

GLOBAL FINANCE BRIEF

Old Italian Violins: A New Investment Strategy?

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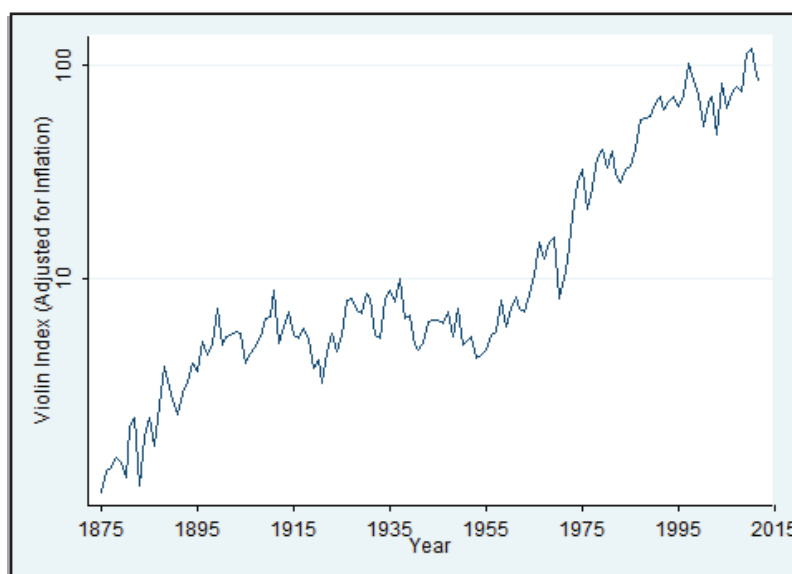
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Old Italian violins appear to have been a good investment. Figure 1 plots an index on a log scale adjusted for inflation since 1875. From about 1890 to 1960 violin prices were stagnant. Between about 1960 and 1980 there was a sharp rise in prices. Prices have risen, with some ups and downs, since 1980.

Even when compared with other assets, violins have done well. As is evident from Table 1, in the 5-year period ending in 2012, violins provided small positive returns compared to negative returns for art and the S&P 500 stock index.

From 1980 to 2012, violins did not perform well as well as financial assets. However, in the long term, violins have returned 3.3% annually, adjusted for inflation, which is more than either art or the US 10 Year Treasury, but is significantly lower than the returns to the S&P 500 stock index.

Figure 1: Violin Index Adjusted for Inflation, 1875-2012



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Index	2007-2012	1980-2012	1875-2012
Violins	0.8%	2.9%	3.3%
Art (MeiMoses)	-0.9%	8.6%	2.3%
US 10-Year Treasury	5.0%	6.0%	2.4%
S&P 500	-0.2%	6.8%	6.3%

Fiddles - the term used by dealers and collectors to refer to even the finest violins - have significant cultural significance. The most expensive fiddle sold in this dataset was a Stradivari, the "Lady Blunt" which was sold at auction at Tarisio's in 2011 for 9,808,000 GBP (about \$16 million). This fiddle had previously been sold in 1971 for 84,500 GBP (about \$105,000). The least expensive fiddle was sold in 1940 for a price of 13 GBP (about \$50) and was resold in 1994 for 3,960 GBP (about \$6,000). The oldest fiddle in the dataset is an Amati (Andrea) which was built in 1550 and the newest fiddle in the dataset was constructed in 1987 by Giuseppe Lucci of Rome.

The market for fiddles is very different from the market for other assets, including art. Violins are used as a tool by musicians. Musicians need top instruments in order to increase their earning power, and musicians are needed to fully appreciate the investment in the instrument. The main sellers and buyers of these instruments, other than musicians, are dealers, collectors (often foundations), and investors. Most collectors and investors, both private and institutional, loan out their instruments to talented musicians. The musician typically pays all insurance and maintenance costs (but not a rental fee); insurance costs range from about 0.5% to about 2% of the value of an instrument. Buyers who purchase violins primarily as an investment, as part of a diversified portfolio, usually also loan out these instruments to musicians, who pay insurance and maintenance. Individual musicians have used various schemes to purchase a good instrument, including borrowing from banks that specialize in loaning funds against musical instruments and assembling syndicates to raise money.

Fiddles are sold through both auction houses and dealers and also directly from one musician or collector to another. The relative size of the various markets is very difficult to gauge. Through conversations with dealers and analyzing our auction data, we speculate that auction sales make up between 10% and 20% of the market. One advantage of transacting through a dealer is that it is easier to borrow and try out the instrument (though auction houses also accommodate a small number of potential buyers in this manner). Furthermore, dealers will often accept trade-ins as long as the fiddle is traded for one of a similar or higher value. The main advantages of buying (and selling) through auction is transparent pricing.

1 The Data

The data we use to estimate our returns spans from 1794 through 2012. In our dataset, each observation consists of the purchase and sale of a single instrument, hence a "repeat" sale, for a total of 1,328 observations. About 83% of the purchases are from dealers and 61% of the sales are from dealers with the remainder from auction sales. The data include the information on the 320 fiddles included in our previous study and were carefully put together from a variety of sources including books, catalogs, auction records, business records at the Smithsonian and the Segelman trust, miscellaneous news stories, and the website, <http://stradivariinvest.com>

Most of the new data came from the W.E. Hill Business Archives, licensed from David Hill, who inherited the business and records. The records list every instrument that the Hills sold between 1890-1991. Many instruments were sold multiple times, and

since the Hills were the leading violin dealers during this period, the records include a large percentage of the most important instruments. Since the records were for private use only, we believe they are reliable. A handful of more recent private sales numbers did not come from the Hills but are either well documented in the press or are from reliable sources.

Violins have received increasing attention as viable investment alternatives. However, there is a dearth of evidence on the actual monetary returns to investing. The only published paper (our own) on returns to investing in violins in the past 20 years relies on repeat sales of only 320 fiddles in order to construct a long time series of 10-year returns since 1875. The data stops in mid-2009, just after the financial crisis.¹

In this research, we estimated the returns for each yearly period using the Case and Shiller repeat sales method. Using the estimated regression coefficients, we constructed Table 1 of geometric means of the annual real returns for various periods of interest. We chose the last five-year period (2007-2012) in order to comment about returns since the financial crisis. The total returns for the US 10-Year and the S&P 500 were calculated from indexes supplied by Global Financial Data. The returns to holding art were calculated from the All Art Index supplied by Beautiful Asset Advisors, LLC. Nominal returns were adjusted to real returns using the US consumer price index.

2 Volatility and Correlations

Absolute returns are not the only consideration; volatility and Sharpe ratios for the period 1875-2012 are presented in Table 2. The volatility of the estimated yearly real returns for fiddles is about 0.25 versus a volatility of approximately 0.45 for art since 1875. The volatility of the S&P real return is about 0.20 and that of bonds is only about 0.08. Calculating the Sharpe ratio (the ratio of the arithmetic mean of the real returns to the volatility), we find a Sharpe ratio of 0.25 for violins, compared to a Sharpe ratio of 0.21 for art, 0.34 for Treasuries, and 0.42 for the S&P 500.

Table 2: Volatility and Sharpe Ratios: 1875-2012

Index	Volatility	Sharpe Ratio
Violins	0.25	0.25
Art (MeiMoses)	0.45	0.21
US 10-Year Treasury	0.08	0.34
S&P 500	0.20	0.42

It is also instructive to look at correlations with other investment instruments. As shown in Table 3, violins have a correlation with art, bonds, and stocks of around -0.15.

Table 3: Correlations

	Violins	Art (MeiMoses)	US 10-Year	S&P
Violins	1.00			
Art (MeiMoses)	-0.1447	1.00		
US 10 Year	-0.1572	-0.0023	1.00	
S&P	-0.1503	0.0712	0.2522	1.00

So, should old Italian violins be a new investment strategy?

¹Kathryn Graddy and Philip Margolis, *Fiddling with Value: Violins as an Investment?* *Economic Inquiry*, 2011, 49: 1083-1097

3 Caveats

Based on an analysis of past returns, old Italian violins appear to be a reasonable investment. However, there are many reasons to be extremely cautious about adding violins to a portfolio of financial assets.

First, the market for old Italian instruments is small, making it difficult for capital of any significance to flow into the market. Fiddles are a specialty investment, and any significant inflow of capital would change the nature of returns in the market.

Although the past returns calculated above look good, these returns are based on repeat sales of instruments and survival bias could be significant. Old Italian violins that are not viable instruments simply may not come up for resale. While this argument also applies to art, the argument is less significant, though still present, for financial assets.

Both auction houses and dealers charge commission rates that are much higher than for financial instruments, and these commission rates are not taken into account in the above analysis. Commissions at both auction houses and dealers range from about 15-35% which could be significantly detrimental to returns.

Finally, the nature of the violin market, as described above, results in a market with much lower liquidity than other financial instruments. The time between repeat sales for old Italian instruments in this dataset is approximately 32 years, which is nearly twice as long as the time between sales in art data sets of similar lengths.

Overall, investors should be extremely cautious in using old Italian violins purely as an investment strategy. Because most dividends from owning a violin are non-monetary in nature, investors should expect lower financial returns than from monetary assets with equivalent risk profiles.

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