

Deutsche Bank USD Currency Portfolio Index

Summary

The Deutsche Bank USD Currency Portfolio Indices reflect the return from investing in the first USDX future contract listed on ICE. Indices reflecting the return of both long and short positions in the future are available. The long future index represents a bullish dollar view. The short future index represents a bearish dollar view. Both indices invest in the 1st USDX future contract. The contracts are rolled over three business days between the Wednesday and Friday prior to each IMM date.

Index Suite

The indices included in this guide are:

Index Name	Return Type	Currency	Bloomberg Ticker
Deutsche Bank Long USD Currency Portfolio Index — Total Return	TR	USD	DBUSDX
Deutsche Bank Long USD Currency Portfolio Index — Excess Return	ER	USD	DBUSDLE
Deutsche Bank Short USD Currency Portfolio Index — Total Return	TR	USD	DBUSDXS
Deutsche Bank Short USD Currency Portfolio Index — Excess Return	ER	USD	DBUSDSE

Index Development Contacts:

London: +44 (0)207 545 0505
New York: +1 212 250 9820



Key Index Information

Index Inception Date

31-Dec-1988

Index Live Date

30-Nov-2007

Index Calculation Holiday Calendar

NYSE Holidays

Index Rebalancing Date

Between Wednesday and Friday prior to the following IMM date.

Historical Index Calculations

Prior to Mar-2010 the index rebalanced on the Wednesday prior to the IMM date.

Between Mar-2010 and Dec-2016 the Deutsche Bank Short USD Currency Portfolio Index — Excess Return index rebalancing for the new contract was calculated based on the old contract and index profit and loss.

Index Rules and Calculations

Excess Return Index Calculation

The return of the excess return index level is the weighted return of the change in price of the futures. This applies to both the long and short indices. The excess return index is calculated as:

$$ILer(t) = ILer(t - 1) + (FP(t, i) - FP(t - 1, i)) * N(t - 1, i)$$

T-Bill Return Calculation

A T-bill return is used in the calculation of the total return index. The return for the Tbill investment is calculated on a daily basis using:

$$Rt(t) = \left(1 - \frac{91}{360} y(t - 1)\right)^{-\left(\frac{1}{91}\right)} - 1$$

Total Return Index Calculation

The total return index level represents the return from investing in currency futures and T-bills. This applies to both the long and short indices. The total return index level is expressed as:

$$ILtr(t) = \left(\frac{ILer(t)}{ILer(t - 1)} + Rt(t)\right) * (1 + Rt(t))^{d(t, t-1)} * ILtr(t - 1)$$

Index Re-Weighting Day

USDX future positions are adjusted on the index re-weighting day. The index reweighting day takes place on the Wednesday through to Friday prior to the IMM date. The holding in the USDX contract that expires on the next IMM date is sold. A position in the USDX future contract that expires on the IMM date following the next IMM date is purchased.

Index Re-Weighting for the Long Index

For each reweighting day, the index unwinds the old contract holding and enters a position in the new future contract. This takes place between the Wednesday and Friday prior to the IMM date.

On each day during the roll period the new notional holdings are calculated. The calculations for the old contract that are leaving the index and the new commodities that are entering are different.

The notional of the old future contract is expressed as:

$$N(t, i) = \begin{cases} 1st \text{ roll day} & ; N(t-1, i) * 2/3 \\ 2nd \text{ roll day} & ; N(t-1, i) * 1/2 \\ 3rd \text{ roll day} & ; 0 \end{cases}$$

The notional of the new USDX future is expressed as:

$$N(t, j) = \begin{cases} 1st \text{ roll day} & ; N(t-1, i) * \frac{1}{3} * \frac{FP(t, i)}{FP(t, j)} \\ 2nd \text{ roll day} & ; N(t-1, i) * \frac{1}{2} * \frac{FP(t, i)}{FP(t, j)} + N(t-1, j) \\ 3rd \text{ roll day} & ; N(t-1, i) * 1 * \frac{FP(t, i)}{FP(t, j)} + N(t-1, j) \end{cases}$$

Index Re-Weighting for the Short Index

For each reweighting day, the index unwinds the old contract holding and enters a position in the new future contract. This takes place between the Wednesday and Friday prior to the IMM date.

On each day during the roll period the new notional holdings are calculated. The calculations for the old contract that are leaving the index and the new commodities that are entering are different.

The notional of the old future contract is expressed as:

$$N(t, i) = \begin{cases} 1st \text{ roll day} & ; N(t-1, i) * \frac{2}{3} \\ 2nd \text{ roll day} & ; N(t-1, i) * \frac{1}{2} \\ 3rd \text{ roll day} & ; 0 \end{cases}$$

The notional of the new USDX future is expressed as:

$$N(t,j) = \begin{cases} 1st \text{ roll day} & ; & -\frac{1}{3} * \frac{ILer(t)}{FP(t,j)} \\ 2nd \text{ roll day} & ; & -\frac{2}{3} * \frac{ILer(t)}{FP(t,j)} \\ 3rd \text{ roll day} & ; & -\frac{ILer(t)}{FP(t,j)} \end{cases}$$

Where:

t = Index calculation date

r = Last index weight selection date

Fp(t,i) = USDX future price for future i on day t

y(t) = T-bill yield on day t

Rt(t) = T-bill return on t

ILer(t) = Excess Return Index level on day t

ILtr(t) = Total Return Index level on day t

d(t,t-1) = Number of calendar days between day t and index calculation day t-1 excluding day t

N(t,i) = Notional holding of future i on index calculation day t

N(t,j) = Notional holding of future j on index calculation day t

Index Guide Disclaimers

This document is intended for information only and does not create any legally binding obligations on the part of Deutsche Bank AG and/or its affiliates ("DB"). This document is intended to provide a summary of the index it purports to describe. No warranty or representation is made as to the correctness, completeness and accuracy of the information.

Without limitation, this document does not constitute an offer, an invitation to offer or a recommendation to enter into any transaction. When making an investment decision, you should rely solely on the final documentation relating to the transaction. Products based on the index or indices described in this document may not be appropriate for all investors and before entering into any transaction you should take steps to ensure that you fully understand the transaction and have made an independent assessment of the appropriateness of the transaction in the light of your own objectives and circumstances, including the possible risks and benefits of entering into such transaction. Refer to your DB Sales person for product related information. For general information regarding the nature and risks of the proposed transaction and types of financial instruments please go to www.globalmarkets.db.com/riskdisclosures. You should also consider seeking advice from your own advisers in making this assessment. If you decide to enter into a transaction with DB, you do so in reliance on your own judgment. Past performance is no indication of future results.

This material was prepared by DBIQ. It is not investment research, and has not been prepared in accordance with legal requirements designed to promote the independence of such. Any opinions expressed herein may differ from the opinions expressed by other DB departments including the Research Department. DB may engage in transactions in a manner inconsistent with any views discussed herein. DB trades or may trade as principal in instruments (or related derivatives) linked to the index or indices described in this document, and may have proprietary positions in the instruments (or related derivatives). DB may make a market in such instruments (or related derivatives), which may in extreme circumstances affect the levels of the index or indices described.

In no event shall DB have any liability (whether in negligence or otherwise) to any person in connection with such person's use of the Index, unless such use is pursuant to a transaction between that party and DB relating to the Index and such liability results from wilful default and/or gross negligence on the part of DB.

The distribution of this document and availability of related products and services in certain jurisdictions may be restricted by law. You may not distribute this document, in whole or in part, without our express written permission. DB specifically disclaims all liability for any direct, indirect, consequential or other losses or damages including loss of profits incurred by you or any third party that may arise from any reliance on this document or for the reliability, accuracy, completeness or timeliness thereof. DB is authorized by Bundesanstalt für Finanzdienstleistungsaufsicht under German Banking Law (competent authority: BaFin - Federal Financial Supervising Authority) and regulated in the UK by the Financial Services Authority for the conduct of UK business.

Unless governing law provides otherwise, all transactions should be executed through the Deutsche Bank entity in the investor's home jurisdiction. In the U.S. this report is approved and/or distributed by Deutsche Bank Securities Inc., a member of the NYSE, the NASD, NFA and SIPC. In Germany this report is approved and/or communicated by Deutsche Bank AG Frankfurt authorized by the BaFin. In the United Kingdom this report is approved and/or communicated by Deutsche Bank AG London, a member of the London Stock Exchange and regulated by the Financial Services Authority for the conduct of investment business in the UK and authorized by the BaFin. This report is distributed in Hong Kong by Deutsche Bank AG, Hong Kong Branch, in Korea by Deutsche Securities Korea Co. This report is distributed in Singapore by Deutsche Bank AG, Singapore Branch, and recipients in Singapore of this report are to contact Deutsche Bank AG, Singapore Branch in respect of any matters arising from, or in connection with, this report. Where this report is issued or promulgated in Singapore to a person who is not an accredited investor, expert investor or institutional investor (as defined in the applicable Singapore laws and regulations), Deutsche Bank AG, Singapore Branch accepts legal responsibility to such person for the contents of this report. In Japan this report is approved and/or distributed by Deutsche Securities Inc. The information contained in this report does not constitute the provision of investment advice. In Australia, retail clients should obtain a copy of a Product Disclosure Statement (PDS) relating to any financial product referred to in this report and consider the PDS before making any decision about whether to acquire the product. Deutsche Bank AG Johannesburg is incorporated in the Federal Republic of Germany (Branch Register Number in South Africa: 1998/003298/10). Additional information relative to securities, other financial products or issuers discussed in this report is available upon request. This report may not be reproduced, distributed or published by any person for any purpose without Deutsche Bank's prior written consent. Please cite source when quoting.

Copyright © 2017 Deutsche Bank AG