism driving the significant negative relationship between variations in the international food net-export price index and low-income countries' political institutions by exploring the conflict dimension. Using a variety of conflict indicators, we find that changes in the international food net-export price index are significantly positively correlated with intra-state conflict. Increases in the international food net-export price index lead to significant increases in the incidence of anti-government demonstrations, riots, and civil conflict. Quantitatively, the estimated effects are also sizable: for example, with respect to civil conflict incidence, we find that a one standard deviation increase in low-income countries' international food net-export price index is, on average, associated with a 0.5 percentage point higher incidence of civil conflict. Hence, our empirical analysis yields that there is a significant positive link to indicators of intra-state conflict (i.e., the risk of revolution).

A straightforward reading of our findings is that by widening the gap between rich and poor and by raising aggregate income, higher international food prices made it particularly costly for the elite to grant de-jure political rights in poor autocratic countries that are net exporters of food. The increase in economic surplus, that occurred during food price spikes, was then guarded by the elite from the people by reducing de-jure political rights. This, in turn, was associated with an increased risk of revolution.

In the next section we expand the discussion of how our paper relates to the existing literature, and we also provide further intuition for our findings. The remainder of our paper is then organized as follows. In Section 3 we describe the data. In Section 4 we discuss our empirical results in more detail. In Section 5 we present additional robustness checks. In Section 6 we conclude.

2. RELATED LITERATURE

On the empirical front, a number of recent papers have examined the link between exogenous income shocks and democratization. Burke and Leigh (2010) and Brueckner and Ciccone (2011) find that variations in year-to-year rainfall are significantly negatively correlated with democracy (the later authors show that this is particularly true in sub-Saharan African countries where the agricultural sector is large). Because year-to-year rainfall is a transitory shock to output the evidence provided in these papers supports the Acemoglu and Robinson window-of-opportunity theory. Our present paper seeks to complement the empirical studies by Burke and Leigh (2010) and Brueckner and Ciccone (2011). Variations in the international food prices are also of transitory nature and for the majority of low-income countries they constitute an exogenous economic shock.[4]

In contrast to the literature on the democratic window of opportunity effect, another strand of the democratization literature has argued that income is positively related to democracy. Arguments for why income may be positively related to democracy go back at least as far as Lipset's (1959) modernization hypothesis. Acemoglu, Johnson, Robinson, and Yared (2008, 2009) recently demonstrated that once country fixed effects are accounted for the relationship between income and democracy vanishes. In light of these authors' findings, it is important to note that advocates of the modernization hypothesis are mainly concerned with how income is related to democracy in the long run. Thus, examining the modernization hypothesis based on within-country variation requires using time-series variation in income per capita that is of permanent nature. In this vein, Brueckner, Ciccone, and Tesei (2012) use variations in the international oil price. They find that these types of permanent income shocks are positively related with democracy.

An important message from the above studies is that when examining the within-country relationship between income and democracy, it is important to distinguish between transitory and permanent shocks. The present paper's results are based on using variations in the international food prices, which are predominantly of transitory nature. Therefore, the results in this paper should be compared with the results of papers on the relationship between transitory income shocks and democratic change (i.e., Burke & Leigh, 2010; Brueckner & Ciccone, 2011).

Our findings on the conflict dimension make our paper also related to the literature on the determinants of state fragility (see, for example, World Bank, 2003, and references therein). Our paper contributes to that literature by focusing on the effects that variations in the international food net-export price index have on civil conflict—a focus that is unique, as no paper has examined yet for food commodities the effects that variations in these international prices have on civil conflict.[5] In addition to shedding novel light on the question of how international food price variations affect the likelihood of civil conflict in the world's poorest countries, the paper also examines more minor forms of intra-state instability, such as, anti-government demonstrations and riots, which are of considerable interest in and of themselves from a political economy point of view.