Steve Meizinger

Basic options for the Advanced FX trader

ISE
INTERNATIONAL SECURITIES EXCHANGE

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For the sake of simplicity, the examples that follow do not take into consideration commissions and other transaction fees, tax considerations, or margin requirements, which are factors that may significantly affect the economic consequences of a given strategy. An investor should review transaction costs, margin requirements and tax considerations with a broker and tax advisor before entering into any options strategy.

Options involve risk and are not suitable for everyone. Prior to buying or selling an option, a person must receive a copy of CHARACTERISTICS AND RISKS OF STANDARDIZED OPTIONS. Copies have been provided for you today and may be obtained from your broker, one of the exchanges or The Options Clearing Corporation. A prospectus, which discusses the role of The Options Clearing Corporation, is also available, without charge, upon request at 1-888-OPTIONS or www.888options.com.

Any strategies discussed, including examples using actual securities price data, are strictly for illustrative and educational purposes and are not to be construed as an endorsement, recommendation or solicitation to buy or sell securities.

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US dollar weekly March 20

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USD index as of March 20

What is good for the US may be bad

- The United States current account deficit - the broadest gauge of America's imbalance in relation to the rest of the world - hit a record 6.2% of gross domestic product in 2006 before receding slightly in the first half of this year

- If the US can slow it's economy, the amount of imports would more than likely moderate, if exports can be sustained the current account deficit percentage would continue to recede. US would then not need as much foreign capital to run the economy

- This does not even include the US budget deficit (Social Security, Medicare etc.) which is important, but not nearly as important as the current account deficit

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US spends more than we earn

- America must still attract some $3 billion of foreign capital each business day in order to keep its economy growing.
  - About 30% of the United States imports are from China
- There has been some recent encouragement from the export numbers relative to import numbers
  - Some strong US exporting industries include:
    - Information technology
    - Industrial materials
    - Heavy equipment
    - Specialized services

Foreign ownership of US stocks and bonds

according to Federal Reserve Board

	1982	1990	2007 2nd qtr
US Stocks	5.7%	6.9%	12.6%
US corporate bonds	11.5%	12.6%	29.1%
US Treasury bonds	15.4%	17.8%	44.6%

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Who holds all of the Treasury securities?

Country/region	Jan 01	Aug 07
Japan	30.9%	26.2%
China	6.1%	17.9%
UK	4.7%	10.9%
OPEC	4.8%	5.5%
Caribbean	3.1%	3.4%
Hong Kong	3.9%	2.5%
Taiwan	3.4%	2.3%
Germany	4.7%	2.0%

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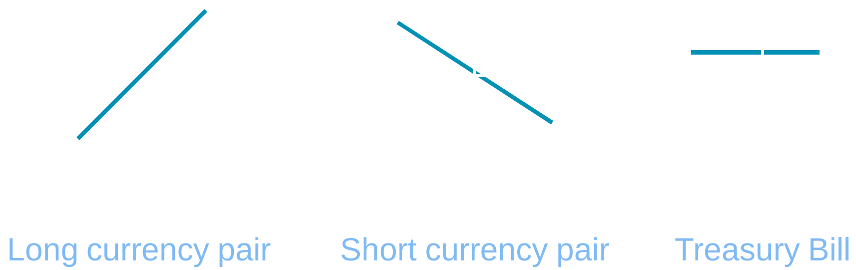
The value of the dollar is changing..

- The recent direction has been one way, that may or may not change
- The time frame of future changes and magnitude are also prime considerations when trading options
- What is your view of the US dollar?

Why Options? Why Bother?

<u>Without</u> options, these are all of the available choices.



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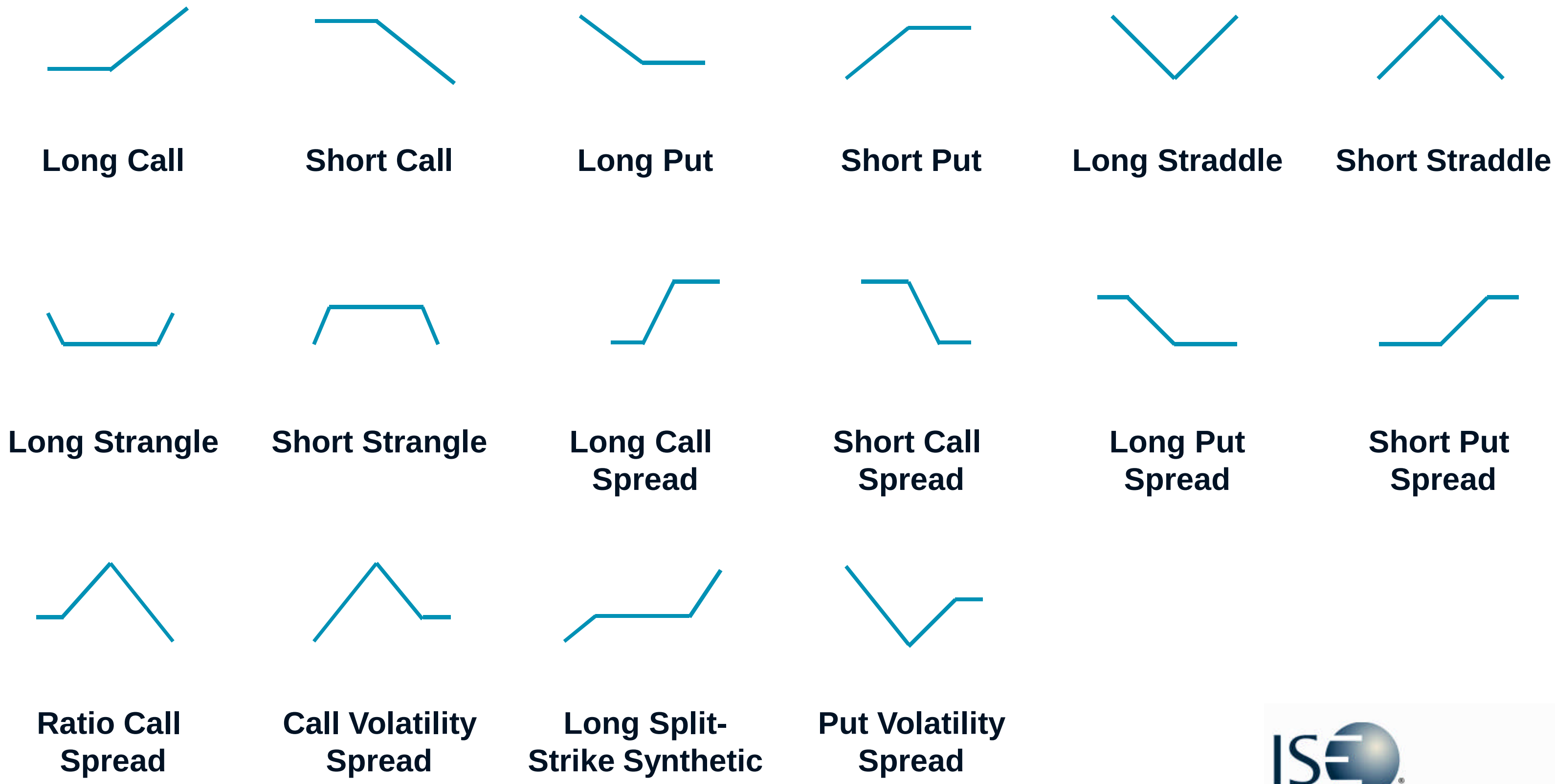

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The four basic options positions

	CALL	PUT
Buyer (long)	Right to buy	Right to sell
Seller (short)	Obligation to sell	Obligation to buy

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Option buyers have rights

Options are contracts giving the buyer:

- the right to buy or sell an asset (exchange rate) at the strike price selected for a certain period of time

- For this right the buyer pays an option premium to the option seller

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Option sellers receive obligations

Options are contracts giving the seller:

– the obligation to buy or sell an asset (exchange rate) at the strike price selected for a certain period of time

– For this obligation the seller receives the option premium from the option buyer

ISE FX options are cash settled

- The ISE FX options are cash settled and all rights and obligations are settled in US dollars and there is **no** physical delivery of any of the currencies

- Options are either traded American style or European style

- American style options can be exercised at any time up to expiration

- European style options can only be exercised at expiration (ISE FX Options are European style)

Premiums

- The premiums are multiplied by $100 determining the aggregate premium (not including the brokerage commissions)
- Option pricing models assist market participants in calculating the fair value prices, ultimately prices are based on supply and demand though
- Option models are based on probabilities
- Risk and reward tradeoffs are the essence of options

A Further Understanding of Option Premiums

- The relationships between the underlying price, the strike price, the amount of days remaining in the option's life and the volatility and the interest rate differential of the currency pair are very important in FX options pricing

Options transfer risk at a price

- Options allow for risk to be transferred from those investors willing to take additional risk

- Options are based on risk and reward, normally the greater the reward the greater the risk

Strike price

- A strike price is the price that the contract is based upon, the right to buy or sell the exchange rate at a certain price

- As an example, October 100 call is an option that gives the buyer the right to buy the asset at $100 any time until the third Friday in October

- The strike price is classified as:
  - In-the money (highest nominal value)
  - At-the money (less nominal value)
  - Out-of-the-money (lowest nominal value, but the out-of-the-money options also have the lowest probability of expiring in the money at expiration. Risk reward remain in balance

Expiration

- Options expiration occurs each month on the Saturday following the third Friday of each month, investors can select the time period that would like to forecast
- The last day of trading for expiring options is the third Friday of each month
- One example is the October expiration
- Expiring FX options will cease to trade at 12:00 New York time on expiration Friday
- Currently options can be traded with durations of up to 10 months with longer periods coming soon
- Generally time and price are directly correlated, the more time, the higher the price of an option

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Premium multiplier

- Option premiums determined by the marketplace are multiplied by $100 to obtain the actual premium amount (not including commissions)

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Moneyness (according to Wikipedia)

- **Moneyness** is a measure of the degree to which a derivative is likely to have positive monetary value at its expiration, *in the risk-neutral measure*. It can be measured in percentage probability, or in standard deviations.

Difference between the strike price and asset value (exchange rate) is measured by the term described as “moneyness”

- In-the-money- Have the highest probability of remaining in-the money, they are also the most expensive in nominal terms
- At-the-money- Balanced between the two extremes, the cost is generally less then in-the-money, but more expensive than out-of-the-money
- Out-of-the-money- Have the lowest probability of expiring in the money, lowest cost in nominal terms

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What does that all mean?

- The difference between the strike price and asset price creates the ultimate value at expiration
- The intrinsic value of an option is the value of the option if it were to be exercised immediately
- At expiration options are worth their intrinsic value or they are worth zero, if they are out of the money

How is the cost determined?

- The options cost depends on many factors, but the difference between the strike price and the exchange rate is an important one

- Also, time until expiration, the interest rate differential and the volatility of the currency pair

Option pricing is based on probabilities

- Options models give investors clues on what the values “should” be based on certain assumptions
  - Strike price - the exchange rate can be bought or sold
  - Exchange rate
  - Time left until expiration
  - Interest rates of the two countries’ risk-free rates
  - Volatility of the exchange rate pair

Interest rate differential

- Options pricing will reflect the given assumptions on the respective interest rates for the currency pair
- Investors can trade options based on these assumptions and will not have to be concerned with the overnight debits or credits that impact spot trader’s accounts
- Please consider when currently trading YUK (USD/Yen), that due to the large interest rate differential, longer term in the money call options may trade at values that appear to be below intrinsic value

Volatility

- The underlying exchange rate's volatility is an important input for options pricing
- The more volatile the rate, generally the higher the option premium
- Volatilities are dynamic, they change each day and they must be considered prior to entering any options transaction

Leverage, what is it?

- Leverage in physics is a factor by which lever multiplies a force
- Leverage in finance is defined as using given resources in such a way that the potential positive or negative outcome is magnified
- Hence the phrase, “leverage is a double edged sword”

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Leverage in options

- In-the-money
- At-the-money
- Out-of-the-money

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Examples of "moneyness"

- CDD is trading at $102.36 with 55 days left until expiration
- Canadian rate 2.5, US rate 1.59%, 14 volatility

Strike	Calls	Puts
97.5	5.53	0.54
100	3.67	1.17
102.5	2.23	2.23
105	1.23	3.72
107.5	0.61	5.59

Strike	Calls	Puts
97.5	In	Out
100	In	Out
102.5	At	At
105	Out	In
107.5	Out	In

Options are dynamic

- Premiums change each day based on the exchange rate, time left until expiration, volatility of the pair and the interest rate differential

Leverage is determined by the strategies selected and the strike price chosen

- Options give investors many alternatives
- Each investor can select the appropriate risk reward tradeoffs
- Leverage can be chosen by each individual investor based on their own financial goals and their risk tolerances

Features Of ISE FX Options

- Options on exchange rates
- U.S. dollar based
- .50 strike prices
- Premium quoted in U.S. dollars
- European Exercise
- Cash-settled
- Noon Settlement/Option Friday
- Noon Buying Rate FRB of NY
- Available in conventional equity brokerage accounts
- Continuous Two-Sided Quotes
- Trading Hours 9:30 – 4:15

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ISE FX options are based on per US$

- Using the ISE FX options trading convention, the U.S. dollar is listed first, the valuation is expressed as the number of the units of the other currency per U.S. dollar.

- Think of it as what is a US dollar worth?

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Initial ISE FX Offerings (March 20)

- USD/EUR (ticker symbol, EUI): 64.81 (0.6481 * 100)
- USD/GBP (ticker symbol, BPX): 50.46 (0.5046* 100)
- USD/JPY (ticker symbol, YUK): 99.60 (99.60 * 1) the rate modifier is 1
- USD/CAD (ticker symbol, CDD) 102.43 (0.102.43 * 100)
- USD/AUD (ticker symbol, AUX) 110.80 (1.1080*100)
- USD/CHF (ticker symbol, SFC) 100.95 (1.0095*100)

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What has the US dollar done in 2007?

	12/30/06	12/30/07	Change	% Change
YUK	119.02	112.29	6.83	5.7%
CDD	116.53	98.19	17.44	15%
EUI	75.76	67.91	7.85	10.4%
BPX	51.03	50.08	0.95	1.9%

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YUK

COMPARE
TECHNICAL INDICATORS
CHART SETTINGS
RESET
Nov 6th, 2006 : USDJPY=X Open: 118.2872 High: 118.2872 Low: 118.2872 Close: 118.2872
120
115
110
105
100
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2006 May Jun Jul Aug Sep Oct Nov Dec 2007 Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec 2008 Feb Mar
Splits
Dividends
1D 5D 1M YTD 3M 6M 1Y 2Y 5Y Max
FROM: Mar 21,2006 TO: Mar 20,2008
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008

EUI

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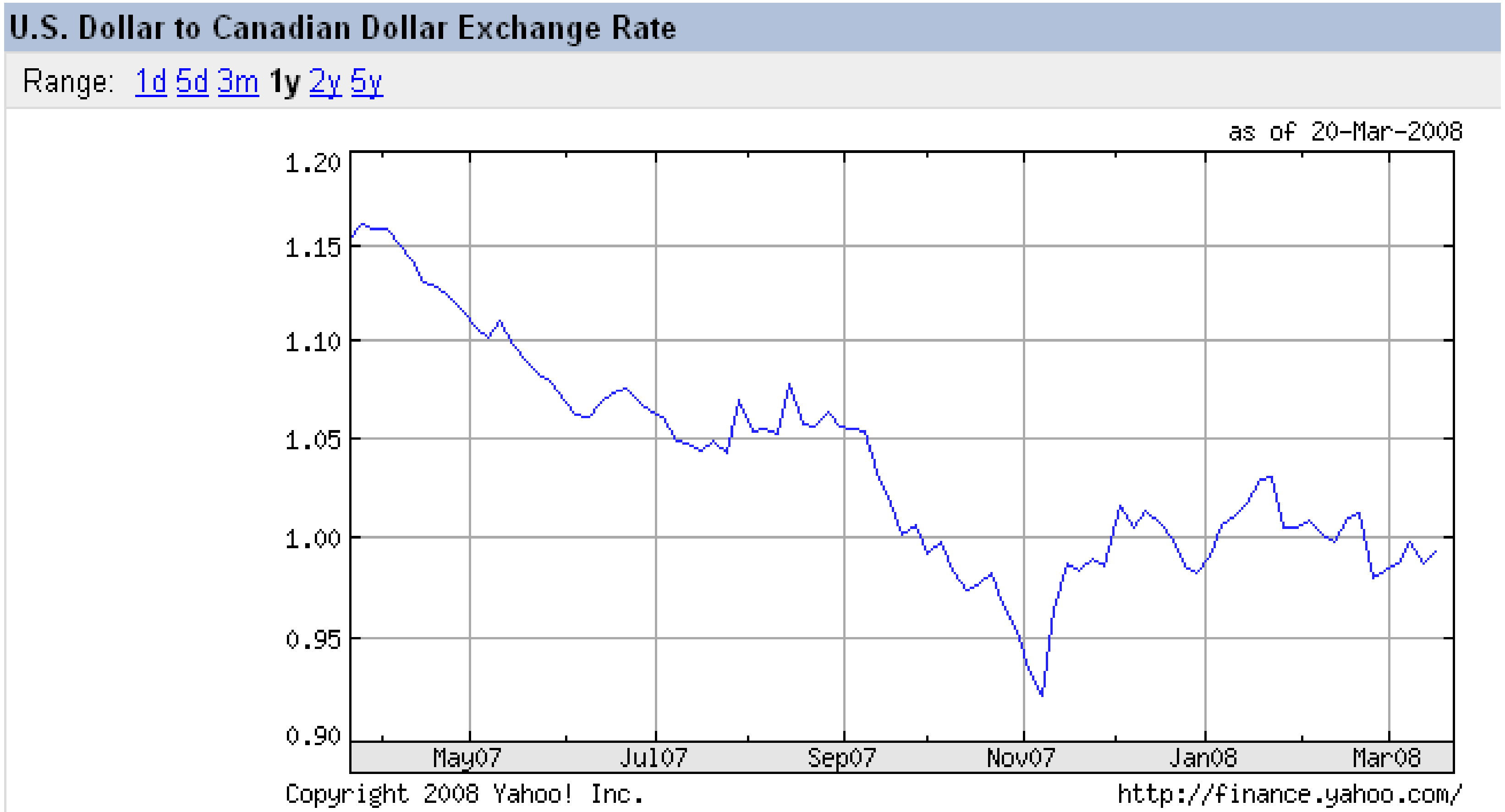
CDD



U.S. Dollar to Canadian Dollar Exchange Rate
Range: 1d 5d 3m 1y 2y 5y
as of 20-Mar-2008
1.20
1.15
1.10
1.05
1.00
0.95
0.90
May07
Jul07
Sep07
Nov07
Jan08
Mar08
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BPX

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AUX

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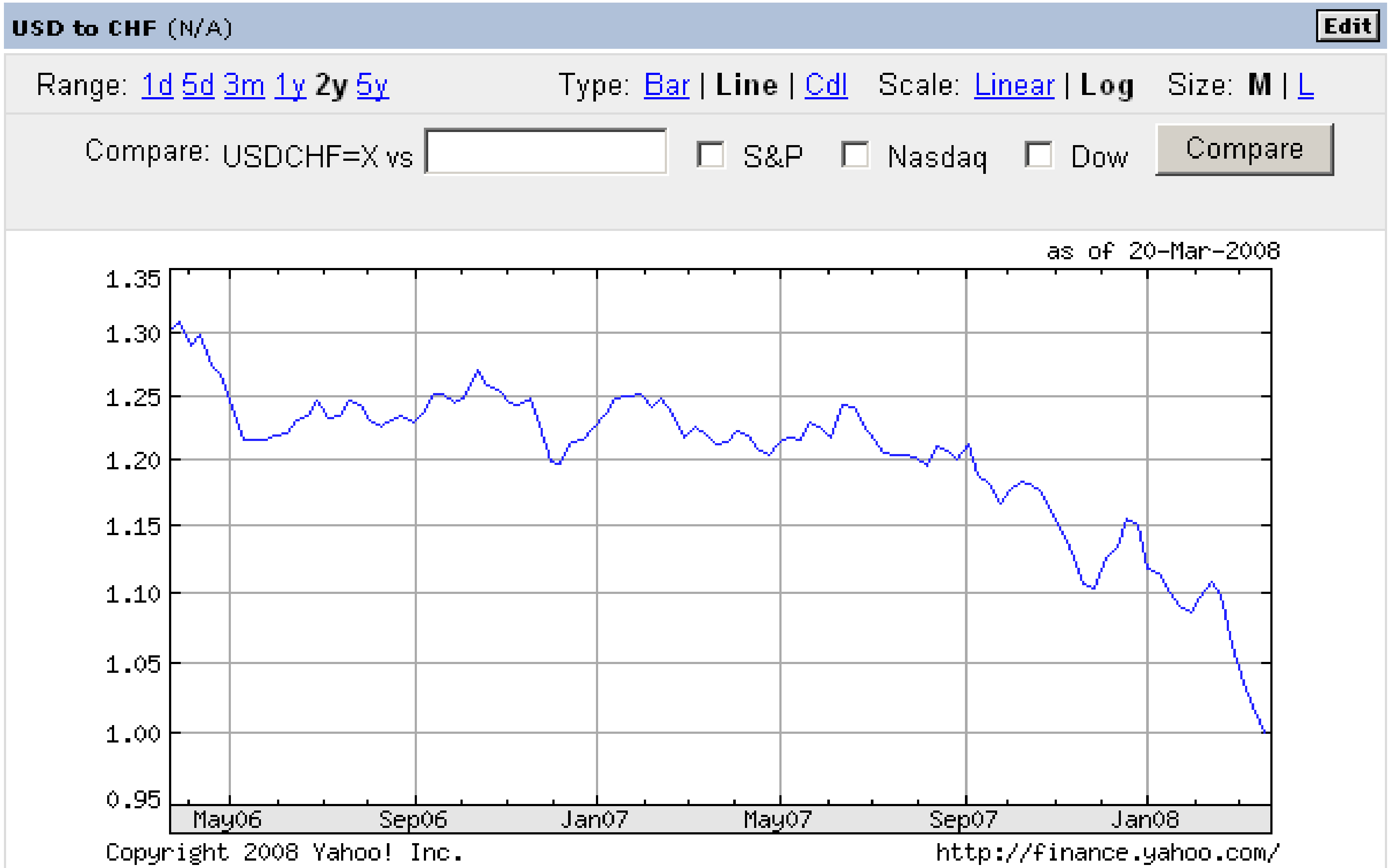
SFC


USD to CHF (N/A)
Edit
Range: 1d 5d 3m 1y 2y 5y
Type: Bar | Line | Cdl
Scale: Linear | Log
Size: M | L
Compare: USDCHF=X vs
S&P
Nasdaq
Dow
Compare
as of 20-Mar-2008
1.35
1.30
1.25
1.20
1.15
1.10
1.05
1.00
0.95
May06
Sep06
Jan07
May07
Sep07
Jan08
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Options are about forecasts

- It is up to each investor to determine their own forecasts and then select the appropriate option strategy based on their own risk tolerances and their own financial goals

- Let's look at some bullish and bearish views on the ISE FX pairs

Some ISE FX ATM option choices

ATM	1 month call	2 month call	3 month call	1 month put	2 month put	3 month put
CDD 102.5	1.60	2.23	2.83	1.67	2.23	2.74
EUI 65	0.85	1.23	1.59	0.91	1.18	1.41
AUX 111	2.54	3.48	4.55	1.88	2.41	2.86
BPX 50.50	0.65	0.93	1.21	0.65	0.81	0.95
SFC 101	1.81	2.31	2.78	1.65	2.16	2.63
YUK 99.5	1.71	2.16	2.52	2.01	2.64	3.11

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Even spreads can be implemented

- Spreads can also be used when trading ISE FX options
  - Vertical spreads (debit or credit spreads) allow investors to implement their own specific forecasts of the FX market using options
  - A few examples using CDD using 55 day options
  - Spreads offer limited reward and limited risk
  - Credit spreads can also be implemented if an investor chooses with different risk/reward payoffs
  - Underlying CDD 102.36, 55 days until expiry and 14 volatility

Strike	Debit call spread	Debit put spread
100/105	2.44	
102.5/ 107.5	1.62	
105/100		2.56
102.5/ 97.5		1.69

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Summary of ISE FX Options

- Allows for the ability to manage (transfer) risk more efficiently than spot trading
- Gives the owner of the option right to buy or sell an exchange rate
- Cash settled- No physical delivery of foreign currencies required
- Dollar based- If you feel the US dollar will increase in value buy calls, if you feel the US dollar will weaken buy puts

Summary of ISE FX Options

- Premiums are multiplied by 100 i.e. a $1.50 premium translates to $150
- ISE FX Options are based on what $1 is worth in another currency
- Settlement values are calculated by the difference between the strike price and the exchange rate at expiration (12:00 noon EST)

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Summary of ISE FX Options

- ISE FX Options can be accessed from your equity brokerage accounts

- The purchase of options allows investors to benefit from selecting the correct direction of the FX pair, without the risking more than their initial cost

- Various strategies can be implemented including: purchasing calls or puts, credit or debit spreads, hedging exchange rates or more complicated strategies such as straddles, strangles, condors or butterfly positions

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Commonly asked questions regarding ISE FX Options

- Do the "greeks" work? Yes, if an investor inputs the correct interest rate and dividend yield (US risk-free rate) and of course the volatility, option calculators will work.

- Can I get volatilities for the ISE FX pairs? Yes, Ivolatility.com has the data on their site

- How much do these options cost? Same as equity options, $1.50 options costs $150

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Commonly asked questions regarding ISE FX Options

- **How does cash settlement work? If the exchange rate is above the strike price (calls) or below (puts) at expiry the options have intrinsic value. i.e. If an investor holds a 100 put and CDD closes at $97 the option is worth $3 and $300 is deposited into your account at expiry**

- **How does the term “pips” relate to ISE FX Options. Roughly speaking 100 pips equals 1 ISE point**

- **What does dollar relative mean? The base currency is the US dollar, if the US dollar increases relative to the foreign currency the value of the pair increases, if the dollar decreases the value of the pair decreases**

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