

Online Supplemental Appendix to: Uniform Nonparametric Inference for Spatially Dependent Panel Data

Jia Li* Zhipeng Liao[†] Wenyu Zhou[‡]

(For Online Publication)

Abstract

This supplemental appendix contains robustness checks for the empirical analysis in the main text with respect to: (1) the exclusion of the housing starts variable; (2) the number of approximating functions used in nonparametric series regressions. The results show that our empirical findings are robust to these changes.

*School of Economics, Singapore Management University, Singapore; e-mail: jiali@smu.edu.sg.

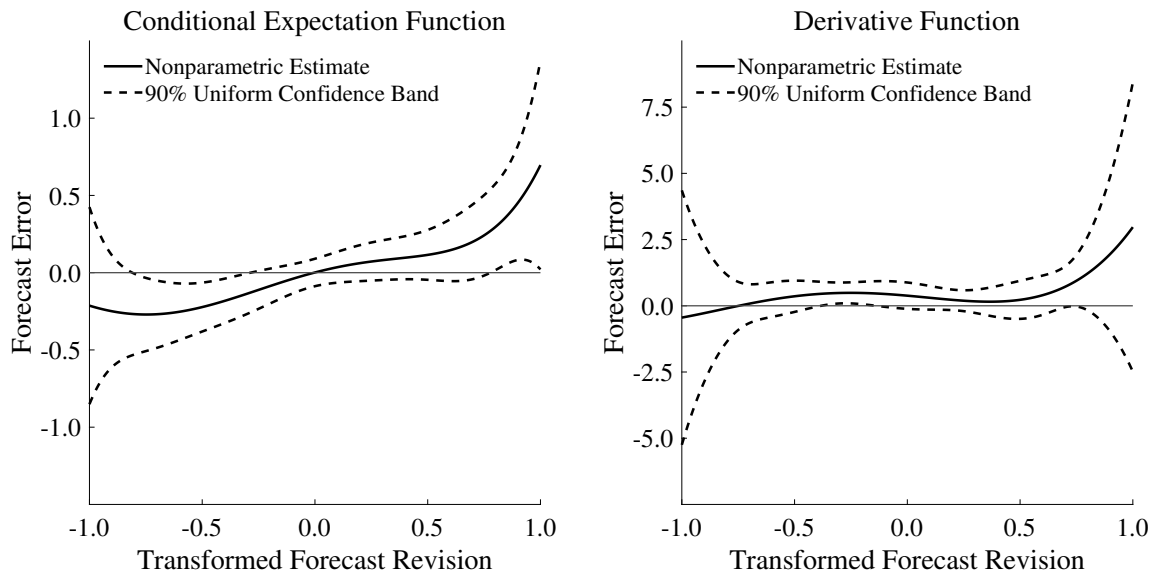
[†]Department of Economics, UCLA, Log Angeles, CA 90095; e-mail: zhipeng.liao@econ.ucla.edu.

[‡]International Business School, Zhejiang University, Haining, Zhejiang 314400, China; e-mail: wenyuzhou@intl.zju.edu.cn.

A.1 Robustness to the exclusion of housing starts

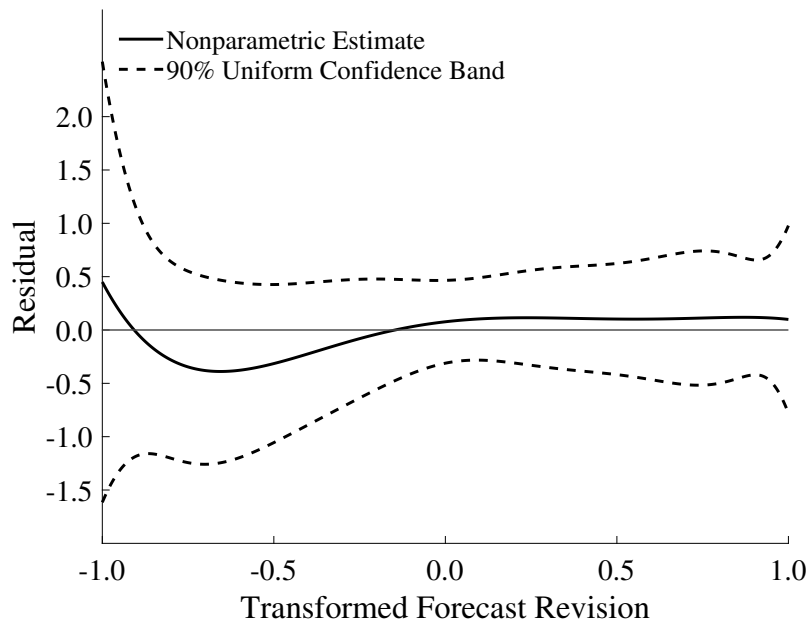
The empirical estimates of Coibion and Gorodnichenko (2015) suggest that information rigidity for the housing starts variable may be larger than that of the other variables. This may justify excluding the housing starts variable from the pooled estimation. Figures A.1-A.4 repeat the same analysis as Figures 1-4 in the main text, except that the housing starts variable is excluded from the sample. Our main empirical findings remain unchanged.

Figure A.1: Nonparametric Estimation of Information Rigidity



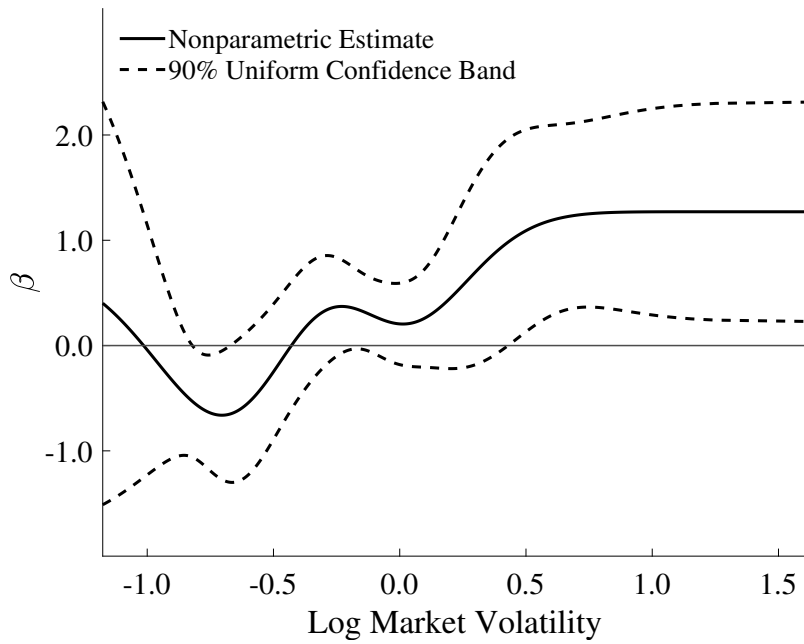
Note: This figure is constructed in a similar way as Figure 1 in the main text, except that the time series of housing starts is excluded the sample.

Figure A.2: Test for Linear Specification



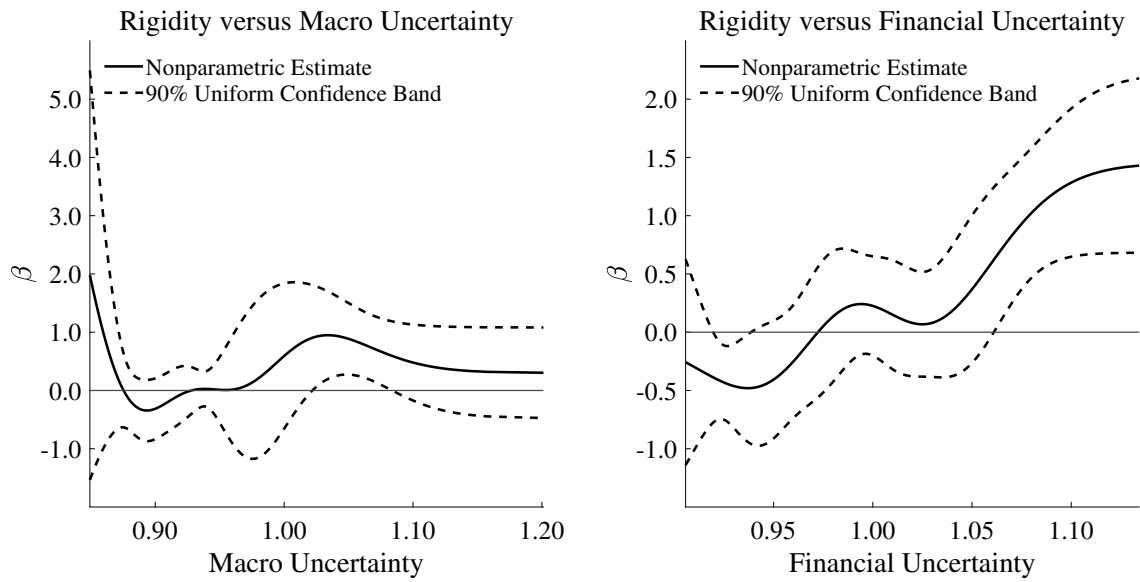
Note: This figure is constructed in a similar way as Figure 2 in the main text, except that the time series of housing starts is excluded the sample.

Figure A.3: Information Rigidity and Stock Market Volatility



Note: This figure is constructed in a similar way as Figure 3 in the main text, except that the time series of housing starts is excluded the sample.

Figure A.4: Information Rigidity and Uncertainty



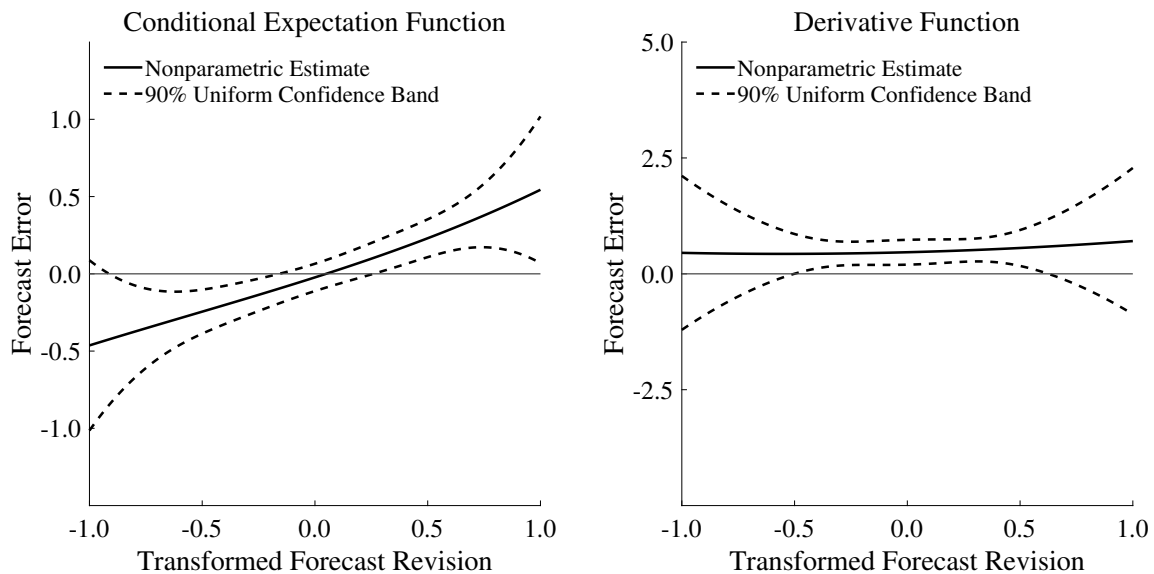
Note: This figure is constructed in a similar way as Figure 4 in the main text, except that the time series of housing starts is excluded the sample.

A.2 Robustness with respect to the number of series terms

In the empirical analysis of the main text, we conduct nonparametric series regression by fitting a fifth-order Legendre polynomial, so that the number of series terms is $m = 6$. In this section, we check whether the empirical findings in the main text are sensitive to this choice. We repeat the same analysis of Figures 1-4 in the main text for a range of alternative choices including $m = 4$, $m = 8$, and $m = 10$. These results are presented in Figures A.5-A.16. Our main empirical findings are largely robust with respect to these perturbations.

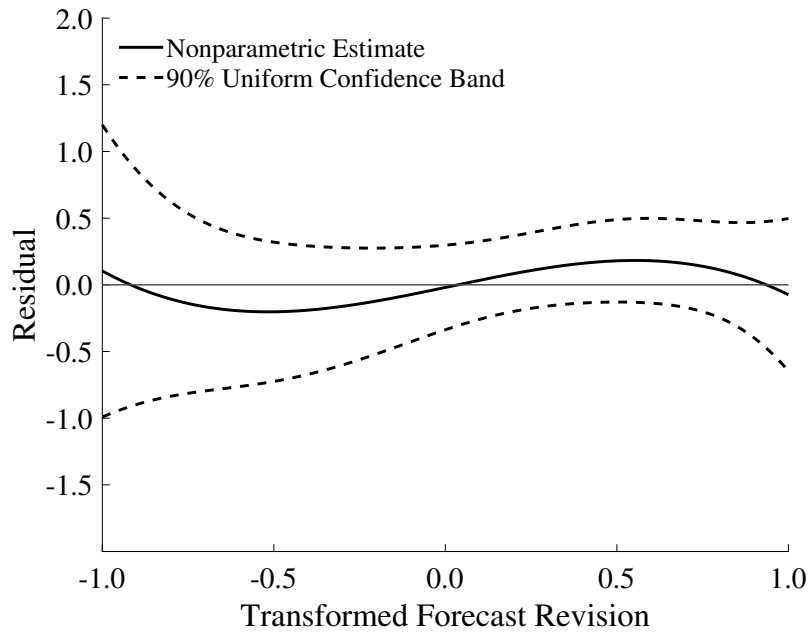
A.2.1 $m = 4$

Figure A.5: Nonparametric Estimation of Information Rigidity



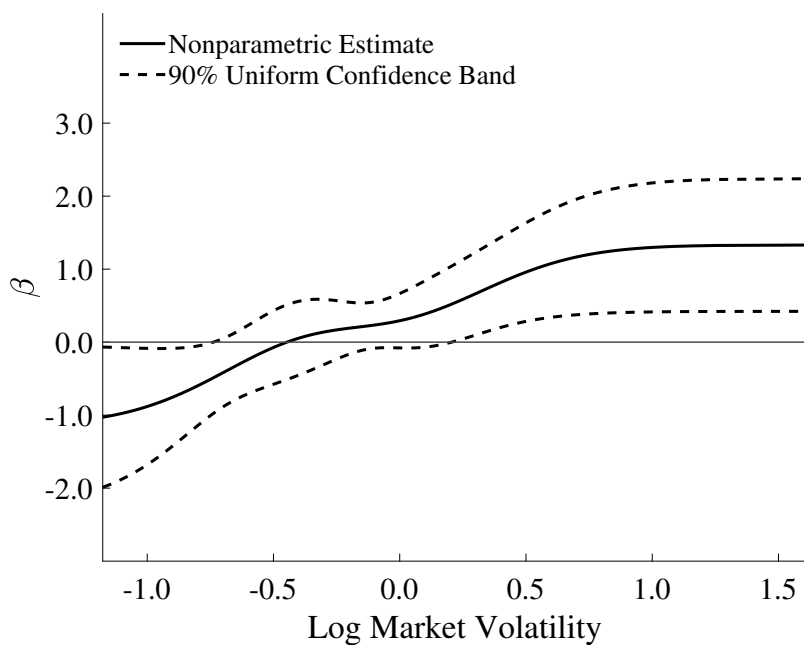
Note: This figure is constructed in a similar way as Figure 1 in the main text, except that the nonparametric series estimation is implemented using Legendre polynomials up to the third order.

Figure A.6: Test for Linear Specification



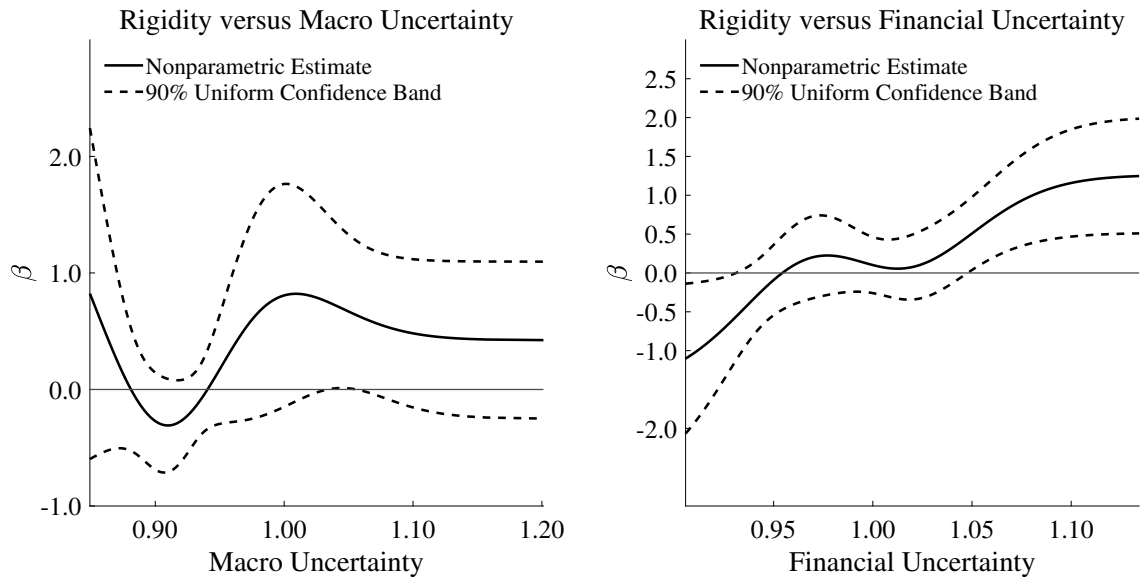
Note: This figure is constructed in a similar way as Figure 2 in the main text, except that the nonparametric series estimation is implemented using Legendre polynomials up to the third order.

Figure A.7: Information Rigidity and Stock Market Volatility



Note: This figure is constructed in a similar way as Figure 3 in the main text, except that the nonparametric series estimation is implemented using Legendre polynomials up to the third order.

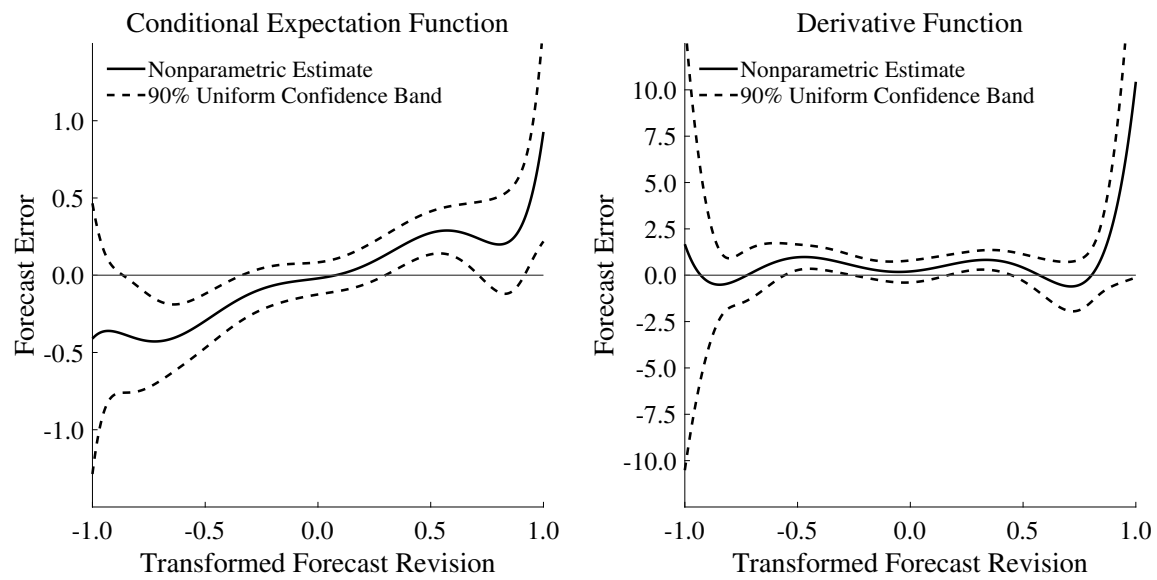
Figure A.8: Information Rigidity and Uncertainty



Note: This figure is constructed in a similar way as Figure 4 in the main text, except that the nonparametric series estimation is implemented using Legendre polynomials up to the third order.

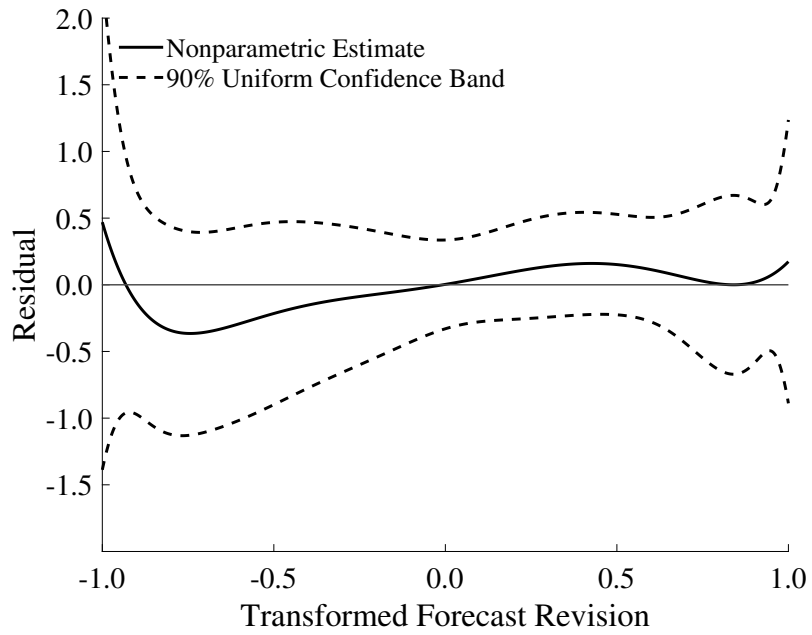
A.2.2 $m = 8$

Figure A.9: Nonparametric Estimation of Information Rigidity



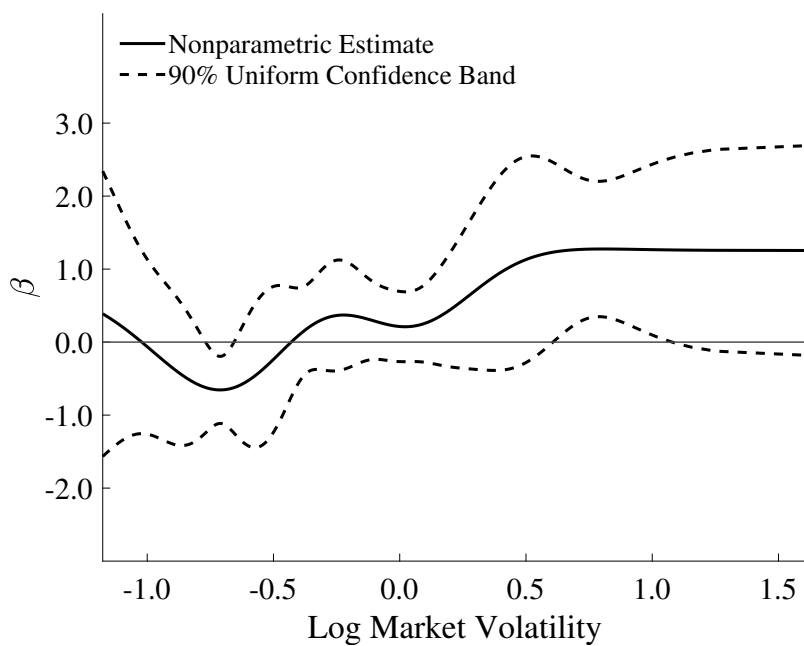
Note: This figure is constructed in a similar way as Figure 1 in the main text, except that the nonparametric series estimation is implemented using Legendre polynomials up to the seventh order.

Figure A.10: Test for Linear Specification



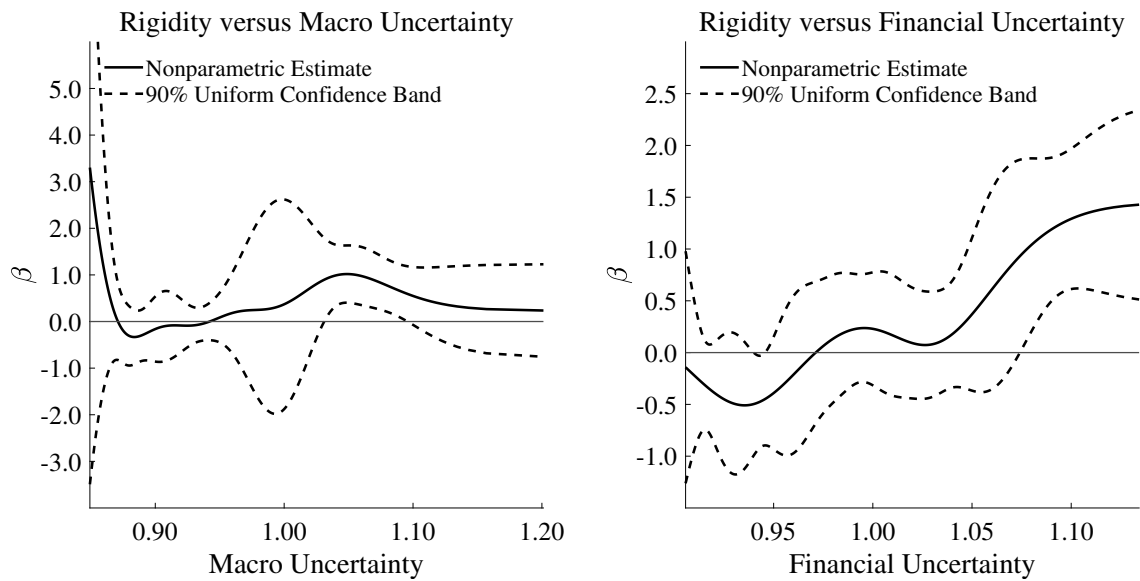
Note: This figure is constructed in a similar way as Figure 2 in the main text, except that the nonparametric series estimation is implemented using Legendre polynomials up to the seventh order.

Figure A.11: Information Rigidity and Stock Market Volatility



Note: This figure is constructed in a similar way as Figure 3 in the main text, except that the nonparametric series estimation is implemented using Legendre polynomials up to the seventh order.

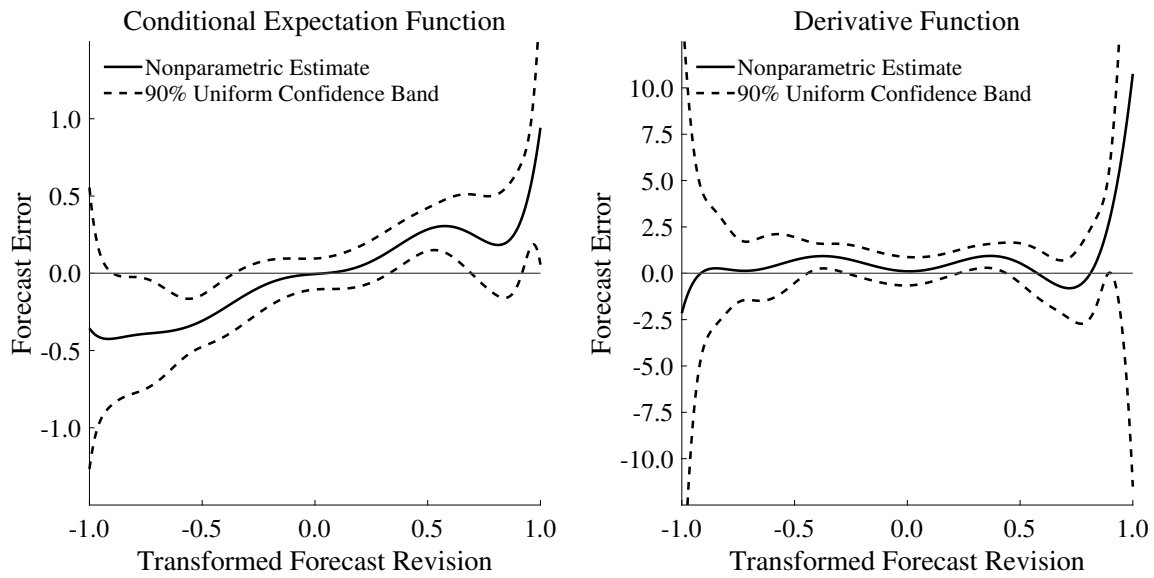
Figure A.12: Information Rigidity and Uncertainty



Note: This figure is constructed in a similar way as Figure 4 in the main text, except that the nonparametric series estimation is implemented using Legendre polynomials up to the seventh order.

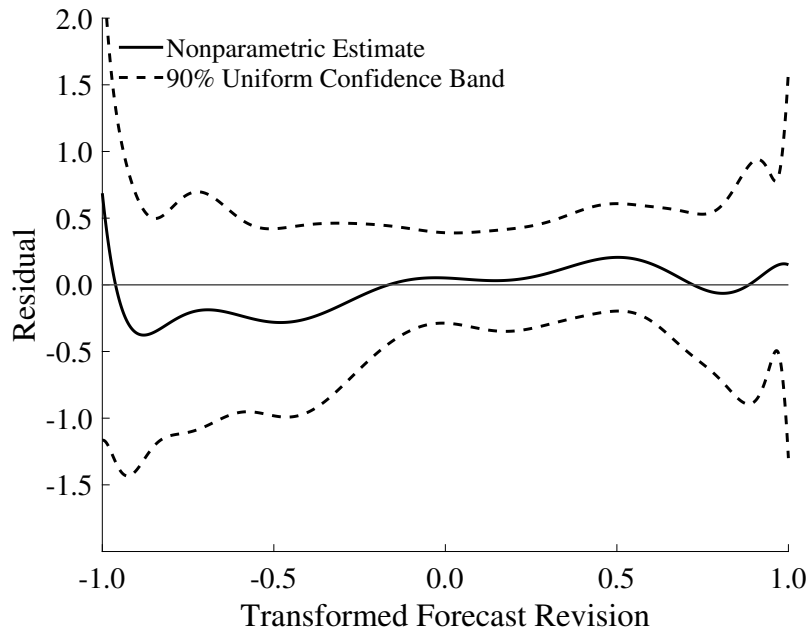
A.2.3 $m = 10$

Figure A.13: Nonparametric Estimation of Information Rigidity



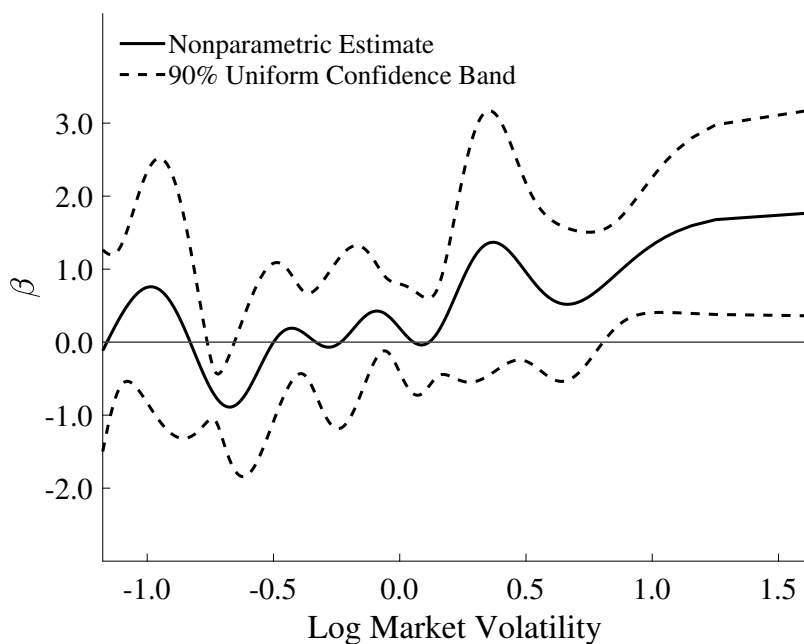
Note: This figure is constructed in a similar way as Figure 1 in the main text, except that the nonparametric series estimation is implemented using Legendre polynomials up to the ninth order.

Figure A.14: Test for Linear Specification



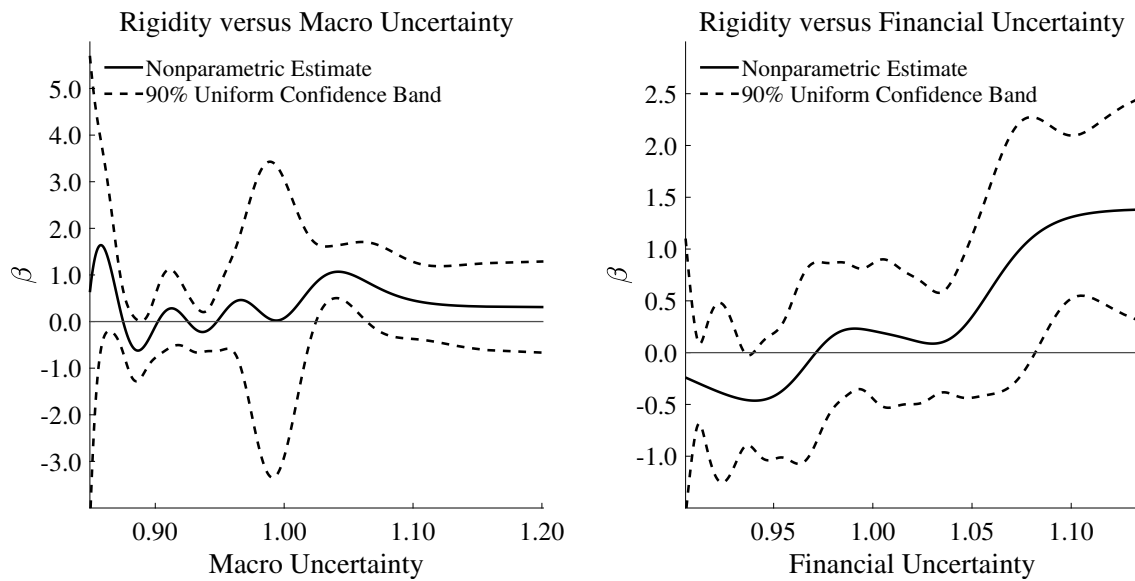
Note: This figure is constructed in a similar way as Figure 2 in the main text, except that the nonparametric series estimation is implemented using Legendre polynomials up to the ninth order.

Figure A.15: Information Rigidity and Stock Market Volatility



Note: This figure is constructed in a similar way as Figure 3 in the main text, except that the nonparametric series estimation is implemented using Legendre polynomials up to the ninth order.

Figure A.16: Information Rigidity and Uncertainty



Note: This figure is constructed in a similar way as Figure 4 in the main text, except that the nonparametric series estimation is implemented using Legendre polynomials up to the ninth order.

References

COIBION, O., AND Y. GORODNICHENKO (2015): “Information rigidity and the expectations formation process: A simple framework and new facts,” *American Economic Review*, 105(8), 2644–78.