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Eurex launched the "micro" futures on three major European benchmarks: the EURO STOXX 50®, the German DAX®, and the Swiss SMI® in April 2021. This follows the successful launches of smaller-sized trading contracts by the CME on four major US indicators, and by Borsa Italiana on Italy's FTSE MIB Index. By fractioning the notional of these electronically traded stock index futures to 1/5th or 1/10th the value of larger incumbent contracts, these are made more accessible as "ETF alternatives" to smaller accounts and provide more precision to larger traders and hedgers. In this article, we examine the three index benchmarks covered by the new Eurex micro futures contracts and dive into several practical examples of using them for different purposes.

What are the EURO STOXX 50®, DAX®, and SMI®?

The EURO STOXX 50® index (<https://www.stoxx.com/index-details?symbol=sx5E>) tracks 50 of the largest and most liquid stocks across the Eurozone. It is tracked by highly liquid futures, regularly trading over one million contracts (with a notional value over €40 billion) on a typical day. The DAX® similarly covers 30 of Germany's most capitalized and heavily traded companies (<https://www.dax-indices.com/index-details?isin=DE0008469008>), largely overlapping with the German names in the EURO STOXX 50®. Switzerland offers some diversification away from the Eurozone with its SMI benchmark following 20 non-overlapping companies (<https://www.six-group.com/en/products-services/the-swiss-stock-exchange/market-data/indices/index-explorer/index-details.html?valorId=CH0009980894CHF9#/components>), including many world-renowned multinationals like Swatch, Geberit, and Richemont.

This first table lists the top 25 components of the MSCI Europe index, and how these are covered by the EURO STOXX 50®, DAX®, and SMI® as of November 2023:

Name	Country	Industry Classification	MSCI Europe	EURO STOXX 50®	DAX	SMI
NOVO-NORDISK ORD	Denmark	Health Care	3.4%			
NESTLE SA ORD	Switzerland	Consumer Staples	3.1%			17.5%
ASML HOLDING ORD	Netherlands	Information Technology	2.7%	8.1%		
SHELL PLC ORD	Netherlands	Energy	2.2%			
LVMH MOET HENNESSY LOUIS	France	Consumer Discretionary	2.2%	6.1%		
ASTRAZENECA ORD	United Kingdom	Health Care	2.0%			
NOVARTIS ORD	Switzerland	Health Care	2.0%			16.7%
ROCHE ORD	Switzerland	Health Care	1.9%			15.6%
SAP SE ORD	Germany	Information Technology	1.6%	4.6%	10.6%	
TOTALENERGIES SE ORD	France	Energy	1.5%	5.1%		
HSBC HOLDINGS ORD	United Kingdom	Financials	1.5%			
UNILEVER PLC ORD	United Kingdom	Consumer Staples	1.3%			
SIEMENS ORD	Germany	Industrials	1.1%	3.3%	8.8%	
L OREAL S.A.	France	Consumer Staples	1.1%	3.4%		
SANOFI SA ORD	France	Health Care	1.1%	3.3%		
BP ORD	United Kingdom	Energy	1.0%			
ALLIANZ SE ORD	Germany	Financials	1.0%	3.0%	7.9%	
SCHNEIDER ELECTRIC SE	France	Industrials	1.0%	3.1%		
AIR LIQUIDE ORD	France	Materials	1.0%	2.9%		
DIAGEO ORD	United Kingdom	Consumer Staples	0.9%			
UBS GROUP AG	Switzerland	Financials	0.8%			6.4%
AIRBUS SE	Netherlands	Industrials	0.8%	2.5%	6.7%	
DEUTSCHE TELEKOM AG ORD	Germany	Communication Services	0.8%	2.5%	6.7%	
RIO TINTO ORD	United Kingdom	Materials	0.8%			
ZURICH INSURANCE ORD	Switzerland	Financials	0.7%			5.9%

Source: DWS¹, Blackrock²

¹ <https://etf.dws.com/en-ch/LU0274211217-euro-stoxx-50-ucits-etf-1d/>

² <https://www.ishares.com/ch/individual/en/products/261154/ishares-smi-ch-fund>

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November 2023

In terms of country exposure, the EURO STOXX 50® only covers the Eurozone, so primarily excluding the UK, Scandinavia and Switzerland when compared to a broader definition of Europe like that of the MSCI Europe, and the Swiss-only SMI®. This provides index futures traders a very clean separation of Europe's most liquid benchmarks by currency, which can be useful for separating equity market risk from currency risk. The DAX® deviates from 100% German exposure only because of its inclusion of Airbus, which the below table classifies by the aircraft maker's domicile in the Netherlands.

Country (of domicile)	MSCI Europe	EURO STOXX 50®	DAX	SMI
United Kingdom	19.2%			
France	17.1%	40.0%		
Switzerland	15.8%			100.0%
Germany	12.7%	25.4%	93.3%	
Netherlands	10.7%	16.6%	6.7%	
Denmark	5.2%			
Sweden	4.4%			
Spain	4.1%	6.8%		
Italy	3.5%	6.7%		
Ireland	2.0%	1.0%		
Finland	1.7%	1.8%		
Belgium	1.2%	1.7%		
Norway	1.0%			

Source: DWS

When we look at how these European stock portfolios break down by sector, we see the Eurozone baskets having more exposure to consumer discretionary and information technology (think LVMH, ASML, and SAP), while Switzerland is heavier in health care (Roche and Novartis) and consumer staples (Nestle):

Sector	MSCI Europe	EURO STOXX 50®	DAX	SMI
Financials	17.2%	18.6%	19.1%	18.7%
Health Care	15.7%	6.4%	8.9%	38.8%
Industrials	14.9%	16.0%	22.9%	7.5%
Consumer Staples	12.3%	9.8%	10.6%	17.5%
Consumer Discretionary	10.1%	16.5%	5.1%	5.4%
Materials	7.0%	4.2%	6.3%	8.5%
Information Technology	6.9%	18.4%	20.7%	1.1%
Energy	6.1%	6.2%	0.5%	0.0%
Materials	7.0%	4.2%	6.3%	8.5%
Utilities	4.2%	3.6%	4.3%	0.0%

Source: DWS

For Educational Purposes Only – Not Investment Advice

November 2023

In terms of performance, the EURO STOXX 50®, DAX®, and SMI® tend to move up and down together on most days, including extreme drawdowns like that in March 2020, but as should be expected of benchmarks with significantly different components, there are also periods where these diverge significantly. One recent example of this divergence was the lagging of the SMI behind its Euro-denominated counterparts from late 2022 through 2023, which could largely be explained by effects of the Swiss Franc strengthening against the Euro over that period.



Source: Koyfin, 10 November 2023

Shorter-term, the Eurozone averages exhibit a very high average weekly correlation coefficient of 95% with each other and with the broader MSCI Europe index. This tendency of the EURO STOXX 50®, DAX®, and MSCI Europe to move in near lockstep with one another month to month is partly explained by their overlap. But, it is also driven by the increasing effect of portfolio allocators using ETFs, futures, and related products to trade these markets as a group. The lower correlation coefficient, less than 85% between the SMI® and Eurozone equities, might still seem high given the complete lack of overlap but is low enough to provide some volatility reduction for European portfolios that include Switzerland.

	MSCI Europe	EURO STOXX 50	DAX	SMI
MSCI Europe	1.00			
EURO STOXX 50	0.98	1.00		
DAX	0.96	0.98	1.00	
SMI	0.90	0.85	0.83	1.00

Source: Koyfin weekly data, November 2018-November 2023, author's calculation

How to use stock index futures, strategy #1: Leveraged long exposure

Perhaps the simplest use of stock index futures is as an alternative or replacement for an ETF tracking the same stock index. At an index value of 3,800, one micro EURO STOXX 50® futures contract provides exposure to €3,800 notional

For Educational Purposes Only – Not Investment Advice

November 2023

value of the index, comparable to 100 shares of the iShares Core EURO STOXX 50 UCITS ETF (<https://www.ishares.com/uk/professional/en/products/251781/ishares-euro-stoxx-50-ucits-etf-inc-fund>) at €38/share. The first difference between the ETF and the futures contract is that the ETF would require you to fund or finance the entire €3,800 investment, while you can buy the same amount of exposure via the futures with **less than €500** of margin in an account. Even keeping €2,000 of margin per contract in the account, to keep the risk of being wiped out by a margin call far more remote (but still not impossible), provides far more cost-effective leverage than paying retail margin or Lombard loan rates at most banks or brokerage firms.

Even relatively conservative investors find this use of futures contracts an efficient way to allocate capital to both stocks and bonds at the same time. For example, an investor with €100,000 invested in bonds could buy six micro EURO STOXX 50® futures to overlay a roughly 20% stock allocation on top of the existing bond allocation without having to sell any bonds or give up any yield.

A second difference between the ETF and the futures contract is that an ETF charges a management fee on funds invested in the ETF. In contrast, stock index futures charge no explicit "management fee" but rather charge trading costs when you buy the futures contract. In general, you will need to sell your old futures contract and buy a later-expiring contract every 3-6 months to maintain your exposure, a common practice called "rolling" your futures contracts. Long-term investors may want to compare the costs of maintaining exposure to a stock index via an ETF compared to the costs of rolling these futures contracts over time.

The third major difference between the ETF and index futures is seen in this roll process: in the case of EURO STOXX 50® futures, later-expiring futures contracts are often seen to be trading at lower prices at the same time as nearer-term contracts. For example, on 22 March 2021, the June future settled at 3,773 while the September contract settled at 3759. These lower prices on later expiries primarily reflect the dividends expected to be paid by EURO STOXX 50® components between June and September. The EURO STOXX 50® and SMI® are both "price return" indexes, meaning dividend returns are not reflected in the index level. Here, buyers of futures on these index benchmarks "earn" the dividend by rolling into later-month contracts at lower prices than the older contracts they roll out of. By contrast, the DAX® is a "total return" index, where the index incorporates dividend reinvestment. Here, when there is a "roll discount" in DAX® futures, it has tended to be much smaller and reflective of negative interest rates and the yield of lending shares to short sellers, rather than from dividends.

How to use stock index futures, strategy #2: Hedging against market declines

A second way to use stock index futures is to hedge against an overall decline in the broader market benchmark. For example, assume an investor with a portfolio of high-quality stocks may be concerned that the overall market is relatively overheated. If he would like to reduce his exposure to a pullback, preferably without selling any of those shares, he could efficiently hedge himself by selling stock index futures.

Selling futures is as simple as buying futures and simply gives you the opposite exposure with similar margin requirements, without requiring you to "borrow shares" (which would be required to short an ETF) without paying margin interest or explicit borrow costs. Selling one micro EURO STOXX 50® future at 3,800 simply means you will **profit** €1 per contract per point that the **index goes down**, while you will **lose** €1 per contract for every point the **index goes up**. Like any type of short selling, selling a futures contract theoretically exposes you to unlimited losses, as the index has no limit to how far it could rise. If used as a hedge though, this would, in theory, be offset by the unlimited upside of your long position.

How to use stock index futures, strategy #3: Spread trades

Buying futures on one stock index while selling futures on another index is likely to be one of the most efficient ways to trade the relative performance, or "spread," between the returns of two different markets. For example, suppose you expect the DAX® to outperform the EURO STOXX 50®, perhaps due to a faster crisis recovery in Germany compared to the Eurozone average. In that case, you could buy one Micro-DAX® contract while selling around four Micro-EURO

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November 2023

STOXX 50[®] contracts. With notional values of around €14,800 per Micro-DAX[®] vs. €3,800 per Micro-EURO STOXX 50[®] (€15,200 for four), the notional amounts are not exactly matched. Still, they can be matched more precisely on smaller notionals than with the older, larger contracts. If you are correct about the outperformance, for example, the DAX[®] declines only 5% to 14,060 while the EURO STOXX 50[®] declines 8% to 3,496, your €720 loss on your long position will be more than offset by your €1,216 gain on your short position, netting you a €496 net profit on the spread trade. Of course, if you expect the EURO STOXX 50[®] to outperform the DAX[®] over some period, you can just as easily do the opposite trade.

Accounts with access to both Eurex and Borsa Italiana futures may also find these micro contract sizes useful for making spread trades between Italy and the rest of Europe. The micro FTSE MIB contract mentioned earlier has an index multiplier of €0.20 per point of an index currently around 23,800, so a contract value of around €0.20. This means you could match roughly three micro Italian contracts against one micro German contract, while one micro Italian contract is still notably larger than a micro on the pan-Eurozone 50-stock index.

Trading any of the above as a spread against the Swiss SMI[®] is just as easy but adds in the variable that the above contracts trade in Euros while SMI[®] futures trade in Swiss Francs.

How to use stock index futures, strategy #4: Efficient cross-border access

For international investors, futures contracts provide the simplest way to track a foreign index's ups and downs with minimal foreign currency exposure. For example, a US dollar account buying one Micro-EURO STOXX 50[®] futures contract at 3,800 adds €3,800 (US\$4,560 at an exchange rate of 1.20) of exposure to the Eurozone equity index without the need of converting those US\$4,560 into Euros. If the index were to quickly rise to 4,000 (around +5%) while at the same time, the EUR/USD exchange rate fell to 1.14 (around -5%), the USD account would still realize a profit of €200 on the futures contract. Even when converted at the lower exchange rate, this still results in a US\$228 profit, a +5% rate of return on the US\$4,560 initial exposure. By contrast, if the same US\$4,560 were invested in an unhedged EURO STOXX 50[®] ETF over the same scenario, the currency decline would have completely wiped out the gain from the rise in the index.

In other words, when you trade a futures contract on a foreign stock index, only your margin and P&L are exposed to that foreign currency risk, not the full notional value of the contract. The above investor could, of course, choose to convert those US\$4,560 into euros if and when desired. Still, the futures contract separates the index trade from the currency trade more cleanly for a foreign currency-based investor.

It is also worth noting that cross-border investors often face other challenges, including cross-border custody of shares denominated in foreign currencies and foreign withholding taxes on dividends crossing borders. These challenges are also simplified by using futures instead of physical shares. Futures simply settle as a single payment for the difference between the level at which you enter the futures contract and the level at which you exit.

Conclusion

With a contract size starting at less than €4,000, the Micro-EURO STOXX 50[®] futures compete more directly with 100-share lots of the leading EURO STOXX 50[®] ETF, while providing many advantages in more efficient leverage, easier short selling, and currency exposure left optional. The larger micro contracts on the DAX[®] and SMI[®], starting at over €14,000 and CHF 10,000 respectively, may not be quite so granular, but still offer the same advantages with finer tracking than the older contracts, which are 5 – 25x larger.

Non-European traders may also appreciate that the Micro-EURO STOXX 50[®] and Micro-DAX[®] futures are both scheduled to start trading at 1:10 am Central European Time, or 2:10 am Central European Summer Time (8:10 am Singapore time) and end trading at 10 pm Frankfurt time (which is usually 4 pm in New York). SMI[®] contracts are only scheduled to start trading about seven hours later each day but close simultaneously.

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