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Financial Group

# Setting FX budget rates

SVB Foreign Exchange Report

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# Background

- **What is a foreign exchange (FX) budget rate?**

- FX budget rates are exchange rates used to convert projected non-USD denominated revenues and expenses. They play a key role in the Financial Planning & Analysis (FP&A) process for companies operating internationally.

- **Why are they important?**

- Budget rates:

- assist global companies with the measurement & analysis of overseas business performance
  - Revenues from Europe are up 10% year-over year. Is this due to improvement in the organic business, or are they up due to the rise in the euro?
- bring structure to both internal and external communication of aggregate results.
  - More public US companies today report non-GAAP earnings which often isolate the impact from currencies.
- play an important role in determining individual performance metrics for management, treasury, and sales professionals within the organization.
  - The existence of a budget rate implies overseas business unit performance is calculated in foreign currency terms.

# Key considerations when selecting budget rates

- **A budget rate should be AOS - Attainable, Objective and Stable.**
  - Attainable: Achievable through hedging or natural offsets
  - Objective: Represent an unbiased estimate of the future exchange rate
  - Stable: Minimize 'gap' between the budget rate in one period to the next
- **Generally-speaking, corporate risk management policies seek to meet budget rates or eliminate shortfalls. Outperformance is welcomed, but generally not the policy objective.**
- **The budget rate determination process will ideally incorporate input from all major stakeholders (Management, Treasury, business units, etc.), and accountability for achieving it should be shared across the organization.**
- **Other important considerations when selecting budget rates include end-product pricing flexibility, risk tolerance, and appetite for derivative use.**

# Budget rate alternatives

## Situation

- US-based corporation needs to buy 10mio euros in 1-years' time.
- If the rate after the 1-year period is higher than the budget rate, the actual spend in USD terms will be higher than budgeted, impacting bottom-line corporate performance metrics.
- Commonly used budget rates include:
  - Current spot rate
  - Current forward rate
  - Prior-period average
  - Off-market rate
  - Consensus forecast

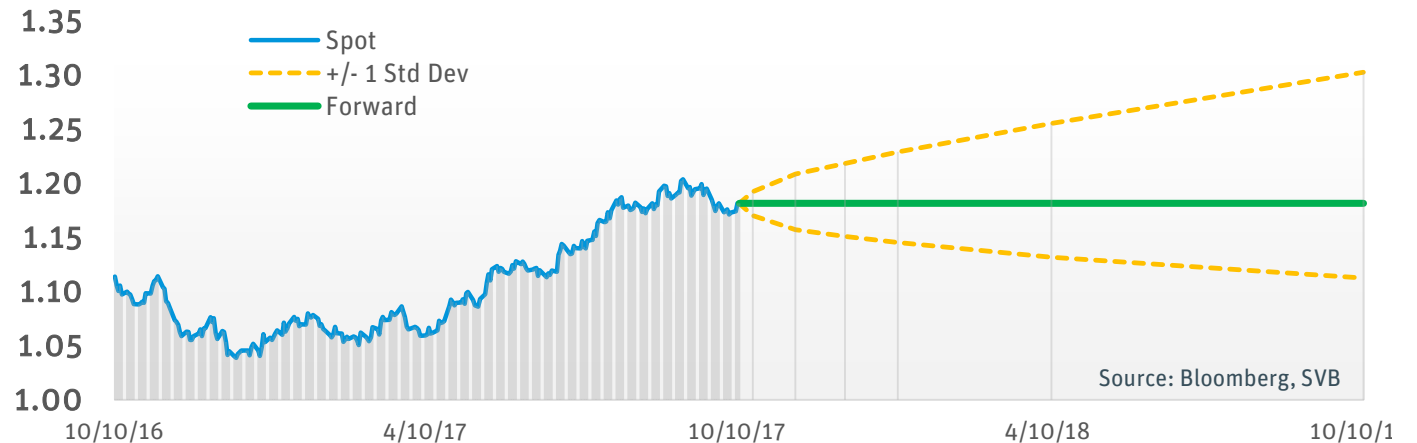
## Budget rates by methodology (as of October 2017)

	Current spot rate	Current forward rate	2017 YTD average	Off-market rate*	Consensus forecast
Budget rate	1.1800	1.1940	1.1165	1.2980	1.2000
Projected USD spend	\$ 11,800,000	\$ 11,940,000	\$ 11,165,000	\$ 12,980,000	\$ 12,000,000

\* Spot plus 1 standard deviation move

Source: Bloomberg, SVB

## EURUSD exchange rate



# Case study - Budget rate performance

## Empirical analysis

- Historical period 2006-2016
- Analysis assumes US-based corporation sets a budget rate at the start of each quarter for a euro purchase that will take place 1-year in the future (44 total 1-year periods)
- Both the frequency and the magnitude of budget rate misses (expressed as a percentage of spot) are reported for each methodology

### Interpretation of results when using the spot rate

In 22 out of 44 observations (note there are 44 1-year periods in the study), the actual rate for the euro purchase was less favorable than budget rate.

The average magnitude of the 22 misses was 7.0%, expressed as a percentage of spot. For one observation, the miss was as high as 18.5%.

### A-O-S

- A - The spot rate is attainable by hedging with forwards if the forward curve works to the hedgers advantage (not the case for buyers of euro, as the forward points are positive).
- O - The spot rate represents an unbiased estimate of the future exchange rate.
- S - The budget rate of one year can vary significantly to the budget rate of the next year, however.

(A)	(B)	(C)	(D)	(E)
Current spot rate	Current forward rate	Prior-year average	Off-market rate*	Consensus forecast

### *Percentage of time budget rate was missed*

50%	48%	41%	7%	66%
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### *Difference between budget rate & realized FX rate when budget rate is missed*

Average	7.0%	6.5%	8.7%	5.6%	8.3%
Std Dev	3.6%	3.3%	4.8%	2.0%	3.9%
Max	18.5%	18.3%	23.1%	11.1%	21.9%

### *A-O-S scale*

Attainable	Maybe	Yes	Maybe	Yes	Maybe
Objective	Yes	Yes	Yes	Yes	No
Stable	No	No	No	Maybe	No

\* Spot plus 1 standard deviation move

Source: Bloomberg, SVB

# Case study - Budget rate performance

## Empirical analysis (cont.)

### Observations

- Current Spot (A) and Current forward curve (B)  
*(A) missed budget 50% of the time and (B) missed 48% of the time*
  - The probability of meeting the budget rate when using alternatives (A) or (B) is essentially a coin toss. When there was a budget rate miss, the average magnitude of the miss was roughly 5%. Hedging with forwards and achieving (B) is always attainable. However, hedging with forwards and achieving (A) is only attainable if forward points work to the hedger's advantage.
- Prior-year average (C)  
*(C) missed budget 41% of the time*
  - The relative underperformance of using alternative (C) as the budget rate may be explained by the tendency of exchange rates to trend, as opposed to revert to the mean.
- Off-market rate strategy (D)  
*(D) missed budget 7% of the time*
  - This strategy is most successful at meeting budget rates, but the deductible is high (must accept high budget rate to buy euros at inception). This is an example of self-hedging, which is more expensive generally-speaking than derivative hedging.
- Consensus forecasts (E)  
*(E) Missed budget 66% of the time*
  - Setting budget rates according to consensus forecasts results in the highest frequency of budget rate misses and the largest divergences from plan rates (using spot rates, 'aka' relying on random chance, is better).

# Implementation

- **Risk tolerance**
  - Budget rate outperformance cannot be achieved without taking risk (i.e. remaining under-hedged) or using options.
- **Cost consideration**
  - Hedging with financial contracts is generally less costly than self-insurance (using firm capital to absorb FX losses).
- **Hedge execution**
  - With regard to hedging with forwards, locking in 100% of flows at the beginning of each year as opposed to layering or ‘averaging into the hedge’ results in an important tradeoff. The former eliminates uncertainty for the year, provided flows come in as expected, but introduces greater variation between the budget rate of one year to the next. This is often known as ‘gap’ risk. With the layering strategy, the hedge ratio is built over time (mitigating gap risk) but resulting in partial rate uncertainty within a given year.
- **Benchmarking**
  - Which budget rates are most widely used? Each choice has tradeoffs, and does vary by industry or point in life cycle.
- **Budget rate flexibility**
  - Once budget rates are set for a given year, can they be changed in response to a change in business climate or market conditions?
- **Corporate incentives**
  - Does everyone in the organization have equal incentives to avoid budget rate shortfalls, or does the responsibility sit with certain individuals?



# Bottom-line

- FX budget rate use will vary according to position in the corporate life cycle.
- Very early-stage companies will generally use budget rates on an ad hoc basis.
  - Examples: Budget rates used to price and negotiate overseas sales contracts or one-off projects in USD terms, to estimate the USD’s required to fund cost-plus entities or overseas contractors, etc.
- Later-stage companies will have more holistic strategic objectives involving FX budget rates
  - Budget rates are used:
    - as key inputs for FP&A process.
    - to communicate corporate performance to investors.
    - to establish overseas sales unit goals, etc.
  - The choice of budget rate incorporates input from all major stakeholders (Management, Treasury, business units, etc.).
  - Accountability for avoiding shortfalls to the budget rates is shared across the organization.

## Early-stage company

## Later-stage company

SVB budget rate recommendations		
Risk objective	Budget rate choice*	Risk strategy
Increase visibility of overseas transactions or business performance	FX rate sourced from a public source <sup>1</sup> or SVB FX advisor	Offset foreign currency expenses with foreign revenues, hold foreign currency deposits
Risk objective	Budget rate choice*	Risk strategy
Meet budget rate; provide FX rate certainty to the business for overseas planning and budgeting	Current forward rates	Use FX forwards, cover the entire target hedge ratio <sup>2</sup> at the time budget rate is set
Achieve smoother realized FX budget rates from one year to the next	Blend of existing/booked forward contracts and current forward rates	Use FX forwards, executed in layers <sup>3</sup>
Outperform budget rate	Off-market rate which incorporates cost of option protection	Use FX options

\* Contact [SVB FX Advisor](#) to discuss appropriate rate



1. Bloomberg.com, CNBC.com, Reuters.com, etc.  
 2. The target hedge ratio is the percentage of the total currency exposure that will be hedged according to a company’s FX hedge policy  
 3. Target hedge ratio for an individual cash flow or exposure is built up over time, generally at regular intervals or ‘layers’ such that a corporation achieves USD cost averaging

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