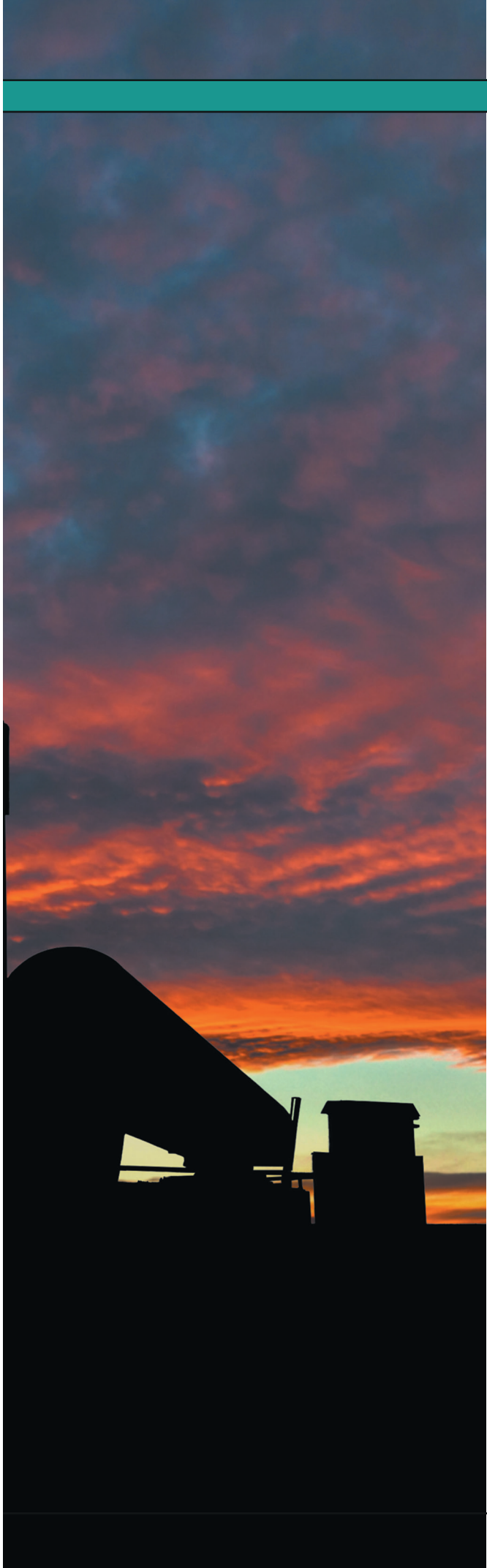


ADVANCES IN SCIENCE

The background of the entire page is a photograph of an oil pumpjack (jackal) in silhouette. The pumpjack is positioned diagonally, with its long arm extending from the lower right towards the upper left. The sky behind it is a vibrant mix of orange, red, and blue, suggesting a sunset or sunrise. The clouds are wispy and catch the low light of the sun. The overall mood is industrial yet serene.

# THE CONTRIBUTION OF PEACE TO THE ECONOMY



A study by the Faculty of Economics of the Universidad del Rosario estimated the impact on the country's armed conflict of price variations in some Colombian export goods.

**T**he prevalence of illegal armed groups and organized crime in several Colombian regions exacerbated institutional and economic problems in difficult periods such as the final years of the 20th century and the first few years of the 21st, moments which saw a sharp fall in the international prices of agricultural goods, in particular coffee. Over the same period, the price of oil rose significantly on the world market.

Both cases resulted in what are called “price shocks” (negative in the first case and positive in the second), bringing consequences for the conflict and for the criminal activities associated with it.

That is the principal conclusion of research conducted with the participation of Juan Fernando Vargas, professor at the Faculty of Economics of the Universidad del Rosario. This research resulted in the publication in an important economics journal of an article ranked among The Most Cited Articles from the Top-5 Journals for 1991-2015 for significant impact (according to the number of citations it acquired from 2011 to 2015).

**THE STUDY  
SHOWED THAT THE  
137% INCREASE  
IN OIL PRICES  
BETWEEN 1998  
AND 2005 LED  
TO AN AVERAGE  
14% INCREASE IN  
MILITARY ATTACKS  
IN OIL-PRODUCING  
MUNICIPALITIES**

The research estimated the impact on the armed conflict in Colombia of income shocks resulting from extraordinary changes in the prices of certain export goods in the period between 1998 and 2005. The database that was used for this research includes information on 21,000 war events that occurred in some 950 Colombian municipalities.





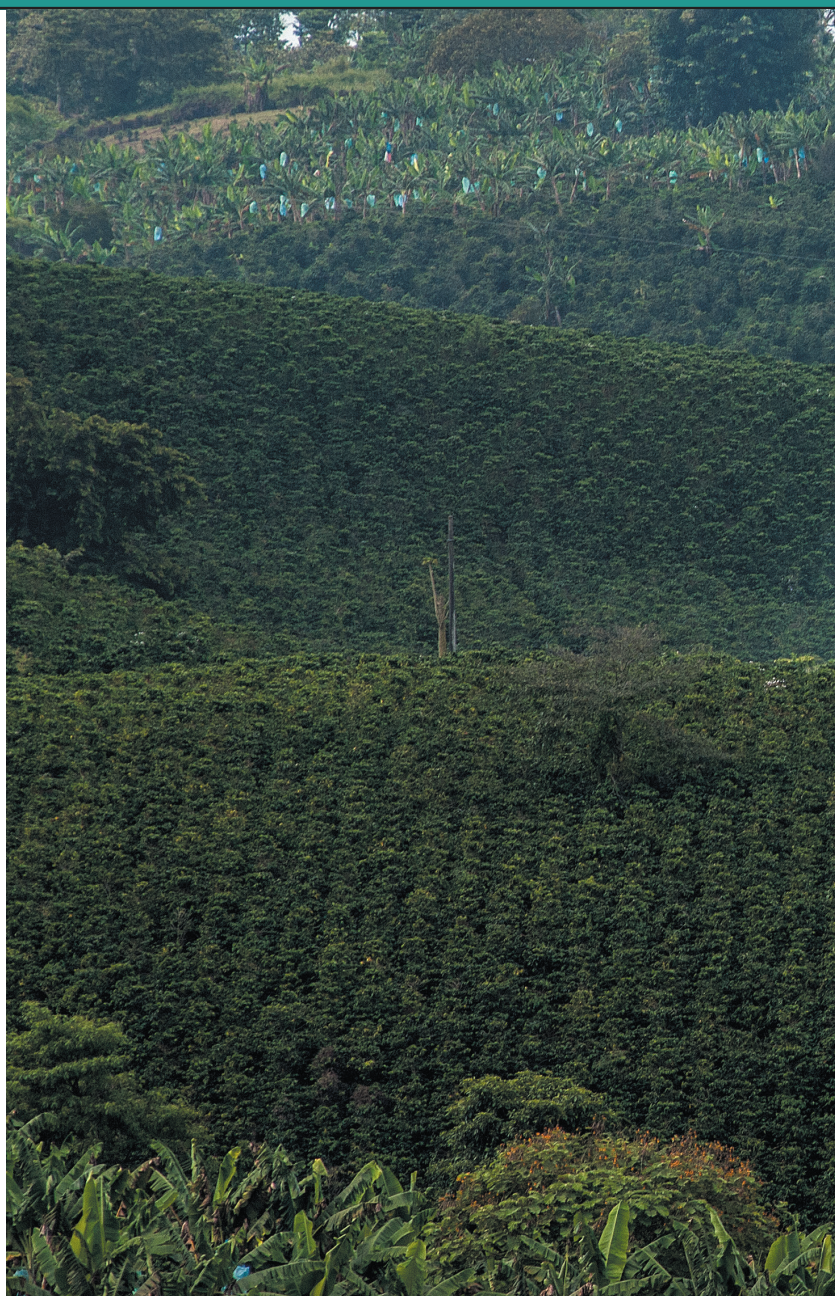
↑  
 Juan Fernando Vargas, professor at the Faculty of Economics at the Universidad del Rosario, conducted research that estimated the impact on the earned conflict in Colombia between 1998 and 2005 of income shocks resulting from extraordinary price changes on some export goods.

### AGRICULTURAL COMMODITIES

The authors identified effects that fell into two categories: “opportunity cost” and “rapacity.” The former effect is noted when significant price increases of labor-intensive goods such as agricultural commodities generate an improvement of labor market conditions in terms of higher salaries. This, in turn, reduces incentives for individuals to appropriate resources through violent means, either through criminal activities such as armed robbery, extortion, etc., or by joining armed movements to enjoy the refuge these can offer by managing to make them party to the spoils from kidnappings, bank robberies, extortions, etc.

In other words, the price of agricultural commodities is negatively related to the conflict. When prices rise, conflict is reduced, as is most notable in the municipalities that most produce these goods. According to Vargas, this process takes place primarily because the production of such products is labor intensive, meaning that price changes primarily impact workers’ income.

In the case of coffee, the significant price dip at the end of the 1990s disproportionately increased violence in coffee-producing municipalities. The study estimates that between



1997 and 2003, a recorded 68% fall in the international price of coffee was reflected in 18% more guerrilla attacks, 31% more paramilitary attacks, 22% more military confrontations, and 14% more deaths compared to events in non-coffee-producing areas during the same period.

The decrease in the price of coffee reduced salaries and employment, principally in coffee-producing municipalities, and this is evident from the increased violence due to the significant reduction in the opportunity cost of affiliating with armed activities.

### NATURAL RESOURCES

The rapacity effect, on the other hand, results when increased income due to rising prices of a natural resource stimulates violent practices, seen as the most effective way to appropriate those additional resources. This means that





the price of natural resources (principally oil, coal, and gold in the Colombian case) is positively related to the conflict: when prices rise, the conflict intensifies and, as in the circumstances described above, the effect is primarily felt in municipalities that are rich in the relevant resources. The difference lies in the fact that unlike the case of agricultural commodities, the production of these resources is not very labor intensive. The research showed that the recorded 137% increase in oil prices between 1998 and 2005 led to a 14% average increase in paramilitary attacks in oil-producing municipalities. The oil shock also increased municipal income generated by the taxation of natural resources, as well as the kidnapping of politicians and other leaders. These results are consistent with the increased violence due to the oil driving the rapacity for the greater local treasury funds in oil-producing municipalities.



It is estimated that the 68% drop in the international price of coffee between 1997 and 2003 led to an 18% increase in guerrilla attacks, 31% more paramilitary attacks, 22% more military confrontations, and 40% more deaths compared to non-coffee-producing areas during the same period.

## PRICE STABILIZATION

Simply put, the study showed that increased prices of capital-intensive products primarily push up income in the form of return on capital, and this fires up the armed actors to try to appropriate this increased income through violence. Remember that in oil-producing regions, increases in the international price of oil increased the royalties received by producing municipalities, making their public treasuries more attractive targets for armed groups and the corrupt, who exercised other forms of appropriation to divert public funds into private hands. Such funds would normally be used for health, education, and other programmes, thus saving lives.

In these different situations, the researchers recommend action by both government

bodies and the financial community to protect, in the case of agricultural products, the income of producers. According to Professor Vargas, effective means for this purpose are options such as the National Coffee Fund, which, in its day, helped coffee producers in both times of plenty and shortage to separate the domestic from the international price and institutionalize an income cushion that guaranteed them a floor below which they could not fall, thus reducing their incentive to engage in illegal activities.

In addition to schemes to stabilize the prices of natural resources, Vargas recommends government policies to develop systems for effective monitoring and control so that funds linked to royalties from natural resources are not diverted through poor budgetary practices to either illegal armed groups or the corrupt.

In such circumstances, there is no question that achieving peace may be both a cause and effect of the situations faced by the country as a result of global economic forces and its related institutionalism. ■

**THE STUDY SHOWED THAT INCREASED PRICES OF CAPITAL-INTENSIVE PRODUCTS INCREASE THE RETURN ON CAPITAL, STIMULATING ARMED ACTORS TO TRY TO VIOLENTLY APPROPRIATE THIS INCREASED INCOME FROM INVESTMENT**