The scarring effects of deep contractions

**Author:**David Aikman, Mathias Drehmann, Mikael Juselius, Xiaochuan Xing

**Summary**

**Focus**

In the last two decades, the global economy has experienced several major contractions that were characterised by scarring effects. The Great Financial Crisis is the prime example. More recently, the deep recessions following the outbreak of the Covid-19 pandemic and the economic fallout from the Russian invasion of Ukraine have also raised the fears of long-term scarring. At the same time, we still know little about how scarring is caused, and the circumstances under which it becomes more probable, even though these are critical questions for both policymakers and researchers.

**Contribution**

We develop a new statistical test for scarring based on the properties of long-horizon growth rates. In this simple and intuitive approach, we define the size of a contraction by its percentile in the (standardised) annual real GDP growth distribution. We then calculate multi-year real GDP growth rates (up to 10 years). If contractions have only transitory effects, GDP will converge back to trend and we will observe no significant difference in long-term growth rates from the origin of the contraction vis-a-vis the rest of the sample. In contrast, if a contraction causes scarring, long-term growth rates will remain depressed relative to other periods, regardless of the horizon.

**Findings**

We find significant scarring effects but only for deep contractions. In particular, contractions below the 20th percentile in the GDP distribution have highly persistent costs. This phenomenon is not present for less severe contractions or expansions, the effects of which fade out in line with the forecast horizon. Our findings are economically significant: real GDP growth in the 10 years after very severe contractions is almost one standard deviation weaker than otherwise, which is equivalent to a 4.25% drop in GDP for an average advanced economy.

Of particular interest is our second key finding: the potential for scarring reflects the size of the contraction and is independent of whether the contraction was caused by a financial crisis, a sharp monetary policy tightening to combat high inflation or a supply shock caused by steep increases in energy prices. Contractions associated with supply shocks caused by energy market disruptions have the largest long-term effects.

**Abstract**

We find that deep contractions have highly persistent scarring effects, depressing the level of GDP at least a decade hence. Drawing on a panel of 24 advanced and emerging economies from 1970 to the present, we show that these effects are nonlinear and asymmetric: there is no such persistence following less severe contractions or large expansions. While scarring after financial crises is well known, it also occurred after the deep contractions of the 1970s and 1980s that followed energy price shocks and restrictive monetary policy to combat high inflation. These results are very robust and have important implications for policy making and macro modelling.

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