Appendix

for the paper

"Does High Volatility Increase Connectedness? A Study of Asian Equity Markets"

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Figures A.1 and A.2 show robustness checks for the two-step gIRF originally shown in Figure 2 in the main text of the paper. The gIRF shows how the jSOI responds due to volatility shocks from each of the Asian equity markets. This impulse response analysis shows that volatility does increase connectedness as measured by the jSOI. The original gIRF results set the first step time horizon to $H = 30$ weeks and set the window length to $W = 100$ weeks. However, we wish to explore how robust the gIRF results are to those choices.

To explore how robust the gIRF is to the choice of the first step time horizon, we redo the two-step analysis and recompute the gIRF for different horizons ranging from $H = 10$ to $H = 60$. The blue shaded regions in Figure A.1 shows the maximum and minimum gIRF at each h computed over the range of $H = 10$ to $H = 60$. The solid blue line in Figure A.1 shows the gIRF for $H = 30$, matching the time horizon used in the main text of the paper. As Figure A.1 illustrates, the gIRF results are particularly robust when altering the first step time horizon H. Indeed, altering the first step time horizon only causes negligible changes to the gIRF results.

To explore how robust the gIRF is to the choice of the window length, we redo the two-step analysis and recompute the gIRF for different window lengths ranging from $W = 80$ to $W = 120$. The blue shaded regions in Figure A.2 shows the maximum and minimum gIRF at each h computed over the range of $W = 80$ to $W = 120$. The solid blue line in Figure A.2 shows the gIRF for $W = 100$, matching the window length in the main text of the paper. As Figure A.2 illustrates, changing the window length can somewhat alter the magnitude of the gIRF. However, in general, the gIRF results are adequately robust to changes in the window length W.

Lastly, it should be noted that the robustness checks of Figures A.1 and A.2 show how sensitive the results are to changing W or the first step H. These are *not* confidence intervals.
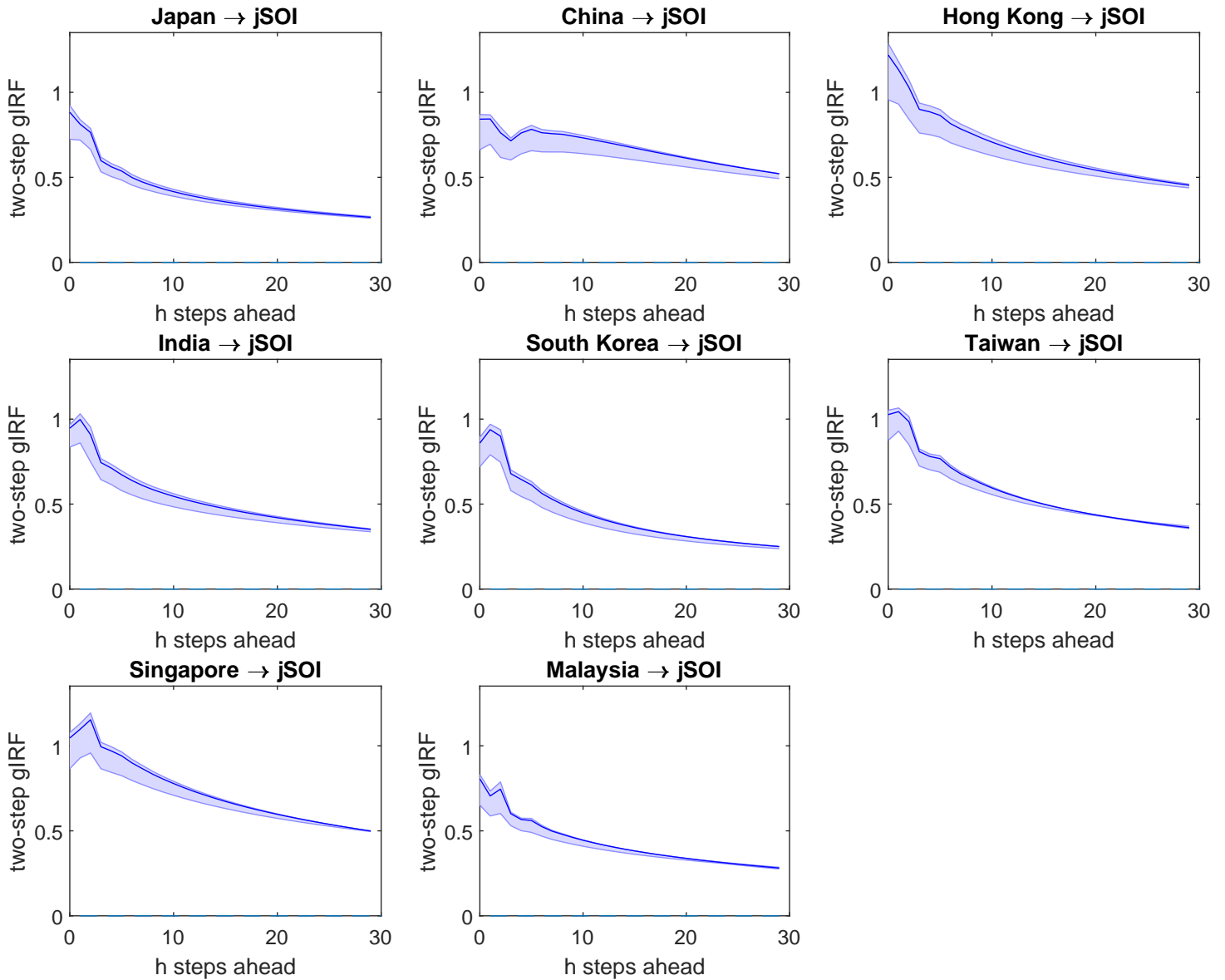
Figure A.1: Robustness checks for two-step gIRF showing how a volatility shock impacts the jSOI. The solid line shows the gIRF with the first step time horizon as $H = 30$ and window length as $W = 100$ (akin to Figure 2 in the main text of the paper). The shaded region shows the range of the gIRF when we recalculate the results with varying first step time horizons ranging from $H = 10$ to $H = 60$.
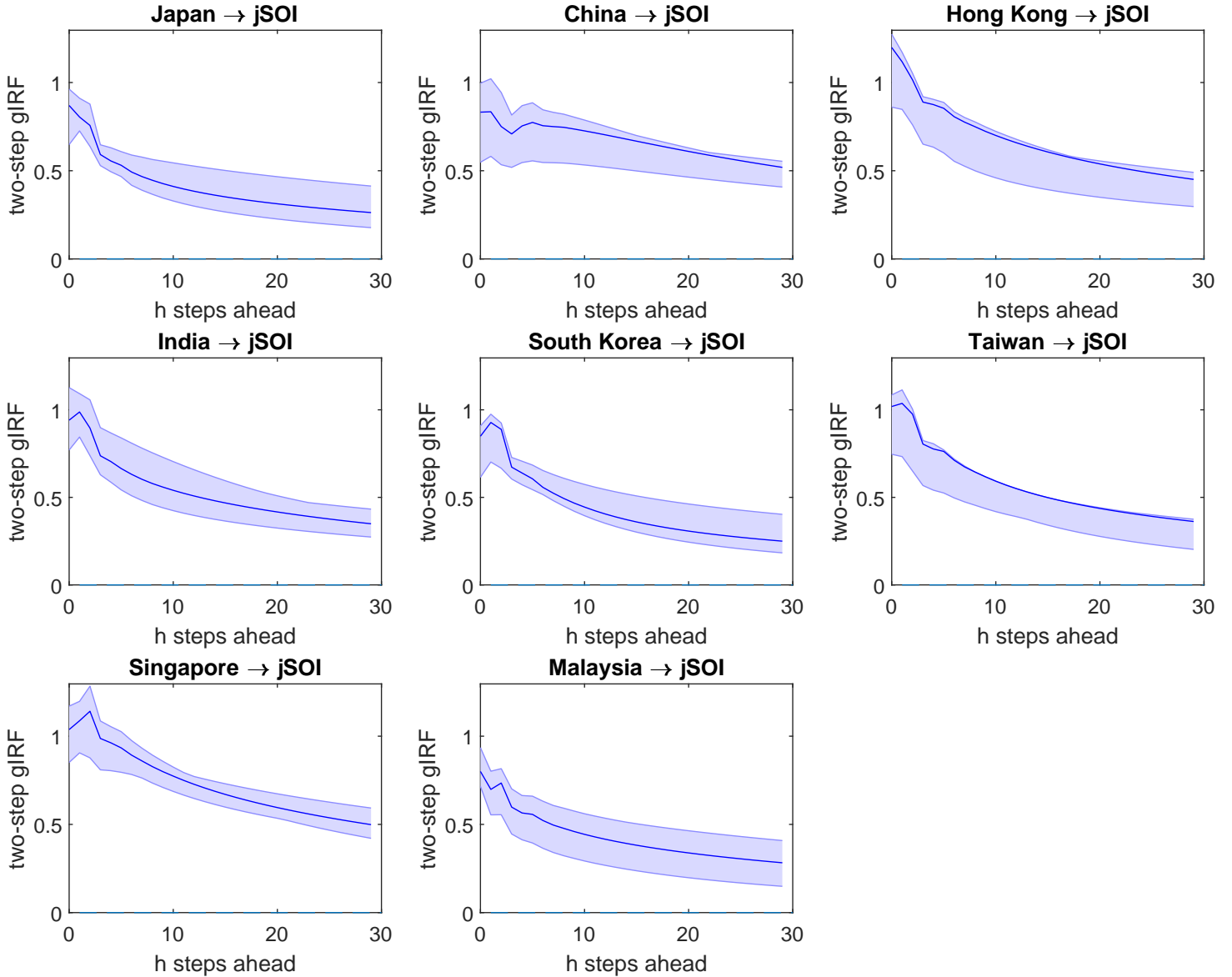
Figure A.2: Robustness checks for two-step gIRF showing how a volatility shock impacts the jSOI. The solid line shows the gIRF with the first step time horizon as $H = 30$ and window length as $W = 100$ (akin to Figure 2 in the main text of the paper). The shaded region shows the range of the gIRF when we recalculate the results with varying window lengths ranging from $W = 80$ to $W = 120$.

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