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AN APPLE INC CASE STUDY:

QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

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Apple Inc 2017 - Quantitative and Qualitative Disclosures About Market Risk

Read the extracts on the following pages from Apple's September 2017 report to shareholders and answer the questions below.

1. What is Apple's transaction exposure?
2. What competitive risk does Apple face as a result of this exposure?
3. How does Apple account for the management of it's translation exposure?
4. Which derivative instruments does Apple use to manage its exposures?
5. Which exposures does the company seek to protect in its currency hedging?
6. Why might Apple choose not to hedge exposures?
7. How does Apple manage its transaction exposure?
8. How does Apple account for the effective and the ineffective portions of the gain or loss on derivative instruments?
9. How does Apple manage the currency risk on its foreign currency denominated term debt?
10. What are the challenges faced by Apple in managing their currency risk?
11. Summarise how Apple identifies, measures and manages currency risk

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Foreign Currency Risk

In general, the Company is a net receiver of currencies other than the U.S. dollar. Accordingly, changes in exchange rates, and in particular, a strengthening of the U.S. dollar, will negatively affect the Company's net sales and gross margins as expressed in U.S. dollars. There is a risk that the Company will have to adjust local currency product pricing due to competitive pressures when there has been significant volatility in foreign currency exchange rates.

The Company may enter into foreign currency forward and option contracts with financial institutions to protect against foreign exchange risks associated with certain existing assets and liabilities, certain firmly committed transactions, forecasted future cash flows and net investments in foreign subsidiaries. In addition, the Company has entered, and in the future may enter, into foreign currency contracts to partially offset the foreign currency exchange gains and losses on its foreign-denominated debt issuances. The Company typically hedges portions of its forecasted foreign currency exposure associated with revenue and inventory purchases, typically for up to 12 months. However, the Company may choose not to hedge certain foreign exchange exposures for a variety of reasons, including but not limited to accounting considerations and the prohibitive economic cost of hedging particular exposures.

To provide a meaningful assessment of the foreign currency risk associated with certain of the Company's foreign currency derivative positions, the Company performed a sensitivity analysis using a value-at-risk ("VAR") model to assess the potential impact of fluctuations in exchange rates. The VAR model consisted of using a Monte Carlo simulation to generate thousands of random market price paths assuming normal market conditions. The VAR is the maximum expected loss in fair value, for a given confidence interval, to the Company's foreign currency derivative positions due to adverse movements in rates. The VAR model is not intended to represent actual losses but is used as a risk estimation and management tool. Forecasted transactions, firm commitments and assets and liabilities denominated in foreign currencies were excluded from the model. Based on the results of the model, the Company estimates with 95% confidence, a maximum one-day loss in fair value of $485 million as of September 30, 2017 compared to a maximum one-day loss in fair value of $434 million as of September 24, 2016. Because the Company uses foreign currency instruments for hedging purposes, the loss in fair value incurred on those instruments are generally offset by increases in the fair value of the underlying exposures.

Currency Risk Management

The Company regularly reviews its foreign exchange forward and option positions, both on a stand-alone basis and in conjunction with its underlying foreign currency and exposures. Given the effective horizons of the Company's risk management activities and the anticipatory nature of the exposures, there can be no assurance these positions will offset more than a portion of the financial impact resulting from movements in either foreign exchange or interest rates. Further, the recognition of the gains and losses related to these instruments may not coincide with the timing of gains and losses related to the underlying economic exposures and, therefore, may adversely affect the Company's financial condition and operating results.

Derivative Financial Instruments

The Company accounts for its derivative instruments as either assets or liabilities and carries them at fair value. For derivative instruments that hedge the exposure to variability in expected future cash flows that are designated as cash flow hedges, the effective portion of the gain or loss on the derivative instrument is reported as a component of AOCI in shareholders' equity and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. The ineffective portion of the gain or loss on the derivative instrument, if any, is recognised in earnings in the current period. To receive hedge accounting treatment, cash flow hedges must be highly effective in offsetting changes to expected future cash flows on hedged transactions. For options designated as cash flow hedges, changes in the time value are excluded from the assessment of hedge effectiveness and are recognised in earnings.

For derivative instruments that hedge the exposure to changes in the fair value of an asset or a liability and that are designated as fair value hedges, both the net gain or loss on the derivative instrument as well as the offsetting gain or loss on the hedged item are recognised in earnings in the current period.

For derivative instruments and foreign currency debt that hedge the exposure to changes in foreign currency exchange rates used for translation of the net investment in a foreign operation and that are designated as a net investment hedge, the net gain or loss on the effective portion of the derivative instrument is reported in the same manner as a foreign currency translation adjustment. For forward exchange contracts designated as net investment hedges, the Company excludes changes in fair value relating to changes in the forward carry component from its definition of effectiveness. Accordingly, any gains or losses related to this forward carry component are recognised in earnings in the current period.

Derivatives that do not qualify as hedges are adjusted to fair value through earnings in the current period.

Derivative Financial Instruments

The Company may use derivatives to partially offset its business exposure to foreign currency and interest rate risk on expected future cash flows, on net investments in certain foreign subsidiaries and on certain existing assets and liabilities. However, the Company may choose not to hedge certain exposures for a variety of reasons including, but not limited to, accounting considerations and the prohibitive economic cost of hedging particular exposures. There can be no assurance the hedges will offset more than a portion of the financial impact resulting from movements in foreign currency exchange or interest rates.

To help protect gross margins from fluctuations in foreign currency exchange rates, certain of the Company’s subsidiaries whose functional currency is the U.S. dollar may hedge a portion of forecasted foreign currency revenue, and subsidiaries whose functional currency is not the U.S. dollar and who sell in local currencies may hedge a portion of forecasted inventory purchases not denominated in the subsidiaries’ functional currencies. The Company may enter into forward contracts, option contracts or other instruments to manage this risk and may designate these instruments as cash flow hedges. The Company typically hedges portions of its forecasted foreign currency exposure associated with revenue and inventory purchases, typically for up to 12 months.

To help protect the net investment in a foreign operation from adverse changes in foreign currency exchange rates, the Company may enter into foreign currency forward and option contracts to offset the changes in the carrying amounts of these investments due to fluctuations in foreign currency exchange rates. In addition, the Company may use non-derivative financial instruments, such as its foreign currency denominated debt, as economic hedges of its net investments in certain foreign subsidiaries. In both of these cases, the Company designates these instruments as net investment hedges.

The Company may also enter into non-designated foreign currency contracts to partially offset the foreign currency exchange gains and losses generated by the remeasurement of certain assets and liabilities denominated in non-functional currencies.

The Company may enter into foreign currency swaps to manage currency risk on its foreign currency-denominated term debt. These instruments may offset a portion of the foreign currency remeasurement gains or losses on the Company's term debt and related interest payments. The Company designates these instruments as cash flow hedges. The Company's hedged term debt-related foreign currency transactions as of September 30, 2017 are expected to be recognised within 25 years.

Cash Flow Hedges

The effective portions of cash flow hedges are recorded in AOCI until the hedged item is recognised in earnings. Deferred gains and losses associated with cash flow hedges of foreign currency revenue are recognised as a component of net sales in the same period as the related revenue is recognised, and deferred gains and losses related to cash flow hedges of inventory purchases are recognised as a component of cost of sales in the same period as the related costs are recognised. Deferred gains and losses associated with cash flow hedges of interest income or expense are recognised in other income/(expense), net in the same period as the related income or expense is recognised. The ineffective portions and amounts excluded from the effectiveness testing of cash flow hedges are recognised in other income / (expense), net.

Derivative instruments designated as cash flow hedges must be de-designated as hedges when it is probable the forecasted hedged transaction will not occur in the initially identified time period or within a subsequent two-month time period. Deferred gains and losses in AOCI associated with such derivative instruments are reclassified into other income/(expense), net in the period of de-designation. Any subsequent changes in fair value of such derivative instruments are reflected in other income / (expense), net unless they are re-designated as hedges of other transactions.

Net Investment Hedges

The effective portions of net investment hedges are recorded in other comprehensive income/(loss) ("OCI") as a part of the cumulative translation adjustment. The ineffective portions and amounts excluded from the effectiveness testing of net investment hedges are recognised in other income/(expense), net.

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Here are some answers to the 12 questions compiled by IFF trainer, Alan McDougall.

1. What is Apple's transaction exposure?
The Company is a net receiver of currencies other than the U.S. dollar.

2. What competitive risk does Apple face as a result of this exposure?
There is a risk that the Company will have to adjust local currency product pricing due to competitive pressures when there has been significant volatility in foreign currency exchange rates.

3. How does Apple account for the management of it's translation exposure?
In its P&L: For derivative instruments that hedge the exposure to changes in the fair value of an asset or a liability and that are designated as fair value hedges, both the net gain or loss on the derivative instrument as well as the offsetting gain or loss on the hedged item are recognised in earnings in the current period.

4. Which derivative instruments does Apple use to manage its exposures?
Forward outrights, currency options and currency swaps.

5. Which exposures does the company seek to protect in its currency hedging?
• certain existing assets and liabilities
• certain firmly committed transactions
• forecasted future cash flows
• net investments in foreign subsidiaries
• foreign-denominated debt issuances

6. Why might Apple choose not to hedge exposures?
The Company may choose not to hedge certain foreign exchange exposures for a variety of reasons, including but not limited to, accounting considerations and the prohibitive economic cost of hedging particular exposures.

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7. How does Apple manage it's transaction exposure?
The Company typically hedges portions of its forecasted foreign currency exposure associated with revenue and inventory purchases, typically for up to 12 months.

8. How does Apple account for the effective and the ineffective portions of the gain or loss on derivative instruments?
The effective portion of the gain or loss on the derivative instrument is reported as a component of AOCI in shareholders' equity and reclassified into earnings in the same period or periods during which the hedged transaction affects earnings. The ineffective portion of the gain or loss on the derivative instrument, if any, is recognised in earnings in the current period.

9. How does Apple manage the currency risk on its foreign currency denominated term debt?
The Company may enter into foreign currency swaps to manage currency risk on its foreign currency-denominated term debt.

10. What are the challenges faced by Apple in managing their currency risk?
Given the effective horizons of the Company's risk management activities and the anticipatory nature of the exposures, there can be no assurance these positions will offset more than a portion of the financial impact resulting from movements in either foreign exchange or interest rates. Further, the recognition of the gains and losses related to these instruments may not coincide with the timing of gains and losses related to the underlying economic exposures and, therefore, may adversely affect the Company's financial condition and operating results.

11. Summarise how Apple identifies, measures and manages currency risk.
• Identify: short USD, long everything
• Measure: sensitivity of certain foreign currency derivative positions. 95% 1 day VaR USD 485,000,000
• Manage: sell currencies up to 12 months forward; currency swaps for currency debt

ENQUIRIES

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IFF provides participants in the financial markets with intensive technical training programmes designed to help them succeed on the global stage.