



# USING FIRM DATA FOR UNDERSTANDING RURAL AREAS : SCOTLAND

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# FIRM DATA FOR RURAL AREAS



## What is rural ?

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- The OECD harmonizes classifications of territories based on administrative units such as large regions (TL2), **small regions** (TL3)<sup>1</sup>
  - Small regions are based on percentage of population with access to **functional urban areas** (FUAs). A small (TL3) region may be classified as:
    - non-metropolitan rural remote,
    - non-metropolitan close to small city,
    - non-metropolitan close to medium sized city,
    - metropolitan
    - large metropolitan

<sup>1</sup> There other harmonized classifications, such as the "**Degree of Urbanisation**" (degurba), but definitions based on administrative lines are often more useful for policy making.



## What is rural in Scotland ?

- **Rural** can be found in most business census, registries and surveys.
  - **Careful! Each country** has its own definition of rural.
  - Eg. Firms based in Scotland are classified based on their reporting unit's **postcode** that is available in UKIS and **local authorities** in the BSD.

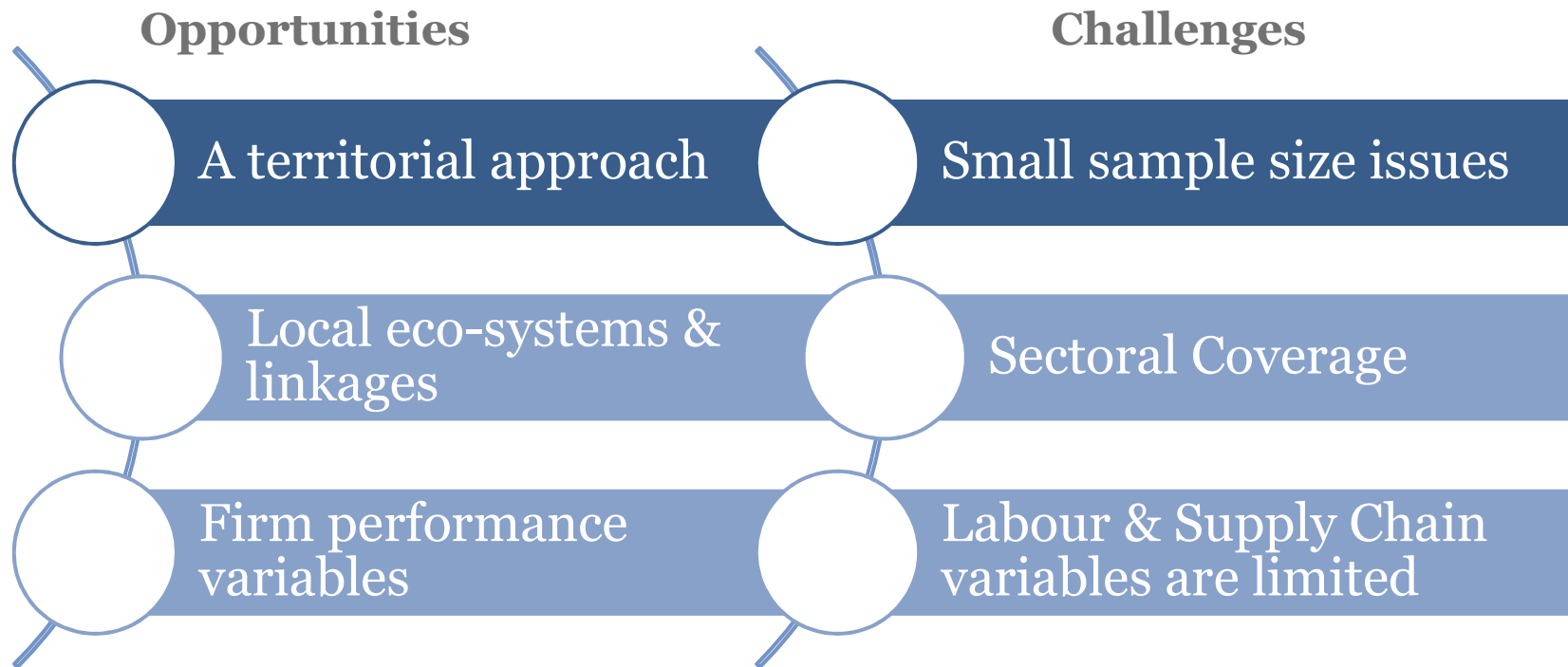
Urban	Small Town	Rural
<ul style="list-style-type: none"><li>• Large</li><li>• Other</li></ul>	<ul style="list-style-type: none"><li>• Accessible</li><li>• Remote</li><li>• Very Remote</li></ul>	<ul style="list-style-type: none"><li>• Accessible</li><li>• Remote</li><li>• Very Remote</li></ul>

*Which different types of surveys and micro data can be used for agriculture and rural analysis?*



## Firm-level data : Opportunities and challenges

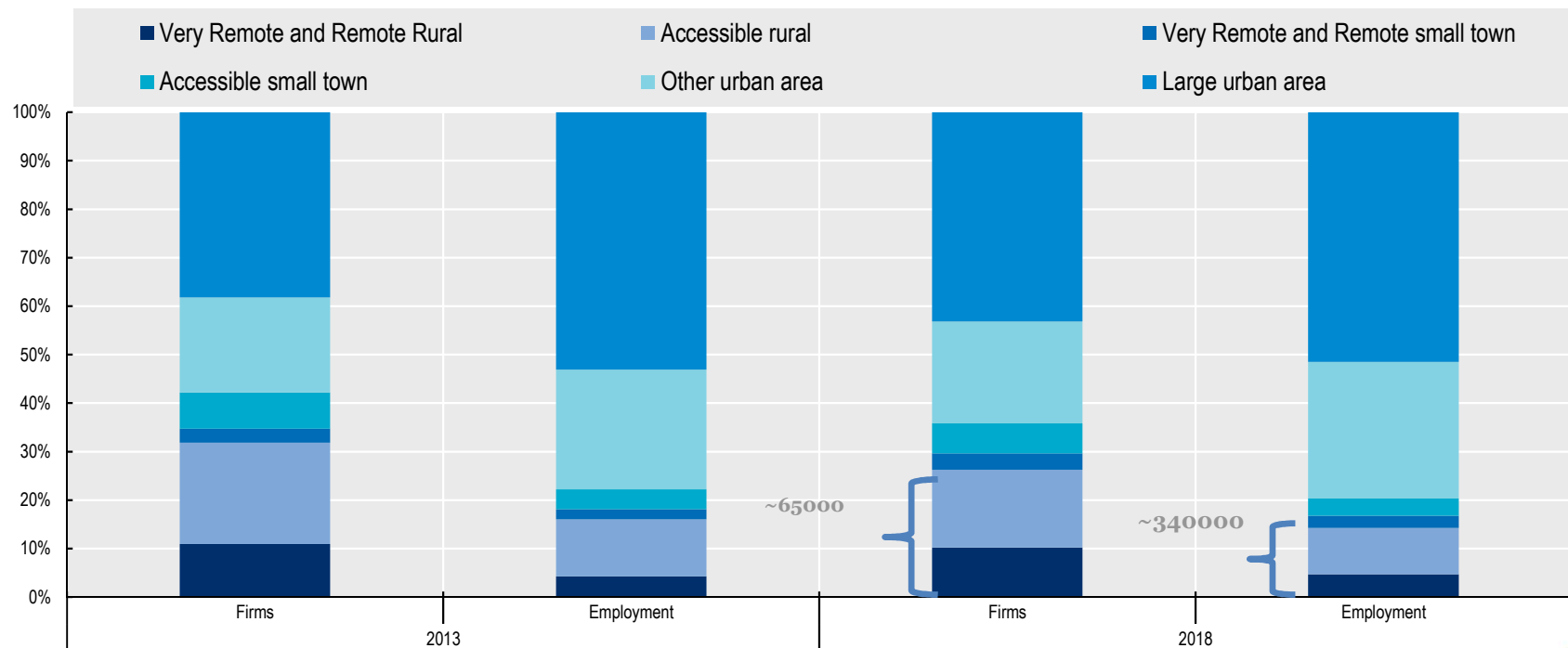
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*Which questions can be analyzed with business survey data? Which issues and aspects cannot? EX : Territorial, Sectoral, Firm Characteristics and Outcomes.*

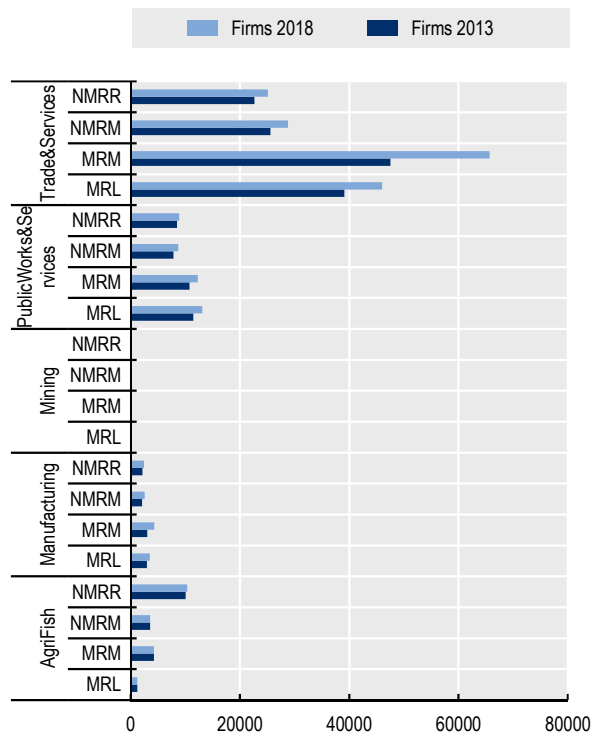


## Territorial Analysis : Close to 1/3<sup>rd</sup> of firms but 1/5<sup>th</sup> of labour are in rural areas of Scotland.





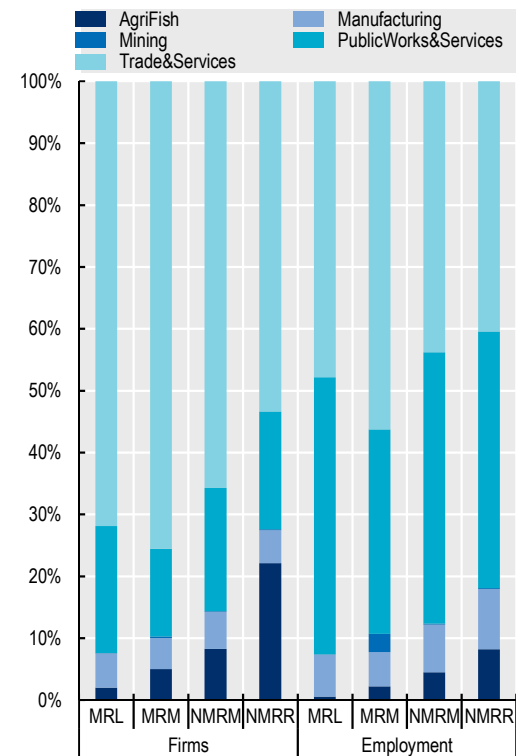
**Sector Analysis:** While the agricultural sector is strong in non-metropolitan regions, they are still only a part of the picture.



Harmonise sectors :

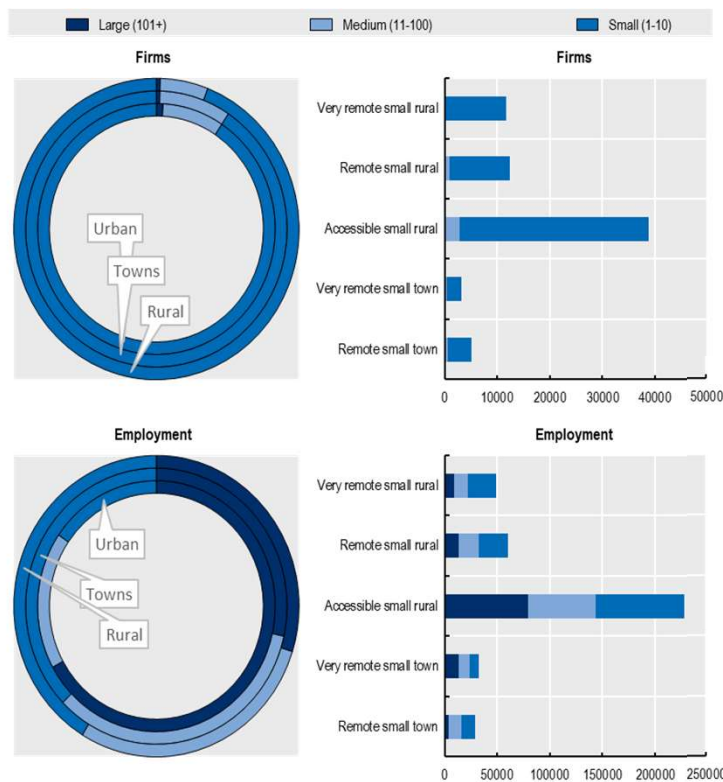
- Over **time**
- Across **countries** and classification systems

And we need to **choose priorities** when aggregating.





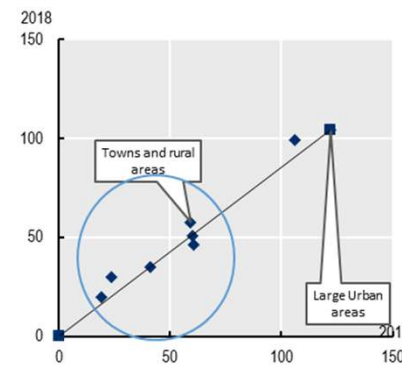
## Firm Characteristics : Rural firms are usually smaller, are less often foreign owned, and are older



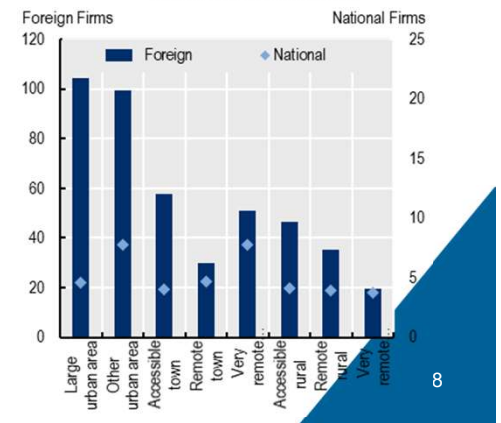
- We can quickly face sample size restrictions when attempting to look at various characteristics simultaneously :

**Territory X Sector X Size**

Changes in Employment per firms, Foreign Firms

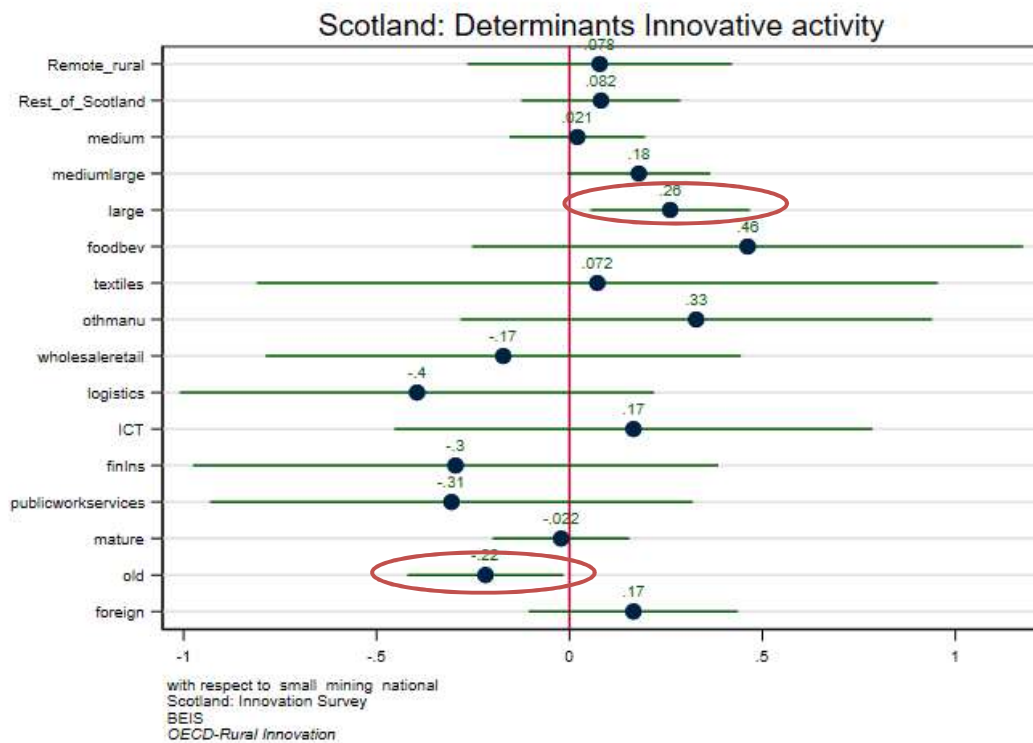


Employment per firm (2018)





## Policy-related Outcomes : Innovation



- In Scotland, neither territory nor sector matters for innovation
  - **Size** and **age** does!

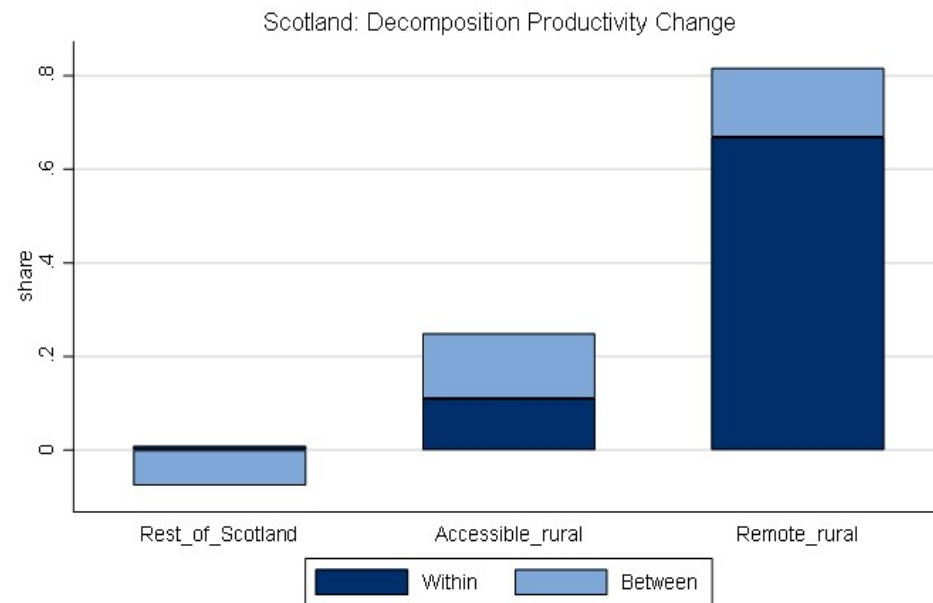
<sup>1</sup> Because the base value is the mining and manufacturing, the above graph may be interpreted as either a relatively low level of innovation in services, or a relatively high level of innovation in manufacturing.



## Policy-related Outcomes : Productivity

- Productivity is growing in rural and accessible regions, but not the rest of Scotland
- Most of the productivity increase was due to upgrades in the existing activities of the rural remote regions.
- A similar decomposition of productivity can be done by sector!

*Similar opportunities to understand diversification of territories and firms.*

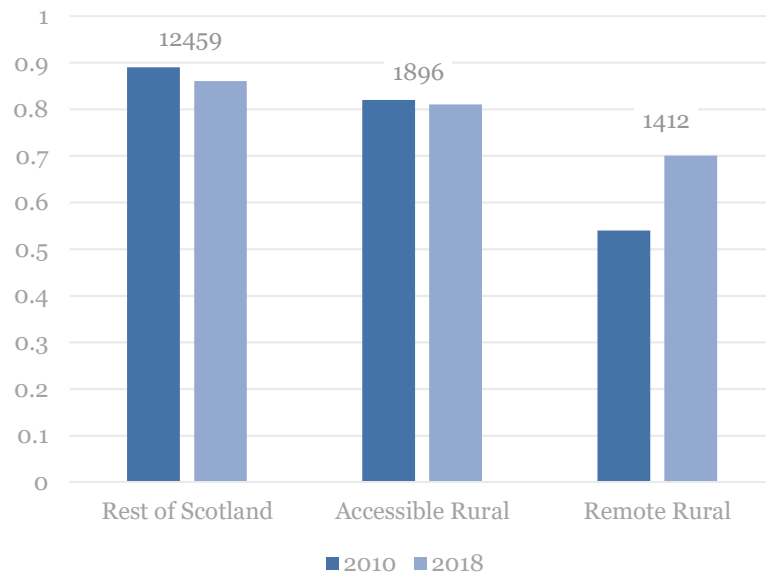


Scotland: Innovation Survey  
Melitz & Polanec (2012)  
BEIS  
OECD-Rural Innovation

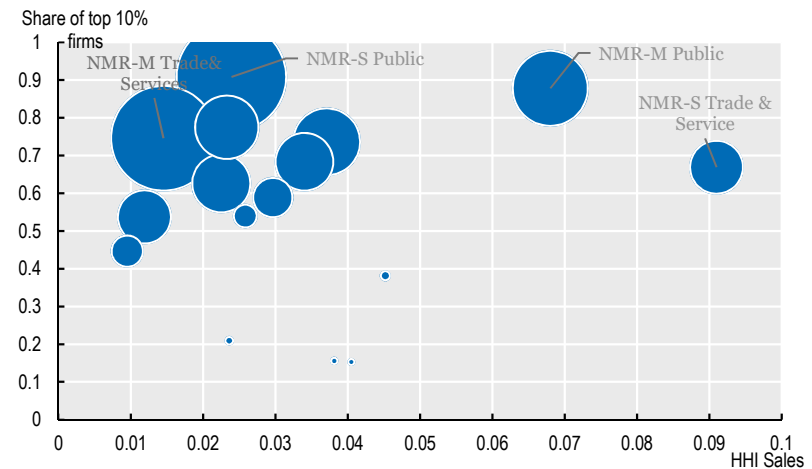


## Outcomes : Additional opportunities with firm data

*Gini and Inequality*



*Diversification and Competition*



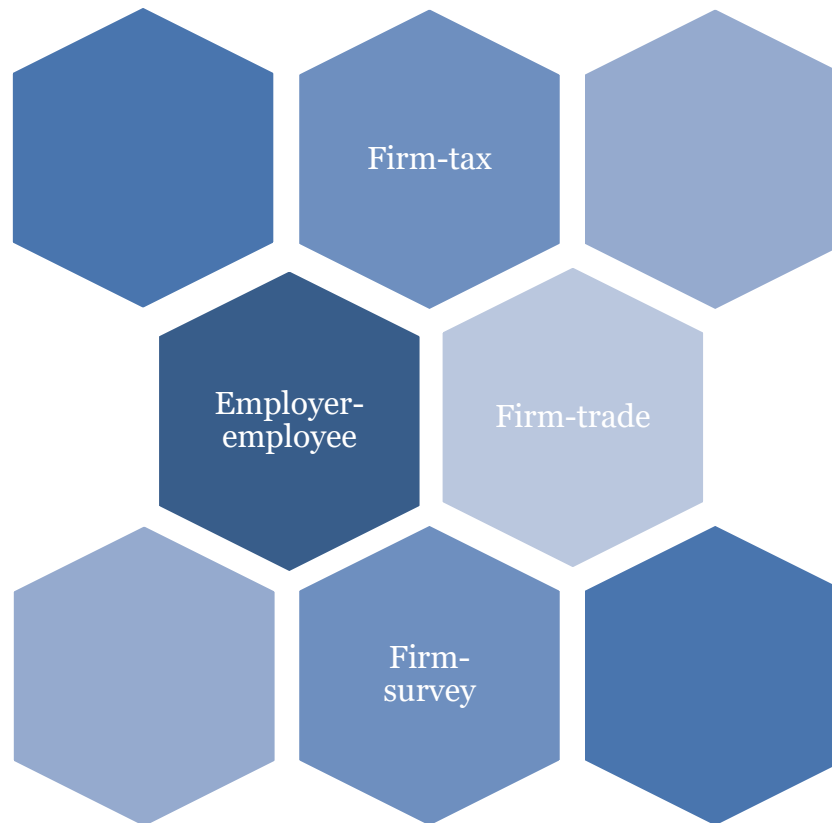


# CHALLENGES LINKING DATA SOURCES



## Linking sources of data

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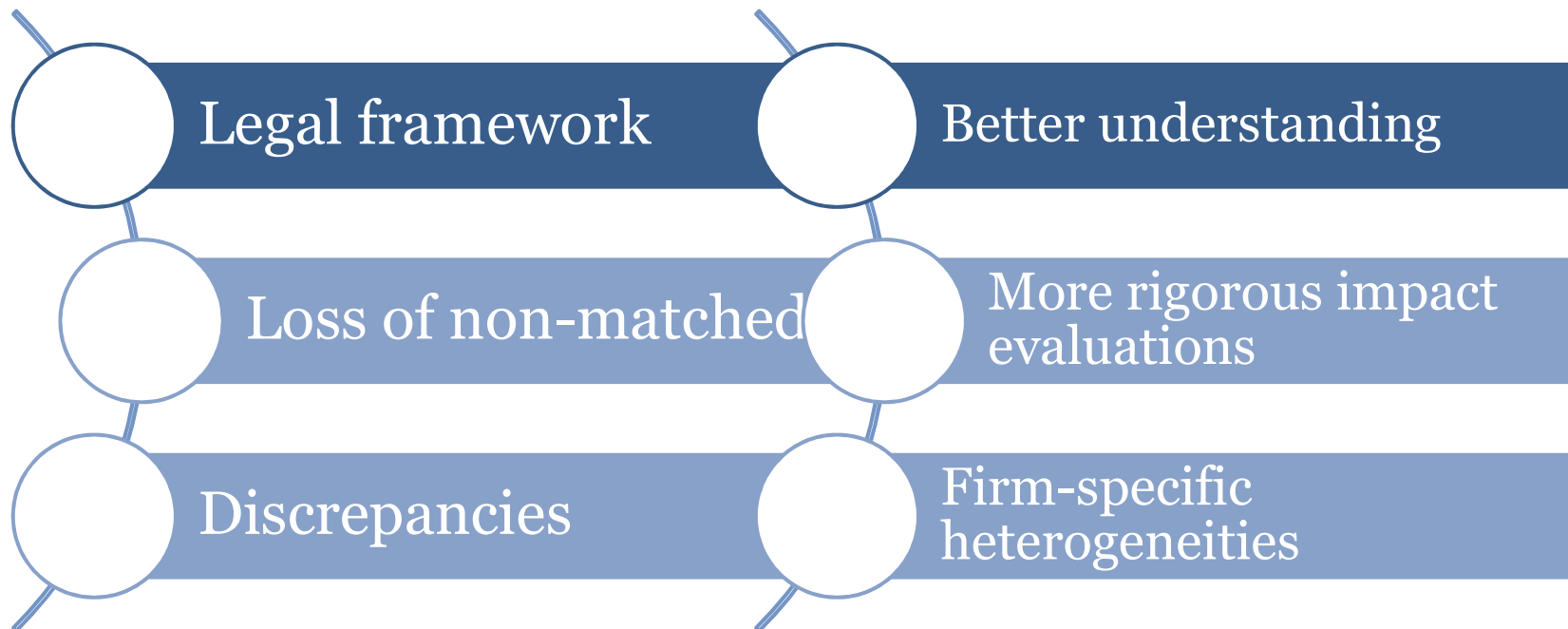


## Linking Farm & Firm-level data : Challenges and Opportunities

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### Challenges

### Opportunities



# Thank You

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## Territorial Classifications : Innovation Survey

**Table 1: Total number of firms and total employment by territory level and year**

rural	year	Unweighted N	(sum) N	(sum) L
Urban	2010	867	10449	667780
Urban	2018	1213	12459	622038
Rural	2010	205	3011	118981
Rural	2018	290	3308	130170
Rural/Urban 3-fold				
Rural/Urban 3-fold	year		(sum) N	(sum) L
Rest_of_Scotland	2010	867	10449	667780
Rest_of_Scotland	2018	1213	12459	622038
Accessible_rural	2010	159	2186	99860
Accessible_rural	2018	194	1896	90789
Remote_rural	2010	46	825	19121
Remote_rural	2018	96	1412	39381

Rural/Urban 8-fold				
Rural/Urban 8-fold	year	Unweighted N	(sum) N	(sum) L
Large urban area	2010	477	5485	396558
Large urban area	2018	687	6860	346862
Other urban area	2010	279	3302	220034
Other urban area	2018	407	4064	223451
Accessible small town	2010	76	1093	36036
Accessible small town	2018	67	804	32699
Remote small town	2010	18	283	7385
Remote small town	2018	31	412	12527
Very remote small town	2010	17	286	7766
Very remote small town	2018	21	318	6499
Accessible rural	2010	159	2186	99860
Accessible rural	2018	194	1896	90789
Remote rural	2010	22	368	8836
Remote rural	2018	51	791	23517
Very remote rural	2010	24	456	10285
Very remote rural	2018	45	621	15864