Rural Jobs and the CAP
Lessons from a Historical Perspective: The Case of Aberdeenshire.

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1. Introduction

Aberdeenshire is a distinct peripheral part of Scotland. It is an important agricultural region with its own culture and export orientated farming systems. The arrival of the North Sea oil industry in the early 1970's brought regional prosperity and high employment levels (until recently). Over the last 250 years switches in emphasis between state intervention and reliance on the markets have been important contributors to the contemporary agricultural situation. The CAP, over the same period of time as the oil industry, has influenced the number, roles and conditions of fewer agricultural workers in the county. This history attempts to set the research questions from this seminar into a more complete perspective.

2. Theoretical framework and Methodology

Structural and economic trends in the county are described over three eras: (i) era 1- mid-18th century to the late 19th century, (ii) era-2 1900 to 1985 and (iii) era 3 1985 to date. The first period covers enclosure and technological change at a time of rising populations and wealth followed by two developments which reduced the farm labour force namely mechanisation and untaxed food imports from the New World. The second period features State investment in agricultural education, extension and research and as a result of the experiences in two world wars and the great depression State farm income support followed ultimately in 1947 in the form of deficiency payments. Despite high levels of assured support at the end of this era there was a continual exodus of farm labour, an increase in farm size and the first reports of a growth in spare time small holdings. Accession to the EU in 1972 increased subsidies as enshrined in the CAP and reintroduced food import taxes which coincided with an unprecedented rise in all commodity prices including oil. The resultant farm prosperity did not last. The third period from 1985 onwards is marked by successive attempts for greater reliance on market signals

and rewards with consequent erosion of State funding which together with the 1995 GATT agreement to reduce agricultural trade restrictions resulted in decoupled and lower farm subsidies.

The approach illustrates some long standing influences which explain the enduring reduction in the agricultural labour force. Numbers have declined from a peak of almost 35,000 male workers (not counting women and children) in 1871 including over 7000 farmers to slightly more than 9500 people (about half are not full time) in 2014 including 3656 farmers (occupiers). The history describes the evolution of the conditions, rights and rewards of employed workers and farmers.

Implicit reference is made to the importance of relative wage rates in the regional labour market. The substitution of machines for labour has also been a continuous process. The long - standing conflicts between equity and efficiency show up in the problems of providing a sufficient supply of trained workers and new technologies, in the balancing of the interests of landlords and tenants, in coping with the risks of adverse climatic and disease events, and in the integration of different parts of the supply chain as well as in the tendencies to inequality in asset ownership, income and debt levels and workers conditions.

3. A description of Aberdeenshire's agriculture. (P Cook et al, 2016, and 2007)

Aberdeenshire has a population of almost half a million people split equally between the city of Aberdeen and the county. Unemployment is low at around 2.5% - 3.0%. Recent levels of mean earnings per week were in excess of £5009about € 600) per week and were highest in the rural parishes adjacent to the city (£590 or €700/week). Rural districts score highly for social indices that measure wealth, health, security and educational attainment though not in northern peripheral parishes. County towns have expanded as a result of the oil boom. Some farm businesses are run as part of a larger business enterprise which has been built up by the opportunities created by the oil industry. Property values including those of farm houses and agricultural buildings suitable for conversion have risen as the oil industry has created local well paid jobs.

Agriculture is only a small part of the economy. The number of occupiers is declining and are progressively getting older. The proportion of the workforce that is hired is in slow decline and

more are part time. There is greater reliance on farm family labour and migrant labour. On a full time equivalent basis agriculture constitutes about 2% of the total county's workforce with higher rates in the more rural areas.

523,746 hectares of farmed land in 2014 is roughly divided into 3 equal parts of crops, grass and rough grazing, a ratio that has been constant for many years. The grassland is intensively managed and supports a slowly declining number of beef cattle. Total cattle numbers of 286,335 in 2014 were made up approximately of 80,000 breeding cattle, 80,000 finishing animals and 120,000 followers. Store cattle are imported from the rest of Scotland and from England – a trade that has slowed since the geographic designation of Scotch Beef, only applies to native animals. Imported animals from areas infected with TB are tested. Dairying in the county has traditionally met milk demand in Aberdeen. Herd numbers have declined and farm sizes have risen. Only 37 herds remain and the local milk processing plant owned by a multinational company has recently closed. The sheep population at almost 500,000 in 2007and 460,821 in 2014 is also falling as are pig and poultry numbers, the latter mainly as a result of the recent closure of a large integrated company. Higher priced quality products such as pedigree stock, high health pigs, seed potatoes and malting barley for whisky are important ways of enhancing output.

The main crop is spring barley which is grown for malting where possible in order to benefit from a current premium of about £20/tonne during the recent rise in whisky exports. Smaller areas of other combinable crops are winter barley, wheat and oil seed rape. Wheat, is a late ripening and risky crop. Field vegetables and soft fruit are expanding from a low base and are a small part of total output in the county. The introduction of polythene tunnels which extend the fruiting season of soft fruit is encouraging its expansion. They are produced on the better land by a small number of large farm businesses.

Holding numbers were reported to be 7,503 in the 2014 census with a mean size of 71.2 hectares (median 11.00). Farm businesses typically operate two holdings or a mean of 142 hectares each for 3,750 units. 75% of the land is owner occupied. The single farm payment (SFP) is paid on all the land controlled by each business including that on a short term or contractual lease. It provides a more accurate but not fool proof way of estimating farm business number and size. 2,644 applicants applied for the SFP in 2014 for an average 277 hectares. A rapid consolidation process may be taking place as the estimated SFP applicant in

2007 applied for 169 hectares. The distribution of farm business size is highly skewed. In 2007, 300 farm businesses produced 40% of the county's agricultural output and 8% of farm businesses claimed one third of the total SFP. Fewer and larger farm businesses control most of the available land including most of the best land. At the same time there are 4,500 spare time holdings in the county which are increasing in number.

Aggregate income from farming is about £60million/year derived by multiplying the estimated output in 2014 of £400million by 15% (Crabtree, J.R.1984). This estimate is roughly corroborated by the observation that on many Scottish farms the income is more or less equal to the SFP which for the county in 2014 this was £70 million. (Scottish Government 2016).

360 electricity generating wind turbines were registered on farms in the county in March 2015. An 800kw machine (not the largest) costing almost £1.5million can produce an annual surplus of almost £150,000/year Multiplying this figure by the 360 installed machines gives an estimated aggregate income of £54 million – a figure approaching the aggregate farm income. The rental payments to external investors in these enterprises is not known but as most of these machines are on big farms it is likely that they increase the skewness of the distribution of farm business income. This skewness of cash receipts will have been increased by receipts in the period 2007-13 from the Scottish Rural Development Programme (SRDP) which financed the modernisation of farm buildings on mostly large farms to the tune of approximately £70million and by grants from the SRDP food processing, marketing and cooperation sub programme with a total spend of almost £7million. This sub programme partially financed a grain storage cooperative, a large egg producer and two food companies and the updating of a pig processing factory just outside the county which will have improved the expectations of pig farmers.

A successful food processing and agricultural supplies sector is mainly focussed on meat slaughtering and processing with 3 major plants which import some of their finished animals from the rest of Scotland. There are nearby maltsters but up to a third of the barley produced is fed to livestock on the farm on which it is grown. Small food processing companies specialise in niche products. The region's ports are used for the import and export of bulk supplies and products whose nearness compensates for the higher costs of road transport to the mainly English market. Merchants, animal feed manufacturers, machinery distributors, spray companies and some specialised local implement manufacturers are part of an agribusiness sector which experiences fairly frequent takeovers, new entrants, innovations, closures and

rationalisations. Livestock marketing is dominated by a large farmer owned cooperative located in a single centre which has extensively diversified its operations. An estimate of employment for agriculture, farm supply and food processing sectors from inadequate statistics would be that it employs at least 5% of the total workforce in the county.

4. Era 1. The enlightenment and agriculture. Mid-18th century to late 19century. (Carter, I, 1979)

This physical farming structure laid down some 200 years ago is still evident with stone built farm houses and steadings set within regular mainly large enclosed fields with scattered crofts interspersed in the landscape – However, a kaleidoscope of large scale changes include:

- industrial revolution,
- the emergence of new markets,
- improved access to these markets by means of steam ships and later railways,
- much improved roads and railways within Aberdeenshire itself,
- the opening up, of exports from and migration to the New World,
- ideas and new farming techniques discovered and adopted by many large landowners (the improvers) in the county in common with such improvements elsewhere,
- the agricultural societies set up by the improvers, which in some cases still exist.

[Table 1 about here]

Table 1 show the rapid expansion of both the Aberdeen city and the rural population in the 1800's, followed by a decline after the Second World War. (The rural population probably peaked in about 1870). Toll roads into the hinterland were built in the early 1800's, more reliable steam ships began sailing in the early 1820's and the mainline railway was connected to Aberdeen in 1850 with rural line shortly thereafter.

Two reports to the Board of Agriculture describe the agricultural situation in the early part of this period; the first by Anderson in 1793 who rented a farm in 1777 on an estate near Aberdeen and the second by Rev. Keith dated 1811. Anderson describes land improvement adjacent to the then city financed by city capitalists which began in 1755. Hand digging of almost 3000 acres of very rough land was a response to the growth in the city before the county's roads were improved. The first "crop" from this land was stones which were sold as cobble stones in

London. The land was used to grow vegetables and to sustain dairy cows. Anderson was probably the first agricultural economist in Aberdeenshire. He wrote extensively on such subjects as the best use of female labour in farming, the organisation of farm labour an on drainage and subletting.

The power of the landowners was so great that they were able by enclosure to displace the peasant farmers on their land and create landless labourers. The traditional system of cultivating small pockets of better land by a system of intensively cultivated "infarms" next to scattered groups of simple houses or huts with communal extensive "outfarms" disappeared. The formation of large enclosed fields introduced rotations on all land, the fertility of which was built up by drainage, liming, manuring and the construction of shelter tree - belts. Turnips were introduced as a forage crop to increase the supply and quality of winter feed. The breeding of better crops and animals and the careful storage and close management of greater quantities of dung, conserved nutrients in the farming system. The displaced peasants and their families supplied most of the labour.

The housing of workers was a recurrent problem on the commercial farms. Young employed women who were mostly, but not exclusively, involved in household domestic work stayed in the farm house. Three distinct systems emerged for housing single men. The cheapest fed them in the farmhouse kitchen but they slept in a loft ("chaumer") of an outbuilding. In the "bothy" system men cooked for themselves and ate and slept in a communal outhouse. An agreed amount of food provisions was part of their usually 6 month hiring agreement. Married men in the better farming districts had a farm cottage ("cottar" house). The conditions were the subject of campaigns for improvement especially by the Church. The men worked long hours, had few holidays, ate a mainly vegetarian diet based on oats and their work was physically hard. A ploughman, the most common job, was a task for strong young men with the ability to control large workhorses.

Carter suggests that farm service was not a lifelong career but started outside farm service and then finished outside it. Many of the male servants were the sons of crofters where they acquired skills for their subsequent employment. They had emigration options either to the New World or the city or they returned to their family's croft. An alternative was to take a 19 year "improving lease" on a small piece of usually poor land and develop their own croft. The land was rent free for the life of the lease on condition that the land would be fully developed

and the house and buildings erected by the term's end. The land was broken in without cash expense for the landowner and the labourer acquired a more secure means of subsistence. A crofter's family depended on wages from day labouring on farms and/or as artisans, as outworkers of textile manufacturers, or by illicit distilling, growing their own staple food and exploiting peat abstraction rights.

There was a strict hierarchy in farm work teams. The concentration of wealth by landowners came with expected social responsibilities which may have been assumed or avoided. The employment terms of farm workers were orally agreed and included wages and terms for food and board. Bargaining took place at local employment fairs where reputation through hearsay would have been the main evidence for both parties' decisions.

Carter notes strong discrimination against women in farm servant's wage rates. Real wages improved during the extended period of low commodity prices and farm incomes from about 1880 (consequent on new world imports) until the First World War. One of the reasons for this is that purchased food was an important component of a farm servant's spending. This trend reflected the strong market position of workers to take their skills elsewhere, either into the cities or as emigrants helped no doubt by the emphasis in Scottish society on children's education. Carter also makes another counterintuitive observation which is that mechanisation during this period was a consequence and not a cause of lower numbers of farm workers.

The period from the end of the Napoleonic wars in 1815 until 1885 was a prosperous time for beef producers in the county and production expanded very rapidly with improved transportation to the growing London market. The expansion was temporarily interrupted by the repeal of the Corn Laws which removed protectionist tariffs on food imports in 1846. The repeal was sought by British industrialists anxious to keep the wages of their work force at a competitive level. Protectionism for agriculture was not reintroduced except in the Depression years until the UK joined the EEC in 1973. The growth was sustained by new husbandry methods that fed cattle better in summer on improved pastures and in winter on turnips and greater quantities of hay. It grew from an indigenous industry whereby old and small cattle at a low rate of offtake from a large resident herd were walked all the way to the London market. There was a leap in the trade when the railways came to Aberdeen in 1850 and in following years by the linking up of market towns in the county with the network. The development of livestock auction marts at railway junctions resulted in the decline of the droving trade and

balanced the bargaining positions of farmers and butchers. A few exceptional cattle breeders using line breeding developed a heavier and quicker maturing breed to suit the London market and acquired worldwide acclaim for the Aberdeen Angus breed. The trade increasingly relied on buying in young cattle for finishing from the rest of Scotland, in great numbers from Ireland and even from Canada. Thereafter, the skill of the butchers and farmers combined to protect the trade sufficiently from cheaper but lower quality meat imports.

5. Era 2. State involvement 1875- 1985 (Symon, J.A, 1959)

The period up to the First World War has been called "the 40 bleak years" with low produce prices, rapid increases in food imports and several years of poor weather. World war one was followed by another even more serious general depression leading up to the Second World War. During these depressed years a greater proportion of Scottish arable land was either sown or left to grass over but not in Aberdeenshire where the grain area was constant although there was some small reduction in turnips. Land prices and rents fell. During the war, agriculture was eventually controlled by the authorities, guaranteed prices for farmers and minimum wages for workers were introduced and then rescinded by the repeal of the Corn Production Act of 1921 when the policy of free trade and food imports was resumed.

Technical progress was seen as a way for farmers to ameliorate low farm product prices and the Highland and Agricultural Society contributed some of the costs of setting up agriculture as a subject in the University of Aberdeen in the late 1890's. This was followed in 1904 by the installation of the North of Scotland College of Agriculture (NOSCA now part of SRUC) which focussed on Research and Extension as well as the teaching of technical subjects to farmers and students alike. Its Board of Governors were mainly large farmers. The University Department of Agriculture and NOSCA worked together with some interruptions over the years along the same lines of the US Land Grant Universities. The Rowett (1914) and Macaulay (1930) research stations were also established in Aberdeen specialising in animal/ human nutrition and soils respectively. Given the strong links between these governments funded institutions and the farming community, "Science with Practice" became a reality supported on the one hand by the need to secure lower food prices and on the other to sustain farm incomes.

The response to the hardships of the depression in the general economy, especially over the period 1929 to 1932, was the introduction of new support measures. Free trade in food stuffs was abolished in 1931, a guaranteed price for wheat was introduced in 1932 (a minor crop in the county) using for the first time a deficiency payment mechanism financed by a levy on imports. It was followed in 1937 with an area payment for the more important crops in Aberdeenshire of oats and barley. 1937 saw subsidies being paid on beef to follow up agreed cuts in 1932 of beef imports from Argentina. Lime and phosphate subsidies were introduced in 1937 and the nationwide extent of neglected grasslands resulted in a subsidy for reseeding in 1939. Aberdeenshire got its own Milk Marketing Board in 1933 which had the power through its monopoly of all supplies to fix the retail price of milk at a higher level than milk for manufacturing. A UK wide Potato Marketing Board was also introduced but its powers to manage and restrict total supplies were temporarily suspended during the war. A Wool Marketing Board began in 1950 along with a guaranteed price scheme. A hill sheep subsidy was introduced in 1940 and a hill cattle subsidy in 1941 which were precursors of the Less Favoured Area scheme.

The depression years also encouraged more active and larger National Farmers and Farm Workers Unions, growth in Women's Rural Institutes and the establishment of the Scottish Association of Young Farmers Clubs (1938).

The pre-war policy initiatives were used in the fundamental post war measures set out in the 1947 and subsequent agricultural acts. Grants for inputs, land improvement and hill livestock subsidies continued and deficiency payments became the main mechanism for supporting farm incomes without the use of import tariffs. The Milk and Potato Marketing Boards continued along with that for wool. Farming tenants were given much enhanced security of tenure in the Agriculture Scotland Act 1948 and in 1949 the Scottish Agricultural Wages Board was established. Food security and a shortage of foreign exchange provided political support for output orientated research, development and extension services. The deficiency payments system topped up farmers returns in those situations where domestic prices, which were fully exposed to free trade, were lower than guaranteed levels. However unrealistic guaranteed prices disrupted the balance between production and consumption. During these years tractors and their associated implements as well as combine harvesters were quickly introduced on all farms accompanied by rural electrification.

The adoption of the CAP that came with EEC membership in 1972 was effectively a reversal of 1846 repeal of the Corn Laws. Agricultural support was paid for by consumers with some negotiated special Commonwealth trading arrangements. The decline in the agricultural labour force and farm amalgamations continued and contributed to the absolute decline in the rural parts of the Aberdeenshire population as people migrated elsewhere in an expanding fully employed general economy. Catt and Rees in their evidence for the Gaskin report (Gaskin, 1969), found that in Aberdeenshire the number of farm workers of all types fell by 45% between 1955 and 1968 or by 5% per annum. They also reported that for the years 1962-67 there was a fall in the number of full time holdings of 270 per year (-3.5%) and a slightly higher rate for part time holdings defined by standard man day calculations. They did however note a 2% rise per annum in very small or spare time units. Their evidence also showed a skewed distribution of farm size with roughly 40% of holdings cultivating 80% of the crops and grass area. The number of hired agricultural workers is reported (Dalton, 1987) to have continued to fall at an equivalent rate between the accession year of 1972 and 1984 and the degree of skewness in farm size to have been maintained. There was an initial price hike in the early post accession years associated with a worldwide commodities boom but a fall in prices and incomes soon followed. The market was again oversupplied by 1980. Milk quotas were suddenly introduced in 1984.

Accession was accompanied by a capital grant scheme, the Farm and Horticultural Improvement Scheme (FHDS) justified as a means for enabling farmers to improve their competitiveness within the EEC. The amount and rate of grant depended on the quality of land and the acceptance of a multi-year improvement plan which demonstrated a rise in earnings per labour unit within prescribed limits of capital spent per work unit and per business. Pig farms and large dairy farms were ineligible in view of market oversupply. The scheme was widely adopted. Hindsight shows the required plan format was inadequate as the choice criterion was too narrow and there was a lack of “stress tests”. A farm family based budget could have explored the relative income outcomes of on farm investments compared with off farm work. Likewise stress tests would have shown up the risks of the low alternative values of subsidised investments in illiquid assets such as buildings in remote locations.

High interest rates throughout the 1980’s up until 1993 caught out those beneficiaries with unexpectedly high servicing cost of their borrowed co-financing through over exploiting the FHDS scheme. The situation was compounded by low product prices and two poor harvests

in 1985 and 1987. Land prices consequently fell and thus reduced the value of the collateral for the loans incurred.

Empirical analysis on UK aggregate data (Harvey, D.R. 2000) demonstrated that farmers after accession believed their high incomes were permanent. This belief was encouraged by (temporary) high world commodity prices and that the new level of support prices disguised the possibility of any fall (unlike in the old deficiency payment scheme). Aberdeenshire also experienced two years of very high potato prices in 1975 and 1976 due to droughts in the rest of the UK. Harvey shows that farmers nationally incurred irreversible increases in their fixed costs as some Aberdeenshire farmers had done by over expansion of their businesses encouraged by FHDS. The result was a reliance on gross margin levels of the early 1970's which were not sustained.

6. Era 3. Market orientated policies -1985 to the present (Scottish Government, Economics Reports on Scottish Agriculture)

This era perhaps began in Aberdeenshire by farmer representations for Government assistance as a result of the poor harvest of 1985 and 87 being turned down on the basis of doctrinal beliefs in the market. Moral hazards were not mentioned. The result was a turnover of financially exposed businesses which were often sold to farmers attracted by lower land prices from outside the county. Some pension funds bought farms on a sale and leaseback system. The extent of inward migration is not known but it produced comments about the integrity of the local culture. At a time of low prices and high interest rates the fall in net worth for Scotland as a whole as a percentage of total assets fell to about 83% in 1985 and 84% for the rest of the decade. This level of indebtedness at the then prevailing interest rates would have been difficult to service on many farms without using up capital.

This period was also the time when there was a shift from market support to direct payments on a land area basis for cereals and headage payments for livestock. The Aberdeen Milk Marketing Board was abolished although milk quotas persisted. The GATT agreement of 1995 eventually forced the adoption of decoupled means of support which in a historical perspective was a system for replacing the Corn Laws but subsidising the industry at the same time.

Farm incomes improved to a peak in 1996 as a result of high levels of direct support coinciding with better commodity prices. Incomes and land prices more than doubled over the 1990's decade but the gain was short lived as product prices fell at the end of the century. The fortunes of Aberdeenshire farmers were greatly influenced by the BSE cattle disease first recognised in the late 1980's which caused a 10 year ban on the export of British beef from 1996 and the long term exclusion of all beef animals over 30 months old from the food chain. Compensation was paid for the disposal of these older animals but it did not take account of adverse shifts in the demand for beef given the fears of consumers about eating beef. BSE was closely followed by the major national Foot and Mouth Outbreak of 2001 which did not reach the county but increased the costs of transport and marketing as a result of the necessary hygiene precautions.

The size of the agricultural labour force since 1985 has continued to fall although the rate of exodus has slowed down recently. Family labour is now a greater part of the workforce and more farmers and workers are part time. In the North East as a whole (Aberdeenshire + Moray (a neighbouring county)) in 2015 a full time equivalent (FTE) unit of labour was needed on average to farm 52 ha of crops and grass and 79 ha if rough grazing is included.

Outsourcing of many specific tasks and the sharing of indivisible resources through a machinery ring and /or contractors have become a common way of obtaining the services of skilled people and large specialised machinery and equipment without the costs and risks of ownership. Farm based statistics of employment can thus understate the actual number of people needed to run farms. A listing of the typical services in the county is presented in the table 2.

[Table 2 about here]

The fall in the number but increasing size of farms also reflects the growth in the overhead costs of a business and enterprises within them. Notable overheads include those of meeting health, hygiene and safety regulations, the costs of quality assurance measures which have costly sanctions as do CAP cross compliance requirements. Milking parlours, stores, processing facilities, safe livestock handling systems are all examples of large initial enterprise establishment outlays. Scale neutral technologies have helped to reduce labour costs through higher yields. Running a large farm business with less managerial labour has been facilitated by mobile phones and emails. Office functions can be done in the tractor cab and distant or detailed operations can be checked and controlled centrally.

The earnings of full time agricultural workers in Scotland averaged £451(€520) per week in 2015 which is 76% of the average annual wage (£590(€(700)/per week) for the wealthy rural districts of Aberdeenshire. Agricultural wage rates have risen slowly over the years but the total agricultural labour bill is fairly constant at around 12% of total costs in the aggregate Scottish farm income. The number of employees has fallen as wages have risen. The Wages Board (which is about to be abolished) has also set minimum wages per hour which in 2015 was £7.03(€8.17).

Farmers gradually supplemented their Farm business incomes (FBI) by activities in the rest of the economy such as contracting, rents from leasing buildings and by adding value to their products. Off farm wages and salaries are also becoming more important and currently make up around 30% of the Scottish total FBI. The data on all sources of income show the strong reliance of farm incomes on direct payment subsidies. Nationally, counting subsidies, almost half of all farms do not earn as much as the minimum agricultural wage for the estimated time they expend. There are big variations in farm incomes between and within farm types. Farm business size is obviously a major source of income variation. A rough proxy estimate of this shows that almost 17% of holdings (1483) produce 77% of the North East standard output. The region does have a greater amount of output per standard labour unit than many others regions in Scotland reflecting a higher proportion of arable farms within the total.

The total Scottish income from farming (TIFF) rose from a low base in the new century driven by rising commodity prices with a dip in 2009 and then a major correction in 2013. In the last decade the Scottish TIFF has ranged between £20,000 and £30000 per standard work unit per annum which is broadly similar to the average earnings of all workers in Aberdeenshire. Higher output values produced by a smaller number of farmers has compensated for a 30% fall in total subsidies paid between 2005 and 2015. One of the main reasons for this fall is that the historical basis of the single farm payment favoured those farmers who received large amounts of beef direct payments which are now diluted in the new regional average system of determining pillar 1 payments. The ratio of net worth to total assets in 2015 at 91% indicates better average financial security but some businesses in the lower tail of the wealth distribution will still be exposed to adverse financial events..

The strong balance sheet of the Scottish national farm relies heavily on the value of land (88% of total assets in 2015) which has doubled in value since 2005. Optimism based on these ratios should be seen within a historical perspective. For example, the US Midwest land market in 1984 illustrated the risks of owning land in a boom prior to an unexpected collapse in values (Melichar, E, 1979 and 1984). The after boom experience varied according to how financially vulnerable individual farmers were to falling prices and incomes. In the recent Aberdeenshire case which features a coincidence of both oil and grain price falls (see Baffes, J; Haniotis, T. 2016) some farmers will continue to do well and others who have overcommitted themselves will be vulnerable to rises in interest rates, poor weather, disease outbreaks and reductions in subsidies. Melichar supports his analysis by pointing out that better net worth ratios hide extra borrowings and that changes in expectations of income and value growth accentuate more than proportionate changes in land values. Recent expectations about future levels of prosperity have been formed during a time of unprecedented low interest rates and when all types of assets have risen in value because of lax monetary policies. These warnings can be supported by the Aberdeenshire memories of 1985 and 87 and the case of New Zealand when farm subsidies were withdrawn over the period 1984-1990. (Myer, N., and Kent, J.; 1998) The New Zealand farmer's first reactions were to reduce their purchases of inputs including hired labour. Land values fell by some 40% followed eventually by almost a complete recovery. Very few farmers left the industry but the labour force both on farms and in the ancillary sector fell markedly.

The response of financially vulnerable businesses to a financial shock is to cut expenditure. The knock on effect reduces the demand for services from farm input providers. They will face cancelled orders magnified by stock level reductions. Processors may be faced with extra supplies in the short term as producers unload finished product if they are sufficiently distressed to be forced to sell their stocks or expect further price falls. There may well be an acceleration of structural change both on and off farm. In today's UK political environment the market is most likely to be left to find a new equilibrium in spite of the predictable requests for emergency public financial assistance.

A contemporary issue is that of the concentration in the size of farming businesses. (Pikerty 2014). Pikerty's research shows the growing inequality in most western societies of both the distribution of income and wealth. He tracks changes in the main forms of wealth with farm land becoming a smaller and still shrinking part of the capital of industrial societies. He also produces evidence of wealth concentration which peaked in 1914. Wars and the great

depression destroyed much wealth and after the Second World War more egalitarian policies were put in place which were reversed in the political eras of Thatcher and Regan.

The evidence over long time periods of time is that the inequity of wealth arises because of greater rates of growth in capital values than in the rate of growth in incomes. This is very evident in the case of Aberdeenshire farms in the short term where the doubling of land values since 2007 is much greater in value than any fluctuations in incomes as shown in table 3.

[Table 3 about here]

A most important implication is that future agricultural (and rural) developments is dependent on fewer people who own most of the resources. The type of actions the few, powerful and wealthy land owners of the 18th and 19th century will not be repeated since political power structures have been diluted by the growth in government, other industries, a greater number of other (well off) residents in rural Aberdeenshire who are not dependent on large farmers for their jobs and land is less important as a resource. Over time it can also be expected that the social pattern of organisations that represent and support agriculture will also change as fewer people will benefit or have an interest in their activities.

The continued search for excellence is a feature at all levels of the agricultural sector in the County. This culture is supported by discussion, demonstration, recognition and a seeking out of new and improved opportunities on a collective basis. Voluntary groups include show and breed societies, the Royal Northern Agricultural Society, competitions, special sales, small discussion groups and professional conferences, excursions and procurement clubs organised by processors. The livestock market which is part of a centre for a range of supply and service providers is a meeting place and is well-supported by specialist agricultural media. The County communicates and lobbies for its agricultural and rural interests by bringing together all interest groups and sponsoring strategic reviews of agriculture and the rural scene. (Cook, P. et al, 2016 and 2007)

The greater degree of market orientation has introduced charging for hitherto free services. Examples include plant royalties, analytical services, seed testing and quality assurance schemes with strict sanctions. The biggest change followed the universal realisation that commercial companies had an incentive to conduct research if they could incorporate their new knowledge into their products and charge for it. The result in Scotland has been a centralisation

and contraction of the State Agricultural Research, Education and Extension system emphasising work on public goods. A free extension service no longer exists. Individual fee based services are available with all consultants competing with each other.

Aberdeen and Edinburgh Universities have both ceased to run agricultural degree programmes with basic research prioritised in their funding strategies. The two research stations have been restructured with new research emphases on human nutrition and the environment while SRUC has concentrated its reduced applied research work in Edinburgh. Farming innovations and technological developments now depend less on the public sector and new graduate entrants to the sector are less likely to have a local agricultural degree.

The recent reports on agriculture in Aberdeenshire and the North East stressed the need for more competent new recruits. The Machinery Ring has taken on a training and apprenticeship scheme but as with all merit goods it is experiencing the fact that it cannot produce as many trained people as employers would like. Employers' will be unwilling to sponsor students who may leave them or be poached by free riding competitors.

The agribusiness sector demonstrates how market led changes have brought about closure of longstanding processors and input suppliers accompanied by takeovers and the emergence of new firms. Recently, the closure of the only local underutilised milk processing plant is an example of oligopolistic competition which may prevent the achievement of a new socially optimal arrangements. Milk producers adjacent to Aberdeen have supplied the city with liquid milk for over two centuries and have been protected from competition by distance, an advantage reduced by better trunk roads to the south. Now in a highly differentiated product market for milk processing is no longer in Aberdeen but in a larger and more efficient plant operated by a multinational dairy company much further away. This plant will deliver processed products to nearby supermarket distribution centres which supply Aberdeen's shops. Can the dairy farmers find a more attractive solution to that of paying extra raw milk transport costs without necessarily having the power to secure a deduction for lower processing costs and any marginal changes in delivery costs of processed product? Can the processor find equally secure sources of raw milk?

Similar problems have occurred with pig meat processing when a large meat plant closed in 1986. Local pig producers were obliged to form a pig procurement cooperative. In 2008 a large

national integrated chicken and pork producer which had quickly expanded by acquisition from within the county in 1980, closed and the production of broilers in the county ceased with knock on effects for local wheat prices. There has never been any local crushing capacity for oil seed rape until a recent investment by a manufacturer of animal feed supplements. There is an over capacity problem in meat slaughtering and processing with current plans by a consortium to complete the closure of two separately owned but physically adjacent plants and the building of a new one with an additional third partner. There are two other large meat plants in the county, one of which was originally owned by a farmer's cooperative and is now operated by a supermarket that has integrated meat supply system. The other has close links with a different supermarket. Slaughter stock are imported into the region from the rest of Scotland to improve capacity utilisation. What is not clear is if matching total plant capacity more closely with available and possible future levels of farm supplies is sufficient to ensure a viable sustainable set of facilities or whether there is some other more deep seated reason for a lack of competitiveness. The ability to make the best use of by-products is easier in large plants. In other parts of the world slaughter houses are very large. Even if several firms including a supermarket were persuaded to build a single plant elsewhere in Scotland or elsewhere in the UK to replace their existing facilities would it be socially optimal?

The livestock market moved out of Aberdeen 25 years ago. It is set by a main trunk road at a central point in the county with a well-planned layout. Other smaller market sites scattered around Aberdeenshire were also closed and so increased the number and size of central livestock sales. The facility as part of a trading centre along with diversification into other than livestock auctions spreads the centre's fixed costs.

A final example of a cooperative service provider is a grain drying and storage plant. It organises the quick uplift of grain from farms, laboratory testing of each load, dust extraction and careful drying, monitored ventilated storage by grade and variety, professional marketing and payments based on the mean return for each grade achieved over the whole season. Integration of the supply chain is achieved by growing a limited range of varieties which customers prefer along with recommendations and some research about the best ways to grow them. The facility meets the ever increasing standards for grain storage and the requirements of large scale customers (maltsters and distillers) for uniformity and specificity of product. The demand for the cooperative's services reflects the slowly rising grain yields in the county.

7 Conclusions. CAP and jobs?

Aberdeenshire farmers and their employers have continued to leave the sector since the completion of the land enclosure in about 1870. Whereas the arrival of imports of cheaper food in the depression years could have been expected to reduce labour resources in the sector, comprehensive and continuing farm income support which began in 1947 might have retained or slowed the retention of workers. General economic conditions which since 1970 in Aberdeen's case includes the oil industry, has proved to be a much greater "pull" than the prosperity of the local agricultural economy. Mechanisation is most likely a consequence of the exodus rather than a cause.

"Commercial" farmers are becoming older, fewer and run bigger businesses specialising in knowledge intensive specialised enterprises. More of them are part time and the farm family provides a greater share of the available labour. They and their spouses are also likely to have off farm jobs and on larger farms to run some additional non-farm enterprise.

"Sparetime" farmers are more numerous and growing in number and are a long term phenomenon. They may rent out their land seasonally to large farmers or farm their land for its own sake. There are some similarities to the situation in some New Member States (Fritzsch, 2010). They only contribute a small part to the value added from farming but collectively they operate a significant area of land which sustains a more diverse ecology than on intensive farms. (Davies and Dalton, 1994).

The employed workforce is likely to be part time with more seasonal/casual or migrant participants. The growth in outsourcing, contracting and the sharing of facilities makes it more difficult to define and collect precise statistics of farm labour requirements.

There is a long history of import tariffs which were repealed in 1846 and were not used again on a permanent basis until accession in 1973. Support for the repeal came from industrialists keen to retain a competitive level of worker costs. How has the CAP contributed to such an aim in modern times? The 1995 GATT agreement also freed up imports and markets. Direct and decoupled payments shifted the costs of income support from consumers to taxpayers. The effect on EU competitiveness in the form of wage and employment levels may be the largest effect of the CAP on aggregate rural employment.

The rate of increase in farm business size seems to speeding up. Competitive pressures and the tendency for capital values to grow at a faster rate than incomes allows big businesses to grow more quickly especially when they receive most of the direct payments and structural funding. Larger farmers in Aberdeenshire have also gained from renewable energy subsidies. Macroeconomic policies have boosted asset values. Future rural development opportunities thus rely to a greater extent on the investment decisions of fewer asset rich individuals.

High land prices which depend on expectations of large subsidies being permanent may well prove to be unstable. Those farmers who have borrowed too much to service their debts for expansion may be financially exposed. The staff of input suppliers will be the first to be affected by a correction.

The difficulties of introducing workers reforms which are still resisted are illustrated in description of a 1910 riot against a Government scheme for an employer financed health insurance scheme where a cow (coo) of a defaulting farmer was put up for auction by the authorities to pay his outstanding contribution. (*aberdeenvoice.com/2013/11/**turra-coo-**monumental-myth)*

Aberdeenshire agricultural development has depended on the existence and the take up of market opportunities which have proved to have a comparativedvantage.

The county's farming excellence is well supported by a whole range of well supported voluntary activities. Their continuation in an appropriate form is important for the generation of public goods.

Some of the investment in infrastructure that directly and indirectly improved agriculture over 200 years ago is still useful. Market forces may be too short term to do this today.

New entrants who may leave their jobs or be poached means that a private system of training new recruits is unlikely to produce sufficient numbers.

Aberdeenshire farmers are geographically further away from and have less direct influence on State funded Research and Development that they once had. It is not clear if these changes are

costly or not. The cost effectiveness of more centralised and concentrated research and the greater reliance on commercial companies has not been reviewed as far as is known.

The case for publicly funded extension services as opposed to charged individual consultancy is weakened by the industrialisation of agriculture. But, do “spare time” farmers qualify?

Structural funding may be a way of leveraging greater social efficiency in the agribusiness sector if suitable conditions and measures can be engineered to satisfy auditors. It might be a way of achieving a closer matching of local processing capacity with production and consumption constraints.

“Sparetime” farmers” are a significant and expanding group of people in the rural economy. They could as people with varied and accomplished backgrounds have a growing influence on rural development. They trade with agricultural service enterprises. Does rural policy reflect this situation? The enquiries that have been done for the newest Member States (IAMO 2004) may help to bring this about.

Statistical sources reflect out of date perceptions of agriculture and rural affairs. It is hard to deduce what the distribution of agricultural wealth is on a regional basis as opposed to classifications by farm type. Adverse weather usually affects specific locations. Mean values convey too little information for highly skewed variables such as the incomes of diversified enterprises. There are too few statistics on the agricultural ancillary sector such as emerging food enterprises and specialist service providers. Available aggregate primary sector data includes fishing and forestry which are both significant sectors in Aberdeenshire.

The quotation that “the past is a foreign country; they do things differently there” (Hartley, L.P.1953) is not true in that much of what was done to develop agriculture in Aberdeenshire over 200 years ago still has influence on present day choices. The significant differences are the much increased rate of owner occupation as estates have declined and well paid off-farm employment by the occupants of hitherto farm workers crofts. Looking forward to the age of the robot, a continued exodus of farm employees and concentration of farm businesses can be anticipated. The challenges for any future CAP is to prioritise measures *which enable more rural people, to quickly adjust to new, sometimes unexpected, situations - whether they be on or off farm, are employers or employees, full or part time*.