Investing in Scotch whisky maturation

The high returns and downside protection available to investors in Scotch whisky

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01 / Introduction

Paul Tustain founded BullionVault[1] in 2003 and is still its chairman. He cofounded WhiskyInvestDirect in 2014. Here he explains the thinking behind WhiskyInvestDirect, and why he is using it to further diversify away from financial market orthodoxy, and into bulk maturing whisky.

As you might guess I am invested in gold. Another alternative investment I have been looking at is whisky. Not the rare bottles whose spectacular prices you may have read about, but the industrial scale commodity which fuels a major British export industry, and finds millions of thirsty buyers all around the world. Immature whisky appeals to me as something which tends to grow in value and can be sold without any dependence on financial markets. What I will explain here is:

- Why the returns — of around 8 to 9% per annum — look credible, and broadly sustainable
- Why I think the downside is protected, and now safer than cash over the medium term (and very much safer than bonds)
- How it offers me a genuine diversification from financial markets, and from the Pound
- Its unusual and attractive tax status

[1] On behalf of 40,000 customers BullionVault looks after 34 tonnes of gold bullion, equivalent to approximately 11% of the formal British gold reserve. It is now one of the largest gold investment businesses in the world.

Why look at whisky at all?

The most compelling reason for investing in whisky today is that so few people have, which is mainly because until very recently it was almost impossible to invest in. Whisky is nearly virgin territory for serious investors and, in an era when excess capital has chased up the prices of almost everything else, it's worth a quick look on those grounds alone. The deeper you look the more interesting it becomes.

Briefly, what are the fundamentals of the whisky business?

If you wish to start with a solid grounding in Scotch and its global market position then you need to look at Appendix 1, where there is a more thorough overview of the industry. There you can learn the essentials of the whisky process, and its extraordinarily large contribution to the British economy. But to cut straight to the point — to the investment case — you really only need to know these essential facts:

- Whisky is distilled beer. All Scotch whisky is undrinkable when it is distilled (made). It must be matured in oak barrels, for a regulated minimum of 3 years; the average is 9.

- During maturation it continually improves — becoming more valuable to whisky's brand owners as it does so — all the way up to 18 years and beyond. This improvement is the primary economic force behind making an investment in maturing Scotch.

- Two types of whisky are made:

    - **Malt** (lower volume, artisanal production, and higher price), and
    - **Grain** (higher volume, industrial production and lower price).

- And two types are sold to consumers (note the difference):

    - **Malt** (premium – and 8% by volume of world demand) and
    - **Blend** (a 75%/25% grain/malt mixture and 92% by volume of world demand).

- The blending industry is enormous. It is responsible for about 22% of British food and drink exports on its own. It is so significant that there is a substantial market for lesser known whiskies which are traded for use as ingredients in the blends. Unlike the high premium malt brands these lesser known spirits are similarly priced across many varieties — and behave broadly like general purpose commodities.

- For all whiskies sold their age [time spent in a barrel, not a bottle] indicates quality, and older whisky commands higher prices. This increasing value generates profits for stockholders who sell aged whisky to brand-owners.

- Maturation happens in formal and secure bonded warehouses, before the government applies alcohol taxes and VAT.

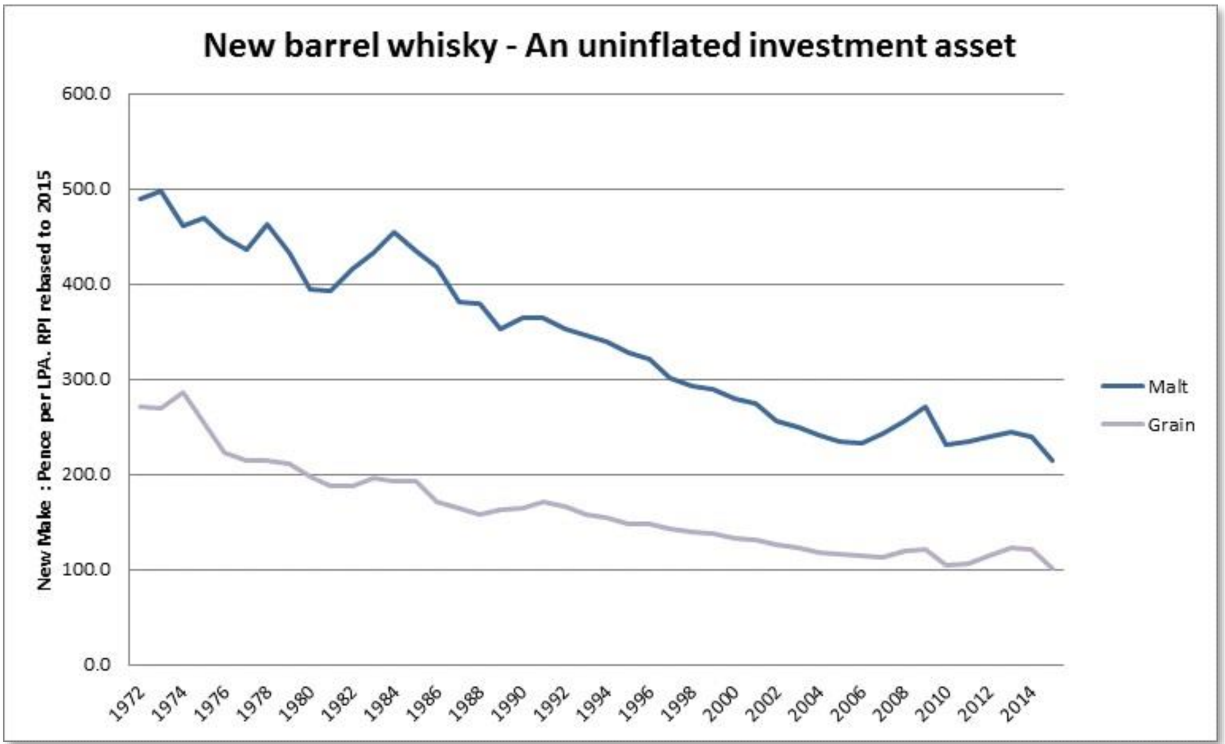
- After deducting storage costs the profits for stockholders of blending spirit have averaged 8% to 9% per annum over the decade to 2015.
- The risks appear to be unusually low when set against typical modern investments which generate that sort of return

Whisky is not a 'crowded trade'

Unlike equities, bonds and property, whisky has been almost completely overlooked as an investable asset for over 40 years.

In real terms the cost of newly distilled malt whisky has continued falling steadily. Over a similar period typical investment assets have at least doubled in real terms (equities +170%[2], houses +124%[3]).

Adjusted for inflation both types of whisky currently cost less than half the 1972 price when bought new.



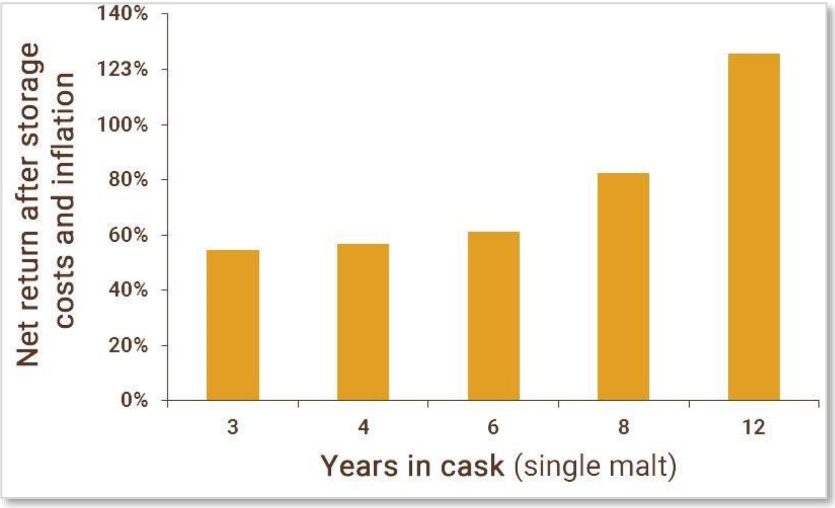
This represents a significant divergence from those major investment asset classes, while compared to the millions of people who own property, equities, bonds etc. there are probably fewer than 100 people who own, as part of their investment portfolio, a serious quantity of maturing whisky.

2 Source: Visuals.ons.gov.uk

3 Source: Nationwide.co.uk

The declining price of new spirit obscures a respectable performance

Yet whisky's financial returns over the last decade have averaged around 8% to 9% per annum (after storage expenses) so clearly the above chart does not show the whole story. Of course it only shows new whisky steadily becoming cheaper to buy. Unlike most stored goods whisky becomes a different and more valuable product as it gets older, and the resulting returns, earned by stockholders, have been notable through an era of very low interest rates.



Source: Scotch Whisky Industry Review (Alan S Gray) and UK RPI from the Office for National Statistics

02 / What is the source of these investment returns?

Anchored costs

The cost of new whisky is anchored by:

- the cost of raw material grain
- the cost of energy
- the efficiency of modern machinery
- the reducing labour component
- price competition between about 120 different distillers

Like many consumer goods this is a combination which has resulted in falling prices, and from this anchored start point the resulting new spirit is matured.

Returns held high

The overall rate of return has remained high enough through the years to provide profit to both producers and their bankers — who finance an average of nine years of stockholding.

Of course viable commercial undertakings always generate more than the cost of financing them, or why would anyone ever bother? So there certainly ought to be more profit in Scotch stockholding than is currently paid by distillers to the banks; itself a percentage considerably higher than most people earn on their deposit accounts.

Nevertheless investors generally invest in financial products and avoid commercial ones, usually because they lack the inclination and the expertise required for particular commercial investments.

Fortunately, with whisky, the commercial aspect mostly involves waiting, rather than any technically difficult work. So it really ought to be investable. Yet to-date it has not to any serious extent been invested in by private investors. Why not?

The long standing difficulties of whisky investment (and the solutions)

For private investors, maturing whisky:

- is complicated (barrel types, converting units [bulk litres <−> LPA], evaporation, taxation)
- is capital intensive (large storage facilities are required)
- requires specialist knowledge (which of 120 different source whiskies should the investor buy, and which should they avoid?)
- has been closely regulated to protect the government’s substantial tax interest in the final product (under the Warehousekeepers and Owners of Warehoused Goods Regulations [WOWGR] few individuals have permission to store whisky in bond)
- has not been able to guarantee outsiders that they will find buyers when the maturation process is over
- has a history of catastrophic loss when particular distilleries have gone bust, and
- has a negative cash yield (i.e. requires the paying of significant storage costs)

The result of these difficulties has been low levels of investment in stockholding from outside the distilling industry itself. Then, because it has remained only a small part of the overall stockholding landscape, the little that has occurred from outside the industry has not been of a sufficient scale to become economically important — and has been priced as an irritant by the distillers. This creates the final and most powerful repellent to potential investors, which is price.

The effect can easily be seen by reference to the internet (suggested search: ‘Scotch cask investment’). Cask investment, which offers maturation through ownership of individual barrels, is priced for retail, typically at around **£15.53[4] [Malt LPA[5]].**

A fair and direct comparison to the new crowd-funding scheme from WhiskyInvestDirect shows that private investors can now trade in wholesale markets from around £2.70[6] [Grain LPA] to **£4.20[7] [Malt LPA]**, which represents a stunning 73% reduction in the cost of investing in malt whisky maturation.

Six of those seven listed problems which have held back private investment are now resolved on this new platform.

1. Investing is now a straightforward online purchase, requiring a bank transfer and an online trade which can be completed in a few moments, with telephone support if you need it.

2. The system uses the storage facilities already in use by the industry, so no warehouses need to be rented, built or acquired.

3. People can buy a sensible spread of pre-selected good quality blending whiskies. You trade in Litres (formally Litres of Pure Alcohol) not whole individual barrels.

4. The necessary HMRC permission (WOWGR) has been granted to WhiskyInvestDirect, which gives the necessary bonded warehouse access, and lets private investors store their own whisky through the service.

5. Investors can sell their whisky whenever they like on WhiskyInvestDirect’s live market. Not only does this mean investors are not locked in for the entire period of maturation, but also when they sell they immediately stop paying storage fees. So unlike ’10 years storage included’ cask programs they do not end up paying for 8 years of storage unnecessarily should they choose to exit after 2 years.

6. A different and reliable ownership structure eliminates potential losses to investors caused by the original supplier going bust.

[4] This was an average of the first three located cask programs with advertised prices – as at Nov 2015. All three were pricing for Bulk Litres i.e. diluted to 60%. Adjusting to LPA (pure alcohol), the pricing was £12.50, £17.50 and £16.66 – averaging £15.53. The sample appears representative.

[5] 1 LPA is one Litre of Pure Alcohol. Whisky is matured at about 60% in the cask and bottled at 40 to 43 percent, in 70 cl bottles. 1 LPA makes about 3 bottles of Scotch.

[6] Actually from about £1.20, but we are adding in 15p per LPA per year to give a net price paid for 10 year old which makes a fair comparison to cask programs, each of which included 10 years of storage.

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7. The price is about 70% cheaper than typical investment programs.

8. The one thing which has not changed is that investors still have to pay for storage, so there is still a negative cash yield. But the price paid, between 13 and 15p (per year per LPA) is now close to wholesale levels.

These improvements make the potential profits of commodity whisky stockholding genuinely accessible to private investors for the first time.

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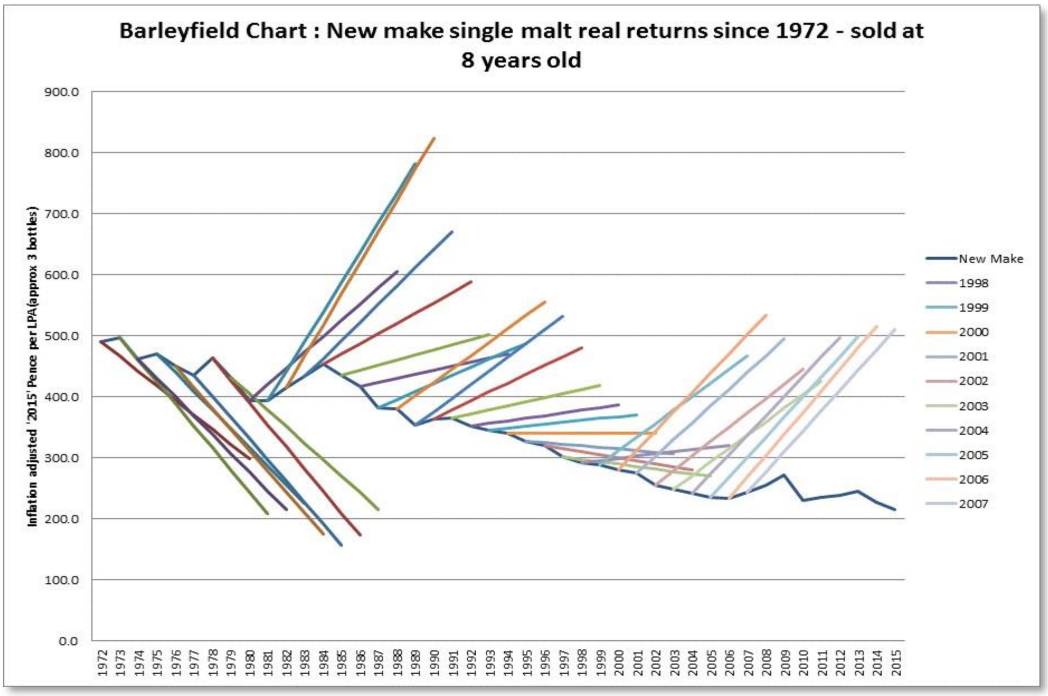
03 / What is the long term pattern of returns on whisky maturation?

A barleyfield[8] chart illustrates the historic returns that have been made by commercial stockholders from maturing whisky.



In collating data for an 8 year old whisky a storage fee adjustment of 120p (15p per litre per year) is deducted from the 8 year old wholesale broking price. This chart illustrates the return after storage charges have been deducted, and after all prices are adjusted for inflation to 2015 values. So these are inflation adjusted returns. The data come from the wholesale broking prices collated in the Scotch whisky industry's key reference – the Scotch Whisky Industry Review (Alan S Gray) and the inflation data come from the Office for National Statistics.

Each performance line starts on the declining price line for 'new make' whisky in the year of its distillation, and finishes at a particular age, here when that whisky is 8 years old.

The barleyfield chart brings out some important points about investing in whisky maturation.

i. There is no evidence of a systemic reduction in returns over time. So whisky has not yet attracted excessive investment money and its price is not already pumped up by millions of earlier investors.

ii. At the lower prices seen since about 2000 maturation has been consistently profitable. 'Barleystalks' from the last decade demonstrate that returns earned from selling 8 year

[8] "Barleyfield" because the general appearance is of a field of barley stalks some of which have been laid flat by stormy weather (recession).

old malt, bought new, have been steady, and in fact averaged about 9% per annum after deducting the cost of storage.

iii. The previous decade shows lower returns. But note that rather than losing money, the poor decade from 1996 to 2005 delivered an average real gain of 2.0% per annum — still materially better than a modern cash deposit. And in real terms new spirit is about 30% cheaper today.

iv. After weak periods of demand there are strong recovery years when supply is insufficient. Note in particular the sales of 8 year old whisky in the late 80s; the period known as 'the Lawson Boom'. The return for those who sold 8 year old malt in 1989 or 1990 was about 98% in real terms earned in 8 years (and it was considerably higher for grain spirit). The gain represented a very sharp recovery in prices which had dipped during a period of weak returns. It arose from the problem of trying to find 8 year old whisky to satisfy growing demand after producers hadn't made enough 8 years previously. No amount of rapid investment in plant capacity could overcome that immediate problem. 1986 to 1989 amounted to a price explosion in 8 year old whisky. The phenomenon is explained more thoroughly in the next section

With whisky, producers rescue stockholders from gluts

What caused suppressed production in the mid 70s and early 80s? The answer is particularly interesting to prospective holders of maturing stock.

The root cause was a slowing in US demand which persisted for some years. But it is more complicated than that.

There are few industries where this peculiar phenomenon occurs, because in other industries new production is generally valued higher than old, which means stockholders in other industries get stuck with old product they cannot sell.

Because Scotch improves with age the Scotch Whisky Association lets bottlers put an 8 year old (better) whisky into a 3 year old blend, but they can't do the reverse — i.e. they can't put a 3 year old (worse) whisky into a blend labelled 8 year old.

<u>What this means is that if the price of producing new whisky (anchored by input costs) rises above the market price of older whisky, the distillers automatically stop producing and fulfil their contract obligations by buying old stock instead, because it is both cheaper and better. This is the opposite of the intuitive norm, as you would find with — for example — butter, clothing or microchips. For these other products newer generally means better, and in gluts it is stockholders of increasingly old inventory who suffer.</u>

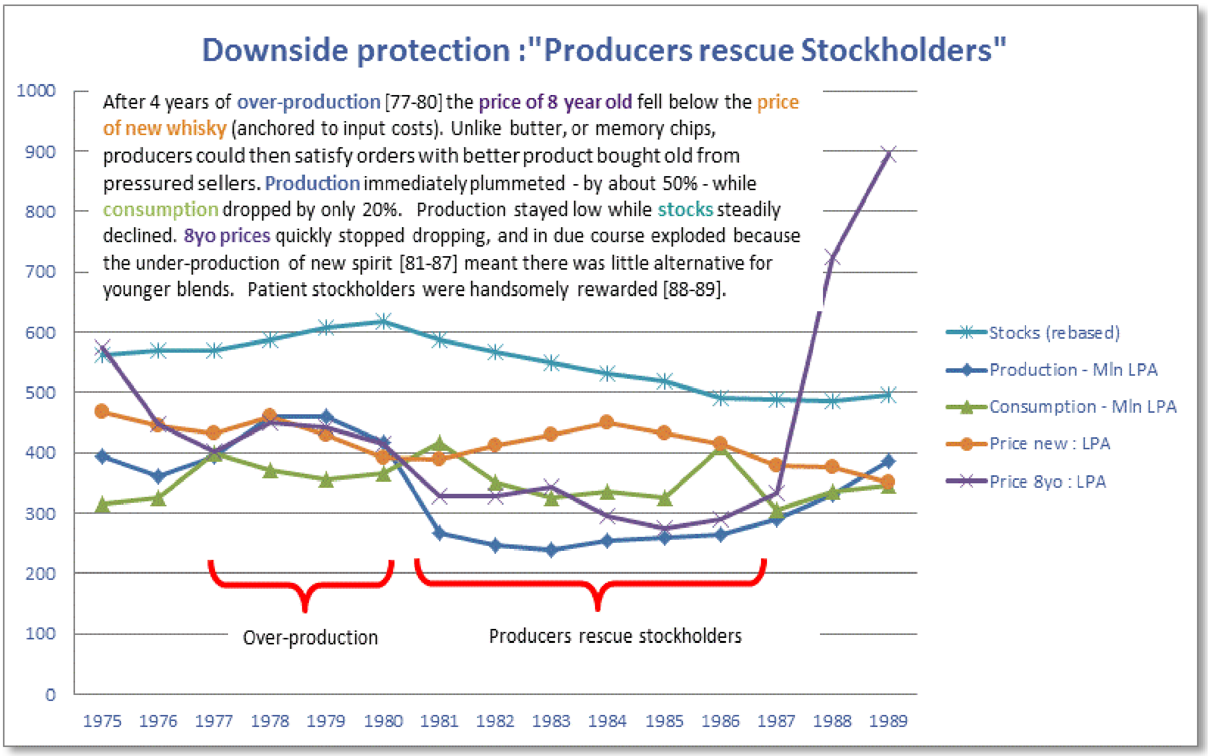
Still more interesting with whisky, many producers have to borrow money from the bank to fund the large average stock of about 9 years' worth of sales. In a glut, bank pressure will mean the stockholders who sell when prices are sinking will tend to be those who are under strain from financing their holdings with money borrowed using their substantial stocks as collateral. Banks will 'encourage' liquidation of these stocks.

In consequence a glut of whisky is quickly worked through by distillers cutting back relatively expensive production of immature whisky and delivering to their customers already-matured stock bought from indebted and secured stockholders at low prices.

This works conveniently for the distillers who are producing for the blending market because they don't need a particular whisky, or new whisky. Whatever is for sale cheaply will do.

The result is that in a glut of blending whisky producers automatically rescue stockholders.

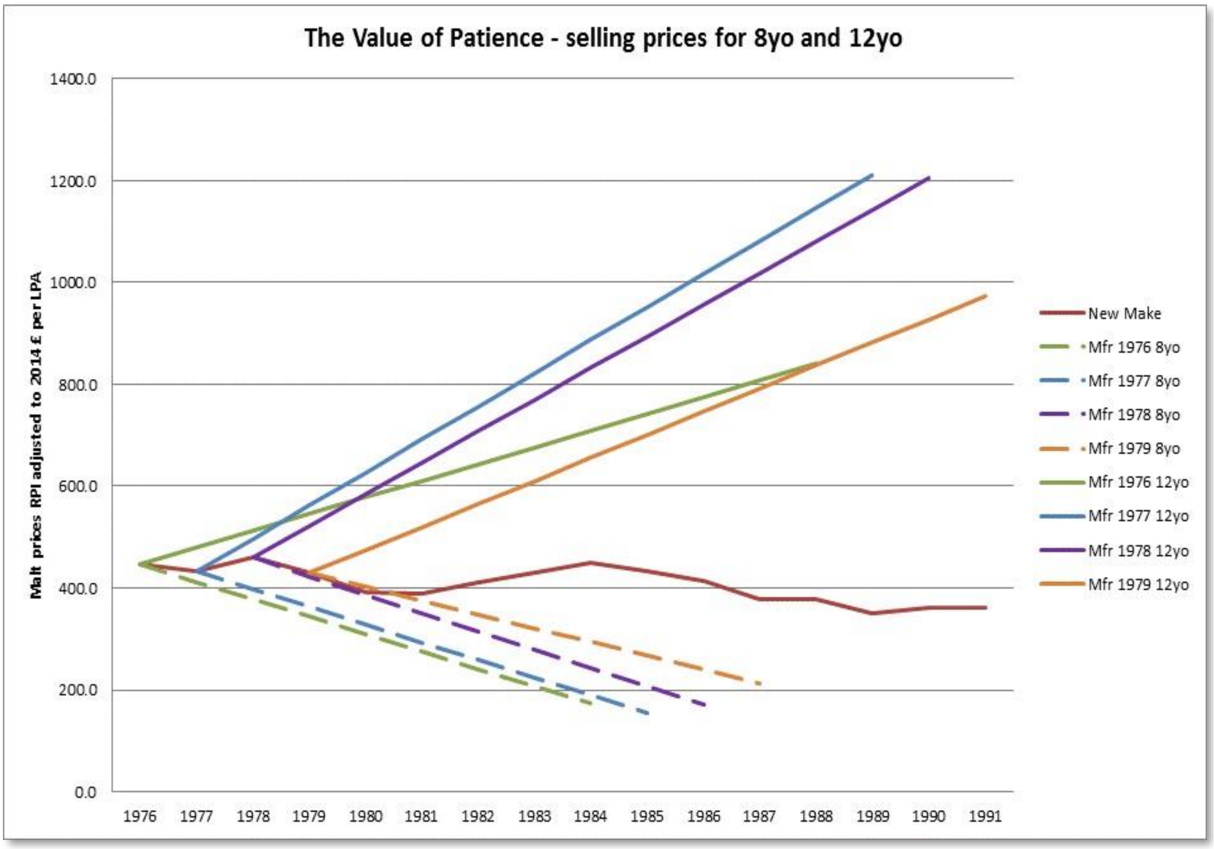
The historical data back up this logical observation with remarkable clarity



All data provided by Scotch Whisky Industry Review (Alan Gray) with adjustments for official UK RPI from the Office for National Statistics.

From a cautious long-term investor's perspective **this is unusually solid ground on which to invest**.

Maybe it's even better than at first glance. Tangible assets <u>which you own</u> don't go bust, which makes them less worrying than bonds and equities in a sharp financial downturn. And because products, unlike organisations, can't go bust, their prices can recover. It is striking (below) how the disappointing selling prices of 8 year old whiskies from 1984 through 1987 recovered dramatically into spectacular profits when sold as 12 year old from 1988 through 1991.



This powerful price recovery was all but inevitable, because once it became cheaper for producers to buy old stock than make new stock the market was self-correcting and stockholders who could afford to be patient were almost bound to be rescued.

> ***N.B.*** *This effect can only be shown here with respect to four years of production — from 1976 to 1979. However it ought to apply on whiskies made from 1972 to 1975. Unfortunately these vintages would require us to have historic sales price data of 13-18 year old whisky produced in those years, and we have not found any. It looks like a safe prediction that the terrible figures for — for example — 1974 production sold as 8 year old would have been completely turned around if it were sold as 14 year old.*

On the data we have — which extends to 12 year old — there has not been a single year of production since 1976 that any given year's whisky has not been profitable in real terms at some point in the subsequent 12 years. The worst performing years at 8 years old (77, 78, 79, 85, 86, 95, 96 and 97) all showed very strong gains when sold as 12 year old.

The worst years overall were 91 to 94, where nothing happened. Investors may have expired of boredom in this period, but their 4, 8 and 12 year returns broadly **returned their original capital** — including an adjustment for inflation. Cash deposits did about the same. Moreover if you were holding some 22 year old spirit now (i.e. produced at that time) you would have a very scarce and valuable product indeed.

Whisky cannot go bust

Any property of any type can lose value, but property cannot go bust. It is organisations which go bust.

Unfortunately, in the past, a number of providers of whisky investment schemes have gone bust, and their liquidators have taken the investors' whisky and sold it for the general benefit of creditors — which has usually meant banks.

That wholly unsatisfactory outcome has been the result of poorly structured ownership.

In those schemes, investors bought an interest in whisky, rather than whisky itself. This used to be a consequence of who had HMRC's permission to own whisky stored in bond; and usually that was the supplier, not the investor.

That meant the whisky remained the property of the supplier, and the investor became a whisky-denominated creditor.

The law is very clear, that in a liquidation, which is what sometimes happened, no creditor can be 'preferred' — at least not unless it had a specific preference over particular assets. That preference tended to be lacking in the investment schemes, but of course banks were always quick to put it in place — in their favour — once they started to fret about the declining collateral values of their customer. So banks tended to gain preference over all the whisky stocks as a supplier's financial position deteriorated, and as a result, in the event of liquidation, the whisky was sold for the bank's benefit, not the investor's!

This is the reality of how things used to work, but it does not have to be that way.

Using the long established legal structure of bailment the whisky you buy on WhiskyInvestDirect becomes a bailment, meaning 'your property in the care of another'.

WhiskyInvestDirect and bailments

Bailment is defined (dictionary.law.com) as "the act of placing property in the custody and control of another, usually by agreement in which the holder (bailee) is responsible for the safekeeping and return of the property." It is further clarified with "Thus, the 'bailor' (owner) leaves the 'bailment' (goods) with the 'bailee' (custodian), and the entire transaction is a 'bailment'".

A liquidator of a company cannot touch a bailment in the custody of a company because it is not company property.

Your purchase of whisky on WhiskyInvestDirect is a cash purchase of tangible goods which you immediately own outright as your property. It is the subject of a safekeeping service provided by its custodian — the bonded warehouse, and is a bailment, which is documented in both WhiskyInvestDirect's terms and conditions with you, and with the contracts WhiskyInvestDirect executes with bonded warehouses.

Being structured as a bailment means that were WhiskyInvestDirect or the bonded warehouse to fail no liquidator could claim your whisky as an asset of the failing company, and then sell it for the benefit of banks, creditors or tax collectors. Your whisky must be disposed of according to your instruction. Using bailments resolves the significant weak spot of ownership under earlier whisky investment schemes.

Only tangible goods can be the subject of a bailment. It's an established 300 year old right in broad use in Western legal systems. It is widely tested in case law and it soundly protects any owner who does not have custody of his own property from loss through appropriation by a liquidator or bank.

Getting out

Selling the mature product at prices in excess of the combined purchase and storage costs generates the stockholder's return, and as with any product being sold the price achieved reflects demand, which to ensure a good exit must come from a variety of sources. It is essential that the whisky cannot only be sold to the original producer.

Matured whisky is in continual demand from blenders and brand owners.

These would both require much more capital, and would have a difficult multi-year sales forecast calculation to make, if they chose to rely entirely on their own maturation of whisky stocks bought new. It suits them to stay light on capital, and stocks, and to concentrate on marketing and throughput, acquiring a balance of spirit as needs arise. Brand owners will then generate their returns from good branding, and leave stockholding to others until they are ready to bottle. The blenders and brand owners drive the demand for mature stock from all sources.

The long tradition of Scotch blending, and the size of the industry, mean that both grain and malt whiskies are widely bought and sold with no expectation of them being bottled under their manufacturer's label. It is normal industry practice for brand owners to source and use different whiskies for the same blend, from year to year. Even some single malt brands are in fact branded bottlings of different single malts from unrelated distilleries.

This substitution of similar products into successful brands is what causes stock trading of both styles of whisky to be a regular feature of this industry, and it supports a multiplicity of potential buyers of mature spirit. That brings competitive demand — which ought to generate good prices at exit.

But until now there has been no exchange, and professional intermediaries have dominated the trade. In some ways the industry lacked a way which let independent stockholders get out at a good price. They could not find the highest bidder because as often as not only the professional intermediaries knew who was bidding.

WhiskyInvestDirect changes that. Anyone — stockholder or brandowner — can buy and sell wholesale whisky direct to anyone else, at any time. In effect WhiskyInvestDirect operates a bit like an open outcry stock exchange for maturing and matured whisky spirit. This is new, and it means that when it comes to prices all participants get the genuine advantage of open, competing bids and offers, which tend to give both the end buyers and the end sellers better value than they would get dealing through intermediaries.

All this is possible because with most Scotch spirit (and all the spirit you will buy on WhiskyInvestDirect) there is no standard proprietary right (of the original distiller) to stop buyers from bottling spirit either as a blend ingredient, or as premium, re-badged, single malt — if it is good enough.

Finally there is James Eadie. James Eadie is WhiskyInvestDirect's own brand label, and it will build a stable of high quality single malt whiskies and blends, based on spirits bought young and matured through WhiskyInvestDirect. James Eadie can only acquire stock like any other user, by bidding the highest price, and having it accepted by the stockholder. In essence it acts as a buyer of last resort.

Insurance or compensation

Formally, whisky is not a 'financial instrument' because it is a tangible good. It is outside the scope of the Financial Services and Markets Act 2000. This means that investors in maturing whisky — executed as bailments through WhiskyInvestDirect — will not have the benefit of the FCA's compensation scheme. While this might worry investors it is, on balance, a good thing — particularly for larger investors.

That scheme would ordinarily compensate customers who lost money to fraud or mismanagement, and is limited to £75,000 per claimant.

You cannot lose your physical property to fraud or misconduct but you can lose it to theft, damage and destruction (e.g. by fire), which are easier to identify. These risks are commercially insurable, and are always insured within the WhiskyInvestDirect service, **without a cap**.

For all investors — and particularly the larger ones — commercial risks insurance cover might well be considered stronger and more useful than the capped £75,000 protection applied by the FCA compensation fund to financial products. It is also likely to pay out faster.

James Eadie

James Eadie is WhiskyInvestDirect's own whisky brand, and WhiskyInvestDirect will be marketing brands through it, directly to consumers. It provides WhiskyInvestDirect stockholders with a link straight to the consumer.

CEO, Rupert Patrick, has sold hundreds of thousands of cases of bottled whisky, and is well connected in whisky's global marketplaces at all levels.

All the data used in our analysis above have been based on unglamorous, commodity, blending stock — which represents 92% of the Scotch whisky market, but perhaps only 5% of the column inches. By its nature, the mature blending stock leaves substantial upside for brand-owners.

James Eadie will develop consumer brands at both higher and lower ends of the market, competing with other brand owners on the WhiskyInvestDirect marketplace to acquire barrel whisky for bottling, branding and sale.

At the lowest level this might even be to supermarket own brands, because even at these lower retail prices there is ordinarily still profit to be made from commodity spirit.

James Eadie will itself be an active buyer of mature spirit from WhiskyInvestDirect stockholders.

04 / Summarising some of whisky's other investment

VAT

Ordinarily those who choose to invest in tangible goods will be hit very hard indeed by VAT. VAT usually makes this sort of investment impossible.

The way VAT works (in ordinary, non-whisky businesses) is that a business pays VAT on what it buys, then adds value to what it bought, and charges VAT on what it sells — which is more. It only sends the difference to HMRC; which works out as 20% of the gross profit [technically the 'Value Added'].

But for private investors, because they cannot reclaim the VAT they paid on acquiring tangible goods, they end up paying 20% of the whole investment which is very much more.

This has the effect of making almost all tangible goods completely uninvestable for private investors, which makes it difficult to diversify away from modern financial markets.

The huge benefit of whisky is that while it is stored in bonded warehouses it remains VAT free. In this way a private individual unregistered for VAT can move from saturated financial markets, and into commercial products, without an unreturnable 20% hit to their capital.

Currency hedge

93% of Scotch production is exported, so it makes a good currency hedge for those who fear that government indebtedness could eventually lead to a major Sterling crisis.

Capital Gains Tax[9]

Crowd-owned barrel whisky represents a new service whose definitive tax treatment remains to be decided.

As things stand some experts consider whisky to be a depreciating asset chattel — which would render profits on its disposal untaxable.

Other experts consider that any profits you make on whisky sales generate capital gains, which means they trigger Capital Gains Tax rather than Income Tax.

Capital Gains Tax offers you two significant advantages.

Firstly, it is subject to a second personal allowance which **runs independently of your Income Tax allowance** — effectively offering you an additional annual £11,100 tax free [2015/16].

Secondly, when you have used up your CGT allowance, the marginal rate is a fixed 28%, which is significantly beneath the 40% (or 45%) which will apply to most whisky investors.

Comparison to crowd-funding

As we all know banks charge their borrowers very much more than they pay their depositors. The result has seen strong recent growth in 'crowd funding' — where money is raised directly from depositors and distributed as a spread of micro-loans to multiple commercial borrowers. The creditscoring of the customer companies, to the extent that it is executed at all, is algorithmic.

But the downside for the crowd-lender is that there is generally a direct default risk on every one of the micro-loans, each of which has had limited checking for creditworthiness. This significant risk attracts increasing negative comment.

Because there is no default risk with crowd-owning it may well turn out to be a safer method of crowd-funding than does crowd-lending. Once again, a product can lose value, but it can't go bust.

[9] Tax rules and interpretations are always changing. Responsibility is disclaimed for any tax matters. You should always check any important tax matters with your professional adviser.

What’s more, the recent returns from owning whisky during its maturation have exceeded the returns available from the huge majority of crowdlending propositions. Of course that is no guarantee that they will continue to do so.

Independent research

The major independent whisky research analysts forecast continued steady demand growth, correlating with a worldwide demographic expansion in the number of whisky's principal customer base, which is prosperous, middle-aged men.

The consensus is that global consumption will grow at around 2% per annum for the medium term.

Supporting an important British export industry

You will be supporting a major British industry. 93% of Scotch production is sold abroad, generating 25% of all British food and drink exports. The industry employs 40,000 people in the UK.

International demand spread

Scotch has a wider international customer base than any other spirit beverage. Its fortunes are not closely correlated to any one national market.

Trusted storage locations

Because the government takes £3bn a year in taxes on whisky sales, it takes care to monitor the bonded warehouses very closely. This keeps the storage system honest and the insurance premiums low.

Taxation efficiency of barrels over bottles

Tax which you would pay on bottled whisky is £27 per LPA, many times the cost of new whisky spirit in a barrel.

The absence of tax during maturation leaves the money you invest in barrel whisky working more efficiently than it would in bottled whisky, where much of your investment is sunk in tax already paid to the government, which does not appreciate.

Consumability

In the statistically unlikely event that your investment goes badly wrong you can bottle it, pay the tax, and enjoy it[10].

05 / Conclusion

Whisky is certainly an 'alternative' investment. But that does not mean it should not be seriously looked at.

It offers five particular downside protection qualities which make it genuinely investable as a cautious long term play:

1. It is only newly investable; not already a 'crowded trade'.

2. Whisky gluts cause stockholders to be rescued by producers.

3. Bailment is outright ownership, and eliminates credit risk.

4. Insurance covers the relevant threats to owned physical property (theft, damage, destruction, etc.) without the £75,000 cap which applies on regulated 'financial services' losses.

5. There is a genuine commercial reason for competitive demand at the end of maturation, which should drive good exit prices. This is further underpinned by the operations of WhiskyInvestDirect's own label — James Eadie.

Careful attention to downside risks is what should build confidence in upside potential.

We can see, from independent and reputable sources of data, that whisky has paid good returns to long term stockholders.

Yes — there are risks. Demand can slip and prices can always fall. But the real measure of investment sense is risk vs reward. Other, more mainstream investments — even cash — now carry serious downside risks. Few of them offer a credible history and projection of 9% returns.

[10] Bottling is not always practicable for small amounts. Where bottling is demanded in sufficient volume WhiskyInvestDirect will help you by organizing collective bottlings once every six months. This will dramatically reduce bottling costs.

Maturing whisky offers attractive average rewards. It reduces investors' dependence on liquidity in financial markets, and is likely to remain a sellable commodity even in very challenging future scenarios, provided people continue to drink brown spirit alcohol. In an era of widespread downside risks it looks like it offers a reasonably high probability of positive real returns, from a largely un-correlated investment which is available at a price near its lows of the last 40 years.

Finally there is the question of how we should go about organising our investment. My personal approach has been to adopt a cost-averaging strategy and to split my investment over the same number of litres at each age up to 8 years old. I plan to sell 8 year old and use some of the proceeds (i) to pay my storage fees and (ii) to re-invest in the same number of litres of much cheaper new make spirit. According to our calculations there will — on average — be sufficient cash to provide me with a respectable 'annuity style' income.

The plan, which I call my 'Moonshine Plan' should provide me with a sensible, ongoing tax-free return (by using my CGT allowance). Not only is it tax efficient, but also it is flexible, because my capital remains mine, rather than becoming the insurance company's. This means I can pull out if ever something better comes along, which is a feature sadly lacking in most formal annuities.

We have decided that a long term plan of this style shows sufficient customer commitment to merit reduced storage charges, which slightly increases the overall return. If you are interested in further details please contact support@WhiskyInvestDirect.com and ask for details of the 'Moonshine Plan'.

Appendix:
The Scotch whisky industry

Scotch whisky is big business

About 1.2 billion bottles of Scotch whisky are produced and sold every year. The industry generates 25% of British food and drink exports.

Before tax it is worth £4.5bn a year to the UK economy. On top of that it is worth about £3bn a year in tax receipts to the British government.

Directly and indirectly the industry employs 40,000 people.

In sales it represents approximately 12% of worldwide spirit beverage sales. 93% of production is exported, which is equivalent to around 40 bottles every second of the year.

Because it improves with time spent in a barrel, a process called maturation, there is at any one time a large stock of unsold, unbottled, cask whisky. The current stock level is estimated between 3 and 4 billion litres, and to be sufficient to produce approximately 11 billion bottles of Scotch.

Medium term global consumption growth is estimated by analysts at between 1% and 2% per year. At 2% demand growth there will probably be insufficient stock to meet demand. At 1% demand growth there will

probably be a modest excess of stock. Then it is likely that a period of reduced production would follow as the major distillers moderated their capacity utilisation.

How Scotch whisky is made

Scotch whisky is made from cereals which are allowed to begin germination, a process which releases enzymes that turn grain starch into sugar. The germination is halted by heating, and yeast is added to ferment the sugary mixture. The fermentation result — basically beer — is distilled to produce a clear-coloured, sharp distillate which is not suitable for drinking and which contains several hundred complex organic compounds.

Water is then added back, and the mixture is stored for maturation in naturally permeable, second-hand, oak barrels at a purity of about 60%.

The barrels, which will previously have stored bourbon, sherry or possibly port, offer a richly complex semi-permeable membrane through which gases can pass. There the many different organic chemicals interact both with the distilled spirit, and with each other, during this maturation process.

In ways which are not fully understood the chemistry of the distillate changes subtly as it reacts with the second-hand wood, and with the cold, damp, Scottish air as both spirit and air work their way through the barrel wall in both directions, slowly weakening the alcoholic strength of the fluid. In consequence evaporation causes fluid losses of approximately 2% per annum. This loss is known as the Angel's share.

The mature product usually comes out of a cask at slightly over 50% alcohol (cask strength) and is diluted to about 40% for bottling and sale. Although grain can come from anywhere, and is frequently imported, three aspects of production must be Scottish

- Distillation must occur in Scotland
- Only Scottish water can be added to the distillate prior to maturation and prior to bottling.
- Barrels must remain in Scotland during maturation.

Caramel is the only additive which is permitted, and it is used primarily for colouring.

The definition of Scotch is recognised under European law, and defended around the world.

Single malt and grain whiskies

Distillation produces two major types of whisky.

Single malt whisky accounts for about 45% of whisky distillation product. It is made at any 1 of about 110 distilleries, and in a traditional batch process using a copper pot still. Single malt is the premium, traditional style of whisky, but the artisanal manner of its production is not easily scaled.

When bottled as single malt it accounts for 8% by volume and 18% by value of Scotch whisky production. The bulk of single malt production (about 75%) goes into blends.

Single grain whisky accounts for about 55% of whisky distillation product. It is made continuously via a modern column still, in 1 of 7 large, industrial-scale distilleries. The output is purer alcohol, but with much less flavour and character than a single malt. Few people enjoy drinking single grain whisky until it has been improved by adding single malt to produce what is called blended Scotch whisky. Almost all single grain whisky goes into blends.

Blending

Most distillers would like to bottle their single malt production as a high-value, premium brand, single malt. But most whisky is blended.

In fact only 25% of single malt production is sold as single malt (that 8% of global Scotch sales).

Blended Scotch whisky accounts for 92% of overall Scotch sales by physical volume, and 82% by value.

Age statements

Whisky does not improve after bottling, but it improves significantly during barrel maturation. There (within reason, depending on other variables) it can continue to improve for decades. Generally speaking the older a whisky is the better it is.

Maturation is so important that spirit cannot be called Scotch whisky until it is three years old. Even then, many consider it far too young to drink.

For this reason age statements are commonly printed on bottle labels, indicating the elapsed time spent in the barrel. Age statements give an indication of quality, and a justification for a higher price.

These statements are rigorously monitored and enforced by the industry's trade body, the Scotch Whisky Association. All ingredient spirit — both single malt and single grain — which are put into a bottle of Scotch must exceed the age statement on the bottle.

World markets

Scotland shows its dominance in the world whisky industry in the following table[11].

	Volume (9L cases)	Volume (9L cases)	Volume (9L cases)
	2012	2013	2014
Scotch Whisky	96,696.35	96,058.52	95,389.75
US Whiskey	34,547.82	36,822.97	38,956.26
Canadian Whisky	20,129.23	20,382.87	20,232.44
Japanese Whisky	9,275.33	9,960.45	10,278.76
Irish Whiskey	6,271.87	6,922.56	7,340.63

Data source: IWSR

Global exports of Scotch whisky slipped to £3.85bn in 2015, dropping 2.6%. Export prices held firm.

More than 80% of 2015's global drop in Scotch whisky exports came from Russia, Brazil and oil-producer markets, hit by the collapse in commodity prices. Between them, those three factors accounted for £84m of the £102m decline in value overall.

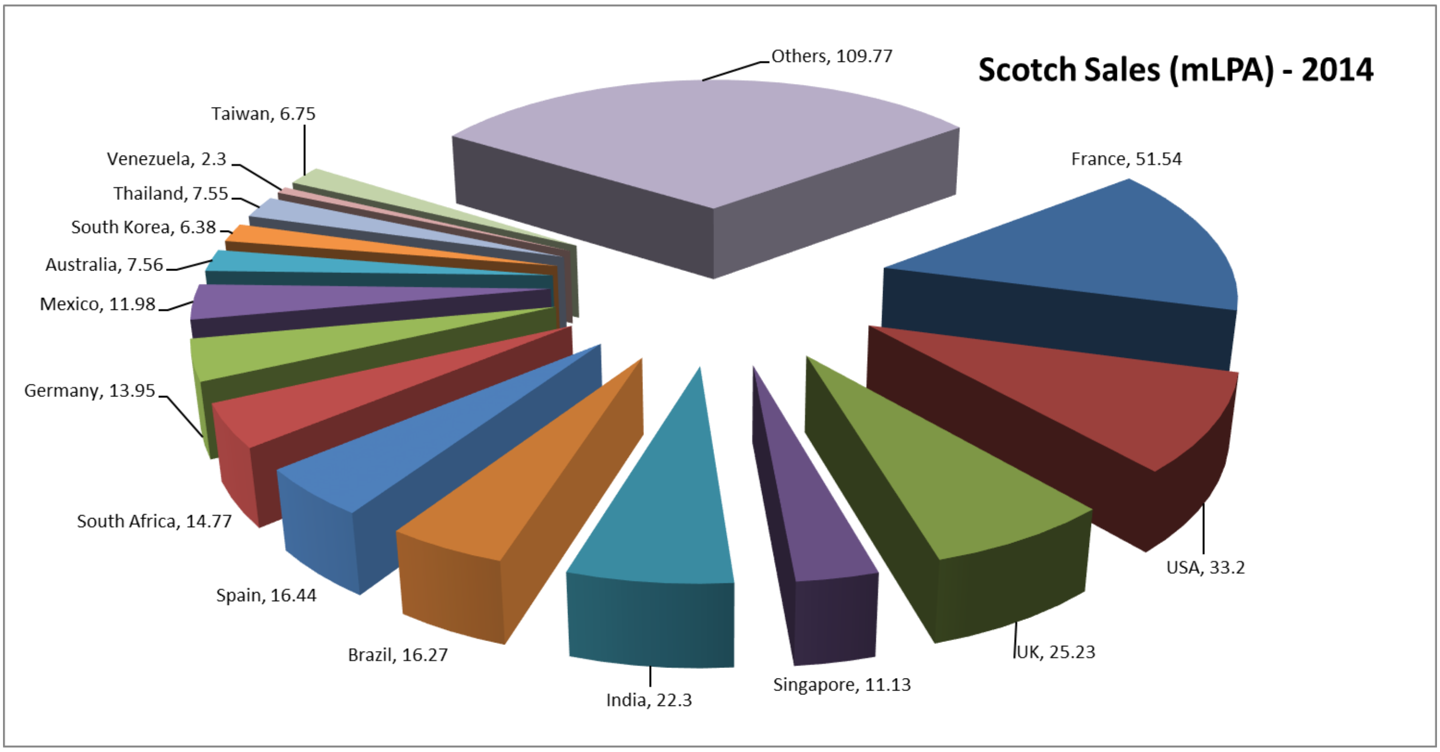
[11] Note that India reports a large volume of 'whisky' production but most of it is produced from fermented molasses rather than barley, and is targeted for local consumption. It has negligible export footprint.

Direct exports to Russia — which retaliated against EU sanctions over Crimea and Ukraine — last year totalled only 2% of those achieved in 2013; not a single bottle of blended whisky was shipped to Russia last year. Key Russian-market suppliers Estonia and Latvia also fell, dropping 44%.

No.1 consumer the United States held steady, while Canada and Mexico both saw double-digit growth.

World markets

The major markets for Scotch whisky are as follows:



Data: Scotch Whisky Industry Review 2015 – Alan S Gray

Total sales were 357.12 million LPA. Note that 9L cases are sold at an average of approximately 41.5% pure alcohol.

Scotch benefits from a global customer base, and has a more geographically even spread of sales than any other spirit beverage. Being 93% exported it provides a reasonable hedge against British inflation and future weakness in Sterling.

> ***N.B.*** *Although a significant consumer the above figures may overstate French consumption because of the involvement of the French company Pernod Ricard — which is second only to Diageo as a Scotch producer. Also the Singapore data hide throughput to China. China consumes a significant quantity of premium whisky, although mid-market and lower end whiskies do not yet show great penetration there.*

Names and numbers in the trade

Litres of Pure Alcohol [LPA] is the unit measure for 100% alcohol and the measurement usually used when discussing spirit in the barrel.

New make spirit comes out of the still, and can get up to 94.8% pure alcohol, though only single grain gets this pure. The physics and chemistry of distillation prevent it ever becoming much stronger, because alcohol at this level of concentration is hygroscopic (water loving) so quickly sucks moisture out of air.

Water is used to dilute the new make spirit down to 60%-63% by volume, before it is put into the barrel for maturation. So an average 250 litre barrel matures about 150 LPA.

A bourbon barrel contains about 200 litres, a slightly larger hogshead 250 litres, and a still larger butt about 500[12] litres. As the volume of the barrel increases the surface area to volume ratio falls. This reduces the cost of the oak and increases the maturation time.

One new LPA of grain whisky wholesales at about £1.10, and one new LPA of single malt wholesales at about £2.20.

In sufficiently large numbers a barrel typically costs £17 per annum to store in bond, which gives a bulk storage cost of £0.11 per LPA per year — which is the same for both grain and single malt whiskies. WhiskyInvestDirect charges £0.15 per LPA per year.

About 20 million casks are currently stored in Scotland, in bond, for maturing. At an average of 150 LPA per barrel this equates to about 3-4 billion litres[13]. In terms of visualisation this is approximately equal to a single barrel containing the normal 60% LPA whisky and having a flat end diameter of 150 metres and a height of 230 metres!

The storage cost of all this whisky is about £340m per year.

Matured whisky is further diluted from barrel strength to 40% or 43% for the bottle, although some single malts are bottled directly at cask strength.

A 70cl standard bottle contains approximately 0.28 LPA.

Export figures usually count in cases, which contain 12 standard bottles.

A case of 12 x 70 cl bottles contains approximately 3.5 LPA.

100 million cases — that is current annual global sales of Scotch — accounts for 350 million LPA, meaning that the total stock of maturing Scotch is about 9 years supply.

The industry feels adequately stocked when it has about 9 years of demand in barrels.

Evaporation causes losses. A 250 litre barrel of three year old is expected to contain about 135 LPA. This reduces thereafter at about 1.5% per annum. Because of evaporation to maintain stocks the industry must produce a minimum of 125% of annual sales of LPA, and more than that if inventory has dropped below 10 years of flat sales.

[12] http://www.whiskybroker.co.uk/index_files/casktypes.htm

[13] Estimated on an original fillings basis which overstates the actual LPA by the extent of evaporation.

One barrel containing 135 LPA is enough to produce an equivalent of ~340 litres of finished, bottled whisky, which is ~480 bottles or about 40 cases.

A typical bottle of basic whisky sold at retail is reckoned by the Scotch Whisky Association to cost the customer £12.90, of which £7.74 is excise duty. The total tax burden, which includes VAT is now £9.89 or 77% of the average price of a bottle of Scotch. All the costs and profits of the whisky business are provided by the 23% of bottle value (£3.01) which is not tax.

A bottle of blended Scotch whisky typically represents 70% grain, which contributes 0.196 LPA and 30% malt, which contributes 0.084 LPA. Those ingredients originally trade, directly after production, for about £0.25 and £0.21 respectively. The uplift from the combined, original cost of the ingredients from £0.46 to £3.41 covers the cost of maturation, brand building, distribution etc.

Tax is paid when the whisky exits a bonded warehouse. The tax system varies by country, and in the UK is levied on a fixed fee per unit volume LPA. Most countries do the same but in a few countries it is levied as a percentage of price. The fixed duty by volume applies a significant cost/benefit on premium whiskies, because a 100% increase in the retail price of a bottle — from 12.89 to 25.78 — increases the share generated for the whisky industry from £3.41 to £16.30 — an increase of 378%. This focuses the minds of producers on premium branding, and means that the vast majority of profits generated by whisky producers arise from the quality of their marketing.

All brand-builders would like to meet growing demand with greater production and make bigger profits. But they cannot know how their brand will be performing by the time maturation has been completed. This is the conundrum of the Scotch whisky industry.

Industry players

Diageo

This British drinks company is the key player in the Scotch industry. It has about 42% of world sales by value. It owns one grain distillery and has a 50% share in another, out of seven, and 28 single malt distilleries out of ~100. The single malt output goes mostly to Diageo's blended products.

Johnnie Walker in its various guises of red, black, double black, and blue, is the world's number 1 Scotch brand selling 60m LPA per annum, about the same as the world's number 2, 3, 4 and 5 brands combined.

In fact Johnnie Walker is the most valuable spirits brand in the world. Nobody makes more money out of any sort of spirit than Diageo does with Johnnie Walker.

They use their single malt producers primarily to add value to this channel, and their penetration into the single malt market doesn't rise above number 5 ranked 'The Singleton' at 918,000 LPA. The Singleton is itself a 'brand', not the name of a distillery, and three different single malt distilleries have been used to supply the Singleton product. Diageo does this specifically to avoid the problem of stock shortage should sales prosper, although it probably encourages some consumer disloyalty

Diageo brands:

Single Malts	Blends
The Singleton,	Johnnie Walker,
Talisker,	J&B, Bells,
Lagavulin etc.	Buchanan's etc.

Pernod Ricard:

This is the distant second of the big two with 20% of world sales. But it is still three times bigger by sales than the next biggest.

It owns the second and third selling brands, 12 single malt distillers and has its own grain distillery.

Being less than a half the size of Diageo, but with its best-selling single malt (The Glenlivet) 3 times bigger than Diageo's, Pernod Ricard is clearly significantly more engaged with the single malt sector of the industry.

Pernod Ricard brands:

Single Malts	Blends
The Glenlivet,	Ballantines,
Aberlour,	Chivas Regal,
Strathisla etc.	Clan Campbell etc.

Tier two:

Three companies constitute the middle tier of the industry:

William Grant is notable for the second biggest of all the single malts (Glenfiddich) and the fourth biggest of the blends (Grants). It has 7% of the world market. It is an independent family owned business.

Bacardi has leading blend brands in the US (Dewars) and France (Lawsons) and a 5% world market share. It hardly registers as a single malt producer.

Edrington has the Famous Grouse blend, and two well-known single malts: The Macallan and Highland Park. It also owns the Famous Grouse blended malt — an unusual product. It sells a smaller volume than Bacardi but at a higher premium.