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Measuring Total Factor Productivity on Irish Dairy Farms: A Fisher Index Approach using Farm Level Data

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Abstract

This paper presents a Fisher index measure of the total factor productivity (TFP) performance of Irish dairy farms over the period 2006-2016 using Teagasc National Farm Survey (NFS) data. The removal of milk quotas in 2015 has led to an increase of over 30% in dairy cow numbers since 2010, and although Suckler cow numbers have dropped slightly, the total number of cows in Ireland has reached an all-time high of 2.5 million head. This large increase adds to the environmental pressures attributed to agricultural output, and puts the focus firmly on how efficiently the additional agricultural output associated with higher cow numbers is produced. The primary purpose of this paper is to identify a standardised measure of the TFP performance of Irish dairy farms that can be routinely updated using Teagasc NFS data. We find that relative to 2010 the TFP of Irish dairy farms has increased by 17%, however in one production year, 2014-2015, when milk quota was removed, the TFP measure increased by 10%. TFP grew by 3% in the production year 2015-2016, it would seem therefore that the removal of the European dairy quota system has resulted in a windfall gain for Irish Dairy farmers but that productivity gains are continuing. Future data will be required to investigate the longer term TFP performance of Irish dairy farms in the post milk-quota era.

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