INVESTMENT POLICY STATEMENT

A monthly review of the markets

Stone Harbor
INVESTMENT PARTNERS
A Virtus Investment Partner

JULY 2023

Tracking the Lags in Monetary Policy Transmission

In our previous issue, we highlighted what we think is perhaps the most important economic question at this time, given the significant and successive interest rate hikes implemented since March of last year: **have the effects of tightening—both in terms of economic activity and inflation—been fully realized or are they still filtering through the economy?** In this issue, we focus on one way in which economists assess the effects of monetary policy shocks through the work of Christina and David Romer. Extending their work to look at the typical response of a broader range of data to a monetary policy shock provides additional insight on where the economy is in its response to monetary tightening. This work buttresses our central view that the sharp policy tightening is still filtering through economic activity, while providing some data to watch to see if we are diverging from that path.

"Patience is necessary, and one cannot reap immediately where one has sown."

– Soren Kierkegaard, Philosopher

The proposition that most of the effects from policy tightening have already been felt is predicated on several arguments. First, some Financial Conditions Indexes (FCIs) have not tightened meaningfully from late last year, suggesting that all the effects of tightening are already reflected. Second, residential investment—the most interest rate sensitive sector—has shown signs of stabilization, leading some market participants to conclude that the stabilization in this sector is evidence of an end to policy drag. And third, the labor market remains solid, with unemployment only modestly off its lows and payroll growth robust, but, in our view, perhaps too robust given where the Fed would like to see overall employment.

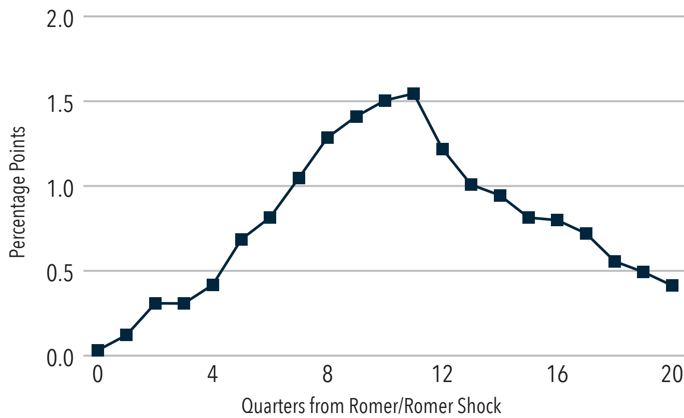
One very useful approach to assessing the effects of monetary policy shocks is the narrative work of Christina and David Romer. Their approach examines historical minutes and Fed transcripts to identify significant contractionary and expansionary monetary policy shocks, then traces out their impact on broad activity and inflation. As this narrative approach pertains to the current economic environment, analysis of available policy records suggests that a contractionary monetary shock likely occurred in 2022; our take is the monetary shock occurred in Q2, though Romer and Romer have tentatively pointed at Q3. Their results from previous monetary policy shocks then implies that there is still substantial further deceleration to come in aggregate measures for both activity and inflation.

We extend Romer and Romer's analysis to the subcomponents of GDP and several other important data series. This exercise allows us to assess with more granularity how tightening has rotated through the economy in the past, and then benchmark where we are now relative to history across a range of sectors/data points, and gauge where future weakness may arise.

To start, we replicate their results on the effects of contractionary shock on unemployment (see Figure 1). The analysis shows a relatively muted impact for the first three to four quarters, followed by a more significant upswing over the next several quarters, reaching a maximum impact 11 quarters from the initial shock, which with our Q2 2022 starting point would be early 2025.

We can also examine how a typical shock has rotated through the economy: what components of GDP get impacted first and which ones initially hold up, but then later see a drag from policy tightening.

FIGURE 1:
RESPONSE OF UNEMPLOYMENT TO ROMER/ROMER SHOCK



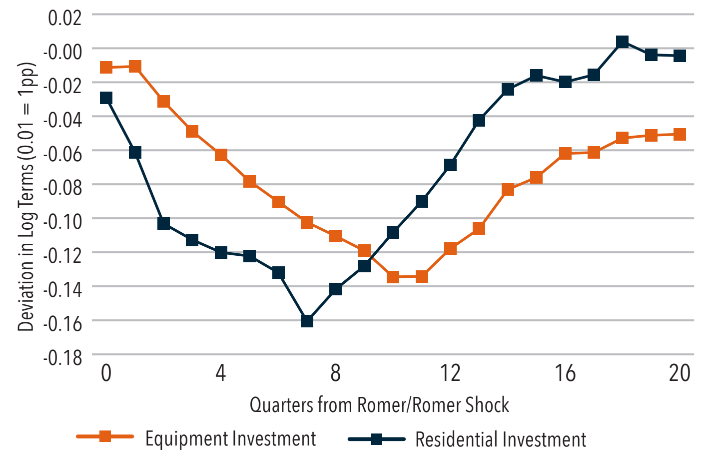
As of 30 June 2023. Sources: Bureau of Labor Statistics and Stone Harbor Investment Partners calculations. For illustrative purposes only.

We use two types of graphs to illustrate the dynamic response to a shock. First, what economists call the "impulse response" to Romer shock tightening cycle. This looks at the deviation of the GDP component from what it would have been in the absence of a contractionary policy shock, in log terms. For example, a reading of -0.10 on the impulse response chart corresponds to the level of that component of GDP 10 percent lower than it otherwise would have been due to the effects of the shock. The second chart relates to this cycle and shows the current realized level of the GDP components versus two things: 1) the no shock counterfactual, or what you would have expected the path to be without the monetary policy tightening (shown in light blue) and 2) the expected path with a monetary policy shock (shown in orange). This allows us to see if the variable is, so far, tracking as we expect following a monetary policy shock.

The rest of this piece will focus on a several important selected components of GDP, and other employment measures, though we have looked at the responses of a broader range, to illustrate some of the main pathways and how they are evolving, as well as how the lags differ across different sectors of the economy. Specifically, we first look at some of the investment components of GDP, before turning to consumption and then payrolls.

Let us first look at residential investment, one of the first sectors to experience a significant downdraft from tightening. As Figure 2 shows, residential investment in the GDP accounts drops quickly for the first several quarters following the shock. Then, after about a year, some leveling off appears typical, followed by a further downswing, though we are cognizant of the risks from overinterpreting the point estimates of the potential leveling out right around where we are now. Overall, however, the current episode has seen a much sharper and quicker downswing than the typical Romer/Romer tightening. This suggests to us the potential for stabilization going forward, given that residential

FIGURE 2:
RESPONSE OF INVESTMENT COMPONENTS OF GDP TO A ROMER/ ROMER SHOCK

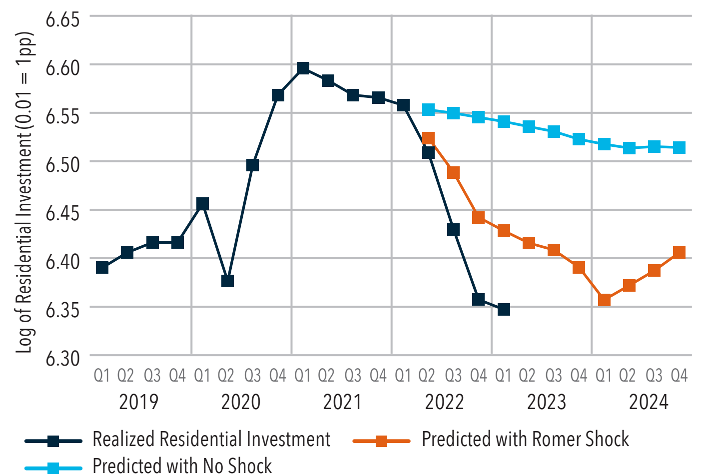


As of 30 June 2023. Sources: Bureau of Economic Analysis and Stone Harbor Investment Partners calculations. For illustrative purposes only.

investment has already dropped more than usual (see Figure 3). Nevertheless, we cannot rule out a scenario where a pause is followed by a further downswing.

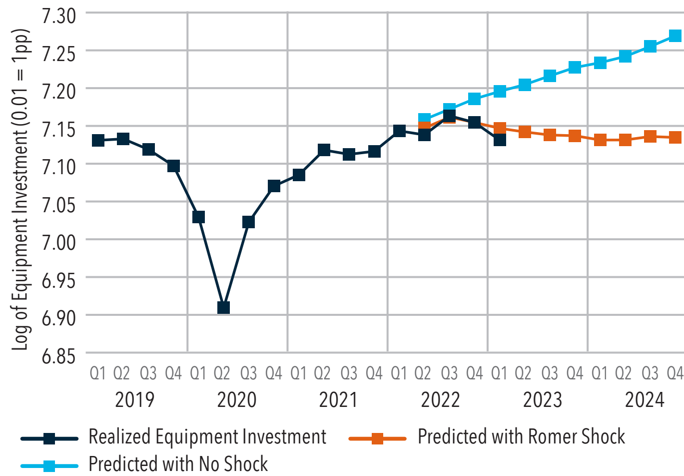
Next, we turn to equipment investment. Our analysis suggests that here there is likely further drag to come. This is another interest rate-sensitive sector, where higher rates make investment more costly for firms. As shown in Figure 2, the impact is relatively muted immediately after the shock, but then mounts over the next ten quarters. Where are we on it now? Since we are only about four quarters from the shock, this analysis suggests that the drag from this will continue to weigh on growth over the next year. Figure 4 shows that the actual data is tracking quite closely to the path so far and point to little recovery over the next several quarters.

FIGURE 3:
CURRENT CYCLE HAS SEEN EVEN MORE RESIDENTIAL INVESTMENT DRAG THAN USUAL



As of 30 June 2023. Sources: Bureau of Economic Analysis and Stone Harbor Investment Partners calculations. For illustrative purposes only.

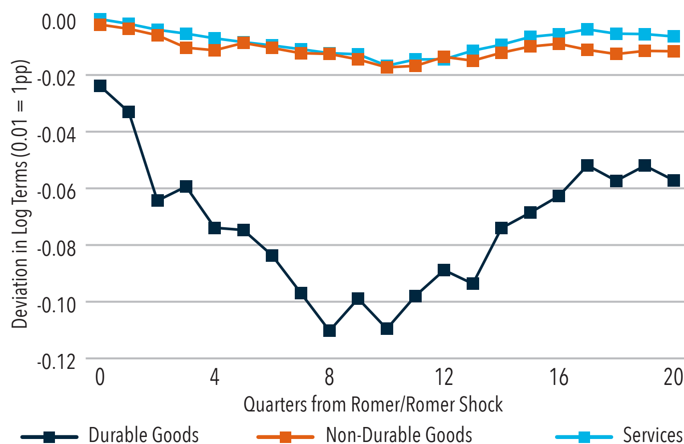
FIGURE 4:
REALIZED EQUIPMENT INVESTMENT TRACKING ROMER/ROMER PATH CLOSELY SO FAR



As of 30 June 2023. Sources: Bureau of Economic Analysis and Stone Harbor Investment Partners calculations. For illustrative purposes only.

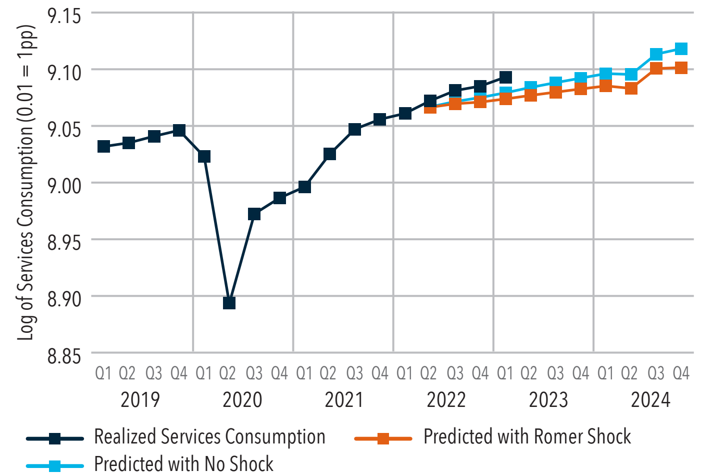
Consumption has also seen impacts of prior tightening cycles, and the timing of the impact has, like with investment, varied. Figure 5 illustrates the impulse response of the components of consumption, and here several things stand out. First, the magnitude of the drag is very different: durables swing down around 10%, with a pretty immediate effect. In contrast, non-durables and services see falls of only about 2%, though given their higher share of GDP, those are still significant aggregate effects. With non-durable and services, we also note that it takes longer for shock effects to build, with only a third to a half of the effects showing up over the first year. Comparing the current paths to the predicted trajectory of the model, both forms of goods consumption are essentially tracking as predicted. But, as Figure 6 shows, services has been much stronger. Here the unusual dynamics likely play a role, with the recovery of services consumption from its pandemic-induced slump overwhelming any effects of monetary policy so far.

FIGURE 5:
RESPONSE OF CONSUMPTION COMPONENTS OF GDP TO A ROMER/ROMER SHOCK



As of 30 June 2023. Sources: Bureau of Economic Analysis and Stone Harbor Investment Partners calculations. For illustrative purposes only.

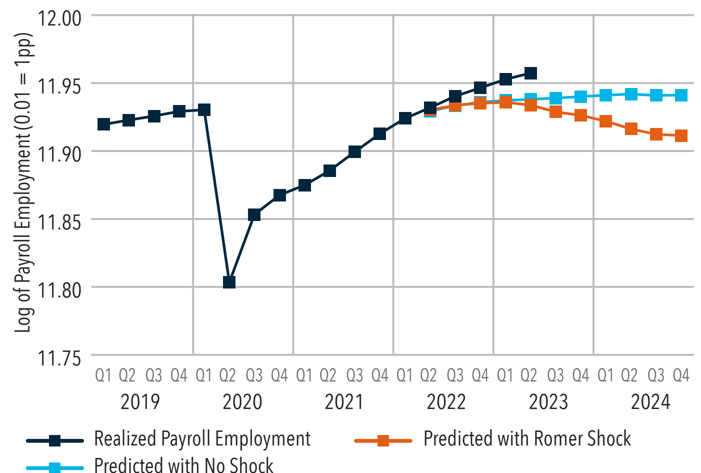
FIGURE 6:
SERVICES CONSUMPTION ABOVE WHAT WOULD BE EXPECTED, POTENTIALLY FROM ONGOING COVID REBOUND



As of 30 June 2023. Sources: Bureau of Economic Analysis and Stone Harbor Investment Partners calculations. For illustrative purposes only.

Finally, we turn away from GDP to the labor market and look at payroll employment. We omit the impulse response here, but it is similar to what we can see back in Figure 1 for unemployment: muted initial effects for the first year, and then a pickup. The current episode has seen stronger growth than either the shock or no shock typical path (see Figure 7), which, in our judgment, also reflects the ongoing—unusual—dynamics of the recovery from the pandemic. Looking forward, however, the shock versus no shock paths start to diverge. In other words, the labor market response to a shock usually takes a while to materialize, so the robust behavior of employment so far should give only limited comfort that there isn't more strength ahead.

FIGURE 7:
PAYROLL EMPLOYMENT



As of 30 June 2023. Sources: Bureau of Labor Statistics and Stone Harbor Investment Partners calculations. For illustrative purposes only.

There are caveats to this analysis—every cycle has its idiosyncrasies, there have been structural changes in the economy, and the transmission mechanism of policy over time and the pandemic's aftereffects could still matter. But, on balance, this exercise makes us more confident that there is still drag from policy tightening working its way through the economy. What we are seeing so far isn't, in composition and timing, diverging materially from what we typically see after a Romer monetary policy shock. And, most importantly, a typical Romer policy shock has further to run.

So, what else are we still watching to see if that is right? An important area we are monitoring is services consumption, to see if we detect a potential slowing, as it typically does from here. A potential drop-off in structures investment is another area to monitor. Though here there is the substantial caveat that large policy changes—the CHIPS and IRA pieces of legislation—are working in the other direction and could offset the usual dynamics. And, perhaps most importantly, we are watching closely for a potential sharper move down in employment growth.

While questions around the lagged effects of monetary tightening remain critically important, recent data on U.S. inflation and economic activity appear encouraging, in our view, and increase the probabilities on some of our more benign scenarios. As of 30 June 2023, we had assigned a 10% probability to a lower inflation scenario; we now assign a 20% probability to this outcome. Our base case probability of a "softish landing" has increased slightly from 40% to 45%. We assign a probability of 35% to a global recession scenario over the next twelve months. Finally, we eliminated an outcome of stubbornly sticky inflation, where core inflation remained around 5%.

Outside of the U.S., our most recent macroeconomic scenario analysis reflects China's subdued growth outlook, in contrast with our prior base case expectation for China's growth to reaccelerate due to reopening. However, we also see disinflation and easier monetary policy supporting growth among many EM countries outside of China by boosting domestic demand in the second half of 2023.

JUNE CREDIT MARKET TOTAL RETURNS & ATTRIBUTION

	U.S. High Yield	EM Hard	Loans	EM Local	EM Corp	Euro High Yield	IG Corporate
Total Return	1.63	2.23	2.24	3.26	1.08	0.70	0.13
Duration (Returns from Interest Rates %)	-0.90	-0.80	0.49	-0.82	-0.78	-0.97	-0.86
Credit Beta (Returns from Spreads %)	2.53	3.03	1.75	4.08	1.86	1.67	0.99

Month Ended 30 June 2023. Performance reflects representative asset class benchmarks. HY: ICE BofAML U.S. High Yield Constrained Index; EMD: J.P. Morgan EMBI Global Diversified; EMDLC: J.P. Morgan GBI-EM Global Diversified; EMDCR: J.P. Morgan Corporate Emerging Markets Bond Index Broad Diversified; EUR HY: ICE BofAML European Currency High Yield 2% Constrained Ex Financial; IG Corp: Bloomberg Global Agg Corporate Index; Loans: Morningstar LSTA U.S. Leveraged Loan Index. **Past performance is not a guarantee of future results.** Returns are shown gross of fees. For illustrative purposes only.

"Softish" Landing (45%)

- Tighter financial conditions, induced by higher Fed policy rates, and fading rebound from COVID continue meaningfully slowing growth.
- Slower growth rotates from interest rate sensitive sectors, such as housing, that now stabilize, to the consumer and business investment.
- The Russia-Ukraine War, and resulting sanctions, continues.
- U.S. growth remains positive, though anemic. Eurozone growth also slow.
- China growth remains subdued, as the reopening boost failed to trigger sustained growth acceleration. The continuing housing slump and weak global growth prevent a more dynamic rebound.
- Growth in other EMs supported by rate cuts in the second half of 2023 and domestic demand, offsetting drag from low DM growth. Commodity exporters still benefit from supportive terms of trade.
- U.S. core PCE remains elevated, dragged up by services inflation, though with some relief from goods prices. Labor market space starts to open, so inflation starts to moderate further, though run-rate is still above target.
- Fed hikes rates at July meeting, but following that incoming data soft enough that the Fed remains on hold. Balance sheet runoff at sustained $95bn/month pace.
- ECB continues to hike into the second half of the year.
- Rate cuts across many EMs following lower inflation pressures. China keeps bias towards accommodative monetary policy, and will roll out incremental stimulus measures, but high debt levels prevent the aggressive use of credit policies.
- Oil prices little changed: ~$80/barrel WTI, Brent ~$85.

Global Recession (35%)

- Tighter fiscal and monetary policies combine with persistent banking issues and associated credit contraction to tip global economies into recession.
- Worries about commercial real estate losses exacerbate credit crunch.
- U.S. growth fades through the summer and into fall. Interest rate sensitive sectors—housing, business investment, and durables—continue to lead the downshift, and then typical recessionary dynamics take hold in the labor market and weakness spreads.
- With contracting activity and sluggish consumer demand, inflation moderates rapidly.
- European growth follows U.S. growth downward. The recession spills over into other DM and EM economies, though they perform relatively better than the U.S./EZ.
- China recovery stalls amid global growth headwind and initially tighter financial conditions. Policy stimulus limits downside.
- Broadly, sanctions against Russia remain in place.
- Fed rate hikes resume in July and continue to do so into the fall; rates increase to nearly 6%.
- Rate hikes finally stop as payrolls turn negative. As recession dynamics take hold, the FOMC reverses course and starts to cut the funds rate. By Q2 2024, rates are back to around 2½% with potential for further cuts. Balance sheet shrinkage stops, but purchases do not restart.
- ECB lifts rates by 25bp/meeting into the fall, as inflation remains sticky, then pauses. Eurozone growth also stalls and then contracts. ECB likewise begin reversing hikes.
- EM economies policy stance also shifts, with more decisive cuts than in base case scenario.
- Oil: WTI at ~$55/barrel; Brent ~$60/barrel.

Inflation Reverses Course, Leading the Fed to Also Reverse Course (20%)

- Inflation proves more sensitive to slower growth than expected; core inflation rates drop quickly. Goods prices don't just stop increasing, but reverse some of the post-COVID run-up, while, with lower wage growth, services prices moderate.
- With inflation cooling rapidly and growth below trend, the Fed starts to reverse course in Q1 2024. Market prices in further cuts ahead and a rebound of growth back toward potential.
- Other DMs and EMs also see meaningful inflation and wage pressure moderation. As a result, there are similar policy rate pullbacks.
- Dollar broadly gives back some of the outsize 2022 gains.
- Oil: WTI at ~$80/barrel; Brent ~$85/barrel.

	"Softish" Landing (45%)	Global Recession (35%)	Inflation Reverses Course (20%)
U.S. Real 4Q GDP (%)	0.75	-1.50	1.50
Fed Funds (%)	5.38	2.63	4.13
U.S. Core PCE (%)	3.15	2.50	2.50
2yr Treasury (%)	4.75	1.75	3.25
10yr Treasury (%)	3.50	1.75	2.75
10yr Bund (%)	2.50	0.25	0.75
China 4Q GDP (%)	4.50	3.00	4.75
EM 4Q GDP (%)	4.00	1.75	4.25

[1]Forecast Period: Next 12 months. Source: Stone Harbor.

STONE HARBOR INVESTMENT PARTNERS

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- Institutional fixed income investment firm focused on credit risk strategies and asset allocation
- Over 30-year performance history
- Offices in New York, London, and Singapore
- Effective January 1, 2022, Stone Harbor Investment Partners is an affiliate of Virtus Investment Partners

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Index Definitions

The **J.P. Morgan CEMBI Broad Diversified (CEMBI Broad Diversified)** tracks total returns of U.S. dollar-denominated debt instruments issued by corporate entities in emerging market countries and consists of an investable universe of corporate bonds. The minimum amount outstanding required is $350 mm for the CEMBI Broad Diversified. The CEMBI Broad Diversified limits the weights of those index countries with larger corporate debt stocks by only including a specified portion of these countries' eligible current face amounts of debt outstanding.

The **J.P. Morgan EMBI Global Diversified (EMBI Global Diversified)** limits the weights of those index countries with larger debt stocks by only including specified portions of these countries' eligible current face amounts outstanding. The countries covered in the EMBI Global Diversified are identical to those covered by the EMBI Global.

The **J.P. Morgan GBI-EM Global Diversified (GBI EM Global Diversified)** consists of regularly traded, liquid fixed-rate, domestic currency government bonds to which international investors can gain exposure. The weightings among the countries are more evenly distributed within this index.

The **ICE BofAML European Currency Non-Financial High Yield 2% Constrained Index** contains all non-Financial securities in the ICE BofAML European Currency High Yield Index but caps issuer exposure at 2%. Index constituents are capitalization-weighted, based on their current amount outstanding, provided the total allocation to an individual issuer does not exceed 2%. Issuers that exceed the limit are reduced to 2% and the face value of each of their bonds is adjusted on a pro-rata basis. Similarly, the face values of bonds of all other issuers that fall below the 2% cap are increased on a pro-rata basis.

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The **Morningstar LSTA U.S. Leveraged Loan Index** is a daily total return index that uses LSTA/LPC Mark-to-Market Pricing to calculate market value change. On a real-time basis, the index tracks the current outstanding balance and spread over LIBOR for fully funded term loans. The facilities included in the Index represent a broad cross section of leveraged loans syndicated in the United States, including dollar-denominated loans to overseas issuers.

The **Bloomberg U.S. Aggregate Index** is a broad base, market capitalization-weighted bond market index representing intermediate term investment grade bonds traded in the United States.

The **Bloomberg Global Aggregate Bond Index** provides a broad-based measure of the global investment grade fixed-rate debt markets. It is comprised of the U.S. Aggregate, PanEuropean Aggregate, and the Asian-Pacific Aggregate Indexes. It also includes a wide range of standard and customized subindices by liquidity constraint, sector, quality, and maturity.

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Main Office - New York
31 W. 52 Street
16th Floor
New York, NY 10019
+ 1 212 548 1200

London Office
48 Dover Street
5th Floor
London W1S 4FF
+ 44 20 3205 4100

Singapore Office
3 Killiney Road
Winsland House 1
Singapore 239519
+ 65 6671 9711

shipemd.com

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