Amalgamation or Trust: Anglo-Scottish and American Comparative Legal Institutions and How they Shaped the Nations' Whiskey Industries, 1870–1900

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Ante bellum Days: Two Distilling Industries

Ante bellum Scotland and America evidenced extensive small-scale whiskey[1] manufacture, an unchecked flowering of linked agricultural and distilling growth displaying small holdings, small pots – and minuscule government interference. The Scottish experience ran from around 1600 to 1784, the American from 1802 to 1862. In each case, one household in six possessed rudiments for distilling; annual per capita spirits consumption exceeded three proof gallons [Caldwell, 1994, p. 132; Downard, 1980, p. 225]. The Scots-Irish became the common denominator, bringing to America three hundred years' distilling knowledge as the remunerative back end to farming.[2] Bad roads along with the desire to remit labor dues in cash gave "whiskey farming" an overwhelming potency: a single Scottish or Irish pony, or American mule, transported either four bushels of grain or sixteen gallons of spirits; a relative price of four gave whiskey a total value multiplier of sixteen [Dabney, 1974, p. 51]. Whiskey constituted concentrated wealth. Perfectly fungible, it made an ideal exchange medium; easily hidden, it preserved family assets in lawless periods, which usually ruled.

In both Scotland and Ireland, intensive agriculture carried on without chemical fertilizers meant that manure constituted the binding constraint. Distillation worked like alchemy, transforming grain into high value spirits while still leaving the dregs for cattle feed. Done off season, distilling increased cattle wintered over, boosting year round manure production and helping

[1] "Whiskey" is the generic spelling, Scotch "Whisky" the spelling for the national drink of Scotland.

[2] The Scots-Irish were neither; landless Scots planted by James I in Ulster, they arrived in America 250 thousand strong after whiskey taxes and rack renting squeezed their liberties. Independent and obstreperous, they poured down the Great Philadelphia Wagon Road all the way to Georgia. They would become the unstoppable force against ameliorative treatment for Native Americans, a bane to British regulars and American excise officers alike, and later the sustaining battle force for the Confederacy [Dabney, 1974].

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create new arable land. Distilling became the catalyst that gave Scotland an agricultural take-off [Caldwell, 1994]. It worked equally well under American conditions for primitive extensive agriculture. Hog manure had less value; frontier farmers merely moved on to clear more virgin soil. Moving on, however, increased transport costs, making whiskey's value multiplier all the more important.

War and Whiskey

War and whiskey go together. True in the obvious sense that whiskey steels men's courage, a British man-of-war's crew might enter battle half drunk, the adage also holds in the matter of paying war's costs. Nothing so brought form to the two nascent spirits industries as the need to pay for war. Scotland's great flowering of unfettered whiskey making ended abruptly and forever in 1784, when Parliament extended northward the English System of Survey, with its minute regulation and high taxation.[3] Begun with English needs to fund a civil war 140 years earlier, the whiskey excise now made Scottish distilleries the new goose for plucking, to pay for war with the colonies. The goose refused to stand still; smuggling and production-related tax cheating grew to a national pastime engaging one-quarter of the Scottish population [Weir, 1974; Caldwell, 1994]. Industry structure readily evolved into two forms: traditional, and now-illicit, small-scale bothy stills operating underground, sometimes literally, and large-scale distilleries beating the excise through subversion of excisemen and rapid technological improvement.

Ten years later, Congress taxed spirits to pay for that same war.[4] American whiskey taxation ended, however, in 1802 under Jeffersonian libertarianism – beginning the American ante bellum whiskey days, eighteen years after their end in Scotland. Then in 1862 as a wartime finance measure, the Lincoln administration imposed a regulatory tax regimen aiming to make whiskey and tobacco largely pay for putting down rebellion. Déjà vu. After the Civil War, the excise tax remained in full force, to pay down the debt and finance the spoils system of government [Keller, 1977]. The American industry now split along the lines that had appeared eighty years earlier in Scotland: a low-technology, illicit cottage industry and a high-technology, large-scale legal industry. The American South mirrored the Highlands; in both, smuggling became for a time the dominant industry form.[5]

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[3] Parliament had ruled Scotland since the 1708 Union of Parliaments; the Act of Union had originally kept Scottish distilleries free from the government's regulation and taxation regimen.

[4] Western Pennsylvania Scots-Irish rebelled at the threat the excise posed to their liberties. In the resulting Whiskey Rebellion, Revolutionary veterans marched again under their old generals; the ringleaders in the "Kingdom of Whiskey" soon filtered off into the back country to make spirits illicitly.

[5] In one way, American experience failed to emulate Scottish behavior. The Scottish Excise (which employed the poet Robert Burns) never had its integrity suborned. In reconstructionist America, powerful men under President Grant defrauded the revenue in a

Economists have largely neglected war; we should not. War demands heightened concentrations of human energy focused upon clear goals; all the pieces on the social chessboard should move to the directing hand of the public legislator. They do not; they possess motive powers of their own [Smith, 1976]. For the United Kingdom, the long Napoleonic War era (1793-1815) approached modern total warfare in its requirements for financial and industrial concentration; the American Civil War exceeded even the British experience. The concentrations of economic power called forth frequently got captured for private benefit, within and without the law – with unknown and long-term significances.

War and the Whiskey Throughput Revolution

Scottish excise law left a large loophole for private initiative: distilleries got taxed on still *size*, rather than output. The inherent incentive to beat the excise by increasing throughput speed set in play a spontaneous pursuit of minimum batch processing times; cycle times plummeted in 1786-1788 from one week to an astounding two and one-half minutes. At the limit, batch processing becomes continuous; Scottish and Irish distillers saw the possibility of continuous distilling, and innovated to create it. The resulting four-story tall, capital-intensive Coffey Still of the 1830s became the world standard in the emerging chemical revolution. A single continuous-process still now produced one-half million gallons of pure alcohol annually – as much as the entire Scottish nation in 1700.

Coffey Stills yielded great quantities of neutral spirits; traditional methods gave quality whiskey with strong flavor highlights A two-sector industry split continued, mass market and quality spirits. Then the chemical revolution set off explosive demands for industrial spirits. In 1848 and 1855, Parliament removed two growth obstacles in the industrial spirits sector by permitting duty-free grain imports and untaxed industrial spirits sales, with alcohol made undrinkable by methylation. The rules changes matched spirits demands to the Coffey Stills' prodigious outputs into the 1870s. American experience lagged behind. Congress did not pass a methylation act until 1906. Coffey Stills did not appear until the 1870s, when a permanent whiskey tax made such plants pay.[6]

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caper known as the Great Whiskey Ring. Incorruptible excise men exposed the fraud. One conspirator got paid $50,000 while serving a prison sentence for his ghost written version of the caper implicating the President [McDonald, 1880].

[6] The two whiskey industries match the structural model developed by Naomi Lamoreaux, in which high-output-speed, low-product-quality firms in many industries get forced into industrial concentrations while firms employing more traditional low-speed methods for high-quality output remain independent [Lamoreaux, 1985].

The Search for the Combination to Success

American wartime economic concentration fostered new postwar forms of human capital. From knowledge gained in peddling war bonds, for great private gain, American financiers mastered private capital raising. Absent reporting rules, new-breed investment bankers easily created huge margins for themselves by systematically overstating corporate assets [Hurst, 1970]. They found another area of economic concentration attractive: combining individual firms into market-dominating national corporations. Here they required entrepreneurship at the legal margins, possessed by the new breed of lawyer serving the railroads [Keller, 1977]. Corporate lawyers began discovering legal forms giving combinations shelter from common law restraint-of-trade rulings. In an inversion of purpose, business activity eventually became the justification for earning financing profits.

Developmental lags between the two industries disappeared by the 1870s; each found itself with large excess capacity, for somewhat different reasons. UK entrepreneurs partly overbuilt responding to burgeoning industrial spirits demands; minus a methylation tax break, American entrepreneurs found that market shut to them.[7] Human consumption in the mature UK markets, however, had begun a gradual and permanent decline, while American markets displayed growth [Weir, 1995]. Both nations' distillers overproduced upon expectation of excise rate increases, but the huge 1864 American rate boost also created a construction boom trebling normal capacity.

UK entrepreneurs had gotten a break in 1824 when Parliament inadvertently created conditions for a long-term market in duty-free aging whiskey stocks; whiskey could get stored in bond at low rates indefinitely, with tax due only when withdrawn for sale; Congress only later grudgingly followed suit.[8] For UK distillers, that meant escaping indefinitely some consequences of overcapacity. For twenty years investors readily grabbed up surplus stocks [Moss and Hume, 1981, p. 227]. Drinks-quality American distillers, on the other hand, frequently resorted to exporting three-year-old stock for storage abroad – to escape the tax coming due [U.S. Congress, 1888-89]. Lastly, UK distillers lived in a free-trade nation with a huge central market, London, and faced competition from subsidized Prussian vodka producers, while American distillers received very marginal tariff protection.[9]

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[7] At the Civil War's inception, spirits sold at 30 to 40 cents per gallon; some 25 million gallons annually went into such products as paints, varnishes, "burning fluid" for illumination, and furniture polish. Wartime taxes – increasing from 20 cents in 1862, to 60 cents and then $1.50 in 1864, to $2.00 in 1865 – gave the industrial market over to substitutes such as wood alcohol [Jenks, 1889, p. 299].

[8] The 1868 law gave distillers a one year excise-free period, then three years in 1879 and eight in 1894 – and subsequently twenty in 1958. In both nations, tax comprised about 85% of whiskey's wholesale price.

[9] During most of the last quarter of the nineteenth century, the American excise tax stood at 90 cents per proof gallon, or $1.79 per gallon at 94% alcohol content – compared to $2.00 placed upon imports.

Commencing in 1856 in Scotland and 1870 in America, distillers pursued alternatives to unbridled competition. Strategies fundamentally differed for the high-volume producers. Scottish firms tried "gentlemen's" fair-trading agreements within a "them and us" world view – an overall defend-and-capture strategy. Big American producers pursued output controls for monopolistic purposes. Both nation's small-scale, quality whiskey makers also pursued gentlemen's agreement strategies.

Scottish Empiricism

Early Scottish strategy defined members' property rights to home market shares – with all free to capture share in the great London and export markets. Six large Scottish distillers struck a private agreement in October 1856 dividing a shrinking home market in anticipation of a production surge from an expected excise tax hike; the agreement lasted a year under wholesale cheating. The parties believed that by voluntarily limiting home sales, and allowing members' dumping within the London market, local competition would ease and prices would stabilize at profitable levels. Without a price fixing mechanism and with only a 35 to 45% local market share, their hope died an infant death [Weir, 1995, p. 32]. Thereafter, large Scottish distillers embarked upon a trial-and-error process that eventually yielded The Distillers Corporation Limited (DCL) in 1877.

In May of 1865, another Scottish collusive action began, extending over several years to Irish and English distillers as well. The Scotch Distillers' Association lasted until 1876 and, at its peak, controlled some 53% of the UK wholesale neutral spirits market, the London Distillers Association (LDA) controlling much of the rest. Its leaders quickly learned that simple price-fixing agreements would founder on the reality rock that a member could obey the established price while modifying terms of sale in order to "spoil the market," so, agreements came to cover discounts, bonuses, warehouse rents, and credit provisions [Weir, 1995, pp. 32-37]. By 1876, the Association fetched up on the rocks of cheap imports, unenforceable collusive contracts, and competitive responses of the LDA.

Even before the 1876 breakup, large Scottish distillery owners had begun talks related to a new strategy – amalgamation under the Limited Liability Acts. A single firm would internalize the market activities of its independent predecessors; cheating would end; purchasing and sales economies could get achieved quickly, along with R&D and production economies in the longer run – all laying a credible cost reduction basis for competition with spirits importers. After independent evaluations of each firm's capital stock and earnings capacity, shares would get paid out to owners on a proportional basis. Owners would hold all shares and comprise the board of directors. In 1877, the amalgamation year, DCL would produce 75% of Scottish grain spirits.

DCL owners did not abandon trade restraint agreements. DCL initiated discussions in 1877 between Scottish, Irish, and Liverpool distillers, the so-called "Whisky Parliament," birthing the United Kingdom Distillers' Associa-

tion (UKDA) the next year, with a five-year contract term. DCL's lawyer W.S. Fraser shaped an agreement aimed at defending against "ruinous competition" more than achieving economic rents. Export and industrial markets became dumping grounds. Home market quotas got assigned with penalties and bonuses for overages and deficiencies. Each distillery paid transport to market, making selling in a competitor's home market more expensive with distance. DCL made a market in London quota shares and created a system of side payments equilibriating prices between London and other markets and reducing dumping incentives and retaliations. The agreement also limited capacity [Weir, 1995, pp. 54-55].

Near the end of the agreement in 1882, the UKDA reached an accord with the LDA that apparently established tranquility and price stability throughout the land. Spirits prices went up, while the main raw material prices, for corn, had fortunately fallen, reversing a four-year trend. In 1883, the UKDA agreement got extended another five years. Then, everything unraveled. The LDA price agreement broke down; an Irish distillery challenged the quota allocation system; new entrants into the industry appeared. One new Scottish entrant consisted of a wholesaler consortium suspicious of DCL's growing market power; desirous of integrating backward, the wholesalers used the Limited Liability Acts in a creative manner to form a grain distillery business that secured them low cost access to pure spirits for blending. Lastly, DCL had tied its own hands in the matter of adding other Scottish distillers to its amalgamation. By 1888 when the second agreement expired, so had the UKDA – raised in prosperity, died in hard times.

During the period from its founding until 1900, DCL owners displayed notable conduct: on the one hand, the owners merely internalized their previous market conflicts; on the other hand, they respected the UKDA agreement to the point of refusing obvious outside buy-up opportunities, and continued this behavior even when the UKDA collapsed. Each of the founding six owners controlled his own distillery and distribution network; that fact plus the board of directors' composition made attaining scale efficiencies through plant closures impossible. Even purchasing and selling activity scale economies took years to accomplish [Weir, 1974]. The firm did not begin achieving scale and scope economies through buying out both competing grain distilleries and quality malt whisky makers until after 1900, when radical threats to the industry made such moves less belligerent. In 1900, DCL appeared merely as the largest in a significant number of grain distilling firms; many small-scale quality whisky producers remained independent.

All in the Same Pool

Grain distillers in America's richest spirits-producing region first entertained collusive agreements in 1870, forming the "Peoria Pool." High taxation and wartime overbuilding appear as the root causes for the 1870-71 production cutback agreements – which apparently had little effect; growing demand sorted out the market by the mid-1870s. Then, a succession of

European crop failures from 1878 to 1882 created heavy export demands at remunerative prices; shipments abroad ran at nearly sixteen million gallons annually [Jenks, 1889, p. 299]. Distillers built large new plants accommodating the demand which promptly collapsed as crops abroad flourished, and those in America suffered hard times. Capacity suddenly exceeded demand by a factor of five – placing many distillers in a complex bind: warehouses filled up; exporting only increased losses; and yet, cattle in the feedlots had to get fed – from the distillery slop byproduct [U.S. Congress, 1888-89, p. 80]. Wishing to escape a competitive outcome, large distillers met in Peoria in 1881 to form an extended pool similar to the oil interests – the Western Export Association (WEA).

The first annual WEA pooling arrangement assessed members a gallonage levy paid into a common fund subsidizing exports of members' surpluses. Some members cheated on their assessments; the agreement fell apart. Subsequent agreements attempted to limit production as well, but running Coffey stills at less than capacity merely drove up costs; subsequent annual agreements frequently called for complete shutdowns while spirits stocks got sold off – which in turn raised havoc with cattle-feeding operations. Distillers in the weakest financial positions inevitably reneged on assessments and spoiled the market by undercutting prevailing prices, while new entrants demanded rewards for entering the Pool. The absence of industrial spirits markets and the failure to capture the high-value-added, downstream blended-product market increased the distress.

In 1887, leading distillers in Peoria met once more to emulate the oil industry by forming a twenty-five year "trust" – a legally-innovative organizational form developed by S.C.T. Dodd of Standard Oil [Freyer, 1992, pp. 84-5]. Only Pool members could initially join; after an independent valuation, members exchanged their distillery shares for "Distillers' and Cattle-Feeders' Trust certificates" with $100 par values.[10] Joiners had to turn in at least 51% of their shares for redemption as certificates. Initial capitalization totaled nearly $30 million. Eighty-one distillery owners joined a trust solely controlled by nine trustees [U.S. Congress, 1888-89, p. 64]. Shortly after starting operation, DCT, colloquially "the Octopus," closed all but twelve of its member distilleries – ten located in Peoria.[11] Half the closed distilleries eventually got dismantled; the others remained on standby for sudden demand surges [U.S. Congress, 1892-3, p. 34]. Almost immediately, the Trust controlled two-thirds of the nation's annual sixty-million-gallon spirits output. While keeping existing management at the remaining distilleries, the trustees' treasury function, far from being a passive distributor of dividends, tightly scheduled all output and oversaw a

[10] Valuations considered plant cost, working capital, and earning power; certificates issued at fair valuation – although certificates totaled two to three times the plants' capital value [Jenks, 1889, p. 307]. See William Stevens for the actual Trust Agreement [Stevens, 1913, pp. 36-42].

[11] With 13 million tons of coal reserves in an 8 mile radius, cool limestone water, nearby access to grain, good river transportation, and 13 railroads meeting there, Peoria possessed a huge natural advantage (14-15% lower production costs) for distilling and cattle feeding operations [Carson, 1984, p. 131; Jenks, 1889, p. 312].

centralized purchasing and selling machinery. In its first year according to President Greenhut's 1888 congressional testimony, the Trust paid out dividends equaling .5% *per month* on capitalized value, where before most distillers apparently made losses [U.S. Congress, 1888-89, p. 64]. Trust records appear almost non-existent, but evidence suggests that the Trustees empirically discovered the fundamental microeconomic principle for multi-plant firm cost minimization.

By any measure, the early Trust appeared successful, capturing an 85-90% market share by the end of its first year – and drawing congressional attention [U.S. Congress, 1888-89, p. 72]. While doing all this, it developed a reputation for voluntarily raising worker wages and prices it paid small suppliers to levels above the industry average. According to its president, the Trust's profits derived from operating efficiencies ("intelligent cooperation") and technical advances; it made profits even though corn costs rose eight cents and wholesales spirits prices declined seven cents [von Halle, 1900, p. 67; U.S. Congress, 1888-89, p. 64]. Greenhut testified that the trust was formed in anticipation of growing future demand, including exports, and that in its pricing strategy the Trust merely tried to make a standard margin over raw material cost; and at any rate, the market determined prices. Contemporary observers less kindly claimed that the Trust had first cut prices to force out competitors – and then forced up prices.

In 1893, another congressional committee investigated "the Octopus" and found a rapidly growing joint-products company just beginning to carry out backward and forward integration. Beyond its main distilling activity, the Trust now owned and traded in the livestock it fattened with distillery slop. It engaged in malt production and sales and in the marketing of a valuable byproduct – fusel oils for industrial purposes. Lastly, a subsidiary firm, The American Distilling Company, had begun acquiring the brand names of fine old distilleries that could get attached to the blended whiskies the Octopus had begun storing. The main market, alcohol distilled from corn mash, had two components – industrial alcohol (15% of Trust sales) and beverage spirits (85%). It now controlled nearly 95% of the raw spirits market, used for drinks and patent medicines, but only 10% of the alcohol market [Clark, 1929, II, p. 13]. If a methylation law had existed at the time, its industrial alcohol output could have increased by 500-600% [U.S. Congress, 1892-3, p. VII].

Even while the hearings went on, it all unraveled. A very complex story can be simplified by regarding the firm as engaged in three major activities: product market, capital market, and legal institution. Their combined thrust put the company into bankruptcy by 1895. Product market activities involved strategies to maintain monopolistic market share and pricing power. The main activities involved a buyer rebate system, the buyout of competing distilleries, and strong-arm tactics to force recalcitrant producers to capitulate. Capital market activities involved share-price boosting schemes and speculation for trustee and company gain. Legal activities involved changes in structure away from the Trust to incorporation as The Distilling and Cattle Feeding Company (DCC) in 1890, and efforts to head off state and federal restraint-of-trade

prosecution. Joseph P. Greenhut directed all these efforts, a man who arrived in Peoria following the Civil War as a decommissioned Captain with $50 in his pocket, and left for the East in 1895 with a reported $10 million net worth.

The company's "continuous patronage vouchers" worked as a 5% earned discount on future purchases, only for wholesalers maintaining exclusive buying arrangements in the succeeding six months; in the meantime, of course, "loyal" wholesalers would accumulate more vouchers, which in turn created more incentives to loyalty [U.S. Congress, 1892-3, p. II, pp. 8-11].[12] New York and Pennsylvania Independent wholesalers felt understandably threatened, and responded by integrating upstream to start competing distilleries. Whenever the Trust succeeded in boosting market prices, new competitors appeared to share the rents. And, the toughest competitors refused to get bought out. As a result, the company's Secretary George Gibson enlisted toughs to evoke compliance; one Peoria independent, for instance, suffered a devastating fire – right after its insurance company received a mysterious message canceling its policies. Gibson overextended himself, however, when he tried to suborn a revenue officer with a $25,000 bribe to use an "infernal machine" to shoot a projectile into a Chicago distillery's wooden storage vat – hopefully destroying the entire distillery, as well as the unfortunate guager. The guager proved impermeable to bribery, and instead turned in the Secretary. The socially prominent Gibson somehow escaped prosecution [Carson, 1984, p. 133].

In 1892, company officers anticipated a federal excise tax rate hike by increasing both output and price. Historically, tax-hike expectations had produced "stocking up" wholesaler behaviors. This time, the strategy failed, as the company's actions increased industry outputs and the tax measure died in Congress. In the following 1893 Depression, the market disciplined the company severely. The officers apparently increased their efforts at share-price manipulations at this time, in order to increase shareholder apparent total returns and to profit personally.[13] Even before 1892, company officers had discovered that inflating the book values of newly acquired distilleries could prove useful in maintaining overall shareholder worth under the burden of buying plants only to shut them. When the trust converted to a corporation, it increased its capitalized value from $30 million to $35 million overnight – no mean size compared to Standard Oil's $70 million, watered 100%. After 1892, the officers sold watered shares on margin. Personal profit-seeking dominated company officers' actions right to the end [Carson, 1984, p. 134].

Legal actions consumed much of the officers' time. When both Congress and Illinois passed anti-trust statutes in 1890, the Trust promptly incorporated under Illinois law. Its lawyers later claimed that the Sherman Act did not

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[12] The Trust reportedly merely increased its prices whenever large voucher rebates came due [U.S. Congress, 1892-3, p. 42]. See Ernst Von Halle for the actual patronage voucher form [von Halle, 1900, p. 244].

[13] Scots also committed financial foul play; just before 1900, Pattison's doctored its books for a successful public shares offering, and shortly thereafter got caught, putting the firm into bankruptcy [Moss and Hume, 1981, p. 135].

apply to it, because it only did business F.O.B. in Illinois. When the Illinois Attorney General brought suit in 1893 for violations of state anti-trust legislation related to both rebating and plant closures, it claimed immunity under the legalism that the state statute applied only to *trusts*, while it had corporate status; the state won. Meanwhile, actions against individual company distilleries at common law got successfully brought in Nebraska and Texas [Stevens, 1913, p. 57].[14]

DCC actions also provoked two early indictments under the newly passed Sherman Act of 1890. In an 1892 set of charges brought against Greenhut et al. by the United States in Boston District Court, Judge Ricks held the indictment insufficient, and also refused to issue an extraditing warrant for two company officers held in Ohio.[15] Ohio District Judge, and later U.S. Supreme Court Justice, Jackson gave a similar ruling. Both judges relied upon the conservative American common law restraint-of-trade tradition in finding the defendants innocent [U.S. Congress, 1892-3, pp. V-VII]:

> There are no contracts...between the defendants and their customers which are in restraint of trade; their acts are rather intended to increase their trade, but not by restraining the liberty of the customer to deal with others if he wishes to... If these acts are illegal and in restraint of trade, and if they constitute a monopoly under this act, it may well be denominated an act to restrain legitimate enterprise and limit and qualify the ownership in property [U.S. Congress, 1892-3, p. VI].

Nearly a generation would pass before prosecutions under the Sherman Act could get freed from American common law interpretations to proceed against big business, under "Rule of Reason" and its moral dichotomy of "good" versus "bad" trusts [Freyer, 1992, pp. 24-26].[16]

A receiver split DCC into three separate firms in 1895. In 1899, the three firms recombined into the Distillery Company of America (DCA); the capitalization of the new firm roughly doubled that of the old DCC with nearly the entire gain going to the organizers and promoters, triggering another congressional investigation [U.S. Congress, 1899-1900; Jenks, 1911, pp. 92-94]. Unsurprisingly, the market valued DCA shares at one-half book value. After 1900, the company went through another reorganization to emerge as the Distiller's Securities Corporation – and then fail after the Volstead Act's

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[14] See DCC v. People, IL 448 (1895). The Illinois Supreme Court did not find the vouchers illegal per se, but did find the exclusive purchases requirements to be an illegal restraint of trade. It also found the practice of purchasing distilleries merely to close them in violation of the 1890 state law against trust activities [Clark, 1929, III, p. 276]. See Eliot Jones and the *Report on Whiskey Trust* for excerpts of court findings [Jones, 1921, p. 316; 21, pp. V-VI]. See also State v. Nebraska Distilling Co., 29 Neb 700 (1890).

[15] See U.S. v. Greenhut, 50 Fed 469 (1892).

[16] Failing to distinguish between illegality and unenforceability, American courts soon unwittingly contributed to the vertical integration merger movement, by making loose cartels illegal [Freyer, 1992, p. 24].

passage. But this story has a happy ending. Seton Porter bought the company's assets, including brand names and aging fine whiskey stocks, in 1924; his National Distillers' Products Company struggled through Prohibition making spirits for patent medicines. At Prohibition's end, his near monopoly on fine aged whiskey meant that the National Distillery Company struck paydirt.

Case Study as Quasi-Experiment: an Interpretation

The time-lagged nature of the two industries' development prior to 1870 creates a quasi-experiment and allows for some important concluding upon the evidence. First, in the presence of readily available superior technology, the American industry did not evolve out of localized, traditional production until induced to do so by the same impulse that created the advanced technology in the first place – wartime regulation. Regulation took precedence over technology as a force shaping industry. Second, tariff protection in the United Kingdom prior to the Free Trade revolution but after the throughput revolution did not create the conditions for the rise of a monopolistic spirits enterprise before the American one. Tariffs failed to birth combinations in this instance; other conditions must hold as well. After 1870, the Scottish industry showed less concentration than the American, even though Parliament had expanded industry market power well before Congress reduced it. Legislative agendas broadening market power did not automatically confer concentration advantages, nor did agendas narrowing market power reduce them.

In addition, government regulation creating conditions for throughput revolutions can produce market pressures for industrial combinations. And, government policy intended to reduce industry size may create the very conditions for industry giants to emerge. Specifically, tax policy intended in part to reduce alcohol consumption instead promoted both the growth of parallel, illegally-operating industries and the pursuit of greater scale economies, in turn demanding growing market share for survival. Government requirements for physical and financial energy concentration in wartime may create necessary institutions for future industrial concentration.

Industry regulation partly created the necessary conditions for combinations in the two nations' spirits industries: the regulation-induced economic need for fast throughput in turn required flat out efficient running that in turn required at least constant market quantities. Partly, for clearly the other necessary condition involved low industry entry barriers. Unlike oil, under world trade spirits had no raw materials access barriers; distilling technology circulated freely. Together, these two conditions created a win-lose business game, even when overall markets grew rapidly as in the United States: potential output would always exceed actual demand. Given that similar necessary conditions existed in both the UK and America by roughly 1870, why then did the eventual outcomes take such different forms? Three general explanations have appeared to date.

The contemporary answer pointed to the American protective tariff – "Mother of Trusts" – setting up entry barriers for foreign firms, thereby

creating attractive economic rents for capture by unscrupulous businessmen. A later explanation took the form of entrepreneurial failure: British mea culpa commentators began accounting for the nation's lost industrial preeminence by claiming that its entrepreneurs had stubbornly held onto outmoded plant and management practices; the Americans and the Germans had become better entrepreneurs. Both of these explanations, when examined, show up as different sides of the same coin – the behavioral differences or change argument: some businessmen become more ruthlessly efficient, or timidly inefficient, than others. Recent attention has gone to the role of economic institutions, particularly legal structures and judgments. The institutional view holds that American, and German, legal institutions, for nearly opposite reasons related to cartel legality, created conditions for greater economies of scale and scope than in Great Britain. The whiskey case example provides a good industry-specific application for judging among the competing explanations.

Whiskey stands as one of the few specific industries in which protection gets ruled out, yet a great American combination appeared anyway. In reality, protection matters little as a spur to consolidation without a corresponding domestic entry barrier through raw materials, patents, or proprietary skills – none of which existed for whiskey. Large Scottish distillers had both real protection and proprietary skills creating a throughput revolution around 1800, yet displayed only informal cooperation amongst family-owned firms. Did they display entrepreneurial failure, then? Hardly. Ruthlessly audacious, they innovated brilliantly in both technology and marketing, and cheated the government outrageously on every known margin. They got called "Robber Barons" for good cause.

Turning to the prime period of the case, 1870-1900, the entrepreneurial failure thesis looks stronger. Freyer argues that British industry remained small-family-firm dominant throughout the period due to

> an unshakable attachment to personal ownership and control reinforced [by the]...British businessman's aversion to large corporations financed through public sales of stock; the ways of Old Business with its small family firms and traditional middlemen died hard [Freyer, 1992, p. 82].

On the surface of it, the behaviors of the family businessmen who eventually amalgamated their distilleries into DCL appears as a perfect example of such behavior – especially in regard to post-amalgamation stubborn independence and bickering, and the open refusal to create a new, "rationalized" distribution network. How well does this argument hold?

Donald McCloskey's work has cast general doubt upon the entrepreneurial failure thesis, from a microeconomic theoretic analysis of basic industry data [McCloskey, 1973]. Freyer's behavioral difference thesis, however, makes its claims at the individual firm level – a more common-sensical grounding in actual words and actions. In either approach, the behavioral difference thesis requires that some businessmen attempt to maximize expected future profits, and some do not – a fundamental violation of Economics'

rationality postulate. Did British businessmen willingly choose to forego greater future profits through combination, while Americans did not? Or, examining the evidence, might the Scots' behavior have been thoroughly rational?

Well into the post-1870 period, Scottish distillers pursued publicly visible "live-and-let-live" price-maintenance trade association policies as alternatives to "slay-thy-neighbor" ones; American fine and cheap whiskey makers attempted secret trade association strategies, then shifted to secret pooling arrangements. All failed, and for common cause: the unenforceability of restraint of trade agreements under common law. The Scottish open agreements nevertheless seemed more successful; in general, British open agreements eventually became respected by members and quite successful as voluntary options to legal combination [Freyer, 1992]. That did not make American secrecy irrational, for American common law had failed to follow either English or Scots law in overturning medieval trade restraints [Freyer, 1992, p. 78].[17] Restrictive trade agreements in Great Britain had become legal although unenforceable at law; they remained generally illegal under American old common law. Both sets of actions appear entirely rational, being perceived less costly than "slay-thy-neighbor" competitive alternatives.

In the aftermath of these failed cooperative initiatives, the two nations' industry thrusts assumed divergent paths – the Americans forming a "trust" initially appearing to successfully "rationalize" an industry, while the best the Scots could manage appeared as a localized amalgamation that at first merely internalized marketplace competition. By shutting over eighty unnecessary plants, did the Americans achieve the more rational outcome, as Weir suggests [Weir, 1974, p. 386]? The behavioral difference thesis would argue here for the Americans displaying the more ruthless behavior in concentrating power in the hands of just nine trustees; that DCL's dozen directors should disagree so badly apparently argues for a behavioral difference as well. Legal realities once more challenge appearances: American entrepreneurs faced interstate barriers to trade at this period in the form of "foreign" corporation laws on many states' books. "Foreign" firms could not legally own or join in mergers with in-state corporations. The various recent state incorporation laws also forbade "domestic" holding company and merger actions, all deriving from old common law precedent. The trust innovation brilliantly maneuvered American entrepreneurs around the obstacles – for a time, until legislation against it proved the trust a risky form of combination. The DCT trustees, facing a much greater capacity overhang than the Scots, simply walked into an uncharted legal minefield, for even their plant closings got held illegal under old common law. The Scots, meanwhile, pursued the courses of continued cooperation and amalgamation – asset, as opposed to share, consolidation – something straightforward under British incorporation acts. The legal forestalling of cartels forced a riskier course upon American distillers.

[17] American common law remained conservative here, even while it progressively altered traditional individual property rights protections in favor of corporate actions as captured in Hurst's "release of human energy" concept [Hurst, 1956].

What about the matter of the Scottish distillers post-combination behavioral rationality? Here two decision points need examination. First, the available evidence suggests that the two consolidating groups entered into combination after having made fundamentally different future profit assessments, although both groups judged that combination would cost less than competitively-induced business closures. The Americans believed that future common trust share profits would exceed those that their individual distilleries might make. The Scots assumed that the amalgamation would accomplish stable market share divisions among the continuing owner-operated businesses; each would earn future profits through running his own business well. For the Americans, the first decision precluded further internal bargaining; for the Scots, it initiated ongoing bargaining. Second, once the combinations occurred, decisions about consolidating further needed to be made.

For the Americans, the earlier decision pretty much demanded a future acquisition and shut-down strategy, along with rebating to create a competitive entry barrier; only in that way could a pricing reserve get maintained that would pay certificate holders to stay bought. Eventually, the whole strategy failed when other entrepreneurs perceived that they could earn economic rents by building new plants solely to get the trust to buy them. The legal challenges that arose to both rebating and the trust itself also clearly emboldened competitors. The trust's subsequent stock manipulation schemes in turn got driven by the costly business of buying expensive plants only to shut them.

Other situational and institutional factors affected the outcomes. The Americans faced both larger markets and profit opportunities, and much greater excess capacity – all of which potentially rewarded greater risk-taking. American markets and distribution systems displayed less maturity; American financial markets showed greater inefficiency, providing more profit opportunities from underutilized information. Lastly, the generally more mature United Kingdom markets meant that UK investors would do better to behave moderately in domestic profit-seeking and pursue higher risk-reward opportunities elsewhere – such as in the United States [Hannah, 1976]. Taken as a whole, institutional factors fully explain the two groups' divergent behaviors without making recourse to the ultimately unobservable behavioral differences inherent in the competing behavioral explanation.

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