

## Extended Abstract

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<b>Paper/Poster Title</b>	<b>Putting social into agricultural sustainability: Integrating assessments of quality of life and well-being into farm sustainability indicators</b>
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Abstract prepared for presentation at the 97<sup>th</sup> Annual Conference of the Agricultural Economics Society, The University of Warwick, United Kingdom

27<sup>th</sup> – 29<sup>th</sup> March 2023

<b>Abstract</b>	<i>200 words max</i>
<p>The measurement of societal well-being has moved beyond GDP, and has emerged as an important factor within the paradigm of holistic sustainability assessment, including agricultural sustainability. At this juncture, knowledge gaps exist between agricultural policy priorities and data infrastructure to evaluate social sustainability issues, particularly regarding farmer sustainability. This study aims to address this gap through the development of a Farmer Sustainability Index (FSI), a composite index comprising three dimensions: farm continuity, community and social connections, and farmer comfort. Socio-demographic data was extracted from both core and supplementary EU Farm Accountancy Data Network (FADN) data from the 2018 Teagasc National Farm Survey (NFS) in Ireland. Statistical analysis was undertaken to compare the distribution of FSI and the individual dimension scores for farms across three socio-demographic variables; farm system, farmer age cohort and region. The FSI results demonstrate that cattle farmers, farmers over 60 years of age, and those residing in regions with poorer infrastructure experience lower levels of sustainability in comparison to other farmers, while the variation in FSI dimension scores identify numerous sustainability risks to farms with differing socio-demographic constructs. It is important for agricultural policy to be cognisant to these differences and the relational nature of these risks, to meaningfully address matters pertaining to sustainability, and the FSI provides an effective tool to assist policy in this regard.</p>	
<b>Keywords</b>	Farmer Sustainability Index; Social Sustainability; Wellbeing; Rural; Composite Index; Generational Renewal; Social Connections; Quality of Life; Agricultural Policy;
<b>JEL Code</b>	Agriculture: General Q100 see: <a href="http://www.aeaweb.org/jel/guide/jel.php?class=Q">www.aeaweb.org/jel/guide/jel.php?class=Q</a> )
<b>Introduction</b>	<i>100 – 250 words</i>
<p>For farmers in the EU, the emergence of sustainability as a core policy objective has represented a shift in the focus and design of agriculture, food and rural policies. The FADN has proved invaluable in the development of economic and, more recently, environmental indicators measuring the overall status and contribution to the attainment of sustainability policy objectives. Although research into agricultural social sustainability has steadily developed over the past two decades, there remains a more limited use of the FADN monitoring framework to assess and evaluate social sustainability, reflecting challenges in the design and implementation of appropriate</p>	

indicators. Indeed, one of the fundamental aims encompassing sustainability research is to highlight methods to increase or maintain intergenerational well-being, while integration of sustainability in well-being research and social policy would lead to a more holistic view on well-being. As such, a framework to infer well-being may be best determined with both subjective and objective attributes, and for a more rounded approach, from a material, relational and subjective well-being perspective. This paper contributes to the discourse on farmer's social sustainability and quality of life, and develops a framework with FADN data to assess numerous aspects of well-being from the perspective of the farm holder. We devise a composite index, The Farmer Sustainability Index (FSI), utilising Irish FADN data, to enhance the assessment of social sustainability within the FADN monitoring system, and apply this framework to assess variations between the main types of farm enterprises in Ireland.

**Methodology**

*100 – 250 words*

A comprehensive assessment of current farmer, rural and societal well-being and sustainability indices and frameworks was undertaken in this study, to identify representative well-being indicators for inclusion in the Farmer Sustainability Index (FSI). The data used to construct these indicators for the FSI is drawn from both core and supplementary FADN data from the 2018 Teagasc National Farm Survey (NFS). In total, 14 indicators were extracted, and were categorised between three dimensions broadly aligned with material, relational and subjective dimensions. The first dimension, farm continuity, incorporates variables examining farm economic viability, plans for the farm business and whether a successor has been identified. The second dimension, community and social connections, examines farmers' risk of isolation, their frequency of social interaction with those outside their household, whether they have off- farm employment, and examines their ability to access a range of public and essential services. The farmer comfort dimension incorporated indicators examining working hours, experience of occupational stress and sense of security.

Equal weighting was assigned to each indicator across the three dimensions, and to each dimension, to ensure an unbiased contribution to the index. To address issues of compensation within the composite index, the geometric mean, rather than the arithmetic mean, was used to aggregate the dimensions within the index. Statistical analysis was undertaken to compare the distribution of FSI and the individual dimension scores for farms across three socio-demographic variables; (i) Farm System, (ii) Farmer age cohort and (iii) Farm Regions

**Results**

*100 – 250 words*

The distributions of FSI scores were statistically significantly different within each of the socio demographic variables analysed. Differences between the groups for farm systems found tillage farmers had significantly higher FSI scores, reflecting a higher level of social sustainability and well-being, while cattle farmers returned the lowest FSI scores. Looking at the individual dimensions, farmers in the dairy sector returned the highest farm continuity scores compared to other farm systems, along with young



and middle age farmers, while sheep farmers recorded the lowest continuity score, as well as farmers over 60 years of age. The community and social connections dimension demonstrated that social isolation and difficulty in accessing public and essential services was most problematic amongst farmers working in the cattle sector, older farmers, and farmers who reside in the Border and Midlands regions of Ireland. Sheep farmers recorded the highest scores in the farmer comfort dimension, which assessed elevated working hours, experience of stress and deterioration in sense of security, while dairy farmers returned the lowest score. Dairy farmers experienced the highest level of occupational stress and long working hours, and were second only to cattle farmers regarding a deterioration in their sense of security, while sheep farmers recorded the highest scores for each variable in this dimension.

**Discussion and Conclusion**

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The dearth of social indicators within monitoring frameworks, such as the FADN, necessitates a more invested assessment of social metrics in order to bring it to parity with economic and environmental measurement. This study demonstrates that the FADN framework retains the ability to measure and monitor farmer well-being, and identifies limitations existing within the current dataset. Through the development of a composite index, the FSI, we find that farmers working in the cattle sector, older farmers, and those residing in regions with poorer infrastructure experience lower levels of well-being and social sustainability in comparison to other farmers. Examining the variation in the FSI dimension scores by the farms socio-demographic construct highlight numerous well-being and quality of life concerns existing within different farm systems, regions and age cohorts, and that high levels of sustainability attained in one element may not necessarily resonate throughout the farm system. Moreover, this index can assist in identifying potential risks to farmers, with issues relating to generational renewal and the continuation of the family farm, work-life balance, and poor social connectivity more effectively determined.

It is vital that monitoring frameworks are in place to audit the progression of EU agricultural policies, particularly for those within the evolving social realm, to ensure new policies are effectively implemented for those farmers they are designed to help. This Farmer Sustainability Index and its constituent dimensions can provide an effective method to help assess the success of policy in this regard, and can provide key social sustainability data for the planned Farm Sustainability Data Network.