

Volatility Spillover between Stock Market and Forex Market in Pakistan

Abdul Qayyum

A R Kemal

Reforms

- **Stock Market**

 - KSE, LSE and ISE

 - Liberalized in 1991

 - KSE-100 Index

- **Foreign Exchange**

 - Fixed

 - Managed Floating

 - Floating

 - Foreign Currency Accounts

Figure 1: KSE-100 Index and Exchange Rate

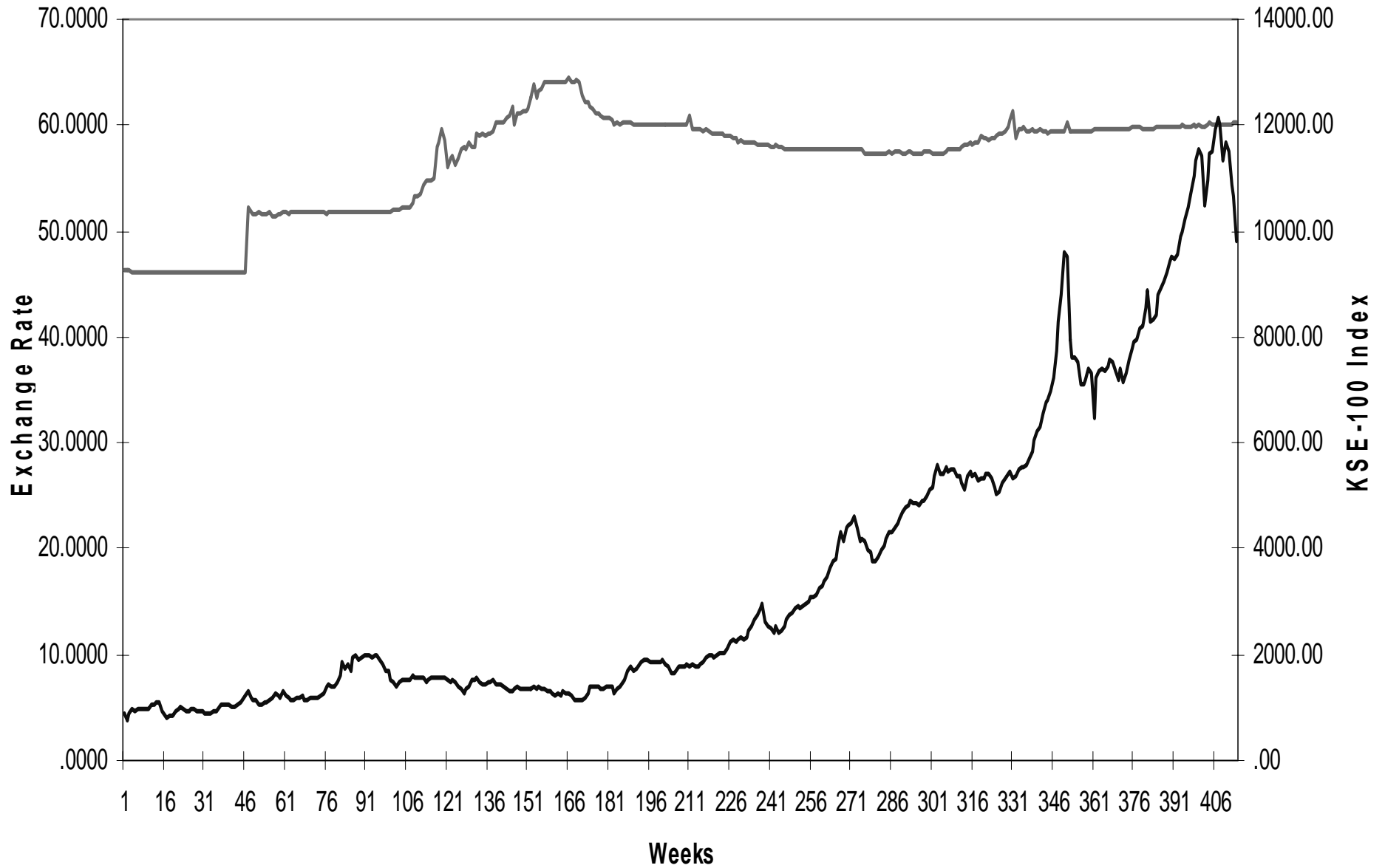


Figure 2: Return on Stock Prices

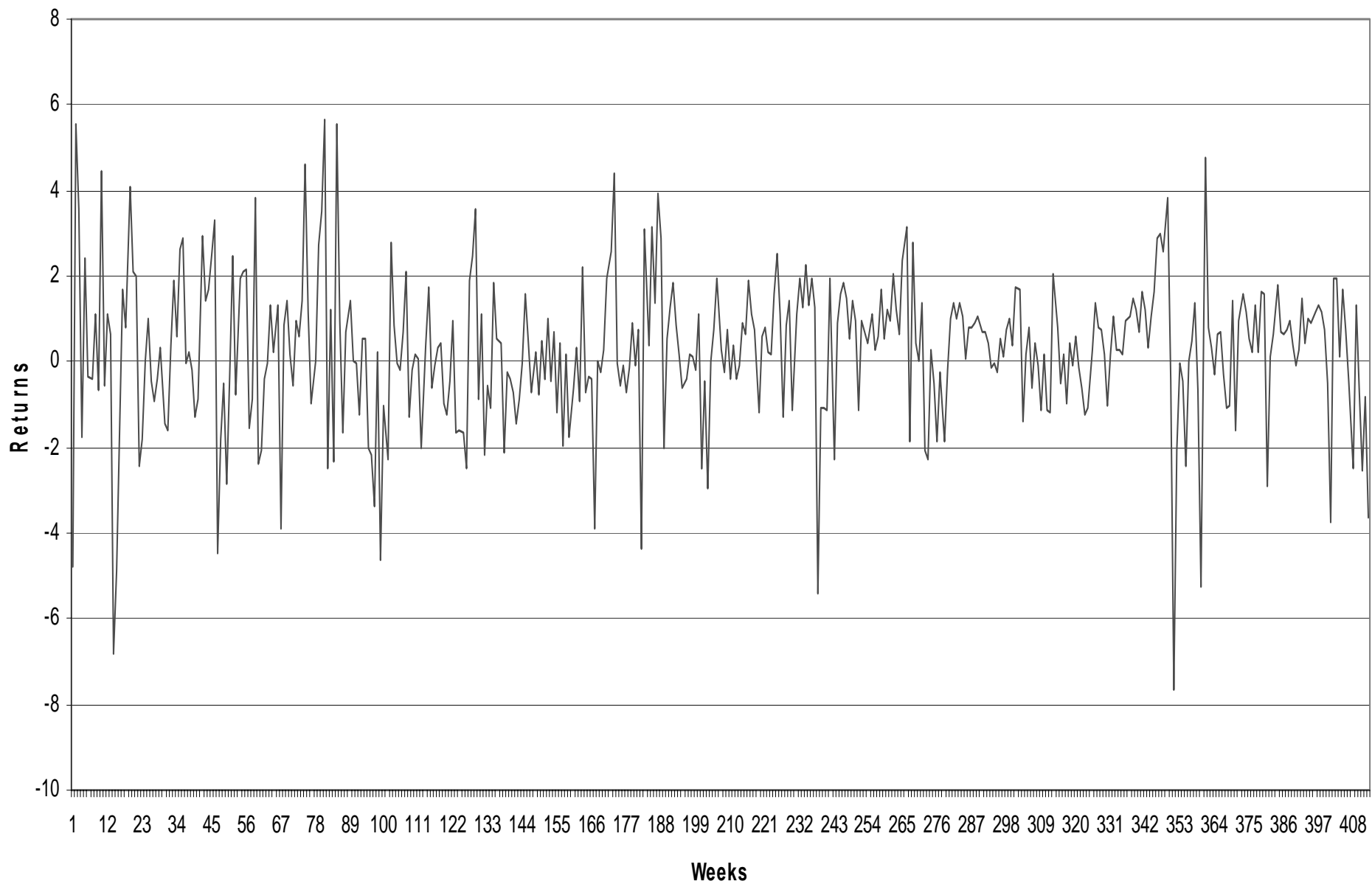
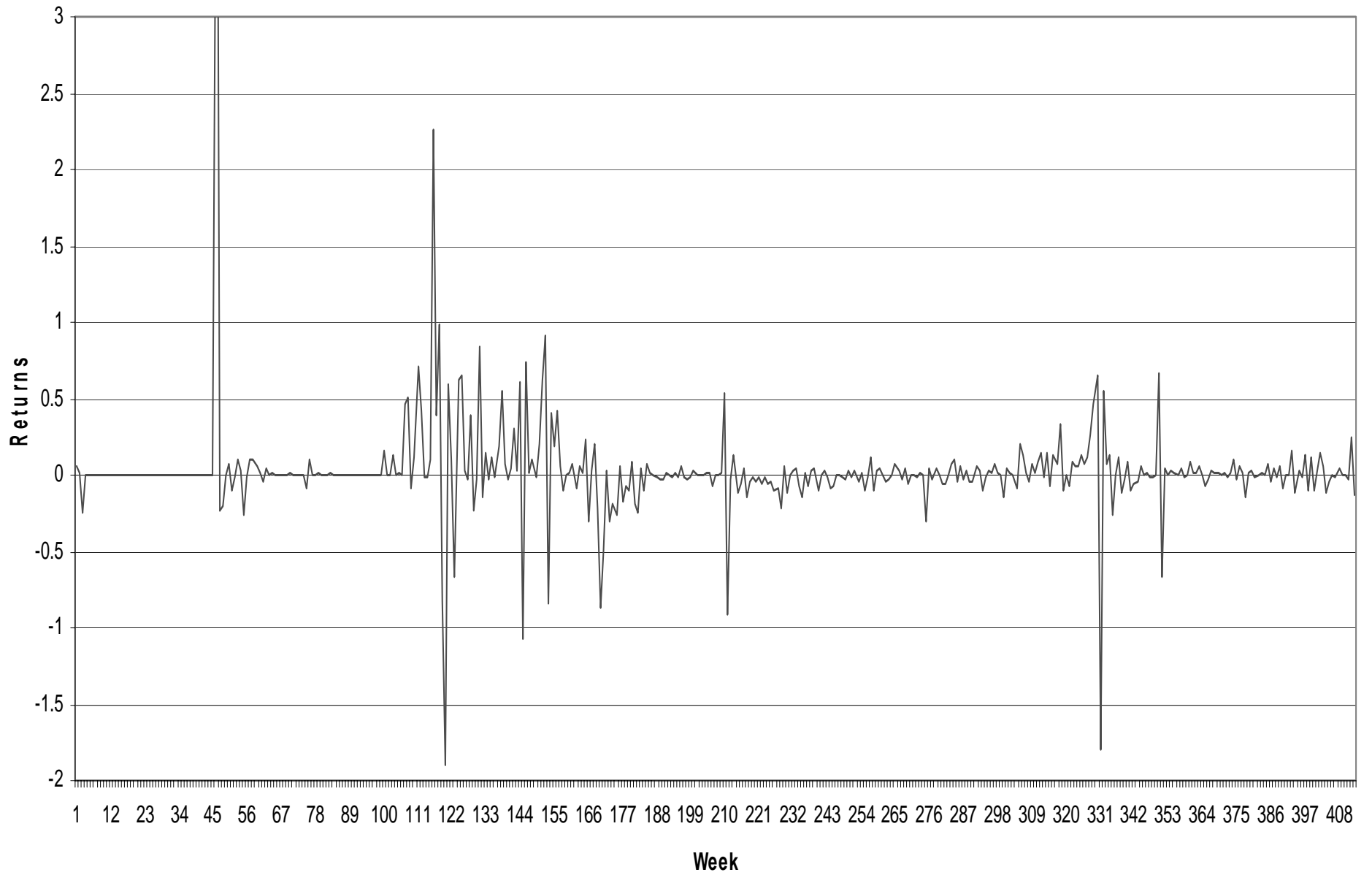


Figure 3: Return on Foreign Exchange



Volatility

- **Stock Market**



- **Forex Market**

Long Run Relationship

- Engle–Granger (1987) two step method.
- $LSPI_t = 17.18 + 0.007T - 2.69LEXR_t$
(35.25) (64.98) (-21.65)
- R-squared 0.94
- F-statistic 2703.8
- **ADF -2.79 (-3.81)**

Table 2: Results of the Multivariate EGARCH Model

	RS_t	t-statistics	RX_t	t-statistics
• Conditional Mean				
• Constant	-0.31	-4.97	-0.01	-2.26
• RS_{t-1}	0.21	3.58	—	
• RX_{t-1}	-0.59	-3.96	—	
• T	---		-0.0001	-2.69
• $\ln ss^2_{t-1}$	---		-0.002	-3.02
• $\ln sx^2_{t-1}$	-0.03	-5.02	—	
• Conditional Variance				
• Constant	0.37	0.09	-9.53	-12.09
• $\ln ss^2_{t-1}$	0.872	0.02	<u>-0.20</u>	<u>-1.66</u>
• zs_{t-1}	0.03	0.59	0.441	0.78
• $(zs_{t-1} - (zs_{t-1}))$	<u>0.45</u>	<u>5.58</u>	<u>-0.27</u>	<u>-3.13</u>
• $\ln sx^2_{t-1}$	0.16	0.4	<u>0.16</u>	<u>2.95</u>
• zx_{t-1}	<u>-0.16</u>	<u>-2.07</u>	-0.13	-1.68
• $(zx_{t-1} - E(zx_{t-1}))$	-0.04	-0.39	<u>0.3</u>	<u>2.96</u>

- Price spillover from the forex market to stock market.
- No evidence of price spillover from stock market to the forex market.
- **Implication**
- It implies that appreciation of the currency drags down stock prices in Pakistan.
- the changes in the exchange rate movement signal **important information** about the future stock prices movements.
- stock prices movement has **no information about the exchange rate.**
- **Volatility spillover** from the stock markets to the foreign exchange market.
- There is **no volatility spillover** from foreign exchange market to the stock market.
- Further the **news** about the volatility of foreign exchange market has **asymmetric** impact on the volatility of stock returns.

- **Volatility persistence** of stock prices and exchange rate.
- The volatility shocks in the
- **Stock markets** last for **5 weeks**
- **Foreign exchange** market last within **one week**.

Thank You