How the Riksbank can contribute to climate policy

3 March 2020

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Carbon dioxide concentrations in the atmosphere over the last 800,000 years. Year zero represents 2019.

Source: Lüthi, D., et al., 2008 supplied by NOAA NCEI Paleoclimatology Program
The climate and its effect on the economy and the financial system

Climate-related risks can affect monetary policy – three different scenarios

What can the Riksbank do to contribute to more sustainable development
By how much will emissions increase? – two scenarios

The concentration of carbon-equivalent greenhouse gases in the atmosphere in two of the IPCC’s scenarios, RCP 8.5 (continued carbon emissions) and RCP 4.5 (reduced emissions).

Source: RCP Database (Version 2.0.5)
Substantial uncertainty over the effects of climate change

The graph shows the change in temperature, precipitation and sea level in the two IPCC scenarios. The figures illustrate the maximum, minimum and mean values.

Sources: SMHI scenario data and SMHI Klimatologi no. 41.
Climate change affects the economy

**PHYSICAL RISK**
- Gradual global warming
- Extreme weather events

**TRANSITION RISK**
- Adaptation to less fossil-based economy
  - Climate taxes
  - Tougher regulation
  - Changed consumption patterns

**COMPANIES, AGRICULTURE AND HOUSEHOLDS**
- Lower productivity
- Falling asset prices
- Lower profits

**FINANCIAL INSTITUTIONS**
- Tighter insurance requirements
- Investment losses
- Credit losses
- Increased risk weights
Adaptation to a less fossil-based economy is already under way

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Source: Macrobond
Climate policy should be designed to avoid extreme outcomes

Climate system particularly complex – substantial uncertainty and risk for extreme outcomes with huge costs

Decisions shrouded in uncertainty – “Good decisions on average” or “avoid really bad outcomes”

Insurance perspective – we should insure ourselves so that we avoid and reduce the consequences of extreme outcomes
The climate and its effect on the economy and the financial system

Climate-related risks can affect monetary policy – three different scenarios

What can the Riksbank do to contribute to more sustainable development
Climate change can affect monetary policy – three scenarios

- A temporary supply shock
- A slow structural change
- A severe economic crisis
The monetary policy toolbox is not exhausted

- **Liquidity support**
  - Loans to financial institutions to provide liquidity in a crisis

- **Policy rate**
  - But the interest rate is close to its *effective* lower bound

- **Other measures**
  - Purchase of housing and corporate bonds
  - “Forward guidance”
  - Loans to companies via banks
  - Foreign exchange interventions
Purchase of government bonds swells the Riksbank’s balance sheet

Source: The Riksbank
The climate and its effect on the economy and the financial system

Climate-related risks can affect monetary policy – three different scenarios

What can the Riksbank do to contribute to more sustainable development
The Riksbank’s role in climate work

- Research and analysis
- Financial sector regulation
- The Riksbank’s balance sheet
Minor losses with a high carbon tax
Per cent

Source: Hassler, Krusell and Olovsson (2018)
The Riksbank’s role in climate work

- Research and analysis
- Financial sector regulation
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How sustainable are the foreign exchange reserves?

Emissions as a share of GDP

Direct greenhouse gas emissions, excluding uptake and emission of greenhouse gases from land use, GHG (kt CO$_2$e)/GDP (USD million).

Sources: UNFCCC, OECD and Climate Watch.
Scope to broaden bond purchases

Outstanding volume of bonds issues in SEK millions

Sources: SCB, Kommuninvest, Covered Bond Label and the Riksbank
Central banks need to take the climate issue seriously

**From here strength and security**
- Independence of the Riksbank
- Focus on both business cycle and structural changes
- The Riksbank is taking the climate issue seriously

**Global price on carbon dioxide is the highest priority**
- Central banks can contribute the means within their mandates

**The Riksbank’s contribution**
- Research and analysis
- Cooperation with other authorities and international networks
- Continue work to review our assets
Thank you!