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The Impacts of Commodity Price Volatility and the Terms of Trade on Economic Well-Being

In June 2014, West Texas Intermediate Crude Oil sold for $107 per barrel, but a year later the price was $59 and in the week of August 17-21, 2015 it sold for $42.[1] Comparable price variation has hit a variety of commodities, notably coal, iron ore and copper. In regions (e.g. Queensland, Alberta) and countries (e.g. Australia, Canada) heavily dependent on producing these commodities, employment, output, government revenues and asset prices have been greatly affected – what is the impact of this volatility on economic well-being?

Commodity price volatility is more frequent and larger in amplitude than other international price trends, but the more general issue is the impact of changing terms of trade on well-being. In much of the literature on trends in economic and social well-being it has been implicitly assumed that positive or negative trends in well-being result from the decisions of local actors and institutions. However, in any given place some fraction of observed changes in social and economic well-being simply depend on shifts in relative international prices which are beyond the control of any individual nation or region. Around the world, international trade has increased as a percentage of economic activity, which implies that changing relative prices for exports and imports has increasing potential for impacts on economic well-being. In a globalized world, what percentage of observed changes in well-being in particular countries or regions just depended on shifts in their terms of trade?

This paper will use OECD data on nations and Canadian data on economic regions within Canada to decompose national and regional trends in the Index of Economic Well-Being into their domestic and terms of trade components.[2] It will decompose the Index of Economic WellBeing into its four components and analyze conceptually and empirically the impacts of historic terms of trade trends in general, and commodity price shocks in particular, on [1] per capita consumption, [2] aggregate wealth stocks, [3] economic security and [4] income distribution.

It can be expected that all four dimensions of well-being will be affected, to differing degrees, by terms of trade shocks but the economic security dimension is particularly relevant to the issues addressed in the call for proposals for this session. The social insurance programs of the Welfare State provide a degree of economic security against the hazards of both idiosyncratic and

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[1] See http://www.eia.gov/dnav/pet/pet_pri_spt_s1_d.htm for time series data on a range of petroleum prices.
[2] Lars Osberg and Andrew Sharpe (2005) "How should we measure the 'Economic' Aspects of Well-Being?" The Review of Income and Wealth Series 51, Number 2, June 2005, pp. 311-336

covariant downside risks.[3] For risk-averse agents, this insurance is welfare-improving. In the Political Economy literature, the expansion of the welfare state has been ascribed both to deindustrialization and to governments needing political consent to dismantle the trade barriers that historically protected segments of the population.[4] Both hypotheses are based on the importance for political economy of insulating individual well-being from negative shocks, including terms of trade shocks, and both represent covariant risks to the economic well-being of workers. Since one can expect that countries and regions will differ in the degree to which economic security changes in the event of a covariant risk, the interesting issue will be the differences in welfare state design that can explain differences in the degree to which economic security changes for a given shock to the terms of trade.

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[3]For example, Unemployment insurance replaces part of the wages lost when plants close, which may happen even in good times (an idiosyncratic risk) and/or when jobs are lost during recessions (a covariant risk). Part of the rationale for state provision of unemployment insurance is the infeasibility of private insurance when risks cannot be pooled across potential claims, due to covariance.

[4]See, for example, Iversen (2001) ''The Dynamics of Welfare State Expansion: Trade Openness, Deindustrialization and Partisan Politics'' in Paul Pierson, ed., The New Politics of the Welfare State. Oxford: Oxford University Press.