



**Trading Houses during and since  
the Great Commodity Boom:  
Financialization, Productivization or...?**

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## **ABSTRACT**

The largest Commodity Trading Houses account for a large and increasing share of international trade, linked arguably to their financialization and – according to some commentators – giving rise to issues of ‘systemic importance’ similar to those applying to large investment banks. This paper evaluates the extent of Commodity Trading House financialization during the period 2004-13 looking at the top 10 trading houses through the lens of five indicators: relations to capital markets; leverage; asset composition; structure of corporate activities and returns; and types of merger and acquisition activity. Its tentative conclusions are that, while listed trading houses along with Cargill exhibit financialization across most indicators, financialization is a weaker and more diffuse trend for the majority of the top 10, which remain in private ownership. Moreover, financialization indicators peak around 2008 and seemingly decline during the second half of the period.

*Keywords:* Commodities, Commodity markets, Trading Houses, Financialization, Financial markets.

## INTRODUCTION

How have commodity trading houses evolved over the last decade, which coincides with the onset, height and (relative) decline of one of the two most spectacular commodity booms of the last century – the other occurring in the 1970s? The literature on this issue centres mainly on two stories. In the first, the financialization of commodity markets, as opposed to supply-demand balances, contributed strongly to the boom-bust cycle. Banks emerged as crucial players in commodity markets, but a number of trading houses also underwent financialization, resulting in transformations not only in scale but also in composition of activities and potential stability, giving rise to issues of ‘systemic importance’ similar to those in the banking sector (see for example Berne Declaration 2013, Valiante 2013). In the second story the central role is played by supply-demand balances and in particular rising Asian demand for raw materials. This stimulated market entry to trading by new actors, to which larger trading houses responded by integrating backwards into production. Although the resulting investments have made trading houses more dependent on external finance, the main trend is that they are becoming more like raw materials producers and processors (Meersman et al 2012, McKinsey & Co. 2012, Deloitte 2013). A recent study by Craig Pirrong (2014) sets out to demolish the ‘systemic importance’ argument, mainly in terms of a comparison between banks’ and trading houses’ liability structures. Pirrong also addresses other aspects of the first and second story, in particular that of backward integration where he argues that, rather than this representing a systematic trend, emerging patterns of trading house asset ownership are diverse and generalizations misleading.

Of course, there are political dimensions to these stories, especially the first and third: in the first trading houses need to be subjected to at least the same new regulatory regime as banks, in the third increasing scale and leverage is mitigated by a less risky business model than that of investment banks and by improved risk management, removing the point of new regulation. Pirrong had been amongst the most vigorous opponents of claims that financial speculators lay behind the spike in commodity prices in 2008-09<sup>1</sup> and was evidently considered a safe pair of hands by the Global Financial Markets Association (GFMA), ‘the banking industry’s top lobby group’ when in 2013 it sought to enlist him in a campaign to persuade central banks and the Financial Stability Board that trading houses presented systemic risks. His 2014 study cited here, commissioned by Trafigura, uses similar arguments to those he originally presented to GFMA in a report which they then suppressed (Blas 2013).

This paper considers the merits and demerits of some dimensions of these three accounts by looking in detail at corporate change over the last decade in the 10 leading commodity trading houses anno 2014.<sup>2</sup> Rather than focusing centrally on the issue of risk

<sup>1</sup> In his ‘Streetwise Professor’ blog Pirrong described the work of two early proponents of this view as ‘bilge...a joke’, comparing the authors to ‘drunks looking for a wallet under a lamppost’, <http://streetwise professor.com/?p=2454>.

<sup>2</sup> Only the ‘top 10’ trading houses by 2013 revenue are considered in this draft. This number arbitrarily excludes for example Bunge – which slipped outside the top 10 only in 2013 itself. Likewise, the definition of ‘trading house’ applied here – ‘companies that are normally classified under this name in the financial press’ is nominal rather than analytic. As will become apparent, for a few of those considered here, buying and selling commodities in a un- or only primary-processed form is no longer their main source of revenue. Moreover even in 2013 BP and Goldman Sachs probably earned more revenue from classical commodity trading than did some of the companies considered here. The author welcomes suggestions for more useful definitions and/or cut-off points.

it looks in particular at the dimensions of financialization; and of backward integration or ‘productivization’. Developments along these parameters are moreover considered in relation to whether any change has occurred in the centrality of physical trading, which is of course the traditional anchor of trading house activity.

The analysis that follows discusses developments in, and the relation between, these dimensions using the term ‘business model’. Note that this is not used here in the technical sense applied by Pirrong, i.e., as a combination of risk management strategies and models, liability structures and so on, but more in that employed by Engelen et al (2011) to describe a combination of business attributes, practices, doctrines and dispositions. In this paper these are traced through the following variables: ownership form and levels and types of exposure to capital/debt security markets; levels of leverage and leverage structure; asset composition; structure of corporate returns; and the nature of acquisitions and divestments undertaken. Business models of the last decade are approached against the background of a sketch of trading house business models in the 20<sup>th</sup> century. Because almost all trading houses were privately held in the 20<sup>th</sup> century, the account presented of their business models of this period is drawn largely from memoirs by or biographies of their owners rather than from business records. Since 2004 more information is available on more trading houses and greater dependence can be placed on sources such as audited accounts (see footnote 3 below).

The paper proceeds in four subsequent sections. First, an overview is presented of the 10 largest trading houses in 2014. Secondly, a brief history of trading houses in the 20<sup>th</sup> century is provided, culminating in a sketch

of the prevailing business model of this period and how it was changing towards the end of the period. Thirdly, evidence is reviewed on the different elements of contemporary trading house business models listed above. A fourth section concludes.

## LEADING TRADING HOUSES TODAY: AN OVERVIEW

Table 1 presents some basic data on the top 10 global trading houses, in rank order by 2013 revenue (turnover).

In aggregate, the ten companies increased net revenue by more than four times over the period, to \$1.38 trillion in 2013. This corresponds to around 8% of global merchandise trade and around 25% of global trade in primary products.<sup>3</sup> Two of the oil traders, Mercuria and Gunvor, exhibited astonishing levels of revenue growth while another (Noble) achieved an almost 10-fold increase. Increased volume rather than price inflation must have underlain most growth during the period, since the IMF Primary Commodity Price Index increased by ‘only’ 129.1% during 2004-13 while its fuel component increased by 165.1%.

The nine companies for which profit data is available made net profits of over \$48 billion in aggregate during 2009-13. This represented just under 1% of their aggregate revenue. Profitability in the period by company ranged between 0.4% and 1.9%, with the US-based agricultural traders Cargill and ADM the most profitable. Data for 2004-08 is very incomplete, but where available indicates profitability was generally higher in 2004-08 than

<sup>3</sup> These estimates are based on WTO international trade data for 2012, reported in WTO (2013).

Table I. Leading trading houses, 2014 (financial data in US\$ billions)<sup>4</sup>

	Quoted/unquoted, domicile	Net Revenue		Net profit (aggregate for period)		Leading commodities (by revenue)	
		2004	2013	2004-08	2009-13	2014	2013
Vitol	unlisted, 'Swiss'	61.0	307.0	n/a	7.5	Oil and gas	Oil and gas
Glencore	listed 2011, 'Swiss'	72.0	232.7	n/a	4.7*	Energy, metals	Energy, metals
Cargill	unlisted, US	62.9	136.7	10.9	11.5	Grains	Agricultural
Trafigura	unlisted, 'Dutch'	17.6	133.0	n/a	5.8	Oil	Oil
Koch	unlisted, US	40.0 ≠	115.0 ≠	n/a	n/a	Oil, MMFs #	Oil, MMFs, building mtl's
Mercuria	unlisted, 'Swiss'	0.006	112.0	n/a	<2.0 ≠	Oil	Oil
Noble	listed 1997, 'Hong Kong'	8.6	97.9	1.5	2.3	Metals	Energy
Gunvor	unlisted, 'Swiss'	0.005	91.0	n/a	<1.5 ≠	Oil	Energy
ADM	listed 1924, US	36.2	89.8	6.8	9.0	Oilseeds	Oilseeds
Louis Dreyfus	unlisted, French/'Swiss'	12.0 ≠	63.6	n/a	4.1	Cotton, grains	Cotton, grains

Key: n/a: not available; \* includes an 'impairment' of -\$7.3 bn in 2013; ≠ author's estimate, # man-made fibres.

in 2009-13. In 2009-13, highest profits were achieved in 2009 – just over 2% of aggregate revenue for the nine companies discussed. This was the year of the great contango in the oil trade. Even this level of profitability is very low relative to that for publicly-quoted companies generally in recent years.

Seven of the top 10 trading houses in 2013 traded primarily in energy, mainly oil. However only one (Noble) *became* primarily an oil trader in this period. Although it is not apparent from the table, most companies from

2004 on diversified the range of commodities that they deal in. The most common diversification was from energy into agricultural commodities – particularly grains and oilseeds (Vitol, Glencore, Mercuria). Koch Industries is the only company amongst the ten which has interests unrelated to commodity trade or processing.<sup>5</sup>

Seven of the companies are privately held. Most of the unlisted companies are domiciled in Switzerland, notable for its low taxes and almost non-existent reporting requirements; even companies technically headquartered elsewhere mostly carry out trading operations from Switzerland, although a number also opened offices in Singapore during the period. Only one of the companies (Noble) has both its headquarters and main trading of-

<sup>4</sup> The sources for this table and subsequent data except where indicated are company annual reports or SEC 10-K filings (Noble and ADM 2004-13, Glencore 2011-13 and Louis Dreyfus Commodities and Trafigura for 2013); the Glencore 2011 IPO and Glencore-Xstrata 2012 merger prospectuses; prospectuses for bond and medium-term note programmes (Cargill 2004, 2007, 2008, 2012 and 2014; Louis Dreyfus Commodities 2012; Trafigura 2013; and Gunvor 2013); and news archives for each of the companies on [www.ft.com](http://www.ft.com), [www.bloomberg.com](http://www.bloomberg.com) and [www.hoovers.com](http://www.hoovers.com).

<sup>5</sup> The holding company controlling Louis Dreyfus Commodities has non-commodity related interests too.

office in Asia, although two other Asian-based trading houses are in the next layer of trading houses – Wilmar and Olam.

## TRADING HOUSES IN THE 20<sup>TH</sup> CENTURY

Most of the great commodity trading houses of the second half of the 20<sup>th</sup> century began life in the late 19<sup>th</sup> or early 20<sup>th</sup> centuries as importers or brokers for metals or grains. It was only well into the second half of the 20<sup>th</sup> century that a large share of world trade began to pass through trading houses, and that they began operating globally as exporters as well as importers. These developments were accompanied by a gradual diversification across commodities and/or vertically into metals and minerals extraction, processing or beneficiation, transportation and – in a few cases – banking<sup>6</sup>. Horizontal diversification was undertaken both to spread risk and to exploit economies of scope from transport, sales and financial operations, while vertical diversification – at least in minerals and metals – provided access to margins normally higher than trading ones. On the other hand, the pattern followed by backward integration was typically opportunistic rather than systematic.<sup>7</sup>

The rise of trading houses followed the decline in influence of the major integrated

colonial production companies in developing countries following political independence. It also followed a growth of public intervention in trade in developed countries dating from the 1950s (see Chalmin 1987, Ch. 1). Public agricultural marketing systems in developed countries generated substantial surpluses for grain trading houses to export, while post World War II re-armament and public ‘strategic’ metals stockpiling prompted globalization of metals trading houses’ import functions. (Waszkis 1987, 135).

In the 1970s nationalization of US- and European-owned oil extraction businesses in the Middle East and the associated invigoration of OPEC led to the appearance of independent oil trading houses.<sup>8</sup> Unlike the earlier generation of trading houses which were typically family-owned, these were usually partnerships established by individual traders defecting from existing houses. In the last decades of the 20<sup>th</sup> century the leading oil trading houses also pursued diversification vigorously, usually into metals. The dissolution of the Soviet Union and the privatization of state assets there led to a further great expansion of trading houses, in particular those dealing in oil.

The first feature of 20<sup>th</sup> century trading houses’ business models<sup>9</sup> was private ownership (with, amongst the companies considered here, the single exception of ADM), aimed at enveloping corporate behaviour with the same lack of transparency as most contemporary commodity markets.<sup>10</sup> The

<sup>6</sup> Besides the cases of ADM and Louis Dreyfus described in Table 7 below other trading houses starting banks in the 20<sup>th</sup> century included Continental, Sucre et Denrees and Philipp Brothers. Most wound down or spun off such operations in the late 1970s as more commercial banks became major providers of trade finance, although in 1981 Philipp Brothers went on to take over the US investment bank Salomon Brothers.

<sup>7</sup> Mines for example would be acquired where a supplier defaulted on a trading house loan. Waszkis’s (1987, 53) history of Philipp Brothers dates this practice to the 1940s.

<sup>8</sup> This story is traced in detail in Ammann (2009, 68-98).

<sup>9</sup> This account is based mainly on Broehl 1998, 28-29 on Cargill and Waszkis 1987, 229 on Philipp Brothers.

<sup>10</sup> This envelope was not only external. Kelly (2014, 120) quotes Jon Ruggles, a former trader at Trafigura, as denying any knowledge of why the company’s Houston office was ransacked one day in his presence by US federal authorities, and even of which federal authority was involved; ‘in a trading house what you don’t know, you should not ask about’.



second was relatively low levels of shareholder equity, in turn almost entirely composed of retained earnings. The third was correspondingly low levels of fixed assets, overheads and long-term debt. Short-term debt on the other hand was typically high, being used to finance both spot purchases, pre-payments for seasonal credit or annual refinancing of offtake agreements, and margin deposits for derivatives trades. It was normally supplied through 'lines of credit' extended by a bank with whom given trading houses established and maintained special relations. From around the 1960s syndicated revolving credit facilities emerged within lines of credit and soon became the leading form of credit for metals and grain traders.<sup>11</sup>

At the heart of the business model was 'trading on basis', a high velocity activity with low margins. It involved making forward sales of a commodity for a given month at a price with a given differential from the futures price for the same month, and then covering this sale by attempting to buy at a price with a lower differential.<sup>12</sup> Note that, when 'trading on basis', purchases are normally made only subsequent to sales having been agreed. The exception is when a trader 'takes a position' or speculates.

Markets where forward physical prices are higher than the futures price for the same month are said to be in 'backwardation', while those where they are lower are said to be in 'contango'. In conditions of backwardation

the orthodox trading strategy is to go long in futures and/or short in the physical commodity, since the future and spot price will eventually converge. In conditions of contango, traders normally go long in the physical commodity and/or short in futures for the same reason. Speculation usually occurs under conditions of steep contango or backwardation, or occasionally when traders seek to engineer a steepening curve. This always involves taking some combination of physical and futures market positions.

For 20<sup>th</sup> century grain and metals traders, credit arbitrage was another important source of profit alongside trading on basis and taking positions. In the 1950s and 60s public credit at zero or very low interest rates was granted to trading houses to facilitate their reducing the scale of grain stockpiles and assembling ones of strategic metals. This credit was recycled into interest-bearing bank deposits or, at higher rates of interest, as credit to suppliers. Or it could be used in so-called 'switch financing' to finance exports to commodity-exporting countries with non-convertible currencies, where trading houses would be paid with credits carrying a 33.3% premium over the official exchange rate – thus allowing the purchase of additional deliverables from local suppliers (Waszkis 1987, 165-175, 239, 254; Morgan 1979, 193).

The oil trade followed a slightly different model. Because of the prevalence of one-off spot rather than long-term contracted sales, and because of non-existent price transparency, credit decisions had to be made by banks on the basis of the plausibility and profitability of individual transactions rather than the financial circumstances of particular trading houses and supply chains. BNP Paribas is credited with having 'perfected' use of letters of credit in commodity trade in the 1970s, although Bankers' Trust was again another pi-

<sup>11</sup> Chalmin (1987, 140-41) states that the US Bankers Trust and Chemical Bank were the first to specialize in financing commodity trade in this way. Several European, particularly French, Swiss and Dutch banks became active in it during the 1970s and eventually came to dominate the field, notably BNP Paribas, Credit Agricole, ING and Societe Generale – although most trading houses continued to retain close relations single banks, as in the case of Cargill's with Chase Manhattan (Morgan 1979, 177; Broehl 1998, 27).

<sup>12</sup> For a detailed account see Chalmin 1987, 93ff.

oneer. At least in their early years some of the emerging oil trading giants such as Marc Rich & Co. (later Glencore) and Trafigura (f. 1993) depended entirely on letters of credit for financing their spot trades (see Ammann 2009, 80 on Marc Rich and Berne Declaration 2013, 70 on Trafigura).

Secondly, rather than cultivating close relations with governments in the US and Europe as did the grain and metals traders largely employed by them, oil traders had to cultivate them with centres of power in supplying countries. This was the only route possible for moving from spot trade to longer-term off-take agreements. Besides bribes, the chosen mechanism was to identify a less risk-averse bank that would supply long-term credit in a hard currency (Copetas 1985, Ammann 2009). The outcomes seem to have been a primitive type of ‘special purpose vehicle’ whereby a bank or group of banks uses a trader to relay credit to a producer (or his proxy), considering only the producer’s performance risk rather than the producer or trader’s credit risks. Formalized versions of such arrangements later became mainstream in energy trading.

Having summarized the 20<sup>th</sup> century trading house business model, including its oil trader variant, the next section will examine the extent to which this has been subject to ‘financialization’ or ‘productivization’, or otherwise transformed since the millennium.

## **CONTEMPORARY TRADING HOUSE BUSINESS MODELS**

### **Relation to capital markets**

The nature of corporate ownership features as a critical variable in most of the financialization literature since arguably, ‘shareholder

value’ can take on the status of a programme for driving restructuring only when shares are quoted and therefore the value of a company can be publicly assessed. This may be an oversimplification, but is still worth considering the extent to which the family and/or ‘partner’ model of trading house ownership has been modified over the past decade, and the characteristics of new owners where these have emerged. Table 1 has already indicated which companies are quoted and unquoted. Table 2 provides a summary referring to two variables for each company: proportions of stock owned by family members and/or partners; and the identities of other major shareholders – as well as how both may have changed after 2004. Note that the coverage of this Table has been extended to 2014 in order to cover the change in Gunvor’s ownership.

The table shows that ownership of leading trading houses has hardly changed at all since 2004. The dominant model remains that of control by founding families, usually with senior employees (3 cases) or by senior employee-partners (3 cases). Another company (Gunvor) is now owned more or less exclusively by one of its founders. Only one leading trading house changed its ownership form during 2004-13 – Glencore, which shifted via an IPO from partner ownership to public listing. Where outside investors are present today, in the case of privately-held companies these are typically co-founders who have become sleeping partners. In the case of listed ones, Asian and Middle Eastern Sovereign Wealth Funds (SWFs), Wall Street Hedge Funds, US and UK Private Equity Funds feature prominently.

Table 2 presents little overall evidence of financialization in terms of ownership form during the period. In at least four cases control remains essentially with traders. Evidence

Table 2. Trading house ownership, 2004-14

	<i>Share of founding families and/or partners in stock</i>	<i>Other leading shareholders (where applicable)</i>
Vitol	Currently 330 employee-partners (somewhat more than in 2004) own the entire stock. No information is available on their internal distribution	None
Glencore	Prior to 2011, 488 employee-partners owned entire stock (of which 65 owned 57.5% combined. 18.1% was owned by Ivan Glasenberg and 6.9% each by two other senior partners). Partners' share of stock fell to 83.6% after the 2011 IPO, and to 35.7% after the share-funded 2012 takeover of Xstrata. Glasenberg's stake was reduced to 8.27% and the combined stake of four other senior partners' fell to 11.56%.	Following the IPO, First Reserve (Private Equity) and Aabar (investment arm of Abu Dhabi's oil SOE) owned 1-2% each, GIC (Singapore SWF) 0.6%, and BlackRock (Private Equity) 0.5%. Following the takeover of Xstrata, Qatar Holdings (SWF) became the largest non-partner shareholder with 8.45%. BlackRock became the second largest with 4.41%
Cargill	About 90% of stock remains directly or indirectly controlled by members of the Cargill and MacMillan families. A plan was introduced in 1991 to allow (senior) employees to own up to 17% of stock but this was never fully implemented.	Senior managers (2%), an employee stock ownership programme (8%) and a single other private individual.
Trafigura	Currently 700 employee-partners (present and retired; somewhat more than in 2004) own the entire stock. Claude Dauphin - Chairman, CEO and one of the founders – owns 'less than 20%'; no other partner owns more than 5%.	None
Koch	Charles and David Koch have owned around 84% of stock since the 1990s, following a prolonged dispute between a larger group of family shareholders.	15% is owned by Elaine Marshall, descendent of the owner of an oil refinery bought by Koch with shares in 1959. A handful of other private individuals own small numbers of shares.
Mercuria	About 82% of stock is owned by 150 employee-partners (somewhat more than in 2004). CEO Marco Dunand and Head of Trading Daniel Jaeggi each own around 15% of this.	Grzegorz Jankielewicz and Slawonir Smolokowski, who co-founded Mercuria with Dunand and Jaeggi, each own just under 9% of stock (possibly down from 50% in 2007).
Noble	About 21% of stock is owned by a trust in the name of the family of founder and Chairman Richard Elman (down from ca. 40% in 2004). Former Vice-Chairman Harindapal Banga disposed of his ca. 6% stake (down from ca. 10% in 2004) on retirement in 2012.	CIC (Chinese SWF) acquired 14.5% of Noble's stock in 2009, including some directly from Elman. The Korean Investment Corporation acquired a further 1.2% in 2011, again including some from Elman. Several institutional investors holding >1% each control a further 12%. The largest of these shares are held by the hedge funds Orbis (5.97%), Fidelity (1.71%) and Newton (1.24%).
Gunvor	Since March 2014 87% of stock has been owned by CEO and co-founder Torbjorn Tornqvist. The balance (all non-voting) is held by employee-partners. How many partners own stock and how it is distributed between them is not known.	Until 2008 Tornqvist and co-founder Gennady Timchenko each owned 37.5% of stock. 20% was owned by Peter Kolbin, an associate of Timchenko's and 5% by employee-partners. Kolbin's stock was then divided between Tornqvist and Timchenko. In the wake of appearing on a US sanctions list in March 2014 Timchenko sold most of his stock to Tornqvist and the balance to employee-partners.
ADM	Some Executive Directors have had holdings of less than 1% each of stock throughout, but the share of institutional investors in total stock has changed little.	75% of stock is owned by institutions; in March 2013 the largest shares were 5.59% held by State Farm (insurance), 5.56% held by Vanguard (Mutual Fund), 5.2% held by State Street (investment bank) and 5.0% held by BlackRock (Private Equity)
Louis Dreyfus	The company was only separated from the other interests of the Louis-Dreyfus family in 2007. Margarita Louis-Dreyfus indirectly owns 65.1% of stock (up from 50% in 2007) and other Louis-Dreyfus family members just under 15% (down from 30%). The remaining 20% is owned by about 500 senior employees.	None

Sources: As for Table 1, plus [www.reuters.com](http://www.reuters.com) and [www.forbes.com](http://www.forbes.com)

is nonetheless present that financial investors are assuming a more important role in the minority of companies that are listed, although traders still remain prominent amongst the owners of two of these (Glencore and Noble).

### **Relation to debt security markets**

Capital markets exercise influence over corporations not only through buying and selling (and therefore valuing) equity of quoted companies but also through buying and selling (and therefore valuing) any debt-backed securities that companies may offer such as debentures, bonds or notes. Valuation of the latter is expressed through demand for these securities, the interest rates at which they are offered and thereafter in their price (if quoted on exchanges) and/or how much it costs to insure investments in them, via credit default swaps.

Table 3 presents summary data on trading house debt security issuances since 2004. Note that Perpetual Bonds are considered here as debt securities alongside other types of bonds and notes, although for accounting purposes they count as (Tier 1) capital since they do not have to be repaid.

Issuance data is reasonably comprehensive for listed companies as well as in respect of those securities that are quoted but which were issued by unquoted companies. Data on private placements of unlisted securities by unquoted companies is sparse although sometimes these are brought to the attention of the financial press. In general the composition of participants in debt securities markets does not vary much whether or not these securities are publicly- or privately-placed, or quoted or unquoted, since large institutional investors dominate all categories. However,

some trading houses have deliberately targeted institutional investors outside the US and EU by issuing and listing securities in Far Eastern markets.

While a small majority of the top 10 trading houses utilized debt securities markets prior to the period under consideration, since 2008 all companies (with the possible exception of Koch) have had recourse to them, often frequently. On the other hand, levels of recourse as measured by outstanding exposure in 2013 remain very uneven. Glencore's exposure is comfortably greater than the exposure of the other nine trading houses combined, while six companies have exposure levels probably no greater than \$2bn. 'Financialized' companies, as distinguished by their public listing, are clearly more involved in debt security markets than those owned by founding families or traders – with the exception of Cargill.

### **Leverage levels and sources**

Participation in debt security markets needs to be considered not only in relation to corporate exposure to capital markets but also in combination with that of overall levels of corporate leverage as well as the internal composition of corporate debt. Increases in leverage from historical norms and, within corporate debt, increasing dependence on short-term bank borrowing all loom large in the financialization literature as indicators both of financialization and of potential corporate instability.

On the other hand, as noted earlier, the trading house business model was traditionally dependent on very high levels of leverage, mainly if not exclusively in the form of short-term debt. In this historical model, high levels of aggregate leverage mainly reflected limited equity resulting from the pre-

Table 3. Trading house debt security issuance, 2004-13

	<i>History</i>	<i>Value outstanding 2013</i>
Vitol	At least seven private placements since 1999, mostly in the US. Number and types of bonds outstanding in 2013 unknown.	~\$2bn.≠
Glencore	A very large number of (mainly US) private placements since 1996. The 2013 Annual Report lists 10 Eurobonds, 3 Sterling bonds, 3 Swiss Franc bonds and 23 US bonds outstanding. During 2013 itself Glencore issued \$4.5bn in US interest bearing notes, 2 Eurobonds with a combined value of €1.15bn. and a Swiss Franc bond with a value of CHF175 mn..	~\$38bn.
Cargill	A \$1bn. Euro Medium Term Note Programme was initiated in 1996, with the notes listed on the Luxembourg SE. The programme was upgraded to \$3bn. in 2006 and to \$6bn. in 2008. In 2013 there were 7 notes outstanding in the programme with an aggregate value of \$3.04 bn. A large number of US private placements have also taken place. In 2013 there were 17 Senior Notes and Debentures, 5 US Medium Term Notes and one Industrial Revenue Bond outstanding.	~\$10bn.
Trafigura	A €2bn. European Medium Term Note public Programme was initiated in 2013. The notes, of which one for €500 mn. was issued the same year, are listed on the Irish SE. Also in 2013 a \$500mn. Perpetual Bond was listed on the Singapore SE. Since 2006 seven other (private) placements have also occurred, including two in 2013, raising \$0.375bn. in all.	~\$2bn.
Koch	Although Koch has a Moody's issuer rating of Aa3 and a commercial paper rating of Prime-1 searches did not turn up any private placement or public bond issue during the period.	–
Mercuria	Debuted the US private placement market in 2013 (no further details available).	<\$0.5bn ≠
Noble	While convertible bonds feature on the balance sheet from 2004, and while it has had a \$3bn. US Medium Term Note Programme since 2010 (with two placements), Noble has turned increasingly to issuing bonds in Asian currencies and with Far East listings (Singapore, Malaysia, China and Thailand) .A MYR3bn. (\$1bn.) Islamic Medium Term Note Programme was launched in 2012 while recent other Far East placements include two Singapore-listed Perpetual Bonds.	~\$3.3bn.
Gunvor	A \$0.5 bn. 5 year bond (listed on the Singapore SE) was issued in 2013 and another (private) placement of unspecified magnitude occurred around the same time.	<\$1.0bn.
ADM	Throughout the period ADM has issued debentures, privately exchanging them for new issues at expiry. A Convertible Senior Note was privately placed in 2007 as was a Floating Rate Note in 2011 (later renewed).	~\$6.5bn.
Louis Dreyfus	Prior to 2012 Louis Dreyfus had issued Notes on the US private placement market although their outstanding value that year was only \$0.13bn. and none remained outstanding in 2013. In 2012 it issued a \$350mn. hybrid Perpetual Security listed on the Singapore SE and in 2013 it issued two Eurobonds listed on the Luxembourg SE raising a total of \$1.2bn. The two Eurobonds do not (yet?) feature as liabilities in the 2013 accounts.	~\$1.5bn.

*Key:* ≠: author's estimate.

*Sources:* As for Table 1, plus [www.privateplacementletter.com](http://www.privateplacementletter.com) and *Trade and Forfeiting Review*.

Table 4. Trading house leverage ratios, 2004-13 (moving averages)

	Total debt: shareholder equity		Short term (bank) debt: total debt	
	2004-08	2009-13	2004-08	2009-13
Vitol	n/a	n/a	n/a	n/a
Glencore	1.25 $\alpha$	1.18	0.45 $\sigma$	0.35
Cargill	1.09 $\dagger$	0.63 $\epsilon$	0.35 $\dagger$	0.31 $\epsilon$
Trafigura	n/a	4.45 $\epsilon$	n/a	0.76 $\epsilon$
Koch	n/a	n/a	n/a	n/a
Mercuria	n/a	n/a	n/a	n/a
Noble	1.35	1.28	0.34	0.18
Gunvor	n/a	1.96 $\epsilon$	n/a	0.85 $\epsilon$
ADM	0.60	0.51	0.21	0.18
Louis Dreyfus	n/a	1.80	n/a	0.64

Key:  $\alpha$ : 2007 and 2008 only;  $\sigma$ : 2007-09 only;  $\dagger$ : 2005-07 only;  $\epsilon$ : 2010-13 only;  $\epsilon$ : 2010-2012 only.  
Sources: as for Table 1.

ferred trading house ownership form and the chosen method for perpetuating it. The latter consisted in diverting a large chunk of retained earnings into buying out the shares of departing senior traders. Since there was little investment in physical assets borrowing was mainly confined to replenishment of working capital. Because of the high velocity nature of trading operations, this was organized through taking on short-term debt.

Arguably, it was this ‘trading’ model which was adopted by a swathe of financialized firms in the run-up to the financial crisis. But following the financial crisis, both regulatory authorities and to an extent markets have become more guarded in relation to it and this is reflected in falling norms for leverage and for short-term debt levels in the S&P 500.

Table 4 summarizes information for the top 10 trading houses on the two crudest leverage parameters: the debt: equity ratio and the ratio of short-term (bank) loans to total debt, in order to assess their absolute values

and whether these have changed much since 2004. These have been chosen in preference to those referred to by Pirrong (2014)<sup>13</sup> since they are cited more frequently in the financialization literature. Note that the number of observations is limited, especially for the 2004-2008 period, since most trading houses have only recently started to publish balance sheets and even now often do so selectively.

Table 4 shows a consistent pattern of dispersal across companies on both ratios. One group of companies – Glencore, Cargill, and Noble – displays ratios broadly consonant with those of the S&P 500<sup>14</sup>, as well as falling ratios over the period as a whole. A fourth – ADM – displays ratios well below current

<sup>13</sup> Pirrong focuses on assets: equity; current liabilities: total liabilities; and net debt:equity.

<sup>14</sup> The S&P 500 average debt: equity ratio for 2013 was 1.36 in 2013, with sectoral averages varying between 0.21 for energy companies and 1.76 for conglomerates. S&P 500 companies in the ‘Basic materials’ sector had an average ratio of 0.75.

S&P 500 norms, even for natural resource companies (as well as falling ratios). Although data is available for them only for the second half of the period, the remaining three companies releasing figures – Trafigura, Gunvor and Louis Dreyfus – all display ratios considerably higher than S&P 500 norms. Hence, what seems to have happened is that companies that are financialized according to their relation to capital and debt security markets, together with the unquoted company most exposed to public debt securities markets (Cargill), increasingly deviated from historical trading house norms in favour of norms emanating from capital markets. Note that both Glencore and Noble came under heavy direct pressure from respectively debt security and stock markets to bring down their levels of leverage from 2008 onward (Davies and Blas 2008, Brown 2011).<sup>15</sup> Meanwhile those under trader ownership continued to display leverage levels apparently typical of 20<sup>th</sup> century trading houses.

Trafigura, whose 2009-13 debt: equity ratio was more than double that of any other company in the top 10 for which data is available, suffered a large but (for traditional trading houses) entirely characteristic drain on equity in this period. The company was founded in the 1990s and by 2009-13 its founders and original generation of senior traders were approaching retirement age. To finance the resulting share buy-backs the company spent the equivalent of 20% of 2012 equity that year and the equivalent of 17% of 2013 equity the next (Zhdannikov 2014).

So far only on-balance sheet debt has been considered. The financialization litera-

ture, particularly on the banking sector, also strongly emphasizes growth of off-balance sheet debt in the period leading to the financial crisis. Here, it is striking that certain of the main types of working capital that trading houses depend on – lines of credit, revolving credit facilities<sup>16</sup> and letters of credit – while being secured against inventories (current and future) are ambiguous in terms of balance-sheet treatment and may be partly off-balance sheet. This means that the data in Table 4 may understate the magnitude of trading houses' 'real' leverage ratios. On the other hand, since none of the forms of trade finance just mentioned are novel for trading houses, it also means that there is little sense in interpreting increases in credit secured through them as evidence of financialization, as opposed to commodity price inflation and increased market share.<sup>17</sup>

For trading houses, a more novel type of off-balance sheet debt involves securitization of trade receivables and to a lesser extent inventories. Table 5 summarizes information available on the programmes of seven of the top 10 companies. No information is available on whether Koch, Mercuria and Louis Dreyfus have such programmes.

Receivables securitization programmes are interesting not only as an additional type of off-balance sheet finance that might be used equally to substitute for more expensive types of debt and equity or to massage leverage ratios, but because of their direct relation to the prices of physical commodities. They provide buyers of the resulting securities with exposure to commodity price development in a

<sup>15</sup> In Glencore's case this pressure extended to trading partners, many of whom insisted on reverting to payment via letters of credit while some of whom even demanded up-front cash payment for shipments during the run on Glencore's credit default swaps in October 2008 (Kelly 2014, 46).

<sup>16</sup> Both usually syndicated across large consortia of banks.

<sup>17</sup> The main developments in trading houses' recourse to these types of finance during 2004-13 have been large increases in the scale of these lines and their increasing dedication to trading in specific geographic regions (usually associated with regional syndication of the loans themselves).

Table 5. Trading houses' trade receivables securitization programmes

	<i>Year launched</i>	<i>Size in 2013</i>	<i>Notes</i>
Vitol	1999	n/a	'Vitol Master Trust' securities were quoted on the Luxembourg SE to at least 2004 but subsequently appear to have de-listed, probably in favour of other Vitol instruments.
Cargill	1993 (?)	n/a	Cargill Trade & Structured Finance is an in-house entity providing trade receivables discounting services including to third parties. Size of own trade receivables programme unknown.
Glencore	2008 or earlier	\$4.87bn.	Started as an inventories programme but described since 2010 as an inventories and receivables facility
Trafigura	2004	\$2.73bn. (2012)	Galena Asset Management (see Table 7) also operates two trade receivable securities funds.
Noble	2007	>\$0.5bn.	
Gunvor	2013	\$0.3bn.	
ADM	2011	\$1.1bn.	

*Sources:* as for Table 3.

similar way to derivatives, exchange-traded funds and so on. In other words they can also be viewed as contributing to the further financialization of commodity markets.<sup>18</sup>

Summing up on leverage it seems that those companies that are financialized in terms of relations to capital and debt markets display leverage ratios quite uncharacteristic of historical trading house norms and that, probably as a result, they are active in off-balance sheet debt securitization. Meanwhile another group of trading houses, centred on those still controlled by traders, have leverage ratios resembling historical trading house norms. But at least three of these have also become involved in receivables securitization (as they have been in debt security market issuances). At the same time, Cargill – which

is non-financialized in respect of ownership, although not owned by traders – behaves like a financialized firm by responding to market disciplines on leverage. The influence of financialization on trading houses is thus systematic for only a minority and more diffuse for others. One non-listed firm responds to its 'spirit' while others use some of its tools apparently opportunistically.

### **Asset structures**

So far the discussion has been confined to financialization and its effects. By considering asset structures some attention can also be paid to the ostensibly opposite trend of 'productivization'. Table 6 below summarizes information for the 10 companies (or those undertaking some form of relevant reporting) on indicators for 'financial' and 'productive' asset levels respectively. These are the shares of 'Derivatives held for trading pur-

<sup>18</sup> For a defence of receivables securitization see Craig Pirrong's (2014) essay. For an elaboration of the argument presented here see Kaminska's (2013) review of Pirrong.



**Table 6. Shares of ‘Derivatives’ (longs) and ‘Property, plant and equipment’ (PPE) in total assets, 2004-13 (moving averages)**

	<i>Derivatives (longs) (% of total assets)</i>		<i>PPE (% of total assets)</i>	
	<i>2004-08</i>	<i>2009-13</i>	<i>2004-08</i>	<i>2009-13</i>
Vitol	n/a	n/a	n/a	n/a
Glencore	18.44 <sup>x</sup>	5.39	10.38 <sup>x</sup>	21.61
Cargill	n/a	10.63 <sup>c</sup>	24.27 <sup>f</sup>	20.79 <sup>c</sup>
Trafigura	n/a	7.08 <sup>c</sup>	n/a	5.12 <sup>c</sup>
Koch	n/a	n/a	n/a	n/a
Mercuria	n/a	n/a	n/a	n/a
Noble	12.5	18.10	6.64	13.83
Gunvor	n/a	7.56 <sup>e</sup>	n/a	8.14 <sup>e</sup>
ADM	n/a	6.08	24.60	24.57
Louis Dreyfus	n/a	8.16	n/a	19.16

*Key:* <sup>x</sup>: 2007 and 2008 only; <sup>f</sup>: 2005-08 only; <sup>c</sup>: 2010-2013 only; <sup>e</sup>: 2010-12 only.

*Sources:* as for Table 1.

poses’ and of ‘Property, plant and equipment’ (PPE) in total assets. Note that a requirement to report data on the former (and derivatives held for hedging for that matter) came into force only in 2009, and that where companies reported derivative holdings before this date most did so using a different methodology for their valuation.<sup>19</sup> Note also that only derivative ‘longs’ will be reported under assets, with ‘shorts’ being reported under liabilities (and therefore not considered here).

Data on levels of long derivatives holding for 2004-08 is confined to two companies (Glencore and Noble). For these the levels in question seem high – in both cases higher than the value of their PPE assets at this time. In 2009-13 the share of long derivatives

assets in Glencore’s total assets fell considerably, while that of its PPE assets rose. The share of Noble’s PPE assets in its total assets also rose, but so too did that of its long derivatives. In 2009-13 Noble in fact had easily the largest share of any company of long derivatives in total assets, followed by Cargill. For other companies, this share was consistently only between 5-7%.

Most companies in 2009-14 had shares of PPE assets in total assets of 14-24%, although there is no clear trend for this to have increased. PPE assets generally made up the highest shares in trading houses dealing with agricultural commodities although Glencore after its takeover of the mining company Xstrata had a similar share. Oil traders’ shares were considerably lower.

In sum, there is no clear trend evident in the data for either variable. Nor is there a clear demarcation between the (relative) levels for them reported by firms ‘financialized’

<sup>19</sup> Prior to 2009 some reported ‘notional’ rather than mark-to-market values (if they reported them at all) ‘Notional’ value refers to the size of the position controlled rather than the outlay necessary to secure the position.

Table 7. Trading houses' hived-off financial operations, 2004-13

Vitol	<i>Vitol Capital Management</i> (date of foundation unknown) was wound up in 2009 following allegations that Vitol knowingly allowed NYMEX to treat it and Vitol Inc. as separate entities for position limit purposes. During periods in 2008 Vitol entities jointly controlled 11% of the entire NYMEX oil contract. In 2010 Vitol reached a \$6 million settlement with CFTC over this case. Since 2005 Vitol has owned or part-owned <i>Anchor Insurance</i> , into which it merged its captive broker Vitol Insurance.
Glencore	Glencore started a credit derivatives fund with external investment, Asteri Capital, in 2006. This was wound up in 2008. Also in 2006, Glencore and Credit Suisse created a derivatives and structured products trading business for base and precious metal. In 2009 they jointly launched an index product following commodities traded by Glencore, the <i>Glencore Active Index Strategy (GAINS)</i> . In 2011 Credit Suisse took over Glencore's interest in GAINS, although Glencore traders continued 'on a consultancy basis' to determine the fund's weighting between commodities. Credit Suisse has offered several GAINS funds. In August 2013, the Luxembourg-quoted GAINS Commodity Plus B fund had assets under management of \$307mn. Glencore and Credit Suisse also jointly designed an aluminium ETF in late 2009, but this was still awaiting (Swiss) regulatory approval when the partial corporate separation occurred in 2011.
Cargill	Cargill's first business of this kind was Cargill Investor Services (CIS) business (f. 1972). This was sold in 2005, but by this time Cargill had created five other such businesses: <i>CarVal Investors</i> (f. 1987, hived-off 2006, assets under management in 2013 \$10bn.); <i>Cargill Trade and Structured Finance</i> (see Table 5); <i>Cargill Risk Management</i> (f. 1994, still apparently in-house); Cargill Energy & Risk Management Solutions (f. 1997, balance sheet status unclear; 'an annual portfolio of \$450mn.' In 2013); and <i>Black River Asset Management</i> (f. 2003), a hived-off commodity-related hedge and private equity fund with \$5.9bn. in assets is under management in June 2013.
Trafigura	Trafigura hived-off <i>Galena Asset Management</i> , a commodity-related hedge and private equity fund in 2003. \$2bn. in assets were under management in 2013 (down from \$2.2 billion in 2012).
Koch	<i>Koch Supply &amp; Trading LP</i> (f. 2001) operates as a subsidiary of Koch Industries undertaking both Koch's proprietary trading of commodities and commodity derivatives as well as selling commodity derivatives and other financial instruments to third parties.
Mercuria	There are no known hived-off Mercuria financial operations.
Noble	In 2001 the group opened a hedge fund vehicle, <i>Noble Investments SA</i> in Zurich. By 2006 this had issued three ETNs linked to commodity indexes. In 2007 the company was acquired by Horizon21 Alternative Investments, a Swiss hedge fund.
Gunvor	There are no known hived-off Gunvor financial operations.
ADM	ADM owned a bank ( <i>Hickory Point</i> ) until 2011 when a majority interest in it was sold. Today it has two brokerages ( <i>Archer Financial Services (AFS)</i> and <i>ADM Investor Services (ADMISI)</i> ). AFS is a subsidiary of ADMISI, f. 1969, which is 'indirectly a wholly owned subsidiary of ADM'. It also (via AFS) indirectly owns <i>Balarie Capital Management</i> , a commodity-related hedge fund founded in 2008. No data on assets its under management is available.
Louis Dreyfus	Louis Dreyfus also owned its own bank, sold in 1985. Around the same time it started the <i>Louis Dreyfus Investment Group</i> . A new strategy was embarked upon in 2007. Half of its energy trading unit was sold to Highbridge Capital (mainly owned by JP Morgan Chase) to create Louis Dreyfus Highbridge Energy. <i>Calyx Agro</i> , a private equity fund focused on buying land in Latin America was founded with 29.3% Louis Dreyfus participation, while another vehicle under direct control of Louis Dreyfus Holdings was set up to buy forestry land. In 2013 this vehicle (EFRG) owned around 9,000 ha. of forest in France and Scotland. Meanwhile in 2008 the financial market operations of Louis Dreyfus Investment Group were re-organized into three funds. One is <i>Eifel Investment Group</i> which was then hived-off in 2011 under the leadership of Louis Dreyfus's then chairman and CEO. It currently has \$600mn. in assets under management. The second is <i>Edesia</i> , which remains under the direct control of Louis Dreyfus Holdings and which in 2013 had \$2.7 bn. in assets under management. The third is the <i>LD Alpha Fund</i> , a hedge fund with \$2.4bn. in assets under management in 2012. Louis Dreyfus Highbridge Energy was sold in 2013 to DF Energy Acquisition, whose owners include a scion of the Fribourg family (former owners of Continental Grain).

Sources: As for Table 2

in ownership terms and those that are not. Moreover, a relatively high share of one type of asset is not clearly associated with a markedly low share of the other.

As in the case of debt, the reported data tells only part of the story. A part of trading houses' derivatives trading – and financial operations generally – is hived off to independent entities, while joint venture formats are used to operate certain productive assets. Joint ventures will not be considered in this paper, except to list in the Appendix Table where they have become vehicles for acquisitions and mergers, but independent financial operations are listed in Table 7. Interestingly, a large number of the 'independent' operations listed have only been hived-off operationally; to date they still contribute undifferentiated data to their parents' balance sheets. However Glencore, Noble, ADM and Louis Dreyfus have entirely spun-off one or more financial operations.

As Table 7 shows, hived-off financial entities have been a feature of trading house operations from the period's outset. Indeed, they have been a feature of those of some since as early as the 1970s.<sup>20</sup> The main feature of the post-2004 period is that more of these entities have been formally spun-off, supported by external investment. However, the degree to which trading houses engage in arms'-length financial activity still varies substantially. Up to 2013 neither Gunvor nor Mercuria had ever had such operations, while Noble, Vitol and Glencore no longer had any

on their books. The two trading houses remaining most active in this field have been Cargill, with at least \$16bn. in assets under management and – from around 2007 – Louis Dreyfus (with around \$5.7 bn. in 2013). Note that Table 6 shows these two companies to also have relatively high levels of own account derivative assets. Note also that Cargill has been to date the only trading house of the top 10 to register with CFTC as an OTC swaps dealer. CFTC requires registration if a dealer's swap trades exceed a notional value greater than \$8bn. over a 12-month period.<sup>21</sup>

Again the data does not clearly follow the financialization hypothesis. While the most financialized trading house in terms of specialization in purely financial activities appears to remain the privately-owned Cargill, less expansion is evident among companies with more financialized ownership forms, although these were also frontrunners in the field prior to 2008.

### Structure of corporate returns

Data on the contribution of financial activities to corporate revenues and profits is sparser than other data reviewed so far. This is because, where trading houses do report segmentally, they generally designate segments in terms of groups of commodities rather than of types of activities. Note moreover that even in the three cases where data on financial activity is broken out in corpo-

<sup>20</sup> According to Morgan (1979, 177) from the 1970s 'the big grain houses all set up as brokers and began taking orders from members of the public who wanted to speculate in futures. Money from brokerage clients was held on balance sheets as deposits'. The same applied to the precious metals houses and, to a more limited extent, to traders of tropical products (Chalmin 1987, 145, 195-6). Prominent amongst 'members of the public' were institutional investors, attracted to futures markets for the first time through the international monetary disorder of the time (Chalmin 1987, 35-36).

<sup>21</sup> Other non-top 10 trading houses registering as of June 2014 were ED&F Man Capital Markets, Mitsubishi and Mitsui. J. Aron & Co. (the physical commodity trading arm of Goldman Sachs) also registered. Some top 10 traders may have avoided registration by redesignating their swap contracts as futures. Others including Glencore and probably Noble are barred in any event from participating in OTC deals with some customers due to their poor credit ratings. For the history (dilution) of CFTC's swap registration threshold rule see Brash and Schmidt 2013.

**Table 8. Contributions of financial activities to corporate revenue and profit (moving averages)**

	% of Revenue		% of Pre-tax profit	
	2004-08	2009-13	2004-08	2009-13
Cargill	4.47 $\times$	3.45 $\times$	25.83 $\sigma$	7.57 $\sigma$
Noble	0.97	reporting discontinued	4.28	reporting discontinued
ADM	0.19	0.18	9.17	1.94 $\dagger$

*Key:*  $\times$ : full years for 2004-06; half-yearly data for 2007 and 2008;  $\sigma$ : 2011-13 only. Profit data adjusted to reflect a segmental loss in 2012;  $\dagger$  Profit data adjusted to reflect a segmental loss in 2009. *Sources:* As for Table 1.

rate accounts (Table 8), it is not distinguished from activities that can be considered as unambiguously ‘productive’.

Table 8 shows a substantial contribution by financial activities to pre-tax profit, particularly in 2004-08 and for Cargill. Returns on financial ‘sales’ declined steeply in the second half of the period, influenced *inter alia* by losses for ADM in 2009 and Cargill in 2012. In interpreting these results it should be recalled that, amongst the top 10 trading houses, Cargill and Noble had amongst the largest shares of derivative holdings in total assets while ADM’s level of such holdings was within the norm for the group as a whole (Table 6). The results for ADM are perhaps therefore a better guide to the likely pattern for the top 10 trading houses as a whole.

This data, more than any other reviewed so far, supports the financialization hypothesis. However, consistently with data on leverage, shares of financial assets in total assets and on hived-off financial activities it also suggests that the financialization of trading house business models may have peaked around 2008 and that its significance has subsequently plateaued or even fallen back. Moreover the company for which financial

activities were most important did not have a ‘financialized’ form of ownership.

If ‘productive’ activities are rarely if ever differentiated for reporting purposes in company accounts, ‘trading’ activities sometimes are. Cargill, ADM, Glencore and Gunvor all report on activities that may be taken to represent physical commodity trading in the strict sense.<sup>22</sup>

The four trading houses whose data is reported in Table 2 fall into two groups on this parameter. For more ‘asset heavy’ (agricultural) traders such as Cargill and ADM, trading consistently accounts for around 40% of revenue and a quarter to a third of profit. For asset-light (metals) traders like Gunvor and Glencore up to 2008 it accounts for almost all of revenue and half to three quarters of profit. The data for Glencore from 2009 reflects some years when the company remained ‘asset-light’ and other years following the Xstrata takeover when this was reversed. The data above suggests that while trading remains a central activity of all trading houses (an obser-

<sup>22</sup> In Glencore’s case this is reported as ‘Marketing’, in Cargill’s as ‘Origination and processing’, in Gunvor’s as ‘Trading’ and in ADM’s as ‘Agricultural services’.

**Table 9. Contribution of physical commodity trading to corporate revenue and profit (moving averages)**

	% of Revenue		% of Pre-tax profit	
	2004-08	2009-13	2004-08	2009-13
Glencore	n/a	90.01	52.73 $\alpha$	42.96
Cargill	36.71 $\beta$	43.03 $\dagger$	33.76 $\beta$	36.88 $\dagger$
Gunvor	n/a	99.44 $\rho$	n/a	75.28 $\rho$
ADM	44.23	45.54	24.40	30.75

*Key:*  $\alpha$ : 2007 and 2008 only;  $\beta$ : full years for 2004-06; half-yearly data for 2007 and 2008;  $\dagger$ : 2011-13 only;  $\rho$ : 2011 and 2012 only. *Sources:* As for Table 1.

vation further supported, at least anecdotally, by almost all the top ten having been involved as perpetrators or victims of a classic market squeeze at some time during the period<sup>23</sup>), some trading houses have other activities that are significant or perhaps even equally central. While at least one more company fell into the latter category in 2013 than did so in 2004, this trend predated the great commodity boom.

### Acquisitions and divestments

The final aspect of trading houses' businesses examined here is that of their acquisitions and divestments during 2004-13, and whether these point in the direction of a greater emphasis on financial, 'productive' or trading activities, or in some other direction.

<sup>23</sup> The most notable alleged squeezes of the period are for oil storage in 2009 allegedly involving Vitol, Koch, Gunvor and Trafigura; for cotton in 2008, 2011 and 2012 all of which allegedly involved Louis Dreyfus (with Cargill, Glencore, and Noble as victims at different times); for sugar in 2009 and 2013, allegedly involving Cargill (with Noble, Dreyfus and others as victims); and for aluminium delivered through LME metals warehouses starting in 2010 and lasting up to the end of the period, allegedly involving Glencore, Trafigura and Noble amongst trading houses as well as certain investment banks, particularly Goldman Sachs. See Kelly (2014, 141-56) on the alleged LME metals warehouse squeeze of 2010-, as well as a near-identical earlier one in 1992-93.

The data reported in Table 10, and the Appendix Table on which it is based, has several limitations. Firstly, not all acquisitions, mergers and divestments that companies make will be publicised; and even when they are their financial terms may be withheld. This may be because they are small or, more frequently, because publicizing them is too sensitive for one or another party involved.<sup>24</sup> Secondly, because of the benefits of retaining the same cut-off years for this data as for that on other variables discussed, some significant deals just after the period are excluded.<sup>25</sup>

<sup>24</sup> In practice, different companies have different approaches to releasing information on M&As, with Cargill perhaps at one end of a transparency continuum in this area and Mercuria, Gunvor and ADM at the other.

<sup>25</sup> 2014 has seen some large deals, including Vitol's purchase of Shell's distribution and retail business in Australia for \$2.6bn.; Glencore's sale of Las Bambas copper mine in Peru for \$5.85bn. (enforced by the Chinese regulator) and subsequent purchase for \$1.35bn. of Caracal Energy (Chad) from Griffiths as well as its planned share buy-back; Koch's purchase of Petrologistics for \$2.6bn.; Mercuria's purchase of JP Morgan's physical commodities business for \$3.5bn.; Noble's sale of a majority stake of its agricultural commodities business to Cofco (PRC) for ca. \$1.5bn. plus assumption of \$1.9bn. in debt; and ADM's purchase of Wild Flavors for \$3.1bn. including debt. Also excluded from the table are some very small publicized deals and deals where transfers of assets between companies were designed from the outset to be temporary.

Table 10. Trading house merger and acquisition (divestment) activity, 2004-13

	A	B	C	D	E	F	G	H	I	J	K
	trading vw	primary	primary procg	storage	distribn	industri	fincl	total N	known buys (cost, \$bn.)	known sales (cost, \$bn)	preferred MO
Vitol	1	5 (1)	2	1	9 (1)	4 (~\$1.1)	1 (\$0.74)	6 of 10 known deals involved JVs, 4 with Private Equity, 2 with SWFs			
Glencore	1	10 (1)	2	1	(1)	13 (~\$60)	2 (\$8.6)	at least 2 involved conversion of loans to shares; at least 4 involved share swaps			
Cargill	2	2 (1)	6 (4)	1	9 (3)	8 (~\$4.5)	7 (\$2.65)	at least 12 of 20 buys involved outright sole purchases. NB cost data excludes purchase and sale of Mosaic stake			
Trafigura	1	1 (1)	2 (1)	2	6 (2)	5 (~\$2.5)	2 (~\$1.7)				
Koch	(1)	(1)	1 (1)	3	4 (3)	3 (~\$25)	3 (~\$2.25)				
Mercuria	1	(1)	(1)	(1)	1 (1)	1 (\$0.03)	1 (\$0.16)				
Noble	3 (2)	3	1	1	(2)	7 (\$2.78)	3 (~\$3.8)				
Gunvor	4 (1)	2	1	7 (1)	5 (~\$1.5)	0					
ADM	1	5	2	2 (1)	1 (1)	1 (~\$1)	1 (\$0.45)	ADM very rarely discloses terms of deals			
Louis Dreyfus	1 (2)	3	4 (1)	1	10 (3)	4 (\$1.16)	1 (\$0.41)				
Totals	5 (3)	25 (6)	29 (8)	10 (2)	5 (0)	15 (4)	1 (5)	90 (28)	51 (~\$100)	21 (~\$20.76)	

Key: A (Trading) includes physical and derivatives; B (Primary) includes oilfields, mines, agricultural land, etc; C (Primary processing) includes refineries, power generation, ferroalloys, asphalt, pulp, beefpacking and milling, crushing, ginning where these are free-standing; D (Storage) includes terminals, pipelines, ports, tankers, etc.; E (Distribution) includes retail operations; F (Industrial) includes secondary processing including fertilizer, feeds, glassmaking, steelmaking and chocolate production; G (Financial) includes refinancing of own operations through share sales; H (Total N) gives total N of known deals (acquisitions and divestments); I (Known buys) gives N of acquisitions for which the cost is known, followed in brackets in the sum of their known cost in \$bn.; J (Known sales) gives N of sales for which the cost is known, followed in brackets by the sum of their known cost in \$bn. K (Preferred MO) gives the author's interpretation of the preferred modus operandi followed by the acquiring company

With these qualifications, Table 10 shows that during 2004-13 well over half of acquisitions and half of divestments by leading trading houses were in the primary production and primary processing segments of value chains. Because of the relatively high unit cost of investments in primary production, these segments' combined shares of acquisitions and divestments would be even greater in money terms – although a large proportion of them would be accounted for by a single acquisition, that of Xstrata by Glencore. Although Glencore and Cargill account for a disproportionate share of both acquisitions and divestments in these segments, all the top ten trading houses made at least one acquisition in one or another of them.

By contrast, while there are also a good number of acquisitions in the industrial segment, only a minority of trading houses made them with Cargill and Koch, companies with already-established industrial profiles, accounting for three-quarters of all acquisitions. Thus there was clearly no general shift into downstream industrial integration. Also notable is that the financial segment was the only one where divestments exceeded acquisitions (for reasons discussed earlier) and that there were relatively few acquisitions of trading businesses – although the acquisition of JP Morgan's physical commodity trading business by Mercuria followed not long after the close of the period and mergers and acquisitions during the period between trading houses outside the top ten were quite common.

Table 10 is also interesting in that it shows some trading houses to be much more active than others in acquisitions. While Cargill and Glencore easily top the acquisition list, six companies make less than 10 acquisitions, including all the other oil traders except Glencore.

Domination by the primary production and primary processing segments of mergers and acquisitions during the period is not particularly surprising. With the exception of crude oil and some mineral ores, the commodities bought and sold by the companies considered here are traded only in forms conferred by primary processing. Thus, attempting to increase market share for these commodities must involve acquiring a trading operation with processing facilities or acquiring free-standing primary processing plant. Hence acquisition of primary processing plant will probably dominate trading house acquisitions regardless of the historical period examined.

As for commodity traders' backward integration into primary production, this has tended to be historically confined to periods of high demand, as observed in Hopkins and Wallerstein's (1986) early contribution to the commodity/value chain literature. By contrast, periods when demand recedes are characterised by vertical disintegration. Taken together with the data in Table 6 on shares of corporate assets represented by property, plant and equipment, those reported in Table 10 are probably insufficient strong to conclude that backward integration during 2004-13 represented a secular rather than cyclical trend.

## CONCLUSION

Section three of the paper spelt out the main features of the business model followed by leading trading houses during the 20<sup>th</sup> century, together with the minor variations introduced to this model by oil traders – who only emerged on the scene in the 1970s.

For the period 2004-13, Section four of the paper considered evidence on five possi-

ble dimensions of corporate financialization that may have modified these models, two possible dimensions of corporate ‘productivization’ that may have done so, and some possible indicators for the ongoing importance of trading in the strict sense within trading house businesses.

The dimensions of financialization considered were ownership, leverage, share of derivative financial assets in total assets, scale of hived-off financial activities, and shares of financial activities in revenue and profit. Financialization in terms of stock market ownership’ of trading houses applied to only three of the top ten trading houses while two of these three were already quoted prior to the beginning of the period. Where companies had been listed, external financial actors had achieved an important foothold however. Nevertheless financialization in terms of ownership was not systematically associated with more extensive or extreme examples of ‘financialized’ practice in terms of certain other parameters. Indeed, there was a tendency for listed companies to have significantly lower leverage ratios than other trading houses – approximating S&P 500 norms rather than historical trading house ones. On the other hand, lowered leverage meant that listed trading houses exhibited more financialized practice than others in terms of recourse both to public debt security markets and to novel off-balance sheet sources of funding. But hived-off financial activities were no more important for them than for other trading houses, their share of derivative financial assets in total assets did not stand out and nor did their shares of financial activities in revenue and profit.

It is clear from the data reviewed that all trading houses generated some evidence of greater financialization during 2004-13. However, the extent to which the central elements

of their business models underwent fundamental change as a result is doubtful. The only evidence suggesting any fundamental change wrought by financialization concerns financial activities’ share of trading house profit. Although the data here is confined to three companies, the shares reported are strikingly high. However even in this case – as in the case of most other indicators examined – financialization appeared more evident in 2004-08 than it was in 2009-13.

The dimensions of possible ‘productivization’ considered were shares of property, plant and equipment (PPE) in total assets and a segmental concentration of trading houses’ mergers and acquisition activity on primary and industrial production. Industrial acquisitions proved to have made up about 17% of total trading M&As during 2004-13. But three quarters of industrial acquisitions were accounted for by only two companies (Cargill and Koch) while only two other companies made industrial acquisitions at all. Moreover Cargill actually divested its largest industrial asset (The Mosaic Company). Investments in primary production were meanwhile more numerous than industrial ones, at around a quarter of the total. Such levels are however more suggestive of a type of backward integration typical of commodity booms, rather than of a new secular trend. Shares of PPE in total assets meanwhile mostly ran at 14-24%, with no clear trend over time. While no relation between PPE asset levels and financialized ownership was evident, oil traders tended to have persistently lower levels.

In other words, evidence for the ‘productivization’ of trading houses was neither widespread nor particularly striking for the trading houses where it could be found. Thus, while there was some evidence for trading houses generally for ‘financialization around the edges’ during the period, and possibly of an



advancing trend of financialization during 2004-08, which later plateaued or subsided, ‘productivization’ was too patchy to be considered significant.

Paralleling the data on PPE, that on the shares of trading activities in revenue and profit meanwhile point to a bifurcation of trading houses between those for whom trading completely dominated all other activities and those for whom it was merely a central activity alongside others. Trading’s importance, like that of PPE in total assets, covaried with trading houses’ dependence on oil trading with oil traders more exactly reproducing the 20<sup>th</sup> century model.

Considering the data as a whole, trading houses’ business models were generally more financialized in 2013 than in 2004, but for most this development does not seem to have brought about fundamental changes. Moreover the expected link between changes in business models and the literature’s most familiar indicator of financialization, namely ‘stock market ownership’, played out strikingly only in an unexpected way. Listed companies – together with Cargill – drove down their leverage during the period from levels historically resembling trading house norms to ones resembling S&P 500 ones. The question remains of why oil traders, who now dominate commodity trading generally, are more immune to business model changes than others. This probably relates to the fact that the market for oil, unlike that for a number of other commodities, still remains less than transparent – thus diminishing the impact of financial relative to other types of resources and assets.

## REFERENCES

- Ammann, D. (2009). *The king of oil: The secret lives of Marc Rich*. New York, St. Martin's Press.
- Berne Declaration. (2013). *Commodities: Switzerland's most dangerous business*. Lausanne, Berne Declaration.
- Blas, J. (2013). Report on commodity trading backfires. *Ft.com*, 12 May.
- Brash, S. and Schmidt, R. (2013). The story of CFTC compromise. *Bloomberg*, 4 September.
- Broehl, W. (1998). *Cargill: Going global*. Hannover, University Press of New England.
- Brown, K. (2011). Noble shares jump on spin-off prospect. *Ft.com*, 10 November.
- Chalmin, P. (1987). *Traders and merchants: Panorama of international commodity trading*. (Second edition). Chur, Harwood Publishing.
- Copetas, A. C. (1985). *Metal men: How Marc Rich defrauded the country, evaded the law and became the world's most sought-after corporate criminal*. New York, G. P. Putnam's sons.
- Davies, P. and Blas, J. (2008). Talk not action behind mystery credit moves. *Ft.com*, 11 December.
- Deloitte (2013). Trading up: A look at some of the issues facing energy and commodity traders. Zurich, Deloitte.
- Engelen, E., Erturk, I., Froud, J., Johal, S., Leaver, A., Moran, M., Nilsson, A. and Williams, K. (2011) *After the great compliance: Financial crisis and the politics of reform*. Oxford, Oxford University Press.
- Hopkins, T. and Wallerstein, I. (1986). 'Commodity chains in the world economy prior to 1800.' *Review* 10 (1), 157-170.
- Kaminska, I. (2013) Financial intermediation and shadow banking via commodities. *Ft.com*, 28 April.
- Kelly, K. (2014). *The secret club that runs the world: Inside the fraternity of commodity traders*. New York, Portfolio/Penguin
- Meersman, S., Rechsteiner, R. and Sharp, G. (2012). The dawn of a new order in commodity trading. *Oliver Wyman Risk Journal*, Vol. 2.
- McKinsey & Co. (2012). Commodity trading at a strategic crossroads. Working Paper on Risk 39. [www.mckinsey.com](http://www.mckinsey.com)
- Morgan, D. (1979). *Merchants of grain*. London, Weidenfeld and Nicolson.
- Pirrong, C. (2014). The economics of commodity trading firms. *Trafigura*, [www.trafigura.com](http://www.trafigura.com)
- Valiante, D. (2013) Price formation in commodities markets: Financialization and beyond. Centre for European Policy Studies, Brussels.
- Waszkis, H. (1987). *Philipp Brothers: The history of a trading giant*. London, Metal Bulletin Books.
- WTO (2013). *World Trade Report*. Geneva.

Zhdannikov, D. (2014) Trafigura passes baton to the next generation of billionaire traders. *Reuters*, 12 January.

## APPENDIX: TRADING HOUSE ACQUISITIONS, START-UPS AND DIVESTMENTS, 2004-2013 (Detailed list)

	<i>Date</i>	<i>Acquisition (Divestment)</i>	<i>Details</i>
Vitol	2007	buys 50% share Blueknight Energy Partners, oil storage and pipeline business (US)	Blueknight formerly known as SemGroup. The other 50% apparently owned by a US-based Private Equity fund.
	2007	buys majority stake in refinery in Fujairah (UAE) from Fujairah government	no further details disclosed
	2008	outright purchase of Arawak, oil producer	price \$0.08bn.
	2009-2012	outright purchase of one of Petroplus's refineries in Antwerp and a share of one in Switzerland	the Swiss deal was a JV with Belgian-based Private Equity, further details undisclosed
	2010	(divests share of VTTI, oil terminals and storage)	(50% of business sold to Malaysian SOE for \$0.74 bn.)
	2011-2013	buys 40% share in Shell's distribution businesses in Africa	JV with UK-based Private Equity taking another 40%, for \$1 bn. in all
	2013	buys 22.5% share in Bayernoil refinery (DE) from OMV (A)	JV with US-based Private Equity also taking 22.5%, terms undisclosed
	2013	buys 65% share of Porto Sudeste iron ore port (BR) from MMX.	JV with an Abu Dhabi SWF taking undisclosed share, for \$400mn. in all.
	2013	outright purchase of Immingham power plant (UK) from Phillips66	price \$0.2bn.
Glencore	2005	outright purchase of Compania Minera de Sur (BOL), tin and zinc	further details undisclosed
	2006	swaps Russian aluminium interests for 12% stake in Rusal (RUS)	Glencore's Russian aluminium assets valued at \$3.6bn.
	2006	buys 51% stake in Cartagena oil refinery (CO)	price \$0.63bn.
	2007-2010	buys series of stakes in Katanga mining (CDN/DRC), copper/cobalt	giving majority control via earlier proxy purchases of stakes and conversion of loan to shares. Price up to \$1bn.
	2010	outright purchase of Pacorini (IT), LME metals warehouser	price \$0.2bn.
	2010	buys 5% stake in PT Bumi (RI), coal	payment in Glencore shares, face value \$0.2bn.
	2010-2012	purchase of additional stakes in Kazzinc (KZ), zinc from Verny Capital (KZ) and others	giving majority control. Payment in cash and Glencore shares; price up to \$4.6bn.

<i>Date</i>	<i>Acquisition (Divestment)</i>	<i>Details</i>
2011	(sells 16.4% of company via IPO)	(capital injection \$7.9bn.; another \$1.87bn. distributed to existing shareholders)
2011	buys 70% stake in Marcobre (PE), copper, from CST Mining (HK)	price \$0.48bn.
2012	buys controlling stake in Optimum Coal (RSA)	in partnership with Cyril Ramaphosa; price \$1.26bn.
2012	outright purchase of Viterra's (CAN) grain business	price \$3.5bn after disposal of non-grain components
2012-2013	gains majority control over Mutanda Copper Mine (DRC)	via earlier proxy purchases of stakes, conversion of loan to shares and purchase of further stake from intermediary; probable price in all ca. \$1bn.
2012	outright purchase for European ferro-manganese operations from Vale (BR)	price \$0.16bn.
2012	(8% stake in Nyrstar [BE], zinc)	(to meet EU regulatory requirements, price \$0.7bn)
2012-2013	acquires former spin-off Xstrata (mining conglomerate)	Payment in Glencore shares, face value \$44bn. at time of regulatory approval
2013	Buys 25% of Rio Tinto's interest in Clermont coal mine (AUS)	JV with Japanese conglomerate taking another 25% share; price \$1bn. in all.
Cargill	2004 (divests North Star Steel [US], steel producer)	(price \$0.27bn.)
	2004 outright purchase of Nestle's UK and German cocoa grinding plants	further details undisclosed
	2004 contributes 66% share to merger-based formation of Mosaic Company (potash and phosphate fertilizer)	JV with IMC Global (CAN), which fully merged into Mosaic. Mosaic became a listed company. Terms of agreement not disclosed.
	2004 outright purchase of The Duckworth Group (GB), food flavourings	price \$0.07bn.
	2004 outright purchase of Caravelle Foods (CAN), 'beef patty' maker	further details undisclosed
	2004-2005 purchases Finexcor (ARG), beefpacker	staggered purchase of shares, further details undisclosed
	2005 Purchases Seara Alimentos (BR), pork and poultry packer	staggered purchase of shares, further details undisclosed
	2005 outright purchase of Better Beef Ltd (CAN), beef packer	further details undisclosed
	2005 (divests Cargill Investor Services to Refco [US])	(price \$0.2bn.)

<i>Date</i>	<i>Acquisition (Divestment)</i>	<i>Details</i>
2005	outright purchase of food ingredients business of Degussa (DE)	price \$0.69bn.
2005	outright purchase of German chocolate factory from Ludwig Schokolade	further details undisclosed
2005	JV purchase of CDC's palm oil plantations in Indonesia and PNG	30% participation by Temasek (Singapore SWF). Total purchase price \$0.14bn.
2005-2007	Forms JVs with Sagen Construction (US), American Capital and Laminar Direct (US Private Equity) in US; separately with Tesco and Greenergy (UK) in the UK; and separately again with a local company in Brazil to build ethanol plants	further details undisclosed
2006	outright purchase of Clark Cotton (RSA) from Afgri	price \$0.04bn.
2007	outright purchase of LNB (NE), animal feeds	further details undisclosed
2008	(sells cooking oil refinery in India to Louis Dreyfus)	further details undisclosed
2008	(divestment of Teeside gas power station in UK, co-owned with Goldman)	(price \$0.5bn.)
2009	purchase of Yangjiang Port (southern China)	further details undisclosed. Cargill has owned a soyabean crushing plant nearby since 2007.
2010	outright purchase of AWB's grain business (AUS) from Agrium	price \$0.87bn.
2010	outright purchase of Unilever's Brazilian tomato business	price \$0.34bn.
2010	(divests PNG palm oil plantations to New Britain Palm Oil)	(price \$0.18bn.)
2010	(divests Seara Alimenta (BR) to Mafrig)	(price \$0.89bn.)
2010-2012	buys around 50,000 ha. in Columbia	land bought in small parcels via shell companies; purchases revealed by Oxfam.
2011	(divests Finexcor (ARG) to local businessmen)	(further details undisclosed)
2011	outright purchase of Provimi (NE), animal feeds	price \$2.1bn
2011	buys 85% of PT Sorini (starches, Indonesia)	price \$0.27bn.
2012	(divests cultures and enzymes business to Royal DSM [BE])	(price \$0.11bn.)

	<i>Date</i>	<i>Acquisition (Divestment)</i>	<i>Details</i>
	2011-2013	(divests its stake in Mosaic Co to trusts owned by Cargill founding families)	(founding families' trusts pay Cargill with their Cargill shares while the trusts also clear some of Cargill's third party debt. Notional value of the overall deal is \$24.3bn.)
	2013	(merges its Horizon Milling flour milling JV co-owned with CHS [US] with ConAgra's milling business to form Ardent Mills)	(Cargill is paid with 44% of Ardent Mills stock plus about \$0.5bn. in cash)
Trafigura	2010	buys BP's distribution business in five African countries via Puma (oil terminals subsidiary)	price \$0.3bn.
	2010	buys NEM Ltd., LME metals warehouser	further details undisclosed
	2010	buys 8% of Norilsk Nickel. 7.1% of this immediately re-sold to third parties	purchase occurred at a discount, re-sale at a premium. Net price ~\$0.4bn. net
	2010	(divests 25% share in Minera Volcan [PER] zinc mine)	(price \$0.4bn.)
	2011-2013	(divests in all 30% of Puma Energy to Sonangol Holdings, another 6% to unnamed private investors and 2% to Cochan)	(Sonangol Holdings is the Angolan oil SOE. Cochan is a private Angolan company. By December 2013 Trafigura left with 49% of Puma. Divestitures raised \$1.3bn. in all)
	2012	buys undisclosed share in NOCL refinery (Tamil Nadu, IND)	price \$0.13bn.
	2013	buys Ausfuel and Neumann Petroleum (AUS), petroleum retailers via Puma	price \$0.8bn.
	2013	jointly buys 65% stake in MMX's Batista iron ore port (BR)	undisclosed share of stake goes to an Abu Dhabi SWF. Total price \$1bn. including debt.
Koch	2004	(divests 50% share in Entergy-Koch [energy trader] to Merrill Lynch)	(price ~\$0.4bn.)
	2005	(divests asphalt business to SemGroup)	(price ~\$0.5bn.)
	2005	(divests LNG business to OneOK)	(price \$1.35bn.)
	2005	buys Georgia-Pacific (paper, lumber, gypsum, US)	price \$13.2bn. plus \$2.6bn. in debt. \$7.5bn. of this financed by loan from Citibank
	2011	buys J&H Bunn (UK), fertilizer manufacturer and trader	further details undisclosed
	2012	buys 44% stake in Guardian Industries (glassmakers, US)	price \$1.5bn.
	2013	buys Molex (electrical connectors, US)	price \$7.2bn.

	<i>Date</i>	<i>Acquisition (Divestment)</i>	<i>Details</i>
Mercuria	2012	(divests 50% of its Vesta oil terminals business to Sinopec [PRC])	(price \$0.16bn.)
	2013	buys 2.7% of CAA (iron ore, Malaysia)	part of a wider deal in which Venus Investment Fund and Broad Resources Investment also bought stakes. Total value of deal \$0.03bn.
Noble	2007	buys unnamed sugar/ethanol mill in Brazil	price \$0.07bn.
	2009	increases its stake in Gloucester Coal (AUS) to a controlling (65%) one	price \$0.39bn.
	2009	(sells 14.5% of the company to CIC [PRC SWF])	(price \$0.85bn., but this includes some shares owned by Elman family trust)
	2010	buys PT Henrison palm oil plantation (Indonesia)	price \$0.16bn.
	2010	buys RBS Sempra's retail energy unit	price \$0.32bn. plus \$0.27bn. in debt
	2010	buys Catamduva and Potirendaba sugar mills (BRA)	price \$0.35bn. plus \$0.6bn. in debt
	2011	buys Worldwide Warehouse, LME metals warehouser	further details undisclosed
	2011	(sells Donaldson Coal [AUS] to Gloucester Coal)	(price \$0.39bn.)
	2011	(sells 52% of its stake in Gloucester Coal to Yanzhou Coal [PRC])	(price \$2.12bn. in cash and shares plus a 'capital return' of \$0.42bn.)
	2011	(sells 1.2% of company to Korean Investment Corporation)	(price \$0.11bn., but this includes some shares owned by Elman family trust)
	2013	buys option to purchase Clarendon Alumina Production (JAM) plus obtain offtake agreement	price \$0.12bn
	2013	buys unspecified stake in X2 Resources	price \$0.5bn. Private Equity fund TPG said to have made a matching investment at the same time. According to a report in ft.com (07.11.14), Noble had still not made a payment to X2 a year later.
	Gunvor	2009	buys 30% share in Lundin Petroleum's Lagansky Caspian Sea exploration bloc
2009		buys Castor Petroleum and assumes its 17.7 stake in Petroterminal de Panama	further details undisclosed
2011		forms a JV (Montlink) with Volga Resources (LUX, apparently controlled by Timcenko) to a make loan convertible in shares to Lonestate Assets (RUS) to buy a 51% share in Kolmar coal mine (RUS)	value \$0.1bn.; eventually converted into shares



	<i>Date</i>	<i>Acquisition (Divestment)</i>	<i>Details</i>
	2011	buys a 33% stake in Signal Peak Energy (coal, US)	price \$0.4bn.
	2012	increases its stake in Kolmar (qv) to 60%	price ~\$0.4bn.
	2012	buys refineries in Ingolstadt (DE) and Antwerp from Petroplus	price \$0.16bn.
	2013	(the JV with Lundin holding the Lagansky bloc [qv] sells a controlling stake to Rosneft. All of Gunvor's stake apparently acquired by Rosneft)	(further details undisclosed)
ADM	2004	buys port terminal in Rotterdam	further details undisclosed
	2006-2007	in Wilmar's complex takeover of the Kuok Group, ADM's existing stake in Wilmar Holdings and in various JVs with Wilmar is transformed into a 6.7% stake in Wilmar International and a 19.6% stake in Wilmar Holdings	the deal is financed through a series of share and asset swaps. Further details not known
	2008	forms Stratas Food JV (packaged oil products) with Associated British Foods	further details undisclosed
	2009	buys Schokinag-Schokolade-Industrie-Hermann (DE)	further details undisclosed
	2009	buys oilseed processing assets of ViaChem Group (CZ)	further details undisclosed
	2011	buys Elstar Oils, rapeseed processing and biodiesel (POL)	further details undisclosed
	2011	buys three soybean crushing plants in India from GeePee Agri and Madhur	further details undisclosed
	2011	sells majority stake in Hickory Point Bank	further details undisclosed
	2012	buys port terminal in Para (BR)	further details undisclosed
	2012	(sells its 23% stake in Gruma (tortilla, MEX), together with smaller stakes in various JVs with Gruma)	(price \$0.45bn)
	2012-2013	acquires an eventual 25% stake in Graincorp (AUS) in the course of a takeover attempt finally blocked by the Australian government	price ~\$1bn.
	2013	buys Nutrimix Feed and Granoss, feeds, both of Puerto Rica	further details undisclosed

	<i>Date</i>	<i>Acquisition (Divestment)</i>	<i>Details</i>
Louis Dreyfus	2007	buys Tavares de Melo (sugar milling and alcohol, BRA)	price \$0.48bn.
	2007	(sells 50% of its energy trading business to Highbridge Capital Management, a hedge fund mainly owned by JP Morgan Chase)	further details undisclosed
	2008	buys cooking oil refinery in India from Cargill	further details undisclosed
	2008-2009	forms JV with Kencana (Indonesia) to run palm oil operations	further details undisclosed
	2009	forms Biosev with Santelisa Vale (sugar, BRA)	pays \$0.46bn to obtain 65% control
	2010-2011	buys SCPA-SIVCA (west African fertilizer and pesticide distribution business of a French SOE)	further details undisclosed
	2011	buys Macrofertil (fertilizer, BRA)	further details undisclosed
	2012	forms Green Eagle Group JV with Rajawali Corp. (Indonesia) to operate palm oil plantations.	further details undisclosed. (Louis Dreyfus withdrew from the JV, which operated 50,000 hectares in all, in 2014)
	2012	buys Imperial Sugar Co. (US)	price \$0.08bn. plus \$0.12bn. in debt
	2012	buys a 0.5% stake in Felda (palm oil, Malaysia) via the latter's IPO	price \$0.02bn.
	2012	buys Ecoval , dairy trader, from Prominter (BE) and CV Datrex (NE)	further details undisclosed
	2013	(sells 25% stake in Biosev via an IPO)	the IPO raises \$0.41bn.
	2013	(sells Louis Dreyfus Highbridge Energy, see Table 2)	further details undisclosed

Sources: as for Table 2