Figure 2.4.1. Stress Test of the Financial System and the Real Economy

1. Capital Adequacy Ratio
(Percent)
—Baseline —Market liquidity shock

2. Price
(Index, fundamental value = 1)
—Baseline —Market liquidity shock

3. Leverage
(Assets/equity)
—Baseline —Market liquidity shock

4. Price Volatility
(Percent)
—Baseline —Market liquidity shock

5. Growth
(Percent)
—Baseline —Market liquidity shock

6. Credit Growth
(Percent)
—Baseline —Market liquidity shock
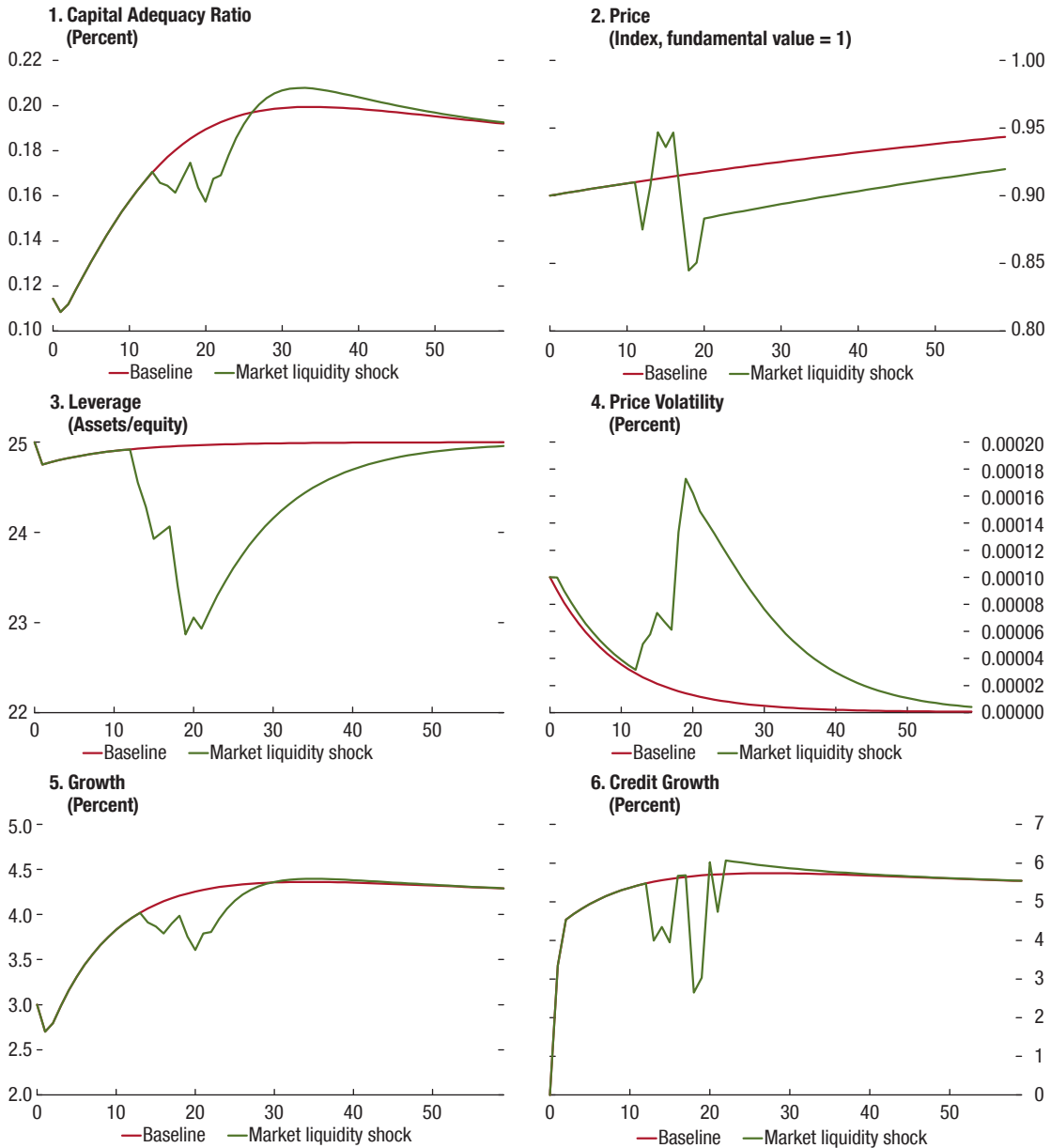
Source: IMF staff estimates.
Note: This figure illustrates the dynamics of the banking sector, the securities market, and the real economy under a baseline scenario and a market liquidity shock scenario. The following variables are shown: *Capital adequacy ratio* of the banking system subject to a risk-based capital regulatory framework. *Price* reflects the market price of securities with a fundamental value of 1. *Leverage* denotes the equilibrium leverage of the banking system under a time-varying market-funding constraint that is tighter the higher the asset price volatility. *Price volatility* shows the volatility of the security, which follows a stochastic process with an autoregression coefficient of 0.9. *Growth* denotes GDP growth. *Credit growth* represents aggregate credit growth. The dynamics of the system are triggered by initial subdued credit growth at $t = 0$. Low initial credit growth depresses real GDP, increases credit risk, pushes up risk-weighted assets, lowers maximum available leverage, and erodes banks' capital adequacy ratios. As banks optimize credit supply, GDP growth recovers, asset prices trend up toward fundamentals, banks' capital adequacy ratios increase, and the economy shifts toward a steady state. The market liquidity shock is prompted by redemption pressure mounting on asset managers who are forced to sell their asset holdings over the time period t from 12 to 20. Asset managers' impaired liquidity leads to higher asset price volatility (market shock), decreases banks' maximum allowable leverage (funding shock), leads to a credit squeeze (credit shock), and depresses GDP growth (macro shock).