

Executive Summary

Patents represent the willingness of companies to invest in innovation. They represent a future legal monopoly on certain inventions and, thereby, a competitive advantage. Although patents are initially intangible assets that are mostly invisible on balance sheets, they blossom into measurable revenues and profits over time; hence, they can be viewed as an early indicator of future positive value.

**QUALITY
SCORE****80**

PVE provides patent value estimates for 22,000+ distinct companies across 100+ countries, covering about 15,000 listed companies on average in each monthly update, including 80% of the STOXX Europe 600 and 85% of the S&P 500, as of June 2020.

Quality Score Details¹

Attribute	Score (1-5)	Comment
Length of History	5	History from January 2007
Data Frequency	2	Updated monthly
Data Reporting Lag	3	2-4 weeks lag
Data Quality	5	Excellent
Documentation Quality	5	Excellent
Coverage within Relevant Range	4	Covers 15,000 listed companies including 80% of the STOXX Europe 600, 85% of the S&P 500
Liquidity of Underlying Assets	4	Globally listed stocks, easy to trade
Uniqueness	4	Proprietary patent valuation methodology
Market Awareness	3	Limited awareness within finance industry
Hedge Fund Usage	5	Minimal

Partner Background

The data provider has a strong background in intellectual property rights (patents, utility models) and innovation management. They focus on valuation of patents / utility models,

¹ See Quality Score Key at the end of the document for further details.

patent families or entire corporate portfolios qualitatively and monetarily. Their customers are across large Blue-Chip companies, small and medium enterprises, M&A agencies, banks, official authorities, research institutions and technology transfer offices.

The firm has now partnered with Nasdaq Data Link to bring their data to the financial services industry. This data product is available exclusively via Nasdaq Data Link.

Fields Overview

Field	Description
valuation_date	The date corresponding to the patent value estimates, data with valuation_date of 2007-01-31 will be available between 2007-02-14 and 2007-02-28.
isin	ISIN security identifier
ticker	Stock ticker
name	Ultimate company name
country	Location where the ultimate company is registered
patent_value	Available for a broad range of international publicly traded companies. Worldwide coverage has consistently grown since inception with nearly 20,000 companies included as of June 2020, spanning 105 countries and 11 GICS sectors.
alive_patent_families	Total amount of alive patent families

Model Overview

The Patent Value cannot be found anywhere on the balance sheet — only costs for intellectual property (IP) in the intangible assets are balanced there, but not “value”; thus, it can be determined only with appropriate patent valuation approaches.

There are three common approaches to valuing patents: market approach, income approach, and cost approach; PVE adopts the market approach. First, patent market values are obtained from a variety of sources, such as M&A transactions, manual patent valuation projects, and patent auctions. For each patent, the valuation is recorded along with 27 proprietary features; this data is used to create a generalized patent valuation model. Global patent data is then sourced from electronic patent databases, labeled with the same indicators, and used as input to the patent valuation model, allowing each individual patent

to be valued. These patent values are then rolled up on a per company basis to provide a ticker-level patent value estimate.

Application

The data can be used in several ways:

1. Fundamental investing

Patents provide an early view into the future potential of a company; they speak to the company's ability to innovate and stay ahead of the curve. In valuing a company's patent portfolio, PVE provides investors the means to compare and contrast this potential in a tangible manner. Fundamental investors can use PVE to create custom factors or indicators and augment their existing investment strategies.

2. Quantitative investing

PVE can be combined with traditional fundamental data (ex., total assets) to construct new factors for use in long-only or long-short trading strategies.

3. Business strategy and marketing

PVE offers a huge set of controlling, strategy and marketing instruments. It is valuable to have the potential of measuring the outcome of IP activities and compare it with competitors.

For sales inquiries and support, please contact sales@data.nasdaq.com.

Key to Quality Score

Attribute	Score = 1	Score = 2	Score = 3	Score = 4	Score = 5
Length of History	< 1 year	1-3 years	3-5 years	5-10 years	> 10 years
Data Frequency	Quarterly	Monthly	Weekly	Daily	Intraday
Data Reporting Lag	1 Quarter or more	1-2 Months	1-2 Weeks	1-2 Days	Intraday
Data Quality	Poor: major gaps, obvious mistakes, irretrievable errors	Mediocre: missing data, bad data or bad methodology	Average: mostly good data with a few errors	Good: consistent, complete data and robust	Excellent: very close to zero errors in the data

				processes	
Documentation Quality	Poor: not sufficient to do meaningful analysis	Mediocre: workable but not easy to work with	Average: includes most relevant info but a few gaps remain	Good: well-documented, only a few edge cases missing	Excellent: clear, unambiguous, comprehensive
Coverage within Relevant Range	Sparse: coverage is sparse and idiosyncratic	Minority: covers only a minority of relevant names	Half: covers half the relevant names	Majority: covers majority of names by count or importance	Complete: covers all names within index, sector or asset class
Liquidity of Underlying Assets	Hard to trade	Illiquid but tradeable	Moderately liquid	Liquid and easy to trade	Extremely liquid: benchmarks & large caps
Uniqueness	Not unique, already used by many participants	Not unique, but not yet widely available or used by market	Unique, but substitutes or proxies exist	Unique, replicable only at a very high cost, hence wide moat	Perfectly unique and impossible to replicate
Market Awareness	Widespread knowledge of data, sources, use cases	Widening awareness: beyond specialists and early adopters; press coverage.	Moderate awareness: known to industry specialists	Narrow awareness: known only to a few select entities	Exclusive awareness: treated as proprietary secret by owners/users
Hedge Fund Usage	> 50 funds	> 25 funds	10-25 funds	5-10 funds	< 5 funds