



# Structured for success?

Researchers from **TEAGASC** and **UCG** examined the impact of land structure on the economic performance of dairy farms.

Efficient and effective land management is a key element of a more productive and environmentally sustainable pasture-based livestock sector. The efficiency of dairy farming has implications for the environment, in terms of the efficient use of natural resources and farm inputs, and the rural economy, in improving productivity of the sector.

## Ireland's agricultural land market

The Irish agricultural land market is particularly interesting given the notably low levels of sales each year, reflecting high sentiment for family-owned land. Agricultural land sold in 2018 was just 0.3 % of available agricultural land in Ireland (CSO.ie, 2019). In addition, 19 % of agricultural land is rented in Ireland compared to an EU average of 54 % (European Commission, 2018). Furthermore, agricultural land in Ireland is fragmented, with many farms containing a number of scattered land parcels. This results in increased labour and machinery costs for farmers. There has been rapid expansion of the dairy sector following the abolition of EU milk quotas in 2015. Dairy farming is largely pasture based and, therefore, sensitive to land availability.

Irish agricultural land is fragmented, with many farms containing a number of scattered land parcels.

The transferring of agricultural land through sale and rental agreements helps to reduce land fragmentation. In recognition of the importance of land management to the overall productivity of the dairy sector, tax relief has been introduced for land consolidation and long-term land leasing. Capital Gains Tax relief is available for land consolidated by sale, purchase or exchange (Revenue, 2020a). Stamp duty of 1 %, reduced from 6 %, is applied to the excess value of land acquired over the value of the land disposed of. The exchange must occur within a 24-month period

(Revenue, 2019). From 2015, up to €40,000 of income tax relief can be obtained on a 15-year land lease (Revenue.ie, 2019). Evidence suggests that the tax relief is encouraging long-term land leasing as the number of long-term land leases in Ireland has increased from 5,130 in 2014 to 10,820 in 2018 (Revenue, 2020b).

## Research on land fragmentation in Ireland

Research carried out by economists at Teagasc and University College Cork, recently published in the *Journal of Agricultural Economics*, examines the impact of land structure on dairy farm efficiency.

A farm is deemed to be efficient if it is maximising its milk production from a given set of inputs (e.g., land, labour, capital and herd size). Data from the Teagasc National Farm Survey and the Spatial Land Identification Database for Éire (SLIDE) are analysed to assess the effect of the following aspects on dairy farm efficiency: the number of land parcels; parcel size; the distance between parcels and the dairy platform; and, the portion of land on the main farm.

The Land Parcel Identification System (LPIS) dataset was merged with a spatial data storage model known as 'Ordnance Survey Prime 2' to create the SLIDE database.

The data shows that the average number of land parcels on dairy farms in Ireland is six. The distribution of land parcels across dairy farms is provided in **Figure 1**.

Our findings show that as dairy farms increase in size, they become more efficient. However, the opposite is true when farm size is increased through additional land parcels. Our analysis also finds that farming land parcels of less than three hectares can reduce efficiency. Having a greater portion of land on the main farm and shorter travel distances to land parcels were found to improve efficiency. Notably, farms with a high percentage of rented land are increasingly efficient. Farmers can, therefore, benefit from expanding their land through renting land that is adjoining or close to their existing farmland. Two additional means to increase efficiency are the employment of hired labour when family labour resources are not sufficient and the use of advisory services.

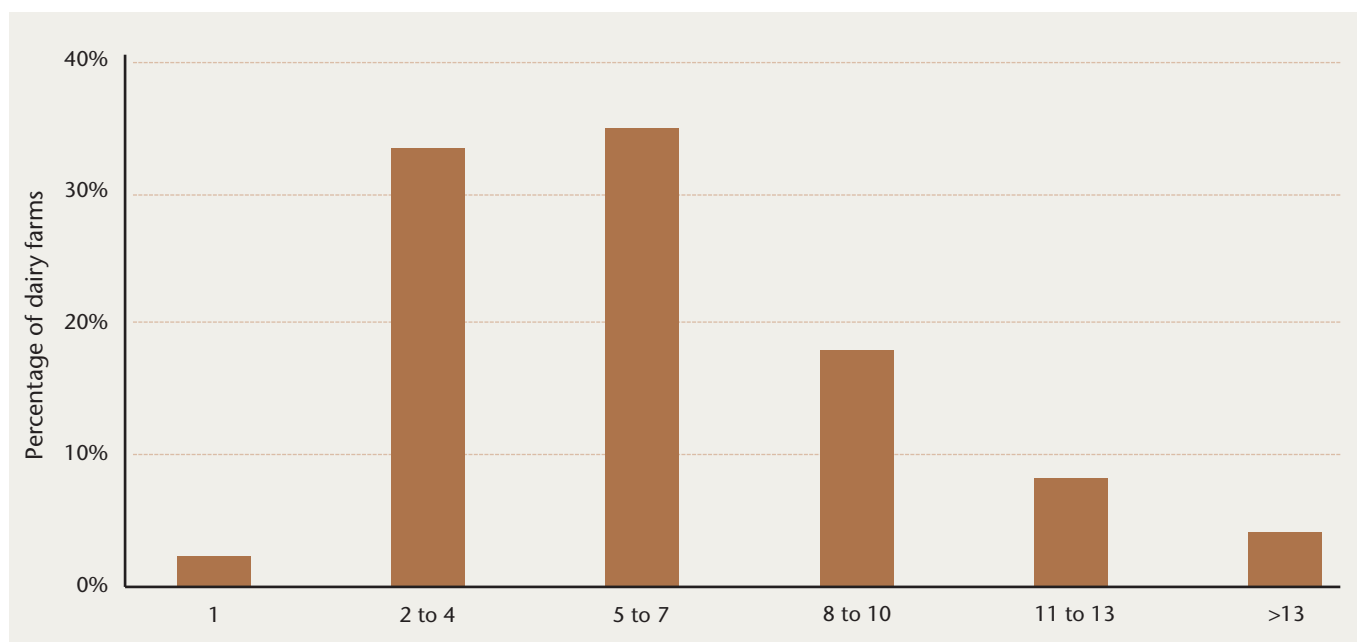


FIGURE 1: Land parcels on Irish dairy farms. Data source: SLIDE (2014).

### Policy recommendations

Our results confirm that incentives to encourage land leasing and consolidation are justified to improve the efficiency of dairy farming, especially given the extremely low level of land sales in Ireland each year. With tax relief in place for leasing out or transferring land, landowners can financially benefit from leasing or transferring underutilised land. These policies benefit farmers, the aggregate Irish economy and, more generally, food security through increased milk production. Additional policy implications lie in the advantages hired labour offers to individual farms and the overall economy. Therefore, the promotion of job creation in the dairy sector, along with secure employment contracts, will improve farm performance and boost the economy through the multiplier effect. This is important for the retention of employment in agriculture and rural areas. The use of advisory services should also be encouraged due to the benefits they provide in improving dairy farms' efficiency.

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### Further information

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