

Capital for Large Scale Agriculture: An Australian Perspective

Allen & Lureck: family farm or corporate?

- Scale
- Existing and changing climate patterns and
- Irrigation and technologies that insulate production from climate
- Analysis and use of big data to inform nimble decision making

Within Corporate Investment

- Patience
- Target rate of return
- Tolerance of return volatility
- Other objectives such as food security, and
- Bundle capital as part value chain formation (alignment / entrepreneurial intent)?

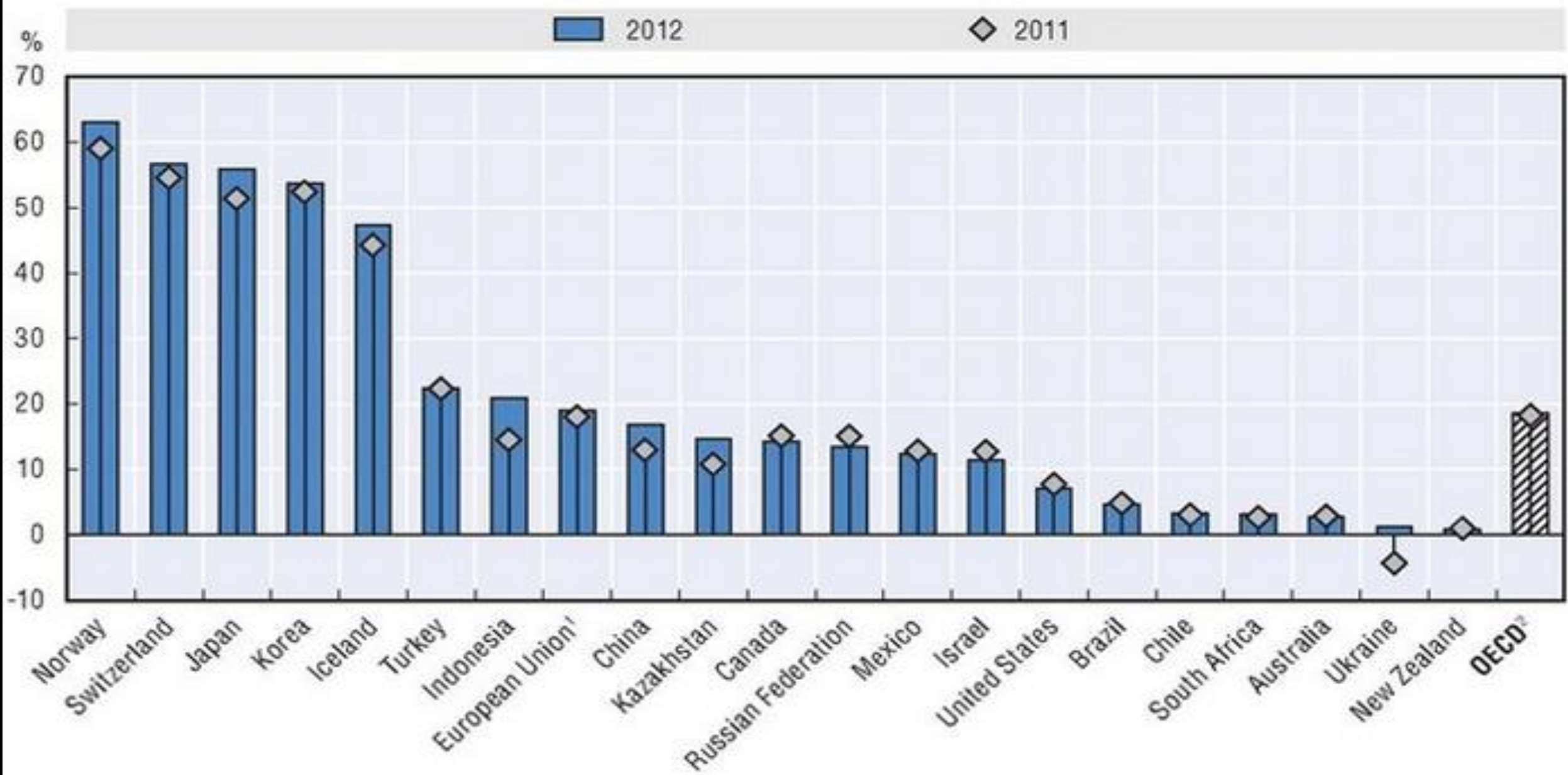
Scale: Australian Farms are big

Number of farms and area for selected countries and years

Source: Statistics Canada, 2006

Country	Census year	Farm Number	Area on farms ('000 acres)	Average farm size (acres)	Total land area ('000 acres)	Area of farms as a percentage of total land area
Canada	2001	246,923	166,802,197	676	2,278,502	7.3
Canada	2006	229,373	167,010,491	728	2,278,502	7.3
Argentina	2002	295,485	425,273,427	1,439	676,236	62.9
Australia	2001	140,516	1,126,091,533	<u>8,014</u>	1,898,296	59.3
Brazil	1996	4,859,865	873,773,389	180	2,089,604	41.8
China	1997	193,445,894	321,326,863	2	2,304,806	13.9
France	2000	663,810	73,877,143	111	135,930	54.3
United Kingdom	2000	233,250	40,839,774	175	59,521	68.6
United States	2002	2,128,982	938,268,725	441	2,263,179	41.5

Producer Support Estimate by country, 2011 and 2012 (percent of farm receipts)



Scale:

- Low level of farm subsidies +
- Poor natural resource endowment – old soils and dry / variable climate +
- Land settlement patterns =
- Largest average farm revenue globally
- Large scale necessary for corporate investment (\$20M min)
- Big farms more productive
 - Lower unit costs
 - Better tools for management decisions
- Top 25% twice the average profit, most of its investment

Naturally variable climate

Highly variable on the eastern part of the continent:
El nino / la nina + mountain rain shadow effect

North, more stable, but dry; NW variable. All getting wetter

South West, stable, but drying

Historical peak to trough ratios of selected world river systems

Country	River	Ratio Between the Maximum and Minimum Annual Flows
Brazil	Amazon	1.3 [^]
Switzerland	Rhine	1.9 [^]
China	Yangtze	2.0 [^]
USA	Potomac	3.9 [^]
South Africa	Orange	16.9 [^]
Australia	Murray	15.5 [^]
Australia	Hunter	54.3 [^]
Australia	Darling	4705.2 [^]
Australia	Namoi (EOS*)	139.2 ^a
Australia	Gwydir (EOS*)	46.15 ^b
Australia	Condamine (at Warwick)	104.8 ^c
Australia	Macintyre (at Goondiwindi)	28.23 ^d

Historical River Murray System Annual Inflows 1891 - 2012

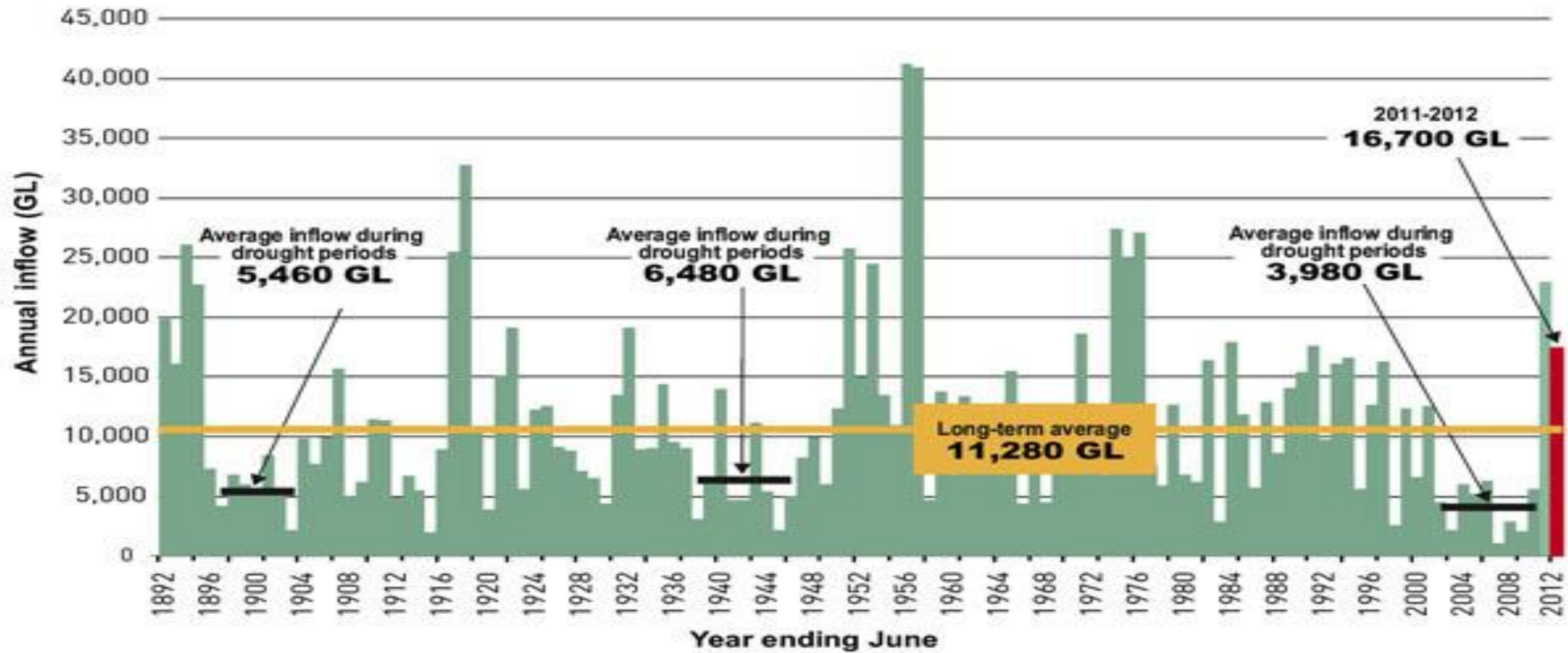


Figure 11. Historical River Murray System annual inflows from July 1891 to June 2012 (modelled current conditions, including inflows to Menindee Lakes and excluding releases from the Snowy Mountains Scheme)

Irrigation is Important to Australian Agriculture, 2004

Total irrigated area	2.5M ha
Proportion of Australian area	<1%
Water diverted for irrigation	16,660GL
Proportion of water used	67%
Irrigated farm gate revenue	\$9.6B
Proportion of total agricultural production	28%
Proportion of total agricultural profit	51%

Location: Murray Darling Basin System



Pendulum of Factors

- Scale favours corporate investment
- High levels of irrigation suggests corporate investment
- Existing climate variability and climate change favours owner operator
- (Note: many large family farms (up to 100K ha), adopting corporate structures)
- Result:
- Pattern of corporate investment in good rainfall areas with / or irrigation
- Not much corporate broadacre investment in less reliable rainfall or with no irrigation
- In the north, extensive holdings of cattle stations (largest 1M sq.km, 500K head, 860M market cap); lot of corporate ownership / operation
- spatially diverse for drought mitigation – to supply feedlots and abattoirs

Corporates

- Allen & Linklater survey (2014): largest barrier to investment is variable returns (72%)
- input costs (61%),
- tax (44%),
- government decision making (31%),
- regulatory burden (28%),
- the value of the Australian dollar (8%) and the
- lack of investment opportunities (7%)
- Heavily invested in post farm gate agribusiness

Foreign Ownership of Australian Agribusiness in 2010

Sector	Degree of Foreign Ownership
Grain trading and storage	40-55%
Dairy processing	50%
Sugar processing	60%
Red meat processing	40%
Pork processing	25%
Grain / oilseed processing	65-90%
Poultry processing	0%
Vegetable and cotton processing and beef feedlots	Predominately foreign

Rapid growth in Foreign investment in farmland

- AUD\$8M in 2005/06
- AUD\$100M in 2006/07
- AUD\$3B in 2008/09

Large and growing corporate appetite for land investment: \$4B (2011)

Fund	Investors	Commodity	Funding goal (\$M)
Agri Fund	Prime Ag Ltd (listed), Australia's Future Fund, and <u>US hedge fund</u>	Cropping	600
JPT Capital Agrifund	<u>Mauritius, Western Europe</u>	Wheat	80
Westchester	<u>Swedish SWF and US pension funds</u>	Cropping	500
Macquarie	<u>European and US</u>	Cropping, dairy and pastoral	1700
Warakirri Asset Management	Superannuation funds and charities in Australia	Dairy and cropping	160
Sustainable Agriculture Fund	Domestic superannuation funds	Cropping, dairy and pastoral	350
Laguna Bay Pastoral Company	Open to domestic <u>and offshore</u>	Cropping	800
RM Williams Agricultural	<u>Jersey (Channel Islands), US, PNG and domestic</u>	Poultry, pastoral, carbon	140
Hassad	<u>Qatar SWF</u>	Sheep, cropping	100
TFS Corporation	<u>Middle Eastern SWF</u>	Timber plantations	300

Low land prices

- Compared to comparable exporters (Canada , US)
- Falling AUD
- 'Wall of money' 2015

Average Investment Yields and Risk: T Bills, Farmland and Stock Markets* (1990 – 2005)

	Average Yield	Standard Deviation	Coefficient of Variation
Risk-Free Rate (T Bills)	5.6%	0.0%	-
Australia Farmland	9.8%	5.4%	0.55
Canada Farmland	5.9%	3.3%	0.56
NZ Farmland	14.4%	16.3%	1.13
US Farmland	8.5%	4.4%	0.52
Australia*	8.5%	18.3%	2.15
Canada*	9.3%	22.6%	2.43
New Zealand*	6.4%	26.8%	4.19
France*	8.5%	19.2%	2.26
Germany*	6.6%	24.4%	3.70
Italy*	6.1%	22.8%	3.74
Hong Kong*	9.1%	39.2%	4.31
Japan*	1.0%	26.6%	26.60
UK*	5.9%	15.8%	2.68
US*	9.4%	18.7%	1.99

Australia is also institutionally attractive

- Sound legal system
- Low sovereign risk
- And
- Low land prices
- Allen Linklater survey (2014):
 - proximity to markets (76%)
 - quality of infrastructure (67%)
 - surplus production for export (61%) and
 - Free Trade Agreements (53%)

BUT, low level of Australian investment

- 4th largest pension scheme in the world
- 0.3% invested in agriculture
- Wary of chequered history of corporate investment
- Need for indices for transparency of performance
- Higher returns demanded by Australian investors
- Agri Fund (2012) 13% vs Swedish pension (AP2) fund 7%

Different forms of corporate investment

- **Passive**
- Lease
- Westchester: (US teachers' pension fund); over \$1B ag assets
- lease of 5%; suits farmers able to gain large scale economies
- in good rainfall / irrigation areas
- Sale and lease back ~ \$1b this year. Established businesses (poultry), often with irrigation (vineyards and almonds)
- Passive equity partnership model:
- MG facilitation of \$20M Swedish pension money for selected members

Continued ...

- **Own and manage**
- Lowest return: SWF – food security. Hassad Australia. 250,000 ha crops and livestock
- Production for own supply chains: Wellards. 50,000 ha in WA crops and livestock
- Manage for foreign investors: Macquarie's Lawson Grain. 50,000 ha
- Single commodity producer: Cubbie (92,000 irrigated and dryland cotton) / KIA, irrigated, predicated on further land release

Continued ... Own and manage

- Listed: Generally struggled. Often below NAV. History of delisting
- PAG (2007-13) \$350M. Flood damage, 1/4ly returns, sub scale hubs, achieved production targets in good years after establishment
- Manage for Australian pension funds: Warakirri DIRT (1996-2006). 35,000 ha. Spatially diverse, grain only. Achieved top 25% like return; takes time
- Specialist aggregators of small farms for big buyers

Growing productivity divide: need for capital

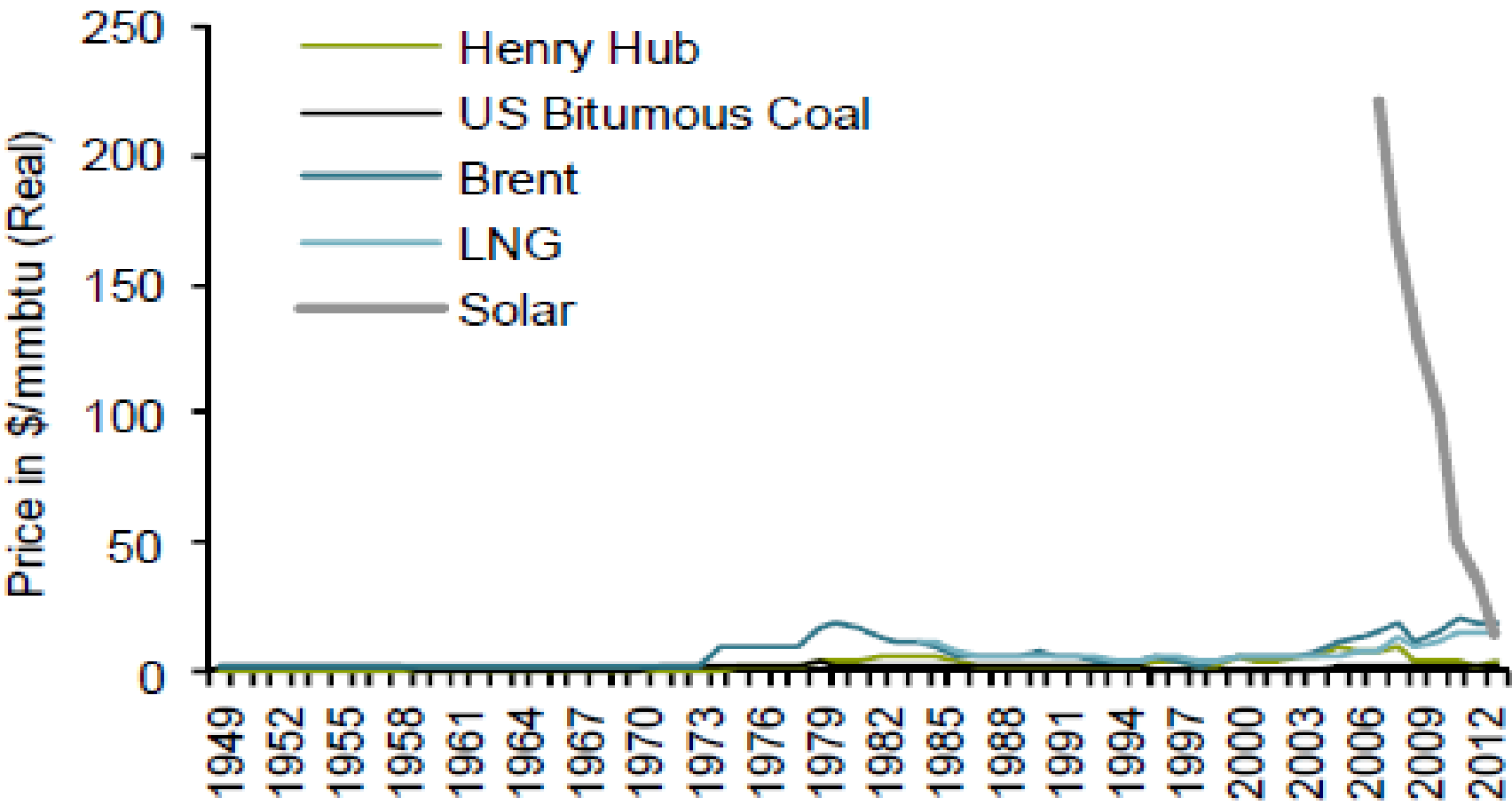
- Between those with scale and technology vs the rest
- Corporates and big family farms vs the rest
- Top 25% generated 55% GV and 80% profit
- Big family farms do better than corporates (~ 4%)
- Flatter management, less overheads, more flexible
- BUT
- Rate of industry consolidation slowing
- Evidence of capital constraints:
- Bank finance drying up: Stressed balance sheets and succession
- Lease market is not as developed as US and EU (NCREIF?)

Where's the money to come from to lift productivity?

- In good rainfall and irrigated areas, corporates will compete with big family farms
- One is limited in growth rate
- The other in performance

- Intensification from more irrigation will induce corporate investment e.g. irrigated feedlots in the north
 - Falling power and desalination costs

Welcome to the Terrordome... \$/MMBTU by Energy Type



Source: EIA, CIA, World Bank, Bernstein analysis

In less climatically stable areas, a need for new models

- World awash with money (Bain, 2012)
- Returns accrue to entrepreneurialism – good ideas, well executed

Active equity partnerships

- Not a lot in Australia compared to NZ dairy higher pasture variability implies less non operator models
- Very entrepreneurial: tight business objectives and incentive alignments
- Equity partnerships and capital can linked to value chain formation around specific products
- Linked to end markets and input suppliers (e.g. drought resistant seed; machinery manufacturers data generation). High levels of trust and transparency
- Does land ownership have to be synonymous with operational control?!?!
 - This could be applied to other areas

Active equity partnership example: Sundrop

- Sundrop Farm in South Australian desert:
- combination of solar thermal (electricity, heat, desalination) +
- water efficiency +
- big data to control environment

- Massive increase in productivity; low cost producer



- Uniform production; 10 year offtake contract
- No variability, locked in value chain partners (market and equity); shortened chain length
- Early stage private equity (KKR): \$100 build out
- Global scalability – market for the well executed idea, not just the tomatoes

