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Beyond the Dinar: Deciphering Monetary Policy Shocks in Kuwait's Equity Market

Abstract

Purpose: This study investigates the impact of US and Kuwait monetary policy on the Kuwait Stock Exchange (KSE).

Study design/methodology/approach: Our study employs an event study approach focused on Federal Open Market Committee (FOMC) announcement dates to analyze the impact of US and Kuwait monetary policy on the Kuwait Stock Exchange. By utilizing futures markets, we distinguish between the expected and unexpected components of these announcements.

Sample and data: A time series dataset of KSE main indices between 2012 and 2024.

Results: US monetary policy strongly impacts KSE, which is predominantly driven by the anticipated component of monetary policy change. KSE is responsive to the unanticipated component predominantly for information shock samples. KSE became more responsive to monetary policy after privatization in 2018. The Premier Market segment is more responsive to monetary policy impact than the Main Market segment. Monetary policy has a different effect and is not uniform among the various industries within KSE. Finally, Kuwait's monetary policy does not have the same impact on KSE as US monetary policy.

Originality/value: Our paper is the first to examine the impact of monetary policy on KSE by decomposing monetary policy changes into expected and unexpected components. We further decompose shocks into monetary or information shocks. We contribute to understanding the interactions between monetary policy and equity markets in emerging economies.

Research limitations/implications: The study's findings show that KSE efficiently processes public information and is responsive to US fed rate changes rather than local discount rate changes.

Keywords: Kuwait, Fed Fund, Emerging Markets, Monetary Policy, Equity Market.

JEL classification: E52, G15, G18, O53

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الملخص

ما وراء الدينار: فك شفرة صدمات السياسة النقدية في سوق الأسهم الكويتي

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هدف الدراسة: دراسة تأثير السياسة النقدية الأمريكية والكويتية على بورصة الكويت للأوراق المالية. **تصميم/ منهجية/ طريقة الدراسة:** تستخدم دراستنا منهج دراسة الأحداث الذي يركز على تواريخ الإعلانات من اللجنة الفيدرالية للأسواق المفتوحة (FOMC): لتحليل تأثير السياسة النقدية للولايات المتحدة والكويت على سوق الكويت للأوراق المالية. وتستخدم بيانات أسواق العقود الآجلة للتمييز بين المكونات المتوقعة وغير المتوقعة لهذه الإعلانات. **عينة الدراسة وبياناتها:** بيانات زمنية للمؤشرات الرئيسية في سوق الكويت للأوراق المالية بين عامي 2012 و 2024.

نتائج الدراسة: يلاحظ أن للسياسة النقدية الأمريكية تأثيراً قوياً على بورصة الكويت للأوراق المالية، وخصوصاً فيما يتعلق بتوقعات السوق للتغيرات في هذه السياسة. ويلاحظ بعد زيادة الخصخصة في 2018 زيادة استجابة بورصة الكويت للأوراق المالية للتغيرات في السياسة النقدية الأمريكية، وهي أكثر لشركات السوق الأول منه لشركات السوق الرئيسي، كما يختلف هذا التأثير باختلاف القطاع. كما يلاحظ أن السياسة النقدية الكويتية لا تؤثر على بورصة الكويت للأوراق المالية كالسياسة النقدية الأمريكية.

أصالة الدراسة: أول ورقة علمية تفحص تأثير السياسة النقدية على بورصة الكويت للأوراق المالية بتحليل مكونات حركة السياسة النقدية إلى مكونات متوقعة وغير متوقعة. كما تسهم في فهم التفاعلات بين السياسة النقدية وأسواق الأسهم في الاقتصادات الناشئة. **حدود الدراسة وتطبيقاتها:** تسلط الدراسة الضوء على كفاءة بورصة الكويت للأوراق المالية في الاستجابة للسياسة النقدية الأمريكية مقارنة باستجابتها للسياسة النقدية الكويتية.

الكلمات المفتاحية: الكويت، الاحتياطي الفيدرالي الأمريكي، الأسواق الناشئة، السياسة النقدية، سوق الأسهم.

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Introduction

Research on the relationship between monetary policy and the stock market is extensive and complex, with many factors influencing its nature and strength. Understanding this relationship is crucial for policymakers, investors, and market participants. The literature suggests that expansionary monetary policy can increase stock prices because lower interest rates increase the present value of future earnings, making stocks more attractive to investors (Bernanke & Gertler, 2001; Jensen et al., 1996; Jensen & Mercer, 2002; Thorbecke, 1997). However, the impact of monetary policy on the stock market can vary depending on several factors, including the type of monetary policy regime in place, the degree of market integration (Ammer et al., 2010; Ehrmann & Fratzscher, 2009; Wongswan, 2009), the type of monetary shock (Demirer et al., 2021; Jarocinski & Karadi, 2020), and the level of central bank transparency and communication (Bernanke & Kuttner, 2005; Gurkaynak et al., 2010).

Research on the relationship between U.S. monetary policy and foreign asset prices, especially in the Middle East and oil-exporting countries, is scarce. To our knowledge, this study is the first to implement an event-study approach to estimate the causal effect of monetary policy changes on Kuwait's equity market. We follow the methodology outlined by Bernanke and Kuttner (2005) to investigate the impact of the unanticipated elements of the U.S. and Central Bank of Kuwait's (CBK) monetary policies on Kuwait's stock market. We further deconstruct shocks into monetary policy shock and information shock following Jarocinski and Karadi (2020) and analyze the impact of each. Investigating this relationship is important for several reasons.

First, Taylor (2001) has shown that the effectiveness of monetary policy varies significantly among international economies, mainly depending on the exchange rate regime adopted. Kuwait operates under a fixed exchange rate policy with its currency, the Kuwaiti Dinar (KD), pegged to a basket of currencies, predominantly the U.S. dollar, (Momani, 2008). This disparity in monetary policy effectiveness raises questions about the impact of monetary policy under the fixed exchange rate regime, where minimal policy autonomy is observed, (Shambaugh, 2004).

Countries that fix their currencies to the U.S. dollar effectively surrender control over their monetary policy to the U.S. Federal Reserve (Fed). This can limit their ability to adjust interest rates and other monetary policy tools in response

to local economic conditions because changes in the domestic interest rate can cause changes in the exchange rate. One effect of a fixed exchange rate policy on the monetary policy is that the central bank may need to intervene in the foreign exchange market to maintain the fixed exchange rate. This intervention can limit the central bank's ability to control domestic interest rates and, subsequently, eliminate monetary policy independence.

The impact of a fixed exchange rate policy on the equity market is not straightforward. It depends on various factors, including the economic conditions of the country and specific fixed exchange rate policy details. A fixed exchange rate can provide stability and predictability for investors, which can be positive for equity markets. A fixed exchange rate can simultaneously limit a country's ability to respond to changes in its economic conditions, which can negatively affect its equity markets. Furthermore, the fixed exchange rate and the central bank's limited ability to pursue independent monetary policy can lead to fiscal dominance. Fiscal policy plays a more pronounced role in the economy and financial markets, particularly when the government's fiscal policy decisions impact the country's exchange rate and further limit the central bank's ability to implement its monetary policy independently, Chadha et al. (2004). Therefore, considering its complexity, understanding the link between monetary policy and equity prices in a fixed exchange rate regime is an empirical question.

Second, Kuwait's economy is not well-diversified, and it heavily relies on oil revenues to finance its budget. This exposes the country to oil shocks and volatility, which further challenge the government's ability to effectively implement monetary and fiscal policies (Fils & Chatziantoniou, 2014). Understanding the impact of monetary policy on the financial markets of countries that heavily rely on oil revenues and implement fixed exchange rates, such as Kuwait, is not straightforward.

Third, Kuwait has been actively developing its financial markets and diversifying its economy beyond oil. The government has implemented various initiatives to attract foreign investment and promote the growth of non-oil sectors. As Kuwait's financial markets evolve and integrate with global markets, it is becoming increasingly important to examine the impact of external factors, such as U.S. monetary policy, on the country's stock market.

Finally, Kuwait is situated in a geopolitically sensitive region, with proximity to major oil-producing countries and regional conflicts. These factors can introduce unique dynamics and complexities into Kuwait's financial markets. Studying the

relationship between monetary policy surprises and Kuwait's stock market can help reveal the monetary policy impact of Kuwait's unique financial market setting.

Our research reveals that the Fed's monetary policies significantly influence the Kuwait Stock Exchange (KSE). Specifically, a 25-basis point reduction in the Federal funds rate target causes a 0.17% increase in the KSE's value after filtering out information shocks in our analysis. This effect predominantly stems from the anticipated aspects of Fed changes, suggesting that the KSE exhibits semi-strong efficiency by rapidly incorporating publicly available information. Conversely, within the subset of information shocks, the KSE responds to unanticipated changes in a way that an unexpected 25-basis point decrease in the Fed funds rate target causes a 0.61% decline in KSE value. This pattern persists across various sectors, including real estate, banking, and telecommunications, with each sector displaying differing sensitivities to monetary policy changes. The telecommunications sector is particularly responsive to the anticipated components of monetary policy, whereas the real estate sector shows the least sensitivity to unanticipated information shocks. Notably, the significance of our findings intensifies in the period following 2018, coinciding with Boursa Kuwait's (BK) implementation of several reforms. This suggests an enhancement in the KSE's efficiency and its integration within the global economy, underscoring the evolving nature of its response to monetary policy changes.

Our analysis indicates that the CBK has a nuanced impact on the KSE, with no overall effect stemming from changes in the CBK's discount rate. However, a notable exception is observed in the real estate sector, which exhibits a pronounced responsiveness to both anticipated and unanticipated changes in the CBK's policy. Specifically, a 25-basis point reduction in the CBK's discount rate is associated with a 0.525% increase in the value of the real estate sector, regardless of whether informational or monetary shocks drive the change. This finding underscores the real estate sector's sensitivity to CBK policies compared to its reaction to Fed monetary policies.

This study significantly contributes to the existing literature by offering a novel perspective on the effects of monetary policy on Kuwait's equity market. Using the methodology of Bernanke and Kuttner (2005) and the deconstruction by Jarcinski and Karadi (2020), our approach isolates the unanticipated components of monetary policy changes and differentiates between monetary and information shocks. This methodology provides a clear understanding of the impact of unexpected changes in interest rate conditional on the type of shock, enhancing the

accuracy of our analysis and providing greater insight into the complex dynamics of the Kuwaiti market.

Hypotheses Development

The Fed's decisions can influence global financial conditions, affecting economies worldwide because of the dollar's central role in international trade, such as oil. Brusa et al. (2019) identify the Fed's unique role in the global stage of central bank monetary policy formulation. They highlight its distinctive influence due to the positive correlation observed between global market beta and stock returns on the scheduled days of the Federal Open Market Committee (FOMC). Intriguingly, Brusa et al. (2019) reveal that domestic central banks do not exert a comparable effect on their respective equity markets relative to the Fed. Conversely, Sbia et al. (2016) report an absence of a significant connection between the CBK discount rate and stock prices from 2005 to 2012, employing a GARCH model to examine the dynamic correlation between stock returns and monetary policy adjustments. Given these insights, alongside the limitations that CBK's monetary policy faces due to its pegged exchange rate regime, it is anticipated that the Fed's monetary policy will exert a more pronounced impact on the KSE valuations than changes in the CBK's discount rate.

H1: Changes in the Fed fund's target rate have a more substantial effect on KSE's valuation than changes in the CBK discount rate.

Considering the significance of the U.S. economy and its interlinkages in global markets, it is unsurprising to see significant spillovers of the U.S. monetary policy to international equity markets. For instance, Ha (2021) and Wongswan (2009) have found a significantly large response of foreign equity indexes to U.S. monetary policy surprises in short time horizons. Glick and Leduc (2012), Neely (2010), and Rogers et al. (2014) have found that expansionary U.S. monetary policy stimulates financial conditions worldwide. Chen et al. (2014) have found that the spillover effects of U.S. monetary policy surprises are stronger when the Fed uses unconventional monetary policy tools. Additionally, they have found that countries with stronger macroeconomic fundamentals (e.g., real GDP, external current account, inflation, and government debt) are subject to smaller spillovers. Ziaei (2018) demonstrates that US monetary policy shocks impact Islamic equities.

Financial markets are theoretically efficient in processing and incorporating available information into stock prices. When news is anticipated, its potential impact is often already reflected in stock prices through the actions of forward-looking

investors. However, when news or policy changes come as a surprise, the market adjusts to the new information, leading to significant price movements, according to Fama (1970), the efficient market hypothesis (EMH). Bernanke and Kuttner (2005) find that the market has a stronger response toward the unanticipated component of monetary policy compared to the anticipated portion. In light of the EMH, we conjecture that the unanticipated aspects of monetary policy changes have a stronger impact on the KSE valuations than their anticipated counterparts.

H2: *The unanticipated component of monetary policy changes exerts a greater impact on the KSE's valuation than the anticipated component.*

The EMH might not hold as firmly in emerging markets like the KSE. Emerging markets, characterized by their developmental phase and not meeting all the criteria of developed markets, display inefficiencies that deviate from the EMH. This is due to factors such as limited market accessibility, lower levels of investor information, and higher volatility driven by political and economic uncertainties. For example, Almujaed (2020) finds that the banking sector in the GCC does not even exhibit weak-form efficiency, meaning that traders can generate profits based on past information. Alqahtani et al. (2020) find that the GCC stock markets are efficient and respond significantly to international oil prices. These findings underscore the complexity and unique challenges of assessing Hypothesis 2, where traditional assumptions of market efficiency may not fully apply.

The KSE may exhibit unique responses to anticipated Fed policy changes, differing from developed markets due to market maturity variations and participants' sophistication in processing expected information. Zheng (2020) illustrates that even anticipated announcements can influence investor behavior. Discretionary liquidity traders delay their activities until after the news release to mitigate information asymmetry. The KSE might react to anticipated news, as participants may react to what might be considered stale news, a phenomenon documented by Birz (2017). Conversely, the KSE may not exhibit a reaction to anticipated news if it has already been factored into prices or if the market lacks the efficiency to incorporate public information, a perspective supported by Almujaed (2020).

H3(a): *The market will react to anticipated news because KSE participants are not sophisticated enough to process future data.*

H3(b): *The market will react to anticipated news because KSE participants react to stale news.*

H3(c): *There will be no market reaction to anticipated news since the KSE has already priced the information.*

H3(d): *There will be no market reaction because the KSE is inefficient and does not properly price in information.*

Jarocinski and Karadi (2020) distinguish between two types of shocks associated with monetary policy announcements: monetary policy shocks and central bank information shocks. A negative co-movement between interest rates and stock prices identifies monetary policy shock. This suggests a traditional response to monetary policy tightening, where interest rates increase, leading to lower stock market valuations due to higher discount rates. A positive co-movement between interest rates and stock prices identifies information shock. This shock reflects the market's reaction to new information about the economy revealed by the central bank. It might not be directly related to the monetary policy action itself but rather to the central bank's assessment of future economic conditions.

H4: *The unanticipated component of monetary policy will have a positive (negative) comovement with KSE for an information (monetary) shock.*

Similar to Bernanke and Kuttner (2005), we expect each sector to have a different sensitivity toward a monetary policy announcement. Each sector's unique economic sensitivities and capital structures drive their heterogeneous responses to monetary policy changes, necessitating a nuanced analysis of sector-specific impacts.

H5: *Sector-specific responses to monetary policy changes will exhibit heterogeneous reactions based on their unique sensitivities to interest rate changes.*

The reclassification of the KSE as an emerging market by major indexing firms in 2018 signaled a pivotal shift in its global perception and accessibility to international investors. This status increases foreign investment flows and raises market transparency, governance, and efficiency standards, aligning KSE more closely with global market practices. KSE should be more efficient post-2018 than in the prior period due to these reforms. Additionally, BK has segmented the market into the Premier and Main markets as part of their reforms. The Premier Market segment contains larger, more liquid firms and is subject to more stringent disclosure standards, ensuring investors receive more comprehensive and timely information. For example, Alsabah and Althaqeb (2023) have found that market makers improve liquidity for firms listed only in the Main Market. These differences may

cause each market segment to react uniquely to changes in monetary policy.

H6: *Post-2018, reflecting KSE’s reclassification as an emerging market and subsequent reforms, the market’s responsiveness to monetary policy changes increases, indicating a maturation in market mechanisms and global integration.*

H7: *The Premier Market will exhibit a stronger market reaction to monetary policy changes relative to the Main Market.*

Data

Table 1 defines all the variables used in this study. The BK website provides daily historical data starting from 2012. We downloaded the following indices from May 2012 to February 2024: the value-weighted index (VW), Premier Market Index ($VW_{Premier}$), Main Market Index (VW_{Main}), Real Estate Index (VW_{RE}), Banks Index (VW_{Banks}), and Telecommunication Index (VW_{Tele})¹. Dividing the index into $VW_{Premier}$ and VW_{Main} segments, or VW_{RE} , VW_{Banks} , and VW_{Tele} enabled us to observe potential differences in each segment or sector’s response to changes in monetary policy.²

Table 1
Variable Definitions

Variable	Description
VW	Daily value-weighted index returns that include all firms in KSE. Expressed in percentages.
VW_{Banks}	Daily value-weighted index returns that include firms classified as banking sector in KSE. Expressed in percentages.
VW_{RE}	Daily value-weighted index returns that include firms classified as real estate sector in KSE. Expressed in percentages.
VW_{Tele}	Daily value-weighted index returns that include firms classified as telecommunication in KSE. Expressed in percentages.
$VW_{Premier}$	Daily value-weighted index returns that include firms listed in the Premier Market of BK. Expressed in percentages.

¹ Based on data from 2018 to 2023, the Premier Market represents 81% of the market value relative to the 19% of the Main Market. Most of the BK value is concentrated in the banking sector, which represents 60.6% of the market value. Telecommunication represents the second largest sector with 9.9%, while the Real Estate sector represents 6.0%.

² Segmented indices are available from April 2018.

Cont. Table 1
Variable Definitions

Variable	Description
VW_{Main}	Daily value-weighted index returns that include firms listed in the Main Market of BK. Expressed in percentages.
Δ^{US}	The federal fund's upper limit of the target rate change. Expressed in percentages.
$\Delta_{surprise}^{US}$	The unexpected component of Δ^{US} , measured using the change in the futures contract's price relative to the day prior to the policy action.
$\Delta_{predicted}^{US}$	The expected component of Δ^{US} measured as Δ^{US} minus $\Delta_{surprise}^{US}$.
Δ^{KW}	The CBK's discount rate change. Expressed in percentages.
$\Delta_{predicted}^{KW}$	The expected component of Δ^{KW} which is assumed to be equal to Δ^{US} .
$\Delta_{surprise}^{KW}$	The unexpected component of Δ^{KW} measured as Δ^{KW} minus $\Delta_{predicted}^{KW}$.
Pos^{US}	A dummy variable if $\Delta_{surprise}^{US}$ is positive.
Pos^{KW}	A dummy variable if $\Delta_{surprise}^{KW}$ is positive.
Neg^{US}	A dummy variable if $\Delta_{surprise}^{US}$ is negative.
Neg^{KW}	A dummy variable if $\Delta_{surprise}^{KW}$ is negative.
$NoSurprise^{US}$	A dummy variable if $\Delta_{surprise}^{KW}$ is zero.
$NoSurprise^{KW}$	A dummy variable if $\Delta_{surprise}^{US}$ is zero.
$Contraction^{US}$	A dummy variable if Δ^{US} is positive.
$Contraction^{KW}$	A dummy variable if Δ^{KW} is positive.
$Expansion^{US}$	A dummy variable if Δ^{US} is negative.
$Expansion^{KW}$	A dummy variable if Δ^{KW} is negative.
$NoChange^{US}$	A dummy variable if Δ^{US} is zero.
$NoChange^{KW}$	A dummy variable if Δ^{KW} is zero.
SP_{500}	The S&P 500 return expressed in percentages.
$Shock_{Info}$	A dummy variable if $\Delta_{surprise}^{US}$ moves in the same direction as SP_{500} on FOMC announcement date.
$Shock_{Mon}$	A dummy variable if $\Delta_{surprise}^{US}$ moves in the opposite direction as SP_{500} on FOMC announcement date.
$NoShock$	A dummy variable if $\Delta_{surprise}^{US}$ is zero.

BK officially took over KSE's role in April 2016 after it upgraded the exchange's infrastructure and business environment to meet international standards.³ For instance, collecting the required data for this research is possible only because BK, in collaboration with Thomson Reuters as part of the BK reforms, started providing the public with updated data.

We manually collect all the Federal Open Meeting Committee (FOMC) announcement dates and document the Fed upper limit target rate change, if any, Δ^{US} for our sample period. We collect the dates of all Kuwait discount rate changes, Δ^{KW} , from the CBK press releases.⁴ Given that our method is structured as an event study, pinpointing the precise moment when information regarding the rate change was made public is crucial. Considering Kuwait's time zone, the Fed and the CBK typically announce changes in the interest rate when the KSE is closed. Consequently, we merge announcement dates with the KSE opening day, $t+1$, since this is the first day that the KSE investors can respond to the announcement.

Kuwait's currency is pegged to a basket of currencies instead of only the US dollar. This gives Kuwait a unique monetary policy relative to the other Gulf Cooperation Council (GCC) countries. This regime offers Kuwait some flexibility to deviate from the Fed policy changes more often than an economy with a complete peg to the dollar, Shambaugh (2004).

Throughout our sample period for KSE, from May 2012 to February 2024, the Fed announced 23 fund rate target changes, Δ^{US} . During the same period, CBK announced 15 discount rate changes, Δ^{KW} , with 11 of these coinciding with the Fed's target rate changes. On 12 occasions, CBK kept its policy rate unchanged despite the Fed announcing a change. Conversely, there were four instances when CBK adjusted the discount rate despite the Fed rate remaining unchanged.

We follow Kuttner (2001) and decompose Δ^{US} into expected, Δ^{US} -predicted, and unexpected Δ^{US} surprise components based on the change in the futures contract's price relative to the day before the policy action.⁵ Considering that the con-

³ Some reforms and improvements included the following: adopting a comprehensive corporate governance framework to ensure transparency, accountability, and fairness, as well as introducing circuit breakers, price limits, and short-selling regulations.

⁴ All CBK press releases can be found on the CBK website: CBK Press Release

⁵ The futures implied rate is 100 minus the contract's price. The contracts, officially named "30-Day Federal Funds Futures," are traded on the Chicago Board of Trade.

tract’s settlement price is based on the monthly average Federal Funds rate, the change in the contract price needs to be scaled by a factor related to the number of days in the month affected by the change, which is as follows:

$$\Delta_{surprise}^{US} = \frac{D}{D - d}(f_{m,d} - f_{m,d-1}) \quad (1)$$

where d is the day of the month, D is the number of days in the current month, $f_{m,d}$ is the future implied rate in a given month, m , and on a given day, d .⁶ To calculate the expected component $\Delta_{predicted}^{US}$ we subtract the surprise component, $\Delta_{surprise}^{US}$, from the actual change, Δ^{US} :

$$\Delta_{predicted}^{US} = \Delta^{US} - \Delta_{surprise}^{US} \quad (2)$$

Δ^{KW} is broken down into expected, $\Delta_{predicted}^{KW}$ and unexpected, $\Delta_{surprise}^{KW}$, components such that $\Delta_{predicted}^{KW}$ is equal to Δ^{US} because our default assumption is that CBK follows the Fed’s monetary policy. The surprise component is any deviation from the expected, which is as follows:

$$\Delta_{surprise}^{KW} = \Delta^{KW} - \Delta_{predicted}^{KW} \quad (3)$$

We refine our analysis by differentiating between monetary shocks ($Shock_{Mon}$) and information shocks ($ShockInfo$) in accordance with Jarocinski and Karadi (2020). $Shock_{Mon}$ is identified when the S&P 500 (SP_{500}) exhibits movement in the opposite direction to the $\Delta_{surprise}^{US}$ on the day of the announcement. Conversely, $ShockInfo$ is noted when the $SP500$ moves in the same direction as the $\Delta_{surprise}^{US}$. In instances where $\Delta_{surprise}^{US}$ equals zero, the event is classified as no shock ($NoShock$).

Our methodology, an event study approach, includes only scheduled FOMC announcements or CBK discount rate adjustment days.⁷ Observations preceding public holidays on KSE are excluded to mitigate the confounding effects of information released during the holidays. This is also supported by Alsabah and Alsabah (2023), who documented a holiday effect in the KSE market. Furthermore, we omit unscheduled FOMC announcements from our dataset due to their rarity and their tendency to occur in reaction to significant economic changes, such as those observed during the initial phase of the COVID-19 pandemic in 2020. This selection process yields 83 observations for the Fed sample and 87 observations

⁶ For the first day of the month, we use the last day of the previous month, $f_{m-1,D}$. The unscaled future rate reduces any end-of-the-month noise whenever the contract falls in the last three days of the month.

⁷ The FOMC convenes eight scheduled meetings annually.

for the CBK sample, with the CBK sample including four additional observations due to discount rate changes announced outside of FOMC meeting schedules.

Table 2. Descriptive Statistics for 2012-2024 Sample Period

Panel A: The table presents the summary statistics for KSE data merged with FOMC announcement dates between May 2012 and February 2024, representing 83 Fed observations. Variables are defined in Table 1.

Panel A						
	Obs.	Min	Max	Median	Mean	Std.Dev
VW_{RE}	83	-2.165	3.901	0.06	0.159	0.891
VW_{Banks}	83	-1.348	3.154	0.147	0.227	0.689
VW_{Tele}	83	-2.79	2.916	0.038	0.169	1.043
VW	83	-0.856	2.157	0.152	0.18	0.576
FedTarget	83	0.25	5.5	0.5	1.449	1.649
Δ^{US}	83	-0.5	0.75	0	0.069	0.204
$\Delta^{US}_{surprise}$	83	-0.288	0.259	0	0.003	0.053
$\Delta^{US}_{predicted}$	83	-0.259	0.783	0	0.066	0.197
SP_{500}	83	-2.851	2.624	-0.021	-0.006	1.066
$Shock_{Info}$	83	0	1	0	0.157	0.366
$Shock_{Mon}$	83	0	1	0	0.169	0.377
NoShock	83	0	1	1	0.675	0.471
NoChange ^{US}	83	0	1	1	0.723	0.45
Contraction ^{US}	83	0	1	0	0.229	0.423
Expansion ^{US}	83	0	1	0	0.048	0.215
NoSurprise ^{US}	83	0	1	1	0.675	0.471
Pos ^{US}	83	0	1	0	0.193	0.397
Neg ^{US}	83	0	1	0	0.133	0.341

Panel B: The table presents the summary statistics for KSE data merged with FOMC announcement dates or CBK discount rate changes between May 2012 and February 2024, representing 87 CBK observations. Variables are defined in Table 1.

Panel B

	Obs.	Min	Max	Median	Mean	Std.Dev
VW_{RE}	87	-2.165	3.901	0.06	0.168	0.879
VW_{Banks}	87	-1.348	3.154	0.136	0.208	0.681
VW_{Tele}	87	-2.79	2.916	0.038	0.163	1.021
VW	87	-0.856	2.157	0.118	0.168	0.567
CBKTarget	87	1.5	4.25	2.25	2.523	0.773
Δ^{KW}	87	-0.5	0.5	0	0.029	0.129
$\Delta^{KW}_{predicted}$	87	-0.5	0.75	0	0.066	0.2
$\Delta^{KW}_{surprise}$	87	-0.75	0.5	0	-0.037	0.185
SP_{500}	87	-2.851	2.624	-0.019	0.006	1.077
$Shock_{Info}$	87	0	1	0	0.149	0.359
$Shock_{Mon}$	87	0	1	0	0.161	0.37
NoShock	87	0	1	1	0.69	0.465
NoChange ^{KW}	87	0	1	1	0.828	0.38
Contraction ^{KW}	87	0	1	0	0.138	0.347
Expansion ^{KW}	87	0	1	0	0.034	0.184
NoSurprise ^{KW}	87	0	1	1	0.77	0.423
Pos ^{KW}	87	0	1	0	0.069	0.255
Neg ^{KW}	87	0	1	0	0.161	0.37

Table 2 presents the summary statistics of our samples, with Panel A showing the Fed sample and Panel B showing the CBK sample. From Panel A, we observe that Kuwait's value-weighted index VW does not deviate as much compared to SP_{500} during FOMC announcement dates, indicating that VW might be less responsive or less impacted by Δ^{US} relative to SP_{500} . The standard deviation of SP_{500} is almost double that of VW . All three sectors, VW_{RE} , VW_{Tele} , and VW_{Banks} , experi-

ence higher deviation than VW , hinting that these sectors are more responsive to changes in monetary policies on average relative to the other omitted sectors, such as Industrials and Basic Materials.

During our sample period, the median Fed upper limit target was 0.5% since the Fed only started to increase its target in December 2015 after the 2008 crises, while Covid in 2020 drove the target back down to 0.25% for a while. 72% of the data, or 60 observations, experience zero Δ^{US} . Only four observations out of the 23 Δ^{US} changes are categorized as expansions in our sample since the Fed target rate, for the most part, in our sample period is already low, ranging from 0.25% to 0.5%.

Furthermore, 19% of $\Delta^{US}_{surprise}$ are positive, denoted as Pos^{US} , and 13% are negative, denoted as Neg^{US} . Around 16% of the shocks are classified as $Shock_{Info}$, while 17% are identified as $Shock_{Mon}$. Panel B of Table 2 exhibits similar trends as Panel A, with a few exceptions. First, the CBK target rate is relatively higher than the Fed target rate since Kuwait sets its discount rate 1% above the Fed target on average.⁸ Second, CBK is less likely to change its discount rate, with 83% of Δ^{KW} showing no change relative to 72% of Δ^{US} showing no change. Finally, $\Delta^{KW}_{surprise}$ are negatively skewed with 16% of the sample Neg^{KW} and only 7% of the sample Pos^{KW} .

Table 3 provides summary statistics for our sample from April 2018 to February 2024, a period marked by BK's segmenting the market into Premier and Main Markets. $VW_{Premier}$ exhibits greater responsiveness toward FOMC announcements than VW_{Main} , as indicated by its higher standard deviation. Panel A of Table 3 largely mirrors the trends observed in Panel A of Table 2, albeit with notable distinctions. Firstly, the median Fed target rate in this later period is significantly higher, at 2%, compared to 0.5% in Table 2. Secondly, the Fed's activity increased from 2018 to 2024, with 40% of observations witnessing a Δ^{US} change, in contrast to 28% in Table 2. Moreover, instances of both $Shock_{Mon}$ and $Shock_{Info}$ have seen a slight uptick in this sample compared to Table 2. Panel B of Table 3 follows a similar trend to Panel A.

⁸ from September 2020, the Federal Reserve's upper limit target was higher than the CBK discount rate for the first time in our sample.

Table 3. Descriptive Statistics for 2018-2024 Sample Period

Panel A: The table presents summary statistics for KSE data, merged with FOMC announcement dates spanning from April 2018 to February 2024. This period marks the start of Bursa Kuwait's providing separate indices for the Premier and Main Markets. The variables involved are detailed in Table 1.

Panel A

	Obs.	Min	Max	Median	Mean	Std.Dev
VW_{Main}	42	-0.765	1.878	-0.014	0.06	0.454
$VW_{Premier}$	42	-1.111	1.705	0.249	0.243	0.681
VW	42	-0.856	1.754	0.159	0.195	0.58
FedTarget	42	0.25	5.5	2	2.345	1.895
Δ^{US}	42	-0.5	0.75	0	0.101	0.271
$\Delta^{US}_{surprise}$	42	-0.288	0.259	0	0.006	0.074
$\Delta^{US}_{predicted}$	42	-0.259	0.783	0	0.095	0.262
SP_{500}	42	-2.851	2.624	-0.054	-0.077	1.288
$Shock_{Info}$	42	0	1	0	0.19	0.397
$Shock_{Mon}$	42	0	1	0	0.214	0.415
NoShock	42	0	1	1	0.595	0.497
NoChange ^{US}	42	0	1	1	0.595	0.497
Contraction ^{US}	42	0	1	0	0.31	0.468
Expansion ^{US}	42	0	1	0	0.095	0.297
NoSurprise ^{US}	42	0	1	1	0.595	0.497
Pos ^{US}	42	0	1	0	0.238	0.431
Neg ^{US}	42	0	1	0	0.167	0.377

Panel B: The table presents summary statistics for KSE data, merged with FOMC announcement dates or CBK discount rate changes spanning from April 2018 to February 2024. This period marks the start of Boursa Kuwait’s providing separate indices for the Premier and Main Markets. The variables involved are detailed in Table 1.

Panel B

	Obs.	Min	Max	Median	Mean	Std.Dev
VW_{Main}	45	-0.765	1.878	0.031	0.064	0.439
$VW_{Premier}$	45	-1.111	1.705	0.183	0.221	0.667
VW	45	-0.856	1.754	0.152	0.179	0.567
CBKTarget	45	1.5	4.25	3	2.783	0.966
Δ^{KW}	45	-0.25	0.5	0	0.044	0.144
$\Delta^{KW}_{predicted}$	45	-0.5	0.75	0	0.094	0.263
$\Delta^{KW}_{surprise}$	45	-0.75	0.5	0	-0.05	0.242
SP_{500}	45	-2.851	2.624	-0.021	-0.058	1.303
$Shock_{Info}$	45	0	1	0	0.178	0.387
$Shock_{Mon}$	45	0	1	0	0.2	0.405
$NoShock$	45	0	1	1	0.622	0.49
$NoChange^{KW}$	45	0	1	1	0.778	0.42
$Contraction^{KW}$	45	0	1	0	0.178	0.387
$Expansion^{KW}$	45	0	1	0	0.044	0.208
$NoSurprise^{KW}$	45	0	1	1	0.622	0.49
Pos^{KW}	45	0	1	0	0.133	0.344
Neg^{KW}	45	0	1	0	0.244	0.435

Event Study Results

KSE 2012-2024 Sample

We examine the reactions of KSE to unanticipated changes in monetary policy enacted by the CBK and the Fed. Our analysis method employs an event study approach, similar to Bernanke and Kuttner (2005). Considering that both the Fed's fund target rate and CBK discount rate change announcements occurred when BK was closed, t , we observe the initial market reaction to the monetary policy announcement on the following day, $t+1$.⁹ We run the following Ordinary Least Square (OLS) regressions to test any market response toward monetary policy changes:

$$Index_t = \beta_0 + \beta_1 * \Delta^{US}_t + \epsilon \quad (4)$$

$$Index_t = \beta_0 + \beta_1 * \Delta_{USsurprise,t} + \beta_2 * \Delta_{USpredicted,t} + \epsilon \quad (5)$$

Table 4 is structured as follows: Columns 1 and 4 analyze the full dataset, whereas Columns 2 and 5 focus on monetary shocks ($Shock_{Mon}$), and Columns 3 and 6 focus on informational shocks ($Shock_{Info}$). In Panel A, the results from Columns 1 to 3 show that VW is responsive to changes in Δ^{US} , primarily in the monetary shock sample, as shown in Column 2. Columns 4 to 6 decompose Δ^{US} into its predicted ($\Delta^{US}_{predicted}$) and surprise ($\Delta^{US}_{surprise}$) components. Here, the coefficient for $\Delta^{US}_{predicted}$ is consistently negative and statistically significant across all samples. The behavior of $\Delta^{US}_{surprise}$ varies depending on the shock type, by Jarocinski and Karadi (2020). Specifically, the coefficient is negative for the monetary shock sample and positive for the informational shock sample, with statistical significance achieved only for the informational shock sample, as shown in Column 6.

Panel A of Table 4 provides evidence supporting Hypothesis 2, particularly within the informational shock sample, Column 6. This follows from the $\Delta^{US}_{surprise}$ component's magnitude, which is nearly fivefold that of the $\Delta^{US}_{predicted}$ component. Although the $\Delta^{US}_{surprise}$ is much larger than $\Delta^{US}_{predicted}$ for the monetary shock sample, Column 5, it is not statistically significant. Furthermore, the results confirm Hypothesis 4, illustrating that the sign of the $\Delta^{US}_{surprise}$ coefficient is driven by the shock type, consistent with the analysis by Jarocinski and Karadi (2020). This evidence allows us to rule out Hypotheses 3c and 3d since KSE reacts to the anticipated portion of Δ^{US} . Hypothesis 3a seems to be the primary channel driving the results. KSE participants are not sophisticated enough to price the Fed's future price data,

⁹ For convenience and consistency, we label $t+1$ as t in our Equations.

unlike the scenario proposed by Hypothesis 3b, where the reaction is to outdated news. This inference is supported by the ability of KSE participants to differentiate between information and monetary shocks.

Table 4. Monetary Policy Impact

Panel A: The first three columns of this table present the findings from Equation 4, which examines the regression of one-day value-weighted equity returns on Fed rate changes. Columns 4 through 6 present the outcomes from Equation 5, decomposing the Fed’s rate changes into expected and surprise components. Columns 1 and 4 make use of all the events. To isolate the effects of specific types of shocks, we exclude information shocks in Columns 2 and 5, whereas in Columns 3 and 6, we exclude monetary shocks. The variables are defined in Table 1. *, **, and *** denote two-sided statistical significance at the 10%, 5%, and 1% levels, respectively. The *t*-statistics are shown and calculated using heteroskedasticity-robust standard errors.

Panel A						
<i>VW</i>						
	(1)	(2)	(3)	(4)	(5)	(6)
Δ^{US}	-0.449 <i>t</i> = -1.471	-0.683 <i>t</i> = -2.787***	-0.366 <i>t</i> = 1.171			
$\Delta^{US}_{surprise}$				2.180 <i>t</i> = 2.312**	-2.360 <i>t</i> = -0.568	2.457 <i>t</i> = 2.849***
$\Delta^{US}_{predicted}$				-0.641 <i>t</i> = -3.177***	-0.657 <i>t</i> = -2.756***	-0.564 <i>t</i> = -2.992***
Constant	0.211 <i>t</i> = 2.900***	0.240 <i>t</i> = 3.292***	0.181 <i>t</i> = 2.257**	0.215 <i>t</i> = 3.177***	0.240 <i>t</i> = 3.272***	0.184 <i>t</i> = 2.481**
Observations	83	70	69	83	70	69
Adjusted <i>R</i> ²	0.013	0.030	0.003	0.065	0.017	0.071

Panel B: Repeats the same analysis as Panel A but uses CBK discount rate changes rather than the Fed's target rate. The variables are defined in Table 1.

Panel B

	<i>VW</i>					
	(1)	(2)	(3)	(4)	(5)	(6)
$\Delta^{KW}_{surprise}$				0.038	-0.057	0.074
				<i>t</i> = 0.103	<i>t</i> = -0.154	<i>t</i> = 0.209
$\Delta^{KW}_{predicted}$				-0.400	-0.693	-0.294
				<i>t</i> = -0.903	<i>t</i> = -1.821*	<i>t</i> = -0.662
Constant	0.176	0.192	0.150	0.196	0.222	0.165
	<i>t</i> = 2.695***	<i>t</i> = 2.831***	<i>t</i> = 2.085**	<i>t</i> = 2.771***	<i>t</i> = 3.126***	<i>t</i> = 2.131**
Observations	87	74	73	87	74	73
Adjusted <i>R</i> ²	-0.008	-0.009	-0.012	-0.001	0.012	-0.012

Panel B reveals that KSE is not responsive to Δ^{KW} , $\Delta^{KW}_{predicted}$, and $\Delta^{KW}_{surprise}$. These findings align with those of Brusa et al. (2019), which underscore the Fed's unique global influence, surpassing the effects of domestic central bank actions.¹⁰ Such evidence supports Hypothesis 1, suggesting that KSE exhibits a more pronounced reaction to the Fed's target rate changes than changes in the CBK's discount rate. Furthermore, Panel A's *R*-squared is higher than Panel B's, indicating that Δ^{US} and its components are a better fit in explaining variations of KSE returns relative to the domestic Δ^{KW} and its components.

Sector Response

In Tables 5, 6, and 7, we investigate Hypothesis 5, which posits that the impact of monetary policy varies across different sectors. Our analysis targets explicitly the banking, real estate, and telecommunications sectors. Table 5 reveals that the banking sector's response mirrors that of the overall KSE index, as detailed in Table 4. This outcome is unsurprising, given that banks constitute the largest sector in the KSE, accounting for up to 60% of its market value.

¹⁰ The outcomes remain qualitatively unchanged when excluding the four observations where the CBK adjusted their discount rate independently of FOMC announcements.

Table 5. Monetary Policy Impact on the Banking Sector

Panel A: Replicate the analysis conducted in Panel A of Table 4, with the modification of substituting VW with VW_{Banks} as the dependent variable. The variables are defined in Table 1. *, **, and *** denote two-sided statistical significance at the 10%, 5%, and 1% levels, respectively. The t -statistics are shown and calculated using heteroskedasticity-robust standard errors.

Panel A

	VW_{Banks}					
	(1)	(2)	(3)	(4)	(5)	(6)
Δ^{US}	-0.281	-0.609	-0.191			
	$t = -0.899$	$t = -2.117^{**}$	$t = -0.603$			
$\Delta^{US}_{surprise}$				2.449	3.621	2.429
				$t = 2.384^{**}$	$t = 0.601$	$t = 2.487^{**}$
$\Delta^{US}_{predicted}$				-0.481	-0.675	-0.375
				$t = -2.154^{**}$	$t = -2.374^{**}$	$t = -1.757^{*}$
Constant	0.247	0.278	0.219	0.251	0.278	0.222
	$t = 2.864^{***}$	$t = 3.184^{***}$	$t = 2.320^{**}$	$t = 3.058^{***}$	$t = 3.153^{***}$	$t = 2.462^{**}$
Observations	83	70	69	83	70	69
Adjusted R2	-0.005	0.011	-0.011	0.031	0.003	0.023

Panel B: Replicate the analysis conducted in Panel B of Table 4, with the modification of substituting VW with VW_{Banks} as the dependent variable. The variables are defined in Table 1.

Panel B

	VW_{Banks}					
	(1)	(2)	(3)	(4)	(5)	(6)
Δ^{KW}	0.093	-0.058	0.221			
	$t = 0.196$	$t = -0.114$	$t = 0.464$			
$\Delta^{KW}_{surprise}$				0.320	0.164	0.411
				$t = 0.612$	$t = 0.299$	$t = 0.785$

**Table 5. Monetary Policy Impact on the Banking Sector
(Cont.) Panel B**

	VW_{Banks}					
	(1)	(2)	(3)	(4)	(5)	(6)
$\Delta_{predicted}^{KW}$				-0.017 $t = -0.033$	-0.429 $t = -0.789$	0.129 $t = 0.251$
Constant	0.206 $t = 2.652^{***}$	0.219 $t = 2.720^{***}$	0.178 $t = 2.087^{**}$	0.222 $t = 2.655^{***}$	0.247 $t = 2.909^{***}$	0.189 $t = 2.092^{**}$
Observations	87	74	73	87	74	73
Adjusted R2	-0.011	-0.014	-0.012	-0.015	-0.006	-0.021

Panel A of Table 6 demonstrates that the real estate sector consistently reacts negatively to Δ^{US} across all samples/shocks, as shown in Columns 1 to 3. The analysis in Columns 4 to 6 further reveals that this impact originates from the anticipated component $\Delta_{predicted}^{US}$. The magnitude and statistical significance of $\Delta_{surprise}^{KW}$ within the information shock sample are smaller when compared to the overall KSE indices, as presented in Table 4. This observation suggests that, unlike the banking sector, the real estate sector exhibits a lower sensitivity to information shocks.

Table 6. Monetary Policy Impact on the Real Estate Sector

Panel A: Replicate the analysis conducted in Panel A of Table 4, with the modification of substituting VW with VW_{RE} as the dependent variable. The variables are defined in Table 1. *, **, and *** denote two-sided statistical significance at the 10%, 5%, and 1% levels, respectively. The t -statistics are shown and calculated using heteroskedasticity-robust standard errors.

Panel A

	VW_{RE}					
	(1)	(2)	(3)	(4)	(5)	(6)
Δ^{US}	-0.770 $t = -2.576^{**}$	-0.867 $t = -2.620^{***}$	-0.679 $t = -2.278^{**}$			
$\Delta_{surprise}^{US}$				0.169 $t = 0.341$	-8.527 $t = -1.442$	0.639 $t = 1.937^*$

**Table 6. Monetary Policy Impact on the Real Estate Sector
(Cont.) Panel A**

	VW_{RE}					
	(1)	(2)	(3)	(4)	(5)	(6)
$\Delta_{predicted}^{US}$				-0.839 $t = -2.799^{***}$	-0.747 $t = -2.167^{**}$	-0.772 $t = -2.643^{***}$
Constant	0.213 $t = 2.014^{**}$	0.211 $t = 1.716^*$	0.211 $t = 1.767^*$	0.214 $t = 2.017^{**}$	0.210 $t = 1.714^*$	0.212 $t = 1.772^*$
Observations	83	70	69	83	70	69
Adjusted R2	0.019	0.011	0.010	0.010	0.008	0.003

Panel B: Replicate the analysis conducted in Panel B of Table 4, with the modification of substituting VW with VW_{RE} as the dependent variable. The variables are defined in Table 1.

Panel B

	VW_{RE}					
	(1)	(2)	(3)	(4)	(5)	(6)
Δ^{KW}	-1.163 $t = -2.950^{***}$	-1.069 $t = -2.566^{**}$	-1.067 $t = -2.683^{***}$			
$\Delta_{surprise}^{KW}$				-0.786 $t = -1.972^{**}$	-0.803 $t = -1.920^*$	-0.752 $t = -1.896^*$
$\Delta_{predicted}^{KW}$				-1.347 $t = -2.991^{***}$	-1.512 $t = -2.908^{***}$	-1.219 $t = -2.657^{***}$
Constant	0.202 $t = 2.069^{**}$	0.198 $t = 1.774^*$	0.210 $t = 1.908^*$	0.228 $t = 2.218^{**}$	0.232 $t = 1.940^*$	0.229 $t = 1.984^{**}$
Observations	87	74	73	87	74	73
Adjusted R2	0.018	0.008	0.013	0.020	0.010	0.008

In Panel B, the real estate sector appears to be more influenced by changes in domestic discount rates than adjustments to the Fed’s target rate. This is evidenced by the larger magnitude of Δ^{KW} observed in Columns 1 to 3. Furthermore, the sector’s valuation tends to decrease when the CBK discount rate, Δ^{KW} , diverges from

the Fed’s rate, Δ^{US} , particularly when Δ^{KW} exceeds Δ^{US} on a specific date. The distinct influence of Δ^{KW} on the real estate sector could be attributed to the inherently leveraged nature of real estate operations, coupled with the direct linkage of their borrowing costs to the domestic discount rate, as opposed to the Fed’s target rate.

Panel A of Table 7 highlights the telecommunications sector as the most reactive to Δ^{US} and its predicted component, $\Delta^{US}_{predicted}$. This observation aligns with Bernanke and Kuttner (2005), who noted the telecommunications sector’s pronounced sensitivity to monetary policy within the US market. This large responsiveness can be attributed to the sector’s relatively higher risk profile than the average industry, as detailed by Bernanke and Kuttner (2005). Besides its increased sensitivity, the telecommunications sector’s reactions closely follow the patterns observed in the KSE index shown in Table 4.

Table 7. Monetary Policy Impact on the Telecommunications Sector

Panel A: Replicate the analysis conducted in Panel A of Table 4, with the modification of substituting VW with VW_{Tele} as the dependent variable. The variables are defined in Table 1. *, **, and *** denote two-sided statistical significance at the 10%, 5%, and 1% levels, respectively. The t -statistics are shown and calculated using heteroskedasticity-robust standard errors.

Panel A						
	VW_{Tele}					
	(1)	(2)	(3)	(4)	(5)	(6)
Δ^{US}	-1.109	-1.937	-0.727			
	$t = -2.072^{**}$	$t = -3.419^{***}$	$t = -1.408$			
$\Delta^{US}_{surprise}$				1.080	-19.165	2.257
				$t = 1.011$	$t = -1.759^*$	$t = 4.179^{***}$
$\Delta^{US}_{predicted}$				-1.269	-1.668	-0.937
				$t = -2.461^{**}$	$t = -3.024^{***}$	$t = -1.912^*$
Constant	0.246	0.305	0.211	0.249	0.302	0.214
	$t = 2.060^{**}$	$t = 2.328^{**}$	$t = 1.726^*$	$t = 2.115^{**}$	$t = 2.386^{**}$	$t = 1.785^*$
Observations	83	70	69	83	70	69
Adjusted R2	0.035	0.085	0.011	0.037	0.117	0.030

Panel B: Replicate the analysis conducted in Panel B of Table 4, with the modification of substituting VW with VW_{Tele} as the dependent variable. The variables are defined in Table 1.

Panel B

	VW_{Tele}					
	(1)	(2)	(3)	(4)	(5)	(6)
Δ^{KW}	-0.845 $t = -1.268$	-0.934 $t = -1.286$	-0.670 $t = -1.033$			
$\Delta^{KW}_{surprise}$				-0.136 $t = -0.231$	-0.239 $t = -0.377$	-0.236 $t = -0.423$
$\Delta^{KW}_{predicted}$				-1.191 $t = -1.610$	-2.094 $t = -2.646^{***}$	-0.879 $t = -1.218$
Constant	0.187 $t = 1.653^*$	0.204 $t = 1.618$	0.177 $t = 1.557$	0.236 $t = 2.042^{**}$	0.291 $t = 2.286^{**}$	0.203 $t = 1.728^*$
Observations	87	74	73	87	74	73
Adjusted R^2	-0.0003	-0.001	-0.004	0.023	0.070	-0.002

Panel B, however, indicates a lack of response from the telecommunications sector to Δ^{KW} , $\Delta^{KW}_{predicted}$, and $\Delta^{KW}_{surprise}$. An exception is observed for $\Delta^{KW}_{predicted}$ in Column 4 because Δ^{US} and $\Delta^{KW}_{predicted}$ are, by definition, equivalent to one another.

KSE 2018-2024 Sample and Segment Response

In Table 8, we examine Hypothesis 6, which posits that the responsiveness of the KSE market to monetary policy changes is likely to have increased after 2018. This anticipated change is attributed to internal reforms that have enhanced efficiency and facilitated global integration by attracting more foreign investments into the market. The findings in Table 8 confirm Hypothesis 6, as evidenced by the larger magnitude of all coefficients compared to those in Table 4. For instance, Column 5 of Panel A, which focuses on monetary shocks, reveals that a 25-basis point rise in $\Delta^{US}_{predicted}$ leads to a 0.23% decline in KSE valuation. This is a more pronounced decrease than the 0.16% reduction observed in Table 4. Overall, the data in Table 8 imply that the results from Table 4 are predominantly attributable to the later period of our analysis, during which Boursa Kuwait transitioned from being classified as a frontier market to an emerging market.

Table 8. Monetary Policy Impact on the KSE Post-2018

Panel A: Replicate the analysis conducted in Panel A of Table 4, with the modification of utilizing the latter period of the sample, post-March 2018. The variables are defined in Table 1. *, **, and *** denote two-sided statistical significance at the 10%, 5%, and 1% levels, respectively. The t -statistics are shown and calculated using heteroskedasticity-robust standard errors.

Panel A						
<i>VW</i>						
	(1)	(2)	(3)	(4)	(5)	(6)
Δ^{US}	-0.579	-0.936	-0.416			
	$t = -1.597$	$t = -3.395^{***}$	$t = -1.110$			
$\Delta^{US}_{surprise}$				2.326	-2.188	2.560
				$t = 2.170^{**}$	$t = -0.481$	$t = 2.638^{***}$
$\Delta^{US}_{predicted}$				-0.798	-0.920	-0.634
				$t = -3.613^{***}$	$t = -3.372^{***}$	$t = -2.977^{***}$
Constant	0.254	0.287	0.217	0.256	0.287	0.219
	$t = 2.343^{**}$	$t = 2.875^{***}$	$t = 1.748^*$	$t = 2.765^{***}$	$t = 2.847^{***}$	$t = 2.087^{**}$
Observations	42	34	33	42	34	33
Adjusted R^2	0.050	0.128	0.012	0.181	0.102	0.179

Panel B: Replicate the analysis conducted in Panel B of Table 4, with the modification of utilizing the latter period of the sample, post-March 2018. The variables are defined in Table 1.

Panel B						
<i>VW</i>						
	(1)	(2)	(3)	(4)	(5)	(6)
Δ^{KW}	-0.543	-0.735	-0.440			
	$t = -0.996$	$t = -1.774^*$	$t = -0.777$			
$\Delta^{KW}_{surprise}$				-0.154	-0.471	-0.179
				$t = -0.287$	$t = -1.017$	$t = -0.343$

**Table 8. Monetary Policy Impact on the KSE Post-2018
(Cont.) Panel B**

	<i>VW</i>					
	(1)	(2)	(3)	(4)	(5)	(6)
$\Delta_{predicted}^{KW}$				-0.670 <i>t</i> = -1.002	-1.298 <i>t</i> = -2.317**	-0.526 <i>t</i> = -0.780
Constant	0.203 <i>t</i> = 2.085**	0.218 <i>t</i> = 2.231**	0.176 <i>t</i> = 1.603	0.235 <i>t</i> = 2.157**	0.273 <i>t</i> = 2.648***	0.197 <i>t</i> = 1.609
Observations	45	37	36	45	37	36
Adjusted <i>R</i> ²	-0.004	0.011	-0.014	0.022	0.102	-0.019

In Tables 9 and 10, we investigate Hypothesis 7, which anticipates that the Premier Market, as detailed in Table 9, exhibits a higher responsiveness to monetary policy changes compared to the Main Market, as illustrated in Table 10. Notably, in Column 5 of Panel A, the effect size of $\Delta_{predicted}^{US}$ in the Premier Market (Table 9) is nearly twice as large as that observed in the Main Market (Table 10). Moreover, it appears that the Main Market ceases to react to $\Delta_{surprise}^{US}$ in the context of information shocks, as evidenced in Column 6 of Table 10.

Table 9. Monetary Policy Impact on the Premier Market Segment

Panel A: Replicate the analysis conducted in Panel A of Table 8, with the modification of substituting *VW* with $VW_{Premier}$ as the dependent variable. The variables are defined in Table 1. *, **, and *** denote two-sided statistical significance at the 10%, 5%, and 1% levels, respectively. The *t*-statistics are shown and calculated using heteroskedasticity-robust standard errors.

Panel A

	$VW_{Premier}$					
	(1)	(2)	(3)	(4)	(5)	(6)
Δ^{US}	-0.652 <i>t</i> = -1.536	-1.090 <i>t</i> = -3.133***	-0.428 <i>t</i> = -1.004			
$\Delta_{surprise}^{US}$				2.734 <i>t</i> = 2.189**	-4.773 <i>t</i> = -0.803	3.117 <i>t</i> = 2.866***

**Table 9. Monetary Policy Impact on the Premier Market Segment
(Cont.) Panel A**

<i>VW_{Premier}</i>						
	(1)	(2)	(3)	(4)	(5)	(6)
$\Delta_{predicted}^{US}$				-0.907	-1.043	-0.687
				<i>t</i> = -3.409***	<i>t</i> = -3.170***	<i>t</i> = -2.861***
Constant	0.309	0.335	0.253	0.312	0.335	0.255
	<i>t</i> = 2.424**	<i>t</i> = 2.870***	<i>t</i> = 1.786*	<i>t</i> = 2.852***	<i>t</i> = 2.872***	<i>t</i> = 2.159**
Observations	42	34	33	42	34	33
Adjusted <i>R</i> ²	0.044	0.128	0.004	0.173	0.109	0.190

Panel B: Replicate the analysis conducted in Panel B of Table 8, with the modification of substituting *VW* with *VW_{Premier}* as the dependent variable. The variables are defined in Table 1.

Panel B

<i>VW_{Premier}</i>						
	(1)	(2)	(3)	(4)	(5)	(6)
Δ^{KW}	-0.601	-0.837	-0.511			
	<i>t</i> = -0.939	<i>t</i> = -1.683*	<i>t</i> = -0.773			
$\Delta_{surprise}^{KW}$				-0.167	-0.531	-0.262
				<i>t</i> = -0.251	<i>t</i> = -0.921	<i>t</i> = -0.423
$\Delta_{predicted}^{KW}$				-0.744	-1.491	-0.593
				<i>t</i> = -0.942	<i>t</i> = -2.172**	<i>t</i> = -0.762
Constant	0.247	0.251	0.208	0.282	0.315	0.228
	<i>t</i> = 2.149**	<i>t</i> = 2.185**	<i>t</i> = 1.649*	<i>t</i> = 2.209**	<i>t</i> = 2.597***	<i>t</i> = 1.625
Observations	45	37	36	45	37	36
Adjusted <i>R</i> ²	-0.006	0.009	-0.014	0.015	0.099	-0.026

Table 10. Monetary Policy Impact on the Main Market Segment

Panel A: Replicate the analysis conducted in Panel A of Table 8, with the modification of substituting VW with VW_{Main} as the dependent variable. The variables are defined in Table 1. *, **, and *** denote two-sided statistical significance at the 10%, 5%, and 1% levels, respectively. The t -statistics are shown and calculated using heteroskedasticity-robust standard errors.

Panel A

	VW_{Main}					
	(1)	(2)	(3)	(4)	(5)	(6)
Δ^{US}	-0.375	-0.482	-0.355			
	$t = -1.600$	$t = -2.543^{**}$	$t = -1.384$			
$\Delta^{US}_{surprise}$				0.804	5.441	0.589
				$t = 0.825$	$t = 1.600$	$t = 0.570$
$\Delta^{US}_{predicted}$				-0.464	-0.558	-0.424
				$t = -2.394^{**}$	$t = -2.871^{***}$	$t = -2.013^{**}$
Constant	0.098	0.159	0.115	0.099	0.158	0.115
	$t = 1.228$	$t = 1.849^*$	$t = 1.190$	$t = 1.296$	$t = 1.845^*$	$t = 1.230$
Observations	42	34	33	42	34	33
Adjusted R^2	0.026	0.028	0.017	0.043	0.045	0.015

Panel B: Replicate the analysis conducted in Panel B of Table 8, with the modification of substituting VW with VW_{Main} as the dependent variable. The variables are defined in Table 1.

Panel B

	VW_{Main}					
	(1)	(2)	(3)	(4)	(5)	(6)
Δ^{KW}	-0.319	-0.371	-0.155			
	$t = -0.821$	$t = -1.115$	$t = -0.431$			
$\Delta^{KW}_{surprise}$				-0.042	-0.228	0.137
				$t = -0.148$	$t = -0.807$	$t = 0.568$

**Table 10. Monetary Policy Impact on the Main Market Segment
(Cont.) Panel B**

	<i>VW</i> _{Main}					
	(1)	(2)	(3)	(4)	(5)	(6)
Δ^{KW} _{predicted}				-0.410 <i>t</i> = -0.990	-0.675 <i>t</i> = -1.757*	-0.250 <i>t</i> = -0.606
Constant	0.079 <i>t</i> = 1.111	0.134 <i>t</i> = 1.718*	0.088 <i>t</i> = 1.053	0.101 <i>t</i> = 1.294	0.164 <i>t</i> = 1.959*	0.112 <i>t</i> = 1.209
Observations	45	37	36	45	37	36
Adjusted R2	-0.012	-0.014	-0.027	0.006	0.007	-0.007

Conclusion

Our investigation into the effects of monetary policy on the KSE reveals a dynamic and evolving market response. Significantly, the post-2018 period marks a shift, with the KSE demonstrating increased responsiveness to monetary policy changes. This heightened sensitivity is attributable to substantial internal reforms and enhanced global integration, improving market efficiency and attracting greater foreign investment. Our findings reveal that the KSE's reaction to monetary policy changes is responsive toward the Fed's target rate rather than the CBK's discount rate, highlighting the nuanced interplay between the Fed's uniquely strong influences and the limited CBK domestic impact.

The differential impact on the Premier and Main Markets further delineates the complexity of these responses, with the Premier Market exhibiting a more pronounced sensitivity to monetary policy shifts. These results suggest that higher standards of transparency and liquidity improve market integration with global events, especially since the Premier Market, unlike the Main Market, is allowed to receive foreign institutional investment. Moreover, the real estate sector's nuanced behavior underscores the diverse mechanisms through which monetary policy influences equity markets.

Our analysis has focused on the distinction between the effects of information and monetary shocks on market behavior. Information shocks, especially those related to the Fed's target rate, show a stronger reaction within the KSE, suggest-

ing that KSE investors are sophisticated enough to be sensitive to global monetary policy cues. However, we recognize certain limitations that open avenues for future research. Firstly, while our analysis captures the macro-level impact of monetary policy changes on the KSE, it does not delve into micro-level investor behavior. Secondly, the temporal gap between the opening hours of the KSE and the timing of Fed announcements could result in the KSE responding to additional information beyond our primary focus, potentially introducing noise into our measurements. Understanding these dynamics could offer deeper, more accurate insights into the mechanisms driving KSE's response to policy changes.

Thus, our research creates a pathway for future academic research. First, researchers may investigate why Kuwait's equity market, except the real estate sector, appears indifferent toward domestic monetary policy. Second, further research may also explore the specific characteristics of the real estate sector that make it susceptible to domestic monetary policy changes. Does the high capital intensity and long-term nature of real estate investments make this sector more sensitive to interest rate changes? Or are there other factors at play? Thirdly, the observed asymmetry, where the anticipated components predominantly drive monetary shocks, whereas the unanticipated components drive information shocks' impact, raises intriguing questions about the underlying mechanisms. This divergence likely stems from market participants' expectations and the nature of information dissemination.

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