Replication files for

„Time–Frequency Analysis of Cryptocurrency Attention“

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1. Codes written by Svatopluk Kapounek, email: svatopluk@kapounek.cz, website: www.kapounek.cz
2. This replication code was written with Matlab R2020a, full university licence

Data Files:

1. prices_bitcoin.txt, prices_ethereum.txt, prices_litecoin.txt: daily USD prices and volumes, datasource: www.CryptoDataDownload.com
2. svi_daily.txt, svi_monthly.txt: Search Volume Index on daily and monthly basis, datasource: trends.google.com
3. epu.txt: Global Economic Policy Uncertainty Index, datasource: https://www.policyuncertainty.com/
4. sp500.txt: SP 500 daily index
5. data01.mat: cryptocurrency prices and volumes extended for SVI for the all exchanges and all keywords. This file serves as the main files which contains all basic variables for the computations.
6. epu.mat and sp500. mat: these files contain additional variables (Economic Policy Uncertainty Index and S&P50 Index)

Codes:

1. 01_ts_a_cwt.m: this file contains basic figure creation in time domain and continuous wavelet transformation of the cryptocurrency returns. It can be used to produce following

figures: Figure 1 (files: fig01a_bitcoin.pdf, fig01b_ethereum.pdf, fig01c_litecoin), Figure 2 (files: fig02a_bitcoin.pdf, fig02b_ethereum.pdf, fig02c_litecoin.pdf)

2. 02_modwt_correl.m: the file employs discrete wavelet transform and MODWT. It computes multiscale comovement presented in the Table A3. It also serves for creation detailed lag structures presented in the following figures: Figure 6 (file: fig06.pdf), Figure A4 (files: figA04a_bitcoin.pdf, figA04b_ethereum.pdf, figA04c_litecoin.pdf)
3. 03_coherency_svi.m: this file contains code for wavelet coherency computation of cryptocurrency returns and SVI. It can be used to produce following figures: Figure 3 (files: fig03a_bitcoin.pdf, fig03b_ethereum.pdf, fig03c_litecoin.pdf), Figure A1 (files: figA01a_bitcoin.pdf, figA01b_ethereum.pdf, figA01c_litecoin.pdf)
4. 04_coherency_sp500_epu: this file constains code for wavelet coherency computation of cryptocurrency returns, EPU and S&P500. It can be used to produce following figures: Figure 4 (file: fig04.pdf), Figure 5 (file: fig05.pdf), Figure A2 (files: figA02a_bitcoin.pdf, figA02b_ethereum.pdf, figA02c_litecoin.pdf), Figure A3 (files: figA03a_bitcoin.pdf, figA03b_ethereum.pdf, figA03c_litecoin.pdf)