

**Submission Number:EB-16-00863**

Supplemental Appendix

Supplemental Appendix: Data profile and bootstrapped regressions

Table a 1: Data profile

| No. | Stock Indexes                    | Market        | Series Lookup | Start      | End       |
|-----|----------------------------------|---------------|---------------|------------|-----------|
| 1   | AEX ALL SHARE                    | Netherlands   | NLALSHR       | 1994/12/29 | 2016/10/6 |
| 2   | AEX INDEX (AEX)                  | Netherlands   | AMSTEOE       | 1983/1/6   | 2016/10/6 |
| 3   | AMMAN SE FINANCIAL MARKET        | Jordan        | AMMANFM       | 1988/11/24 | 2016/10/6 |
| 4   | ARGENTINA MERVAL                 | Argentina     | ARGMERV       | 1989/10/19 | 2016/10/6 |
| 5   | ATHEX COMPOSITE                  | Greece        | GRAGENL       | 1988/10/6  | 2016/10/6 |
| 6   | ATX - AUSTRIAN TRADED INDEX      | Austria       | ATXINDX       | 1986/1/9   | 2016/10/6 |
| 7   | BANGKOK S.E.T.                   | Thailand      | BNGKSET       | 1975/5/1   | 2016/10/6 |
| 8   | BEL 20                           | Belgium       | BGBEL20       | 1990/1/4   | 2016/10/6 |
| 9   | BIST NATIONAL 100                | Turkey        | TRKISTB       | 1988/1/7   | 2016/10/6 |
| 10  | BOTSWANA SE DMS COS. IDX.        | Other African | BOTDCII       | 2001/5/3   | 2016/10/6 |
| 11  | BUDAPEST (BUX)                   | Hungary       | BUXINDX       | 1991/1/3   | 2016/10/6 |
| 12  | BULGARIA SE SOFIX                | Bulgaria      | BSSOFIX       | 2000/10/26 | 2016/10/6 |
| 13  | CHILE SANTIAGO SE GENERAL (IGPA) | Chile         | IGPAGEN       | 1987/1/8   | 2016/10/6 |
| 14  | COLOMBIA IGBC INDEX              | Colombia      | COLIGBC       | 2001/7/5   | 2016/10/6 |
| 15  | COLOMBO SE ALL SHARE             | Sri Lanka     | SRALLSH       | 1985/1/3   | 2016/10/6 |
| 16  | CROATIA CROBEX                   | Croatia       | CTCROBE       | 1997/1/2   | 2016/10/6 |
| 17  | CYPRUS GENERAL                   | Cyprus        | CYPMAPM       | 2004/9/9   | 2016/10/6 |
| 18  | DAX 30 PERFORMANCE               | Germany       | DAXINDX       | 1964/12/31 | 2016/10/6 |
| 19  | DJGL WORLD \$                    | World         | DJWRDL\$      | 1992/1/2   | 2016/10/6 |
| 20  | DOW JONES COMPOSITE 65 STOCK AVE | United States | DJCMP65       | 1964/12/31 | 2016/10/6 |
| 21  | DOW JONES INDUSTRIALS            | United States | DJINDUS       | 1955/10/6  | 2016/10/6 |
| 22  | DOW JONES UTILITIES              | United States | DJUTILS       | 1964/12/31 | 2016/10/6 |
| 23  | EGYPT HERMES FINANCIAL           | Egypt         | EGHFINC       | 1995/1/5   | 2016/10/6 |
| 24  | EURO STOXX                       | Euro          | DJEURST       | 1987/1/1   | 2016/10/6 |
| 25  | EURO STOXX 50                    | Euro          | DJES50I       | 1987/1/1   | 2016/10/6 |

|    |                                 |                      |          |            |           |
|----|---------------------------------|----------------------|----------|------------|-----------|
| 26 | EURONEXT 100                    | Europe               | EUNX100  | 2000/1/6   | 2016/10/6 |
| 27 | FRANCE CAC 40                   | France               | FRCAC40  | 1987/7/9   | 2016/10/6 |
| 28 | FTSE 100                        | United Kingdom       | FTSE100  | 1978/2/2   | 2016/10/6 |
| 29 | FTSE 250                        | United Kingdom       | FTSE250  | 1986/1/2   | 2016/10/6 |
| 30 | FTSE ALL SHARE                  | United Kingdom       | FTALLSH  | 1962/4/12  | 2016/10/6 |
| 31 | FTSE ALL WORLD \$               | AW All World         | AWWRLD\$ | 1994/1/6   | 2016/10/6 |
| 32 | FTSE BURSA MALAYSIA KLCI        | Malaysia             | FBMKLCI  | 1980/1/3   | 2016/10/6 |
| 33 | FTSE CHINA B 35                 | China                | XINB35I  | 2001/7/26  | 2016/10/6 |
| 34 | FTSE EUROTOP 100 E              | Europe               | FTEU100  | 1980/1/10  | 2016/10/6 |
| 35 | FTSE GLOBAL 100 (\$)            | Global               | FTSEGL\$ | 1995/1/5   | 2016/10/6 |
| 36 | FTSE LATIBEX ALL SHARE          | Other South American | FTSELAT  | 1999/12/2  | 2016/10/6 |
| 37 | FTSE MIB INDEX                  | Italy                | FTSEMIB  | 1998/1/1   | 2016/10/6 |
| 38 | FTSE MULTINATIONALS (\$)        | Multinationals       | FTSEMU\$ | 1994/1/6   | 2016/10/6 |
| 39 | FTSE TECHMARK FOCUS (£)         | United Kingdom       | FTTM100  | 1996/1/4   | 2016/10/6 |
| 40 | FTSE/ATHEX LARGE CAP            | Greece               | FTASE20  | 1997/9/25  | 2016/10/6 |
| 41 | FTSE/JSE ALL SHARE              | South Africa         | JSEOVER  | 1995/7/6   | 2016/10/6 |
| 42 | FTSEUROFIRST 100 E              | Europe               | FTEFC1E  | 1994/1/6   | 2016/10/6 |
| 43 | FTSEUROFIRST 80 E               | Europe               | FTEF80E  | 1994/1/6   | 2016/10/6 |
| 44 | HANG SENG                       | Hong Kong            | HNGKNGI  | 1964/8/6   | 2016/10/6 |
| 45 | HANG SENG CHINA AFFILIATED CORP | Hong Kong            | HKHCHAF  | 1993/1/7   | 2016/10/6 |
| 46 | HANG SENG CHINA ENTERPRISES     | Hong Kong            | HKHCHIE  | 1993/7/15  | 2016/10/6 |
| 47 | IBEX 35                         | Spain                | IBEX35I  | 1987/1/8   | 2016/10/6 |
| 48 | IDX COMPOSITE                   | Indonesia            | JAKCOMP  | 1983/4/7   | 2016/10/6 |
| 49 | IRELAND SE OVERALL (ISEQ)       | Ireland              | ISEQUIT  | 1983/1/6   | 2016/10/6 |
| 50 | ISRAEL TA 100                   | Israel               | ISTA100  | 1987/4/23  | 2016/10/6 |
| 51 | JAMAICA SE MAIN INDEX           | Jamaica              | JAMSEIN  | 1987/6/11  | 2016/10/6 |
| 52 | KARACHI SE 100                  | Pakistan             | PKSE100  | 1989/1/5   | 2016/10/6 |
| 53 | KENYA NAIROBI SE (NSE20)        | Kenya                | NSEINDX  | 1990/1/11  | 2016/10/6 |
| 54 | KOREA SE COMPOSITE (KOSPI)      | South Korea          | KORCOMP  | 1974/12/26 | 2016/10/6 |
| 55 | KOREA SE KOSPI 200              | South Korea          | KOR200I  | 1990/1/4   | 2016/10/6 |
| 56 | KUWAIT KIC GENERAL              | Kuwait               | KWKICGN  | 1994/12/29 | 2016/10/6 |

|    |                             |                       |          |            |           |
|----|-----------------------------|-----------------------|----------|------------|-----------|
| 57 | LEBANON BLOM                | Middle East IMF       | LBBLOMI  | 1996/1/25  | 2016/10/6 |
| 58 | LUXEMBOURG SE GENERAL       | Luxembourg            | LUXGENI  | 1999/1/7   | 2016/10/6 |
| 59 | MADRID SE GENERAL (IGBM)    | Spain                 | MADRIDI  | 1974/1/3   | 2016/10/6 |
| 60 | MALTA SE MSE                | Malta                 | MALTAIX  | 1995/12/28 | 2016/10/6 |
| 61 | MDAX FRANKFURT              | Germany               | MDAXIDX  | 1987/12/31 | 2016/10/6 |
| 62 | MEXICO IPC (BOLSA)          | Mexico                | MXIPC35  | 1988/1/7   | 2016/10/6 |
| 63 | MOROCCO ALL SHARE (MASI)    | Morocco               | MASIDX   | 2002/1/3   | 2016/10/6 |
| 64 | MSCI AC WORLD               | AC World              | MSACWF\$ | 1987/12/31 | 2016/10/6 |
| 65 | MSCI EAFE                   | EAFE                  | MSEAFE\$ | 1970/1/1   | 2016/10/6 |
| 66 | MSCI EM                     | Emerging Markets (EM) | MSEMKF\$ | 1987/12/31 | 2016/10/6 |
| 67 | MSCI EUROPE                 | Europe                | MSEROP\$ | 1970/1/1   | 2016/10/6 |
| 68 | MSCI PACIFIC                | Pacific               | MSPACF\$ | 1970/1/1   | 2016/10/6 |
| 69 | MSCI WORLD                  | World                 | MSWRLD\$ | 1970/1/1   | 2016/10/6 |
| 70 | NASDAQ 100                  | United States         | NASA100  | 1983/1/6   | 2016/10/6 |
| 71 | NASDAQ COMPOSITE            | United States         | NASCOMP  | 1971/2/11  | 2016/10/6 |
| 72 | NEXT 150                    | Europe                | EUNX150  | 2000/1/6   | 2016/10/6 |
| 73 | NIFTY 500                   | India                 | ICRI500  | 1991/1/3   | 2016/10/6 |
| 74 | NIKKEI 225 STOCK AVERAGE    | Japan                 | JAPDOWA  | 1955/10/6  | 2016/10/6 |
| 75 | NYSE COMPOSITE              | United States         | NYSEALL  | 1966/1/6   | 2016/10/6 |
| 76 | OMAN MUSCAT SECURITIES MKT. | Oman                  | OMANMSM  | 1996/10/24 | 2016/10/6 |
| 77 | OMX COPENHAGEN (OMXC)       | Denmark               | COSEASH  | 1996/1/4   | 2016/10/6 |
| 78 | OMX COPENHAGEN (OMXC20)     | Denmark               | DKKFXIN  | 1989/12/7  | 2016/10/6 |
| 79 | OMX HELSINKI (OMXH)         | Finland               | HEXINDX  | 1987/1/8   | 2016/10/6 |
| 80 | OMX ICELAND ALL SHARE       | Iceland               | ICEXALL  | 1992/12/31 | 2016/10/6 |
| 81 | OMX RIGA (OMXR)             | Latvia                | RIGSEIN  | 2000/1/6   | 2016/10/6 |
| 82 | OMX STOCKHOLM (OMXS)        | Sweden                | SWSEALI  | 1980/1/3   | 2016/10/6 |
| 83 | OMX STOCKHOLM 30 (OMXS30)   | Sweden                | SWEDOMX  | 1986/1/2   | 2016/10/6 |
| 84 | OMX TALLINN (OMXT)          | Estonia               | ESTALSE  | 1996/6/6   | 2016/10/6 |
| 85 | OMX VILNIUS (OMXV)          | Lithuania             | LVNVLSE  | 2000/1/6   | 2016/10/6 |
| 86 | OSLO EXCHANGE ALL SHARE     | Norway                | OSLOASH  | 1983/1/6   | 2016/10/6 |
| 87 | PHILIPPINE SE I(PSEi)       | Philippines           | PSECOMP  | 1986/1/2   | 2016/10/6 |

|     |                                  |                |          |            |           |
|-----|----------------------------------|----------------|----------|------------|-----------|
| 88  | PORTUGAL PSI ALL-SHARE           | Portugal       | POPSIGN  | 2004/5/20  | 2016/10/6 |
| 89  | PORTUGAL PSI-20                  | Portugal       | POPSI20  | 1992/12/31 | 2016/10/6 |
| 90  | PRAGUE SE PX                     | Czech Republic | CZPXIDX  | 1994/4/7   | 2016/10/6 |
| 91  | PRIME ALL SHARE (XETRA)          | Germany        | PRIMALL  | 2003/3/27  | 2016/10/6 |
| 92  | ROMANIA BET (L)                  | Romania        | RMBETRL  | 1997/9/25  | 2016/10/6 |
| 93  | RUSSELL 2000                     | United States  | FRUSSL2  | 1988/1/7   | 2016/10/6 |
| 94  | RUSSIA RTS INDEX                 | Russia         | RSRTSIN  | 1995/9/7   | 2016/10/6 |
| 95  | RUSSIAN MICEX INDEX              | Russia         | RSMICEX  | 1997/9/25  | 2016/10/6 |
| 96  | S&P 500 130/30 STRATEGY INDEX    | United States  | SP513ST  | 1996/11/21 | 2013/8/29 |
| 97  | S&P 500 BUYBACK \$               | United States  | SPBUYB\$ | 1994/1/27  | 2016/10/6 |
| 98  | S&P 500 COMPOSITE                | United States  | S&PCOMP  | 1964/1/2   | 2016/10/6 |
| 99  | S&P 500 COMPOSITE(16.00)         | United States  | SPCMP16  | 1990/8/9   | 2016/10/6 |
| 100 | S&P 500 DAILY RISK CONTROL 10%   | United States  | SPRC10\$ | 1998/12/31 | 2016/10/6 |
| 101 | S&P 500 DIVIDENDS ARISTOCRATS    | United States  | SP5DIAR  | 1995/12/28 | 2016/10/6 |
| 102 | S&P 500 DYNAMIC VEQTOR           | United States  | SP5DYV\$ | 2005/12/22 | 2016/10/6 |
| 103 | S&P 500 EQUAL WEIGHTED           | United States  | S&PEWEI  | 1990/1/4   | 2016/10/6 |
| 104 | S&P 500 GROWTH                   | United States  | SP05SGR  | 1975/2/6   | 2016/10/6 |
| 105 | S&P 500 HIGH BETA                | United States  | SP5HBIN  | 1990/11/22 | 2016/10/6 |
| 106 | S&P 500 HIGH QUALITY             | United States  | SPXQRUP  | 1997/4/17  | 2016/10/6 |
| 107 | S&P 500 INVERSE                  | United States  | S&P500I  | 2007/12/6  | 2016/10/6 |
| 108 | S&P 500 LOW VOLATILITY           | United States  | SP5LVIN  | 1990/11/22 | 2016/10/6 |
| 109 | S&P 500 SECURITIES LENDING INDEX | United States  | SP5SECL  | 2009/11/12 | 2016/10/6 |
| 110 | S&P 500 SHARIAH \$               | United States  | SP500S\$ | 2008/4/10  | 2016/10/6 |
| 111 | S&P 500 TR (1970)                | United States  | SP500TR  | 1970/2/5   | 2016/10/6 |
| 112 | S&P 500 VALUE                    | United States  | SP05SVA  | 1975/2/6   | 2016/10/6 |
| 113 | S&P 500/CITIGROUP PURE GROWTH    | United States  | SP05PGR  | 1995/7/6   | 2016/10/6 |
| 114 | S&P 500/CITIGROUP PURE VALUE     | United States  | SP05PVA  | 1995/7/6   | 2016/10/6 |
| 115 | S&P EURO                         | Global Europe  | SPEUROP  | 1987/12/31 | 2016/10/6 |
| 116 | S&P/ASX 200                      | Australia      | ASX200I  | 1992/6/4   | 2016/10/6 |
| 117 | S&P/ASX 300                      | Australia      | ASX300I  | 1992/6/4   | 2016/10/6 |
| 118 | S&P/BVL GENERAL(IGBVL)           | Peru           | PEGENRL  | 1991/1/3   | 2016/10/6 |

|     |                               |             |          |           |           |
|-----|-------------------------------|-------------|----------|-----------|-----------|
| 119 | S&P/NZX 50                    | New Zealand | NZ50CAP  | 2001/1/4  | 2016/10/6 |
| 120 | S&P/TSX 60 INDEX              | Canada      | TTOSP60  | 1982/2/4  | 2016/10/6 |
| 121 | S&P/TSX COMPOSITE INDEX       | Canada      | TTOCOMP  | 1955/10/6 | 2016/10/6 |
| 122 | SBF 120                       | France      | FSBF120  | 1991/1/3  | 2016/10/6 |
| 123 | SHANGHAI SE A SHARE           | China       | CHSASHR  | 1992/1/2  | 2016/10/6 |
| 124 | SHENZHEN SE B SHARE           | China       | CHZBSHR  | 1992/10/8 | 2016/10/6 |
| 125 | SLOVAKIA SAX 16               | Slovakia    | SXSAX16  | 1993/9/16 | 2016/10/6 |
| 126 | SLOVENIAN BLUE CHIP (SBI TOP) | Slovenia    | SLOETOP  | 2006/4/6  | 2016/10/6 |
| 127 | STOXX EUROPE 50               | Europe      | DJSTO50  | 1987/1/1  | 2016/10/6 |
| 128 | STOXX EUROPE 600 E            | Europe      | DJSTOXX  | 1987/1/1  | 2016/10/6 |
| 129 | STRAITS TIMES INDEX L         | Singapore   | SNGPORI  | 1999/9/2  | 2016/10/6 |
| 130 | SWISS MARKET (SMI)            | Switzerland | SWISSMI  | 1988/6/30 | 2016/10/6 |
| 131 | TAIWAN SE WEIGHED TAIEX       | Taiwan      | TAIWGHT  | 1971/1/7  | 2016/10/6 |
| 132 | TOPIX                         | Japan       | TOKYOSE  | 1955/10/6 | 2016/10/6 |
| 133 | TR GLOBAL \$                  | Global      | XGLFLD\$ | 1999/4/1  | 2016/10/6 |
| 134 | TSE SECOND SECTION            | Japan       | TOK2NDM  | 1974/10/3 | 2016/10/6 |
| 135 | TUNISIA TUNINDEX              | Tunisia     | TUTUNIN  | 1998/1/1  | 2016/10/6 |
| 136 | VENEZUELA SE GENERAL          | Venezuela   | VENGENL  | 1993/4/1  | 2016/10/6 |
| 137 | WARSAW GENERAL INDEX          | Poland      | POLWIGI  | 1991/4/18 | 2016/10/6 |

*Note:* All series were obtained from Thomson Reuters Datastream (2016/10/6).

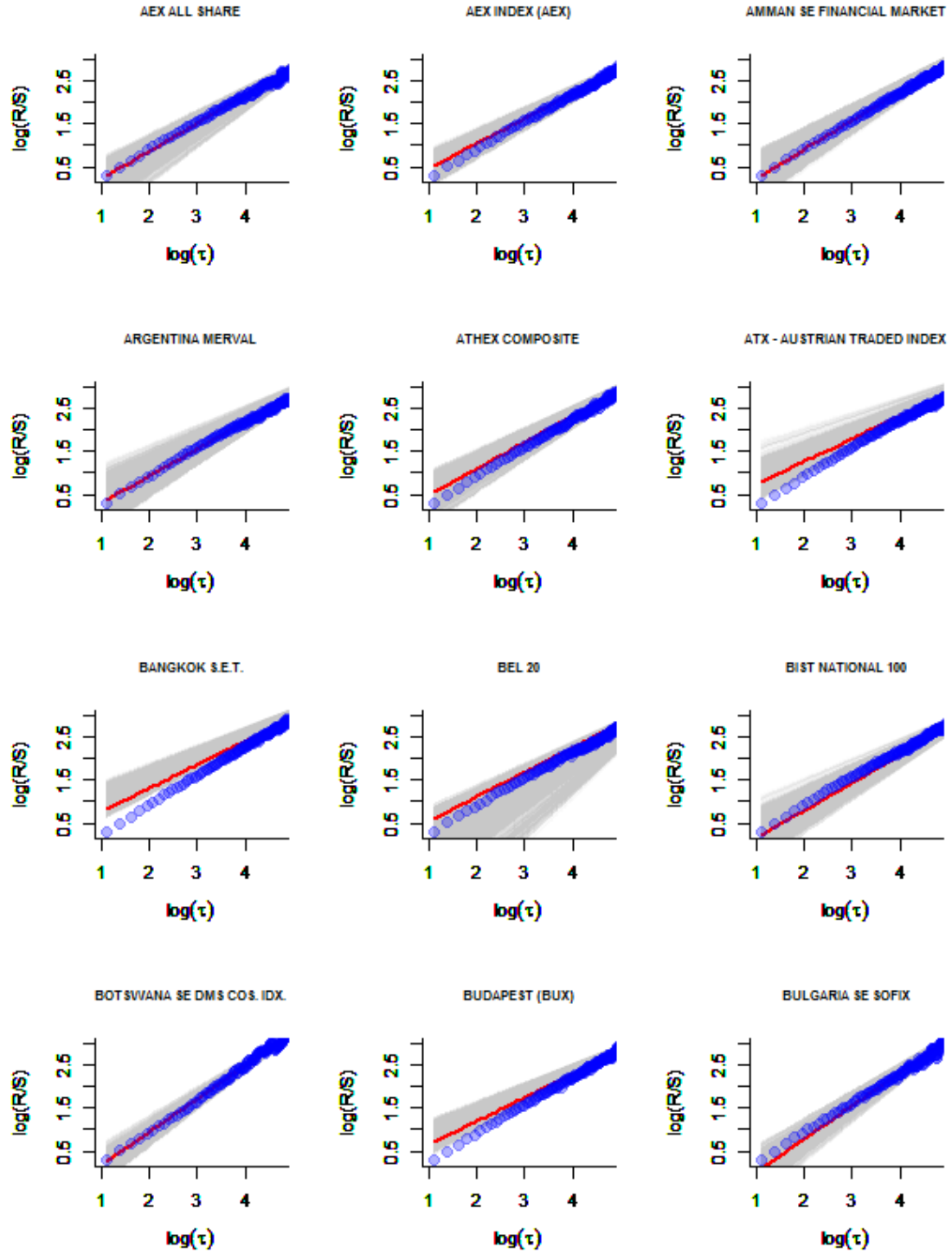
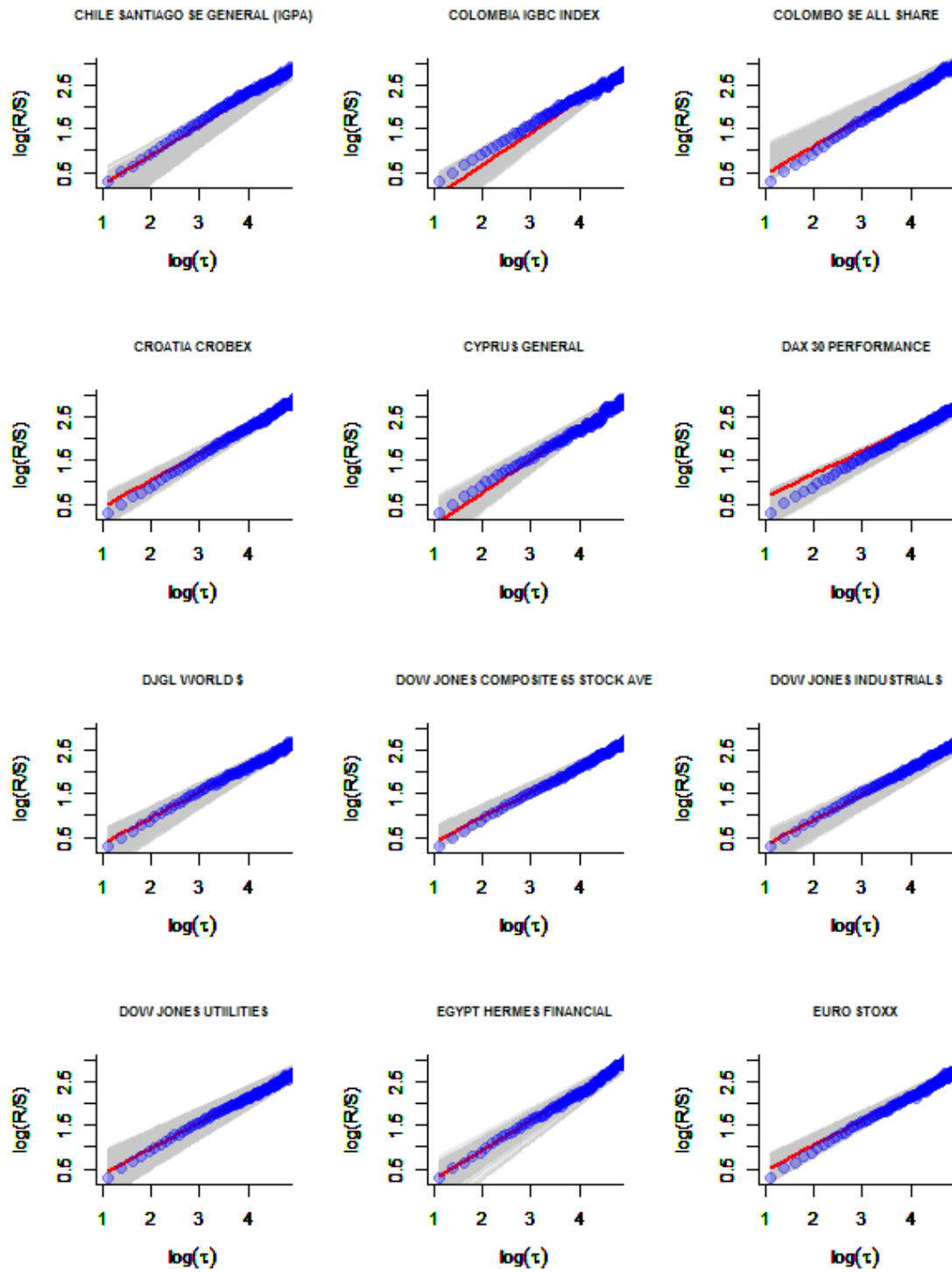
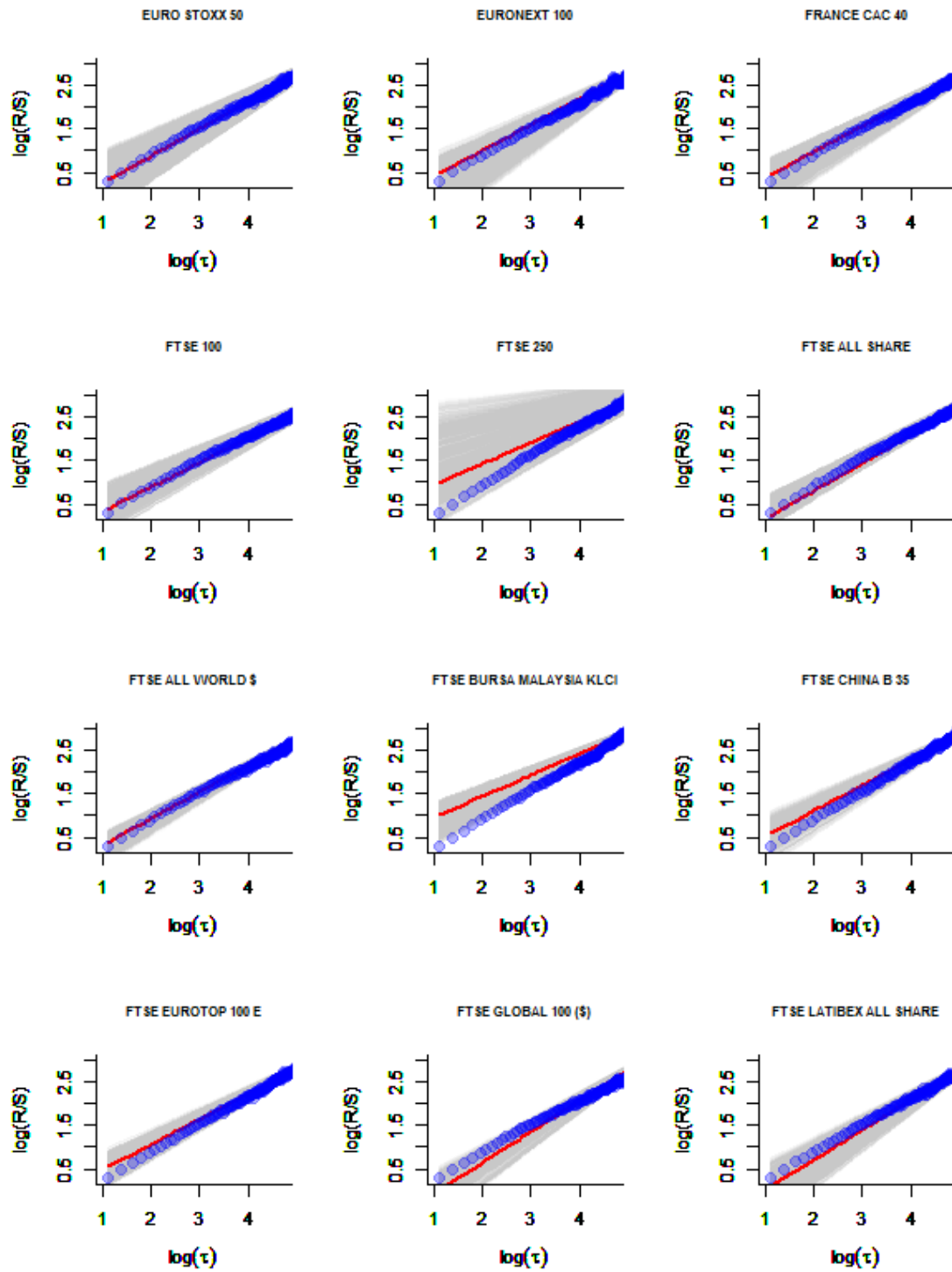


Figure a 1: Sequential estimation of  $H$

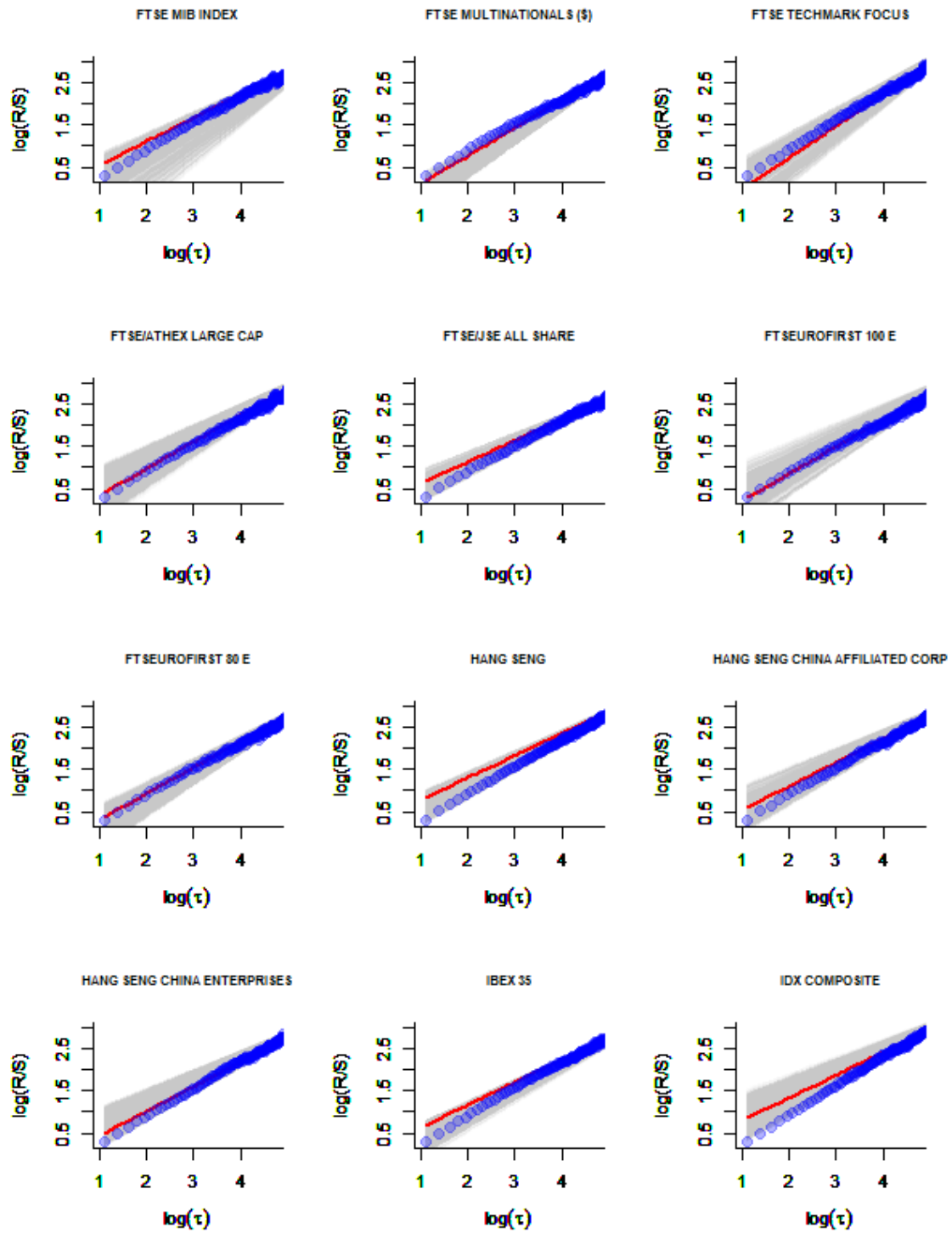
*Note:* Gray lines are generated by regressions using 5555 bootstrapping.



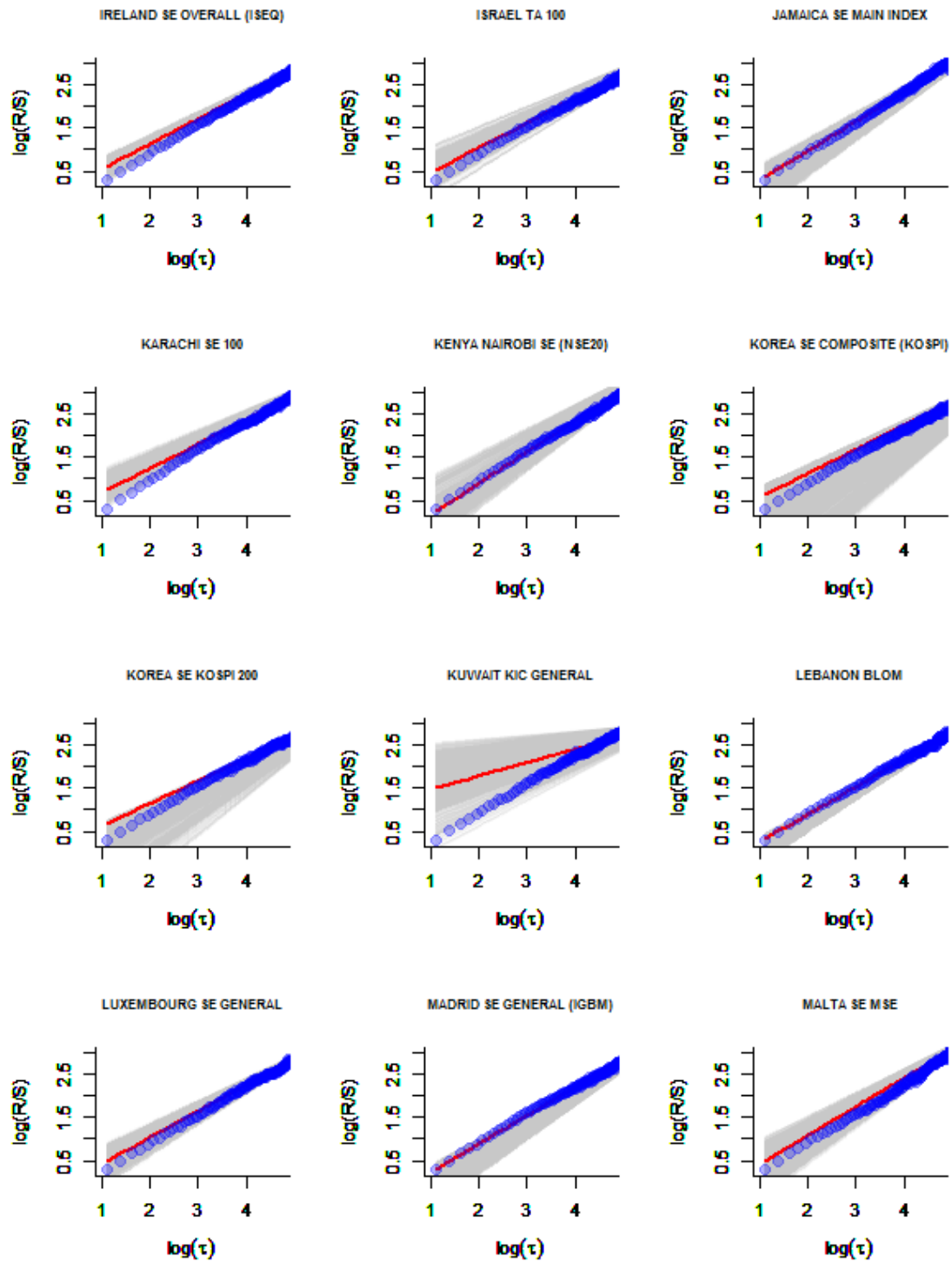
*Note:* Gray lines are generated by regressions using 5555 bootstrapping.



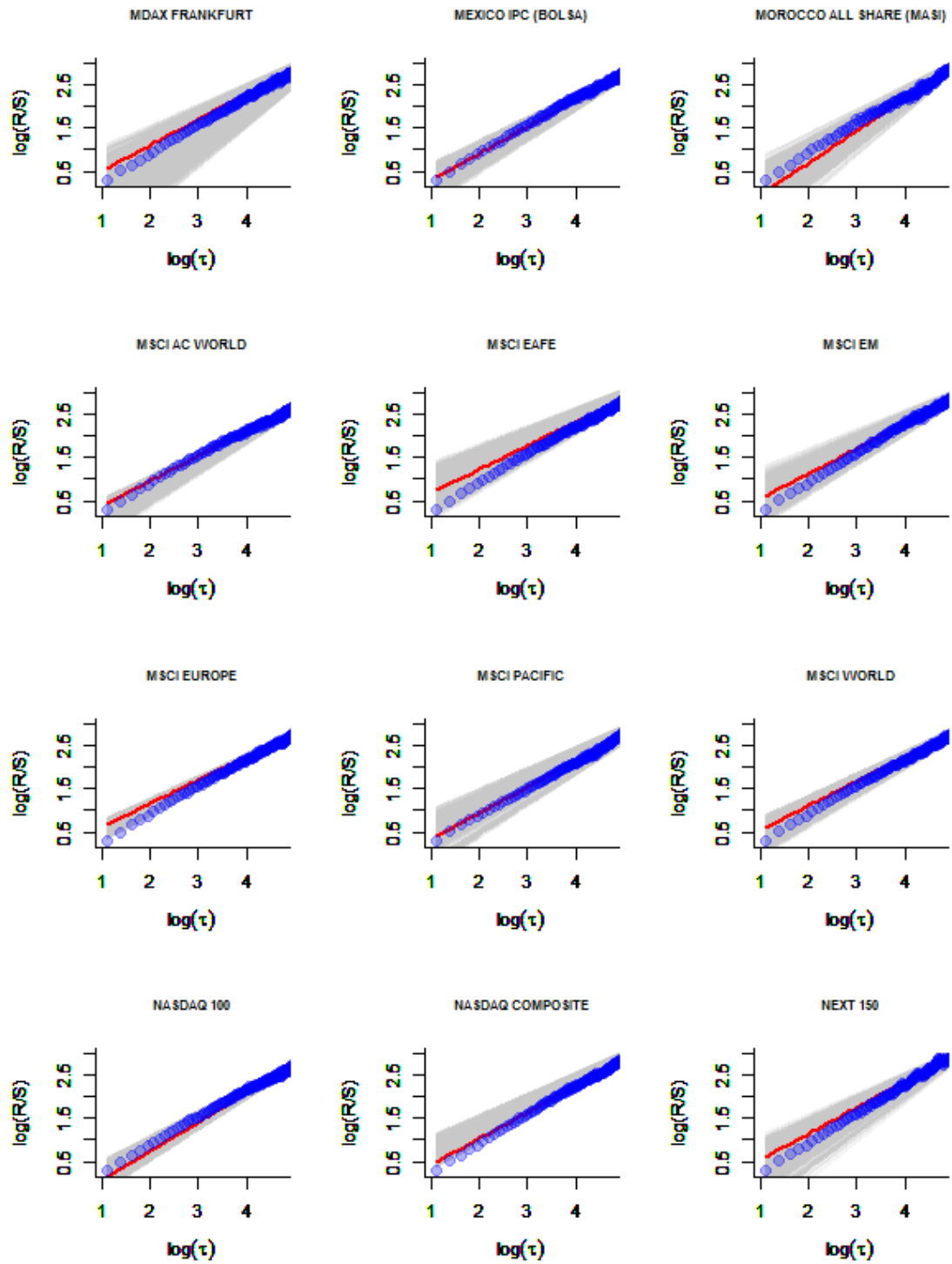
*Note:* Gray lines are generated by regressions using 5555 bootstrapping.



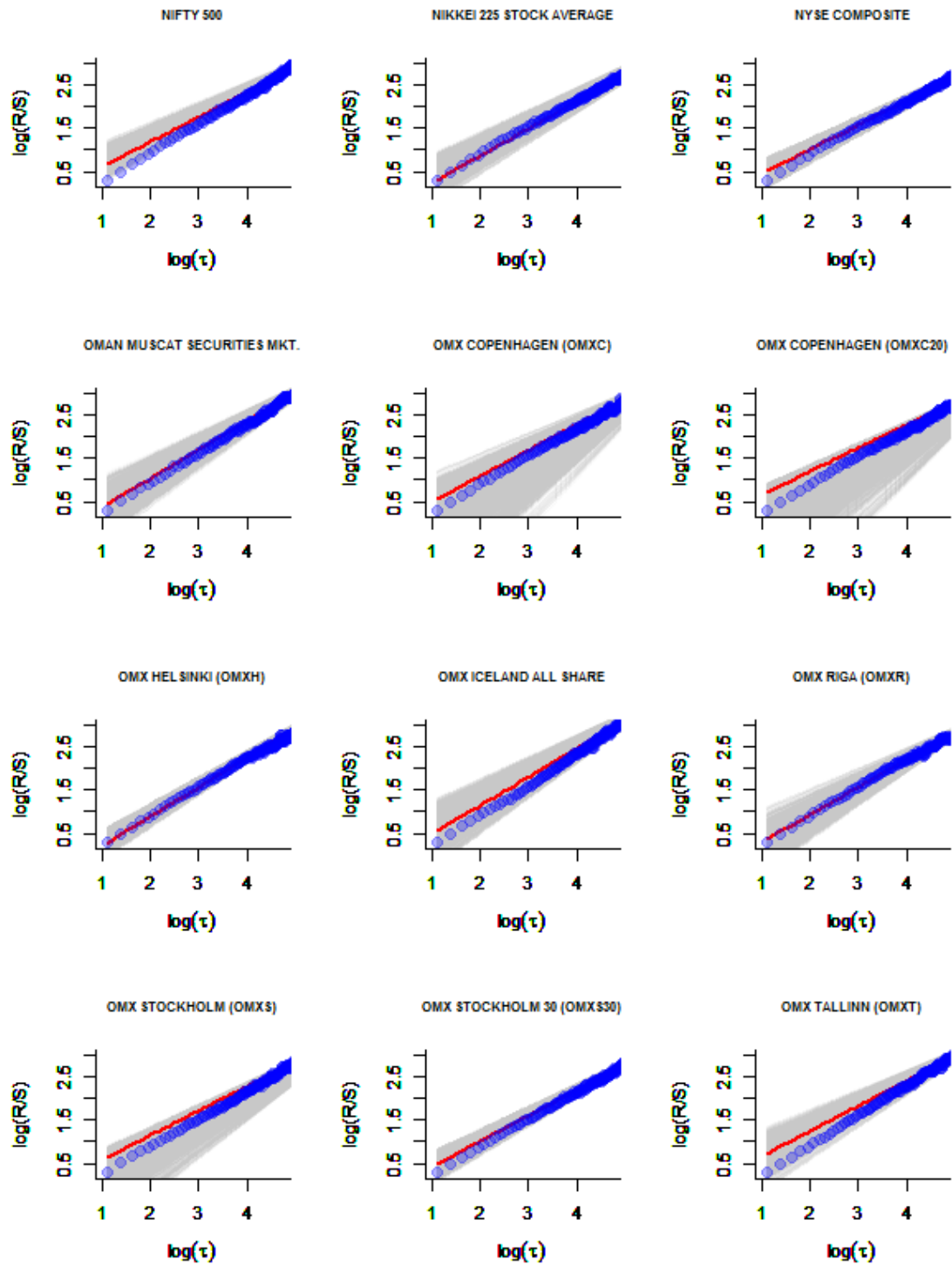
*Note:* Gray lines are generated by regressions using 5555 bootstrapping.



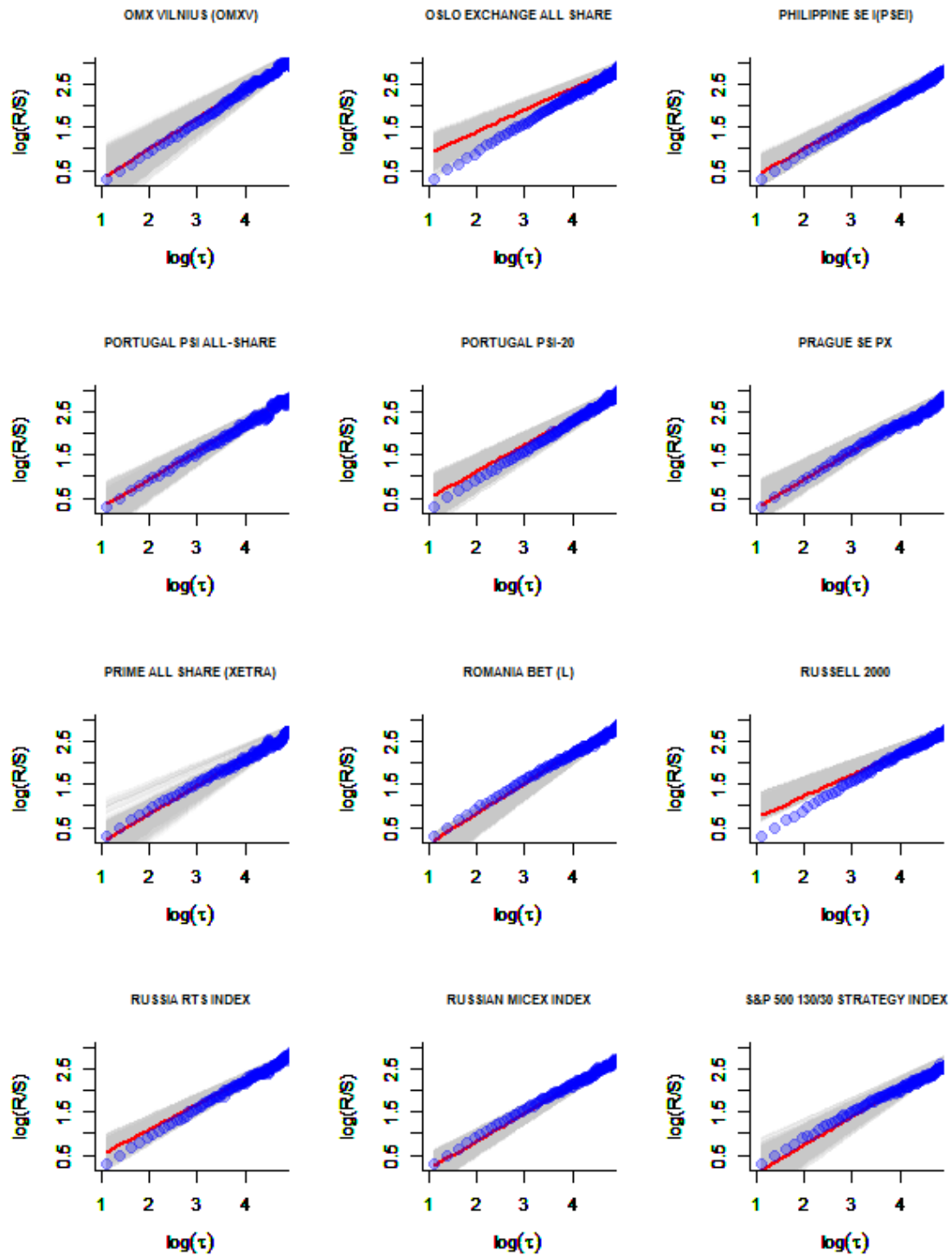
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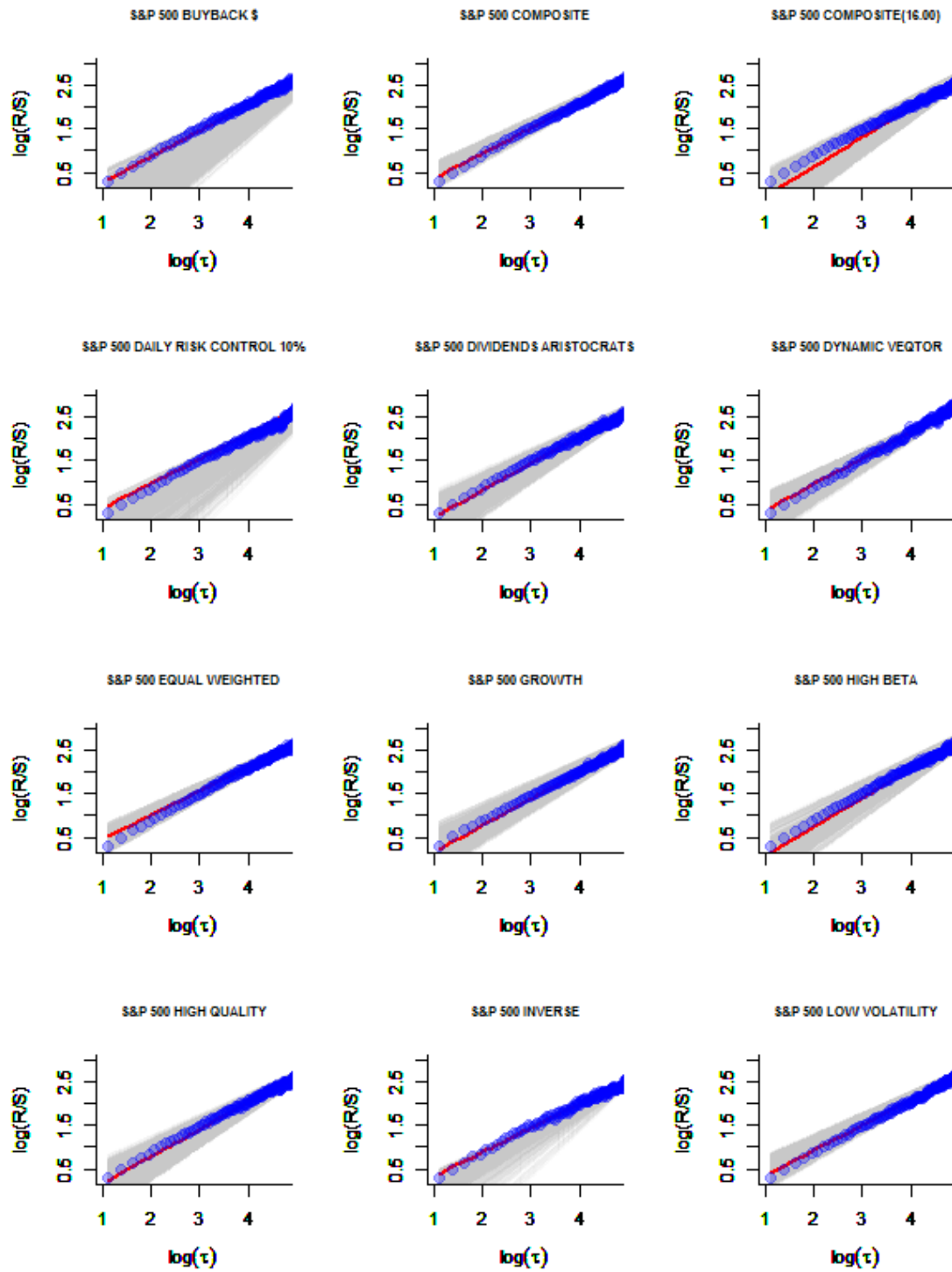
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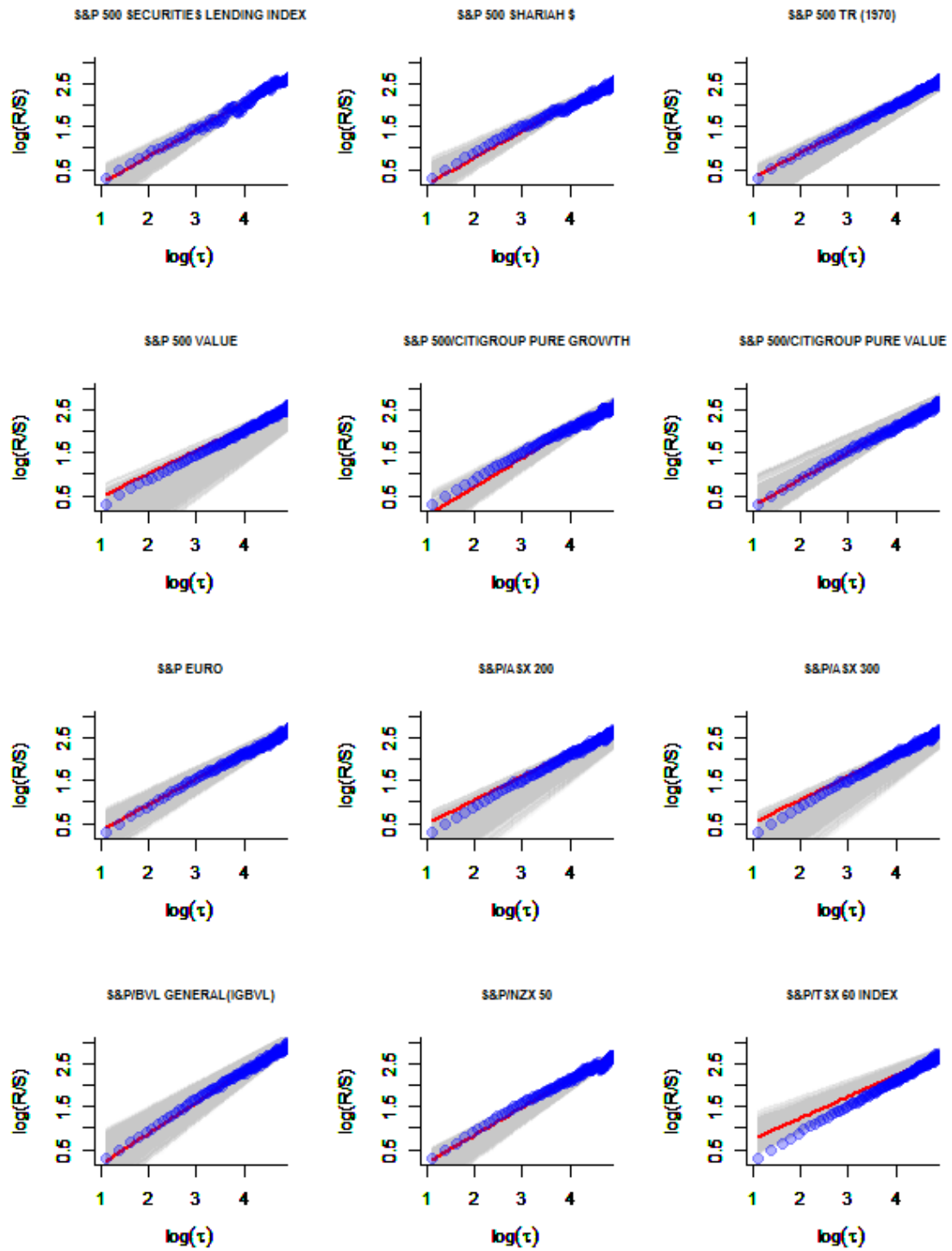
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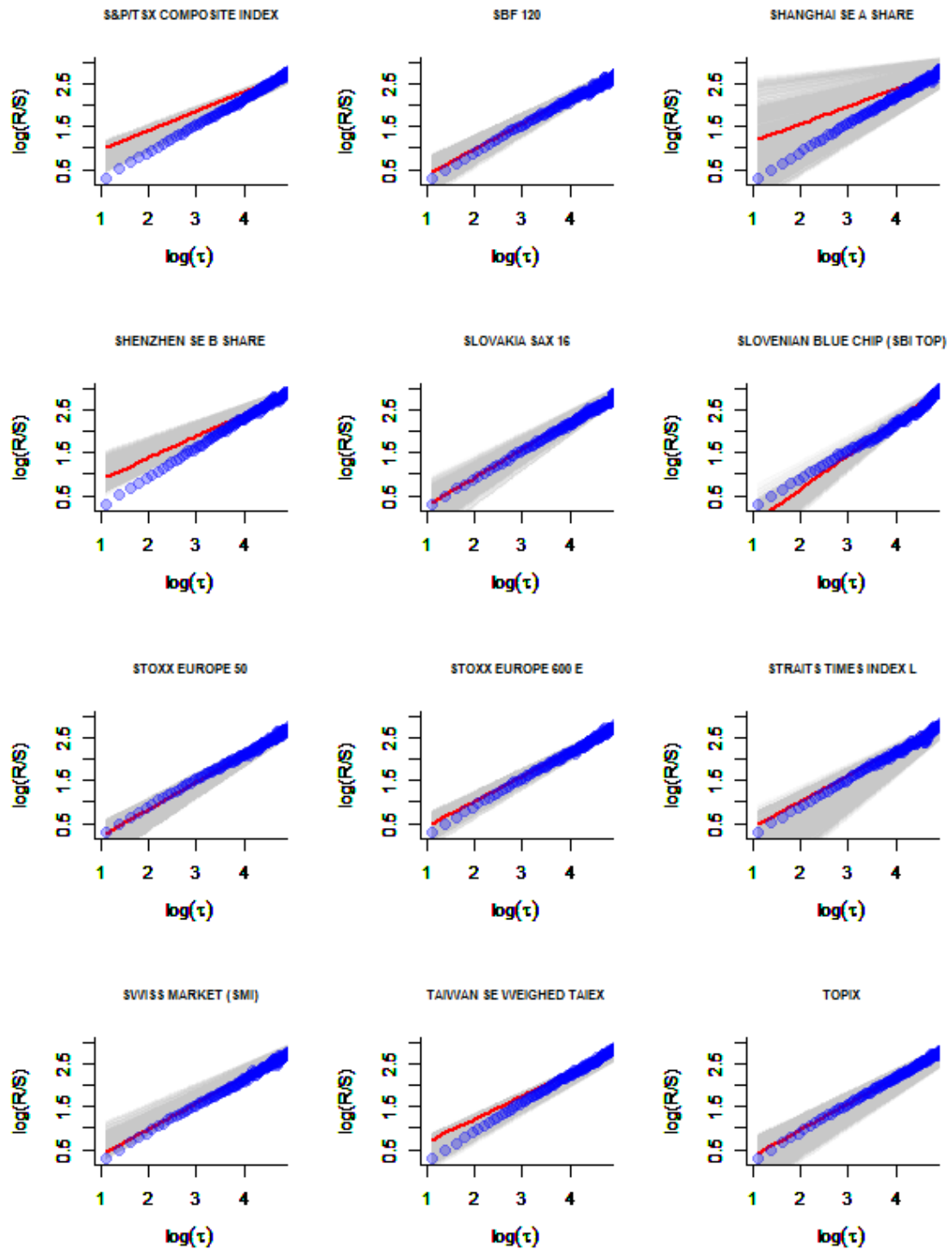
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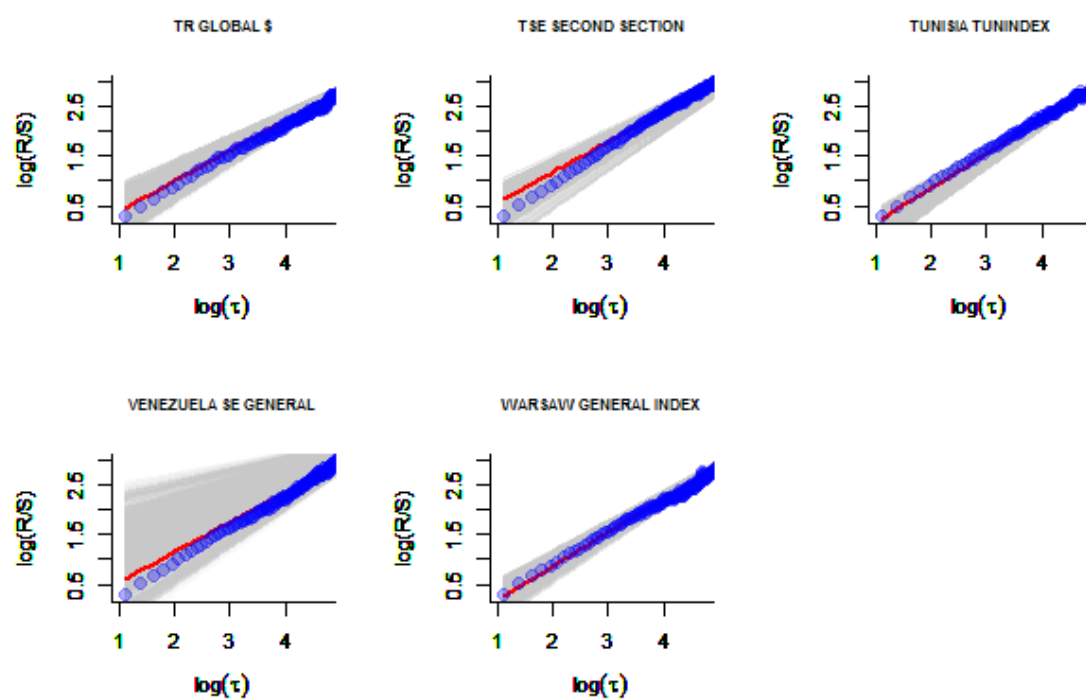
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