IPOX® Research Article

Make your New Year's resolution to achieve real returns in stagflationary periods

Macroeconomic outlook for 2023:

High inflation, slowing growth, volatile energy prices, and the tightened monetary policy are eerily similar to the 1970s when the U.S. economy has last suffered from stagflation.

This fear is shared by global fund managers, who in a recent BofA survey overwhelmingly (92%) expect stagflation in 2023. The World Bank raised concerns about stagflation in its latest Global Economic Prospects report largely due to unprecedented deceleration in economic activity in more than 80 years.

While expectations of slower economic growth are widespread, there remains a great deal of uncertainty regarding policy response, geopolitical tensions, energy markets and market sentiment.

The challenge to get real returns:

As stagflation was last prevalent 50 years ago, most investors are inexperienced when it comes to how to position their portfolios to benefit from this environment.

The calendar 2022 returns for most asset classes, bar oil, have been negative, leading to outperformance in defensive and low-volatility strategies. However, being defensive is not enough, especially if the period of uncertainty persists, as is expected to happen in cases of stagflation.

The problem arises due to low and negative real rates of return (growth adjusted for the impact of inflation). For example, companies that are able to grow their earnings at above inflation rates (which are currently running around 8% in the U.S.,) generate positive real rates of return for investors.

Portfolios that aim to generate real rates of growth must therefore target companies that are growing despite inflationary and other macroeconomic pressures. To obtain a positive expected rate of return, adding growth to a defensive portfolio is important as growth can yield a small, yet positive real growth rate, which is desirable in current conditions.

"Defensive Growth" to the rescue:

In our research, we evaluated the synergy of a defensive/growth portfolio. Looking at the performance of proxy benchmarks for several factors, we found that the combination of low volatility (e.g., defensiveness) and growth has two benefits: it maintains a real rate of return in stagflationary markets without taking excessive risk.

IPOX® Research Team

Kat Liu
Research Associate
+1 (312) 526-3634
kat@ipox.com

Dr. Lukas F. Muehlbauer
Research Analyst
+44 7544 046129
lukas@ipox.com

IPOX 100 U.S. Index

Index Ticker: IPXO

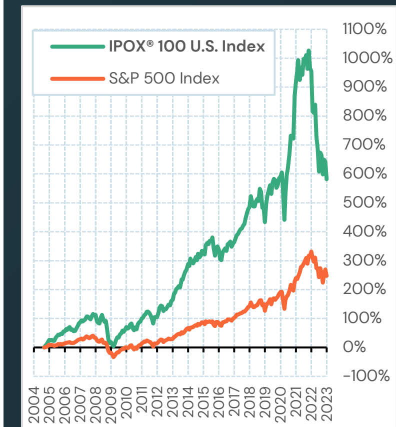
ETF:
First Trust U.S. Equity Opportunities ETF

FPX US (NYSE)
FPX LN (LSE)

E-mini Futures (CME):
IPOH3

The **IPOX® 100 U.S. Index** is an applied market-cap weighted index measuring the performance of the top 100 newly public U.S.-listed companies, primarily through IPO and Spin-off. The index utilizes a 10% cap on all constituents and is reconstituted and adjusted quarterly. The IPOX® 100 U.S. Index has historically captured approximately 85% of total market cap. created through U.S. IPO and Spin-off activity.

Price Return
since Inception



Think Growth.
Think IPOX.

While a negative relationship between volatility and growth can be often implied, when blending these two factors in a portfolio, we found that the combination of defensive-growth exposure delivered excess annualized returns during weak markets when S&P 500 monthly total returns were below zero, while interest rates were higher (i.e. U.S. 3 Month Treasury bill yield above 2%.). During the past five years, our research suggests that the defensive-growth combination outperformed the broad market index by 581 bps. per annum on average (i.e. with a positive alpha of 5.81). During other market cycles, the combined portfolio delivered a more modest but positive active performance with an average excessive return of 97 bps per annum. (See Figure 1).

As markets normalize, a combination portfolio is expected to outperform with the market benchmarks due to its growth component.

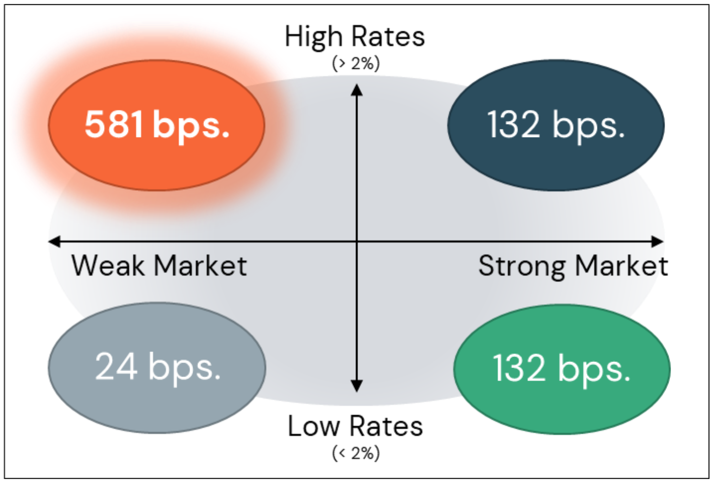


Figure 1: Annualized excess rate of returns of a defensive-growth portfolio in various market environments. See appendix for methodology.

The hunt for a defensive growth portfolio is further complicated by the idea that these characteristics are inherently difficult to find in actively managed funds, or in diversified semi-passive portfolios without other factors also being present.

A logical choice for Defensive Growth exposure – The IPOX® 100 U.S. Index:

The IPOX® 100 U.S. Index represents a strong exposure to a defensive and growth tilted portfolio.

The IPOX® 100 U.S. Index Portfolio offers:

(i) Majority defensive growth exposure that outperforms in stagflationary markets.
(ii) High liquidity, with an average 30-day daily volume of 77 million USD.
(iii) Represents a unique part of the capital markets of resilient companies with the potential to generate positive real growth rates.

Over 50% of the IPOX® excess returns can be explained with a combination of the growth and low volatility factors (See Figure 2).

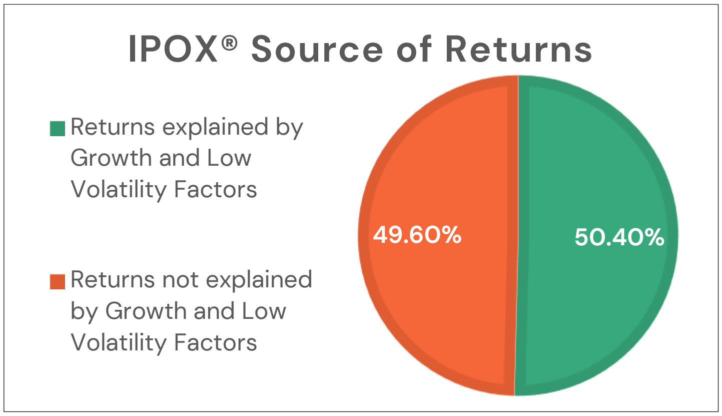


Figure 2: IPOX® 100 U.S. Index Portfolio excess returns explained by growth and low volatility style factors. See appendix for methodology.

The IPOX® 100 U.S. Index offers exposure to the unique "going public effect". This effect is characterized by IPO and Spin-Off companies in early trading days, which often carry a strong growth element arising from operation expansion, capital infusion, potential technology breakthrough, and earnings momentum.

The index contains companies such as Academy Sports & Outdoors, Otis Worldwide, Grocery Outlet, Bausch + Lomb, and others (see more examples below), which all show strong growth prospects while still being relatively defensive.

Additionally, IPOs are often attractive targets for acquisitions at lucrative premiums, as seen with several other recent holdings (e.g., Albertsons, Archaea Energy, KnowBe4), while established companies are included as "IPO M&As" as they fuel growth by the acquisition of new listings (e.g., Eli Lilly, Republic Services, Markel).

To an extent, many established companies with recent listings and/or acquired recently listed IPOs, may all present similar desired defensive growth characteristics.

Select holdings from the IPOX® 100 U.S.

Name	Industry
Baker Hughes Co	Industrials
Carrier Global Corp	Industrials
Constellation Energy	Utilities
Corteva Inc	Materials
Cummins Inc	Industrials
Dow Inc	Materials
GE HealthCare	Health Care
General Dynamics	Industrials
Globalfoundries Inc	Information Technology
Keurig Dr Pepper Inc	Consumer Staples
Mobileye Global Inc	Consumer Discretionary
Reynolds Consumer Products	Consumer Staples

The IPOX® 100 U.S. Index presents an attractive investment for:

(i) Multi-asset portfolios for defensive growth exposure during stagflationary periods.
(ii) Family offices looking to rotate their illiquid private equity allocations into more defensive, but still growth tilted and liquid investments.
(iii) VC funds looking to allocate capital raised into assets that generate real rates of return and away from cash that is eroded by inflation.

In summary, investing in the IPOX® 100 U.S. Index may mitigate risks and offer real returns in the difficult stagflationary macro environment due to the unique portfolio with hyper-liquid and innovative companies offering defensive growth exposure.

IPOX® Research Team

Kat Liu
Research Associate
+1 (312) 526-3634
kat@ipox.com

Dr. Lukas F. Muehlbauer
Research Analyst
+44 7544 046129
lukas@ipox.com

Appendix

1. IPOX® 100 U.S. Index regressed on S&P 500, MSCI Small Cap November 2017 – October 2022

Dep. Variable	**IPOX**
Model	OLS
Method	Least Square
No. Observations	60
Df Residuals	57
Df Model	2
Covariance Type	Non-robust

R-squared:	**0.840**
Adj. R-squared:	0.834
F-statistic:	149.3
Prob (F-statistic):	2.19e-23
Log-Likelihood:	133.14
AIC:	-260.3
BIC:	-254.0

	coef	***std err***	***t***	***P>|t|***	***[0.025***	***0.975]***
Const	-0.0011	0.004	-0.297	0.768	-0.008	0.006
Small Cap	0.6575	0.135	4.865	0.000	0.387	0.928
S&P	0.3486	0.168	2.074	0.043	0.012	0.685

Omnibus:	**10.588**
Prob(Omnibus):	0.005
Skew:	-0.846
Kurtosis:	4.191

Durbin-Watson:	**1.772**
Jarque-Bera (JB):	10.712
Prob(JB):	0.00472
Cond. No.	60.7

2. IPOX® 100 U.S. Index residual (updated excess) regressed on MSCI Growth, Low Volatility excess November 2017 – October 2022

Dep. Variable	**IPOX Residual Return**
Model	OLS
Method	Least Square
No. Observations	60
Df Residuals	57
Df Model	2
Covariance Type	Non-robust

R-squared:	**0.504**
Adj. R-squared:	0.487
F-statistic:	28.96
Prob (F-statistic):	2.10e- 09
Log-Likelihood:	154.17
AIC:	-302.3
BIC:	-296.1

	coef	***std err***	***t***	***P>|t|***	***[0.025***	***0.975]***
Const	-0.0024	0.002	-0.976	0.333	-0.007	0.003
Growth	1.0482	0.138	7.609	0.000	0.772	1.324
Low Volatility	0.4037	0.136	2.964	0.004	0.131	0.676

Omnibus:	**2.212**
Prob(Omnibus):	0.331
Skew:	-0.077
Kurtosis:	3.771

Durbin-Watson:	**2.112**
Jarque-Bera (JB):	1.543
Prob(JB):	0.462
Cond. No.	66.2

3. U.S. short-term interest rates Total, % per annum, November 2017 – October 2022

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017											1.32	1.54
2018	1.63	1.78	2.08	2.2	2.16	2.19	2.17	2.19	2.24	2.37	2.56	2.69
2019	2.59	2.49	2.48	2.47	2.44	2.3	2.22	2.06	2.03	1.88	1.77	1.76
2020	1.65	1.59	1.35	0.5	0.17	0.2	0.18	0.15	0.13	0.12	0.16	0.17
2021	0.14	0.11	0.1	0.11	0.1	0.09	0.1	0.1	0.1	0.11	0.14	0.17
2022	0.22	0.38	0.73	0.91	1.33	1.87	2.5	2.76	3.21	3.85		

(Source: OECD Data, https://data.oecd.org/interest/short-term-interest-rates.htm)

4. S&P 500 Monthly Total Returns November 2017 – October 2022

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017											3.07%	1.11%
2018	5.73%	-3.69%	-2.54%	0.38%	2.41%	0.62%	3.72%	3.26%	0.57%	-6.84%	2.04%	-9.03%
2019	8.01%	3.21%	1.94%	4.05%	-6.35%	7.05%	1.44%	-1.58%	1.87%	2.17%	3.63%	3.02%
2020	-0.04%	-8.23%	-12.35%	12.82%	4.76%	1.99%	5.64%	7.19%	-3.80%	-2.66%	10.95%	3.84%
2021	-1.01%	2.76%	4.38%	5.34%	0.70%	2.33%	2.38%	3.04%	-4.65%	7.01%	-0.69%	4.48%
2022	-5.17%	-2.99%	3.71%	-8.72%	0.18%	-8.25%	9.22%	-4.08%	-9.21%	8.10%		

Source: S&P Dow Jones Indices, Bloomberg Finance L.P.

Methodology for Figures 1&2

1. Strong/Weak Markets are defined as periods when benchmark (S&P 500) total returns are above/below zero. High/Low interest rates are defined as periods when the short-term interest rates (based on three-month money market rates/treasury bill rate) are greater or equal to/less than two percent.
The Defensive-Growth portfolio is constructed as:

Defensive Growth Portfolio Excess Return =
β_1 MSCI USA Growth Index Monthly Excess Return + β_2 MSCI USA Minimum Volatility Index Monthly Excess Return

where β_1 and β_2 are the coefficients from the regressions of IPOX® 100 U.S. Index Portfolio Monthly Excess Return = β_1 MSCI USA Growth Index Monthly Excess Return + β_2 MSCI USA Minimum Volatility Index Monthly Excess Return + c (see Appendix)

2. Multivariate regression using market and size adjusted IPOX® 100 U.S. Index Portfolio excess returns and MSCI factor indices excess returns. Taking the explanatory power-R squared over the past five years (See Appendix). The IPOX® 100 U.S. Index Portfolio excess return is calculated as:

IPOX® 100 U.S. Index Portfolio Excess Return =
IPOX® 100 U.S. Index Portfolio Monthly Return – β_1 S&P 500 Total Return Index Monthly Return – β_2 MSCI USA Small Cap Gross Total Return Index Monthly Return

where β_1 and β_2 are the coefficients from the regressions of:

IPOX® 100 U.S. Index Portfolio Monthly Return =
β_1 S&P 500 Total Return Index Monthly Return + β_2 MSCI USA Small Cap Gross Total Return Index Monthly Return + *c* (see Appendix 2)

References

World Bank (2022). *Global Economic Prospects, June 2022. Global Economic Prospects; Washington, DC: World Bank. © World Bank. https://openknowledge.worldbank.org/handle/10986/37224 License: CC BY 3.0 IGO."*

Sagarika Jaisinghani (2022) BofA Survey Shows Stagflation Fears with No Fed Pivot in Sight, *https://www.bloomberg.com/news/articles/2022-11-15/bofa-survey-shows-stagflation-fears-with-no-fed-pivot-in-sight*, published on 11/15/2022)