

Artificial Intelligence Equity Arbitrage

Based on Innolab's proprietary Artificial Intelligence



STRATEGY

The medium risk equity arbitrage investment strategy is based on Innolabs AI Research and Analysis module.

The investment universe consists of +50 sector indices and worldwide country equity indices. The strategy is based on pairs trading, where two assets are traded against each other, also called statistical arbitrage.

Selection of asset pairs from the universe is characterized by three criteria:

- Pairs are constructed with one long and one short position adjusted for risk.
- Assets in a pair must correlate with at least 0.67.
- The AI module must be at least 60% confident that the pair return will be positive after three months.

After passing the selection criteria, a pair is converted into an investment through futures in the underlying assets. The pairs are continuously monitored and are stopped if the return exceeds a fixed profit or loss threshold.

The number of pair opportunities provided by the AI module varies over time. In order to control the portfolio risk and deliver a stable return, the position sizes are scaled. In periods with many opportunities the size is scaled down, and in periods with few opportunities, the size is scaled up.

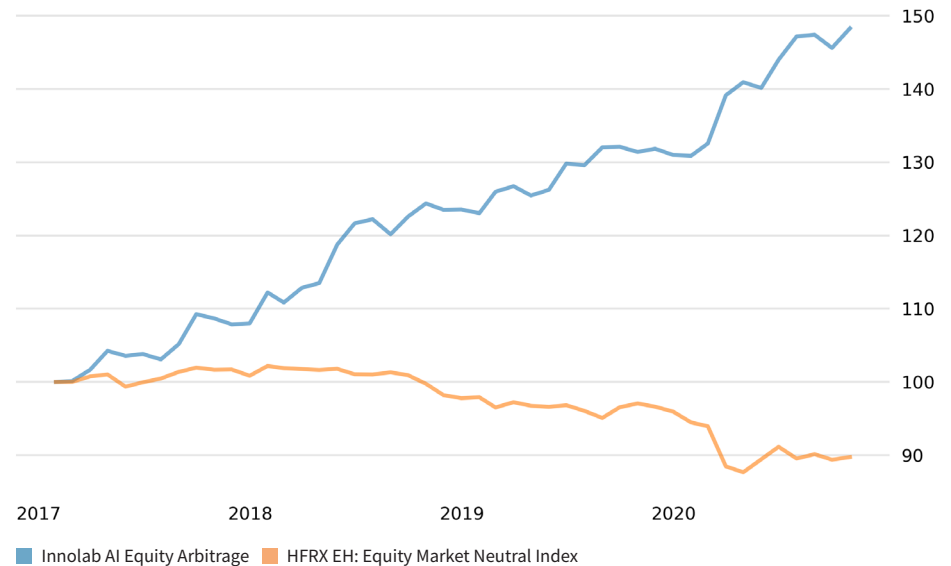
RETURNS FEATURES

The stable single digit returns delivered by the strategy have extremely low correlation to global equity markets.

The portfolio has an absolute return focus, where risk management and portfolio construction aim at managing downside risk.

The portfolio is a perfect diversifier and alternative to long only equities and short to medium fixed income exposure.

MONTHLY RETURNS



PORTFOLIO STATISTICS

	ITD	YTD
Sharpe ratio	1.43	1.90
Annual volatility %	7.20	7.80
Return %	10.50*	13.20**
Max drawdown %	-3.70	-2.60
Downside risk %	4.60	4.80
Avg. leverage %***	138	92

* Annualized.
** Cumulated.
*** Long leverage.

CORRELATIONS

	ITD	YTD
Correlation to MSCI	0.04	-0.06
Alpha to MSCI %	10.70	15.70
Beta to MSCI	0.02	-0.02
Correlation to ACWI	0.03	0.00
Alpha to ACWI %	10.70	16.00
Beta to ACWI	0.01	0.00

PAIR STATISTICS

	ITD	YTD
Country pairs %	25	17
Sector pairs %	46	56
Mixed pairs %	29	27
Accuracy %	60	59
Avg. holding period, days	50	46
Avg. pair confidence %	64	65

ITD Inception To Date (2017).
YTD Year To Date

ASSET EXAMPLES (since inception)

	N.	P.	A.
EUROSTOXX 50	233	24	60%
CAC 40	121	12	66%
STOXX Europe 600 Oil/Gas	155	20	57%
STOXX Europe 600 Tech	142	19	57%
S&P 500	108	6	56%

N Number of times in portfolio.
P Number of different partners.
A Accuracy.

MONTHLY RETURN STATISTICS

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
2017	0.22%	0.13%	1.53%	2.54%	-0.66%	0.23%	-0.70%	2.04%	3.87%	-0.53%	-0.75%	0.11%	8.22%
2018	3.92%	-1.23%	1.81%	0.57%	4.63%	2.44%	0.47%	-1.69%	2.00%	1.47%	-0.70%	0.04%	14.41%
2019	-0.42%	2.38%	0.60%	-1.01%	0.62%	2.85%	-0.19%	1.88%	0.06%	-0.54%	0.34%	-0.64%	6.02%
2020	-0.09%	1.29%	4.97%	1.28%	-0.56%	2.75%	2.21%	0.16%	-1.23%	1.84%	-	-	13.20%

Innolab is a technology company and is not registered as an investment advisor. Performance statistics are based on an out of sample live walk-forward test after commissions and trading fees.

CUSTOMIZED STRATEGY

The Artificial Intelligence Equity Arbitrage investment strategy can be customized in many ways and is offered as a managed account for selected customers. The AUM is in EUR and indicates the recommended minimum.

Risk	Stop loss	Take profit	Volatility	Sharpe	Drawdown	YTD	ITD ANN.	1Y ANN.	3Y ANN.	AUM
Low	—	—	2.5%	1.33	2.2%	5.0%	3.3%	4.7%	3.4%	40M
Low	—	✓	2.3%	1.54	1.1%	5.8%	3.6%	5.6%	3.8%	40M
Low	✓	—	2.5%	1.33	2.0%	4.4%	3.4%	4.0%	3.4%	40M
Low	✓	✓	2.3%	1.38	1.2%	3.9%	3.2%	3.6%	3.2%	40M

Volatility, Sharpe and drawdown are from the period 1 Jan 2017 - 31 Oct 2020.

Risk	Stop loss	Take profit	Volatility	Sharpe	Drawdown	YTD	ITD ANN.	1Y ANN.	3Y ANN.	AUM
Medium	—	—	7.6%	1.32	6.0%	15.1%	10.2%	14.0%	10.9%	13M
Medium	—	✓	7.4%	1.45	3.6%	17.9%	11.1%	17.4%	12.0%	13M
Medium	✓	—	7.8%	1.32	5.7%	13.6%	10.4%	12.1%	10.8%	13M
Medium	✓	✓	7.2%	1.43	3.7%	13.2%	10.5%	12.0%	10.8%	13M

Volatility, Sharpe and drawdown are from the period 1 Jan 2017 - 31 Oct 2020.

Risk	Stop loss	Take profit	Volatility	Sharpe	Drawdown	YTD	ITD ANN.	1Y ANN.	3Y ANN.	AUM
High	—	—	15.7%	1.41	11.4%	32.0%	23.2%	29.6%	24.6%	13M
High	—	✓	15.5%	1.43	7.4%	35.6%	23.5%	34.4%	24.9%	13M
High	✓	—	16.0%	1.34	11.3%	26.5%	22.3%	23.3%	22.6%	13M
High	✓	✓	15.1%	1.40	7.7%	24.9%	22.2%	22.3%	22.3%	13M

Volatility, Sharpe and drawdown are from the period 1 Jan 2017 - 31 Oct 2020.