The role of Smart Specialisation in driving long-term structural changes

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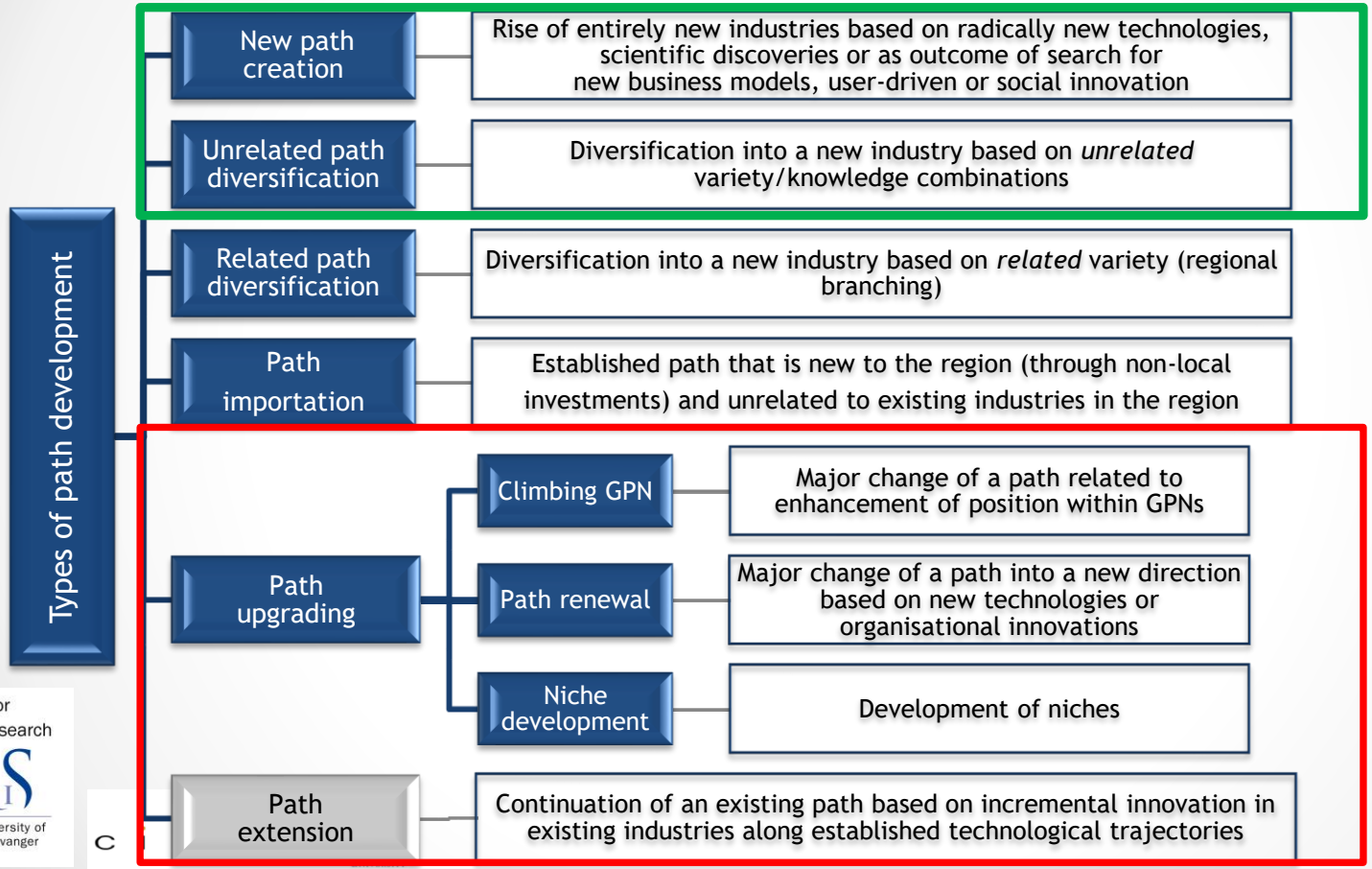
Why is Smart Specialisation important?

- Smart Specialisation (S3) is probably the single largest attempt ever of an orchestrated, supranational innovation strategy to **boost economic growth through diversification**, and, as such, deserves to be watched closely
- Provide a framework/platform for promoting and implementing **a broad based innovation policy**, which is very critical taking into account the failure of the linear, R&D based innovation policy of EU since Lisbon 2000
- **It is not about 'specialisation'** as we know it (e.g. from **Porterian clusters**) but about ***diversified* specialisation** ('smart focus')
- Regions should identify domains of **existing and potential competitive advantage,** where they can build capabilities and **specialise in a *diversified* way compared to other regions**
- The focus of S3 is to go beyond path extension and promote new path development and transformative activities on a sub-sectoral level

What is Smart Specialisation

- **Entrepreneurial discovery process** should be understood **broadly**, i.e. not only as the efforts of a single entrepreneur
- The EDP must encompass all actors with an **entrepreneurial mindset** including **innovative (Schumpeterian)** entrepreneurs at the firm level, **institutional** entrepreneurs at universities and in the public sector, and **place leadership** at the regional level
- Important to place **EDP within a (regional) innovation system** (RIS) perspective emphasising the need for a public innovation policy/funding and exploration as well as exploitation
- Innovation as interactive learning between T-H stakeholders (+ civil society) as well as within firms and organisations (clusters)
- How can Smart Specialisation drive long-term structural changes?

Types of industrial path development



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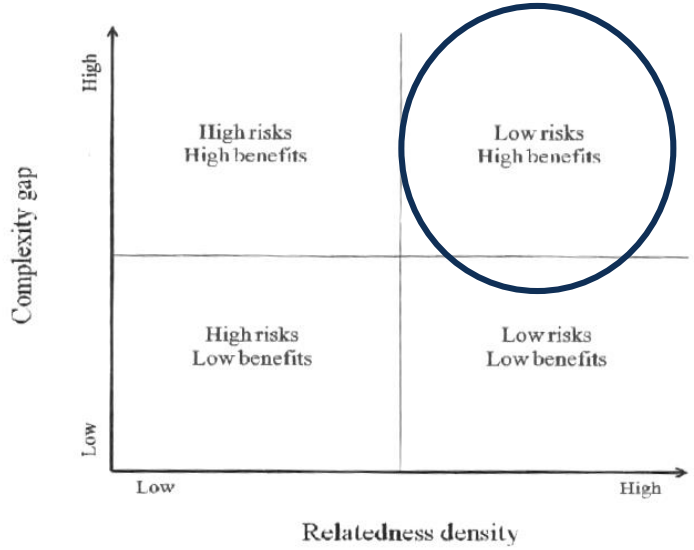
Related vs unrelated diversification (Xiao et al., 2018)

- New research has found that increased innovation capacity leads to reduced importance of relatedness for industrial diversification.
- '... high innovation capacity allows an economy to break from its past and to develop truly new industrial specialisations' (i.e. unrelated diversification and new path creation)
- '... Innovation capacity as a critical factor for economic resilience and diversification capacity'
- These findings seem to confirm the Swedish experience as the most resilient economy in Europe (OECD 2013)

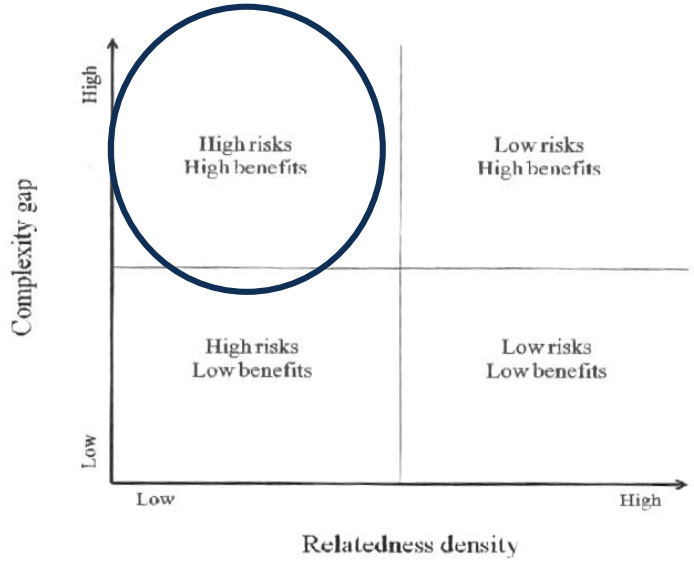
Balland et al. (2017) call the 'low risk/high benefit' alternative (related diversification) a *high road strategy* ... but the **transformative** potential is limited. The 'high risk/high benefit' alternative is considered to be a *casino strategy*



Unrelated diversification: Transformative activities

- ’... the incentives to promote structural transformation in the presence of proximate opportunities are likely **quite different from that required when a country hits a dead-end.** It is quite difficult for production to shift to far-away products in the space, and therefore policies to promote large jumps are more challenging. Yet, **precisely those long jumps are the ones generating new options for subsequent structural transformation**’ (Hidalgo et al., 2007, in Science)
- New tendencies of S3 strategies to promote transformative activities are represented by exploiting potential benefits of KET to support transformative activities/unrelated diversification (Emilie-Romagna, Upper Austria, East Central Sweden)
- When Foray talks about ’transformative activities’ based on ’unrelated knowledge combinations, he says that *”’each TA is a gamble”*.
- ’The public sector needs to be more *hungry and foolish*’ (Mazzucato)

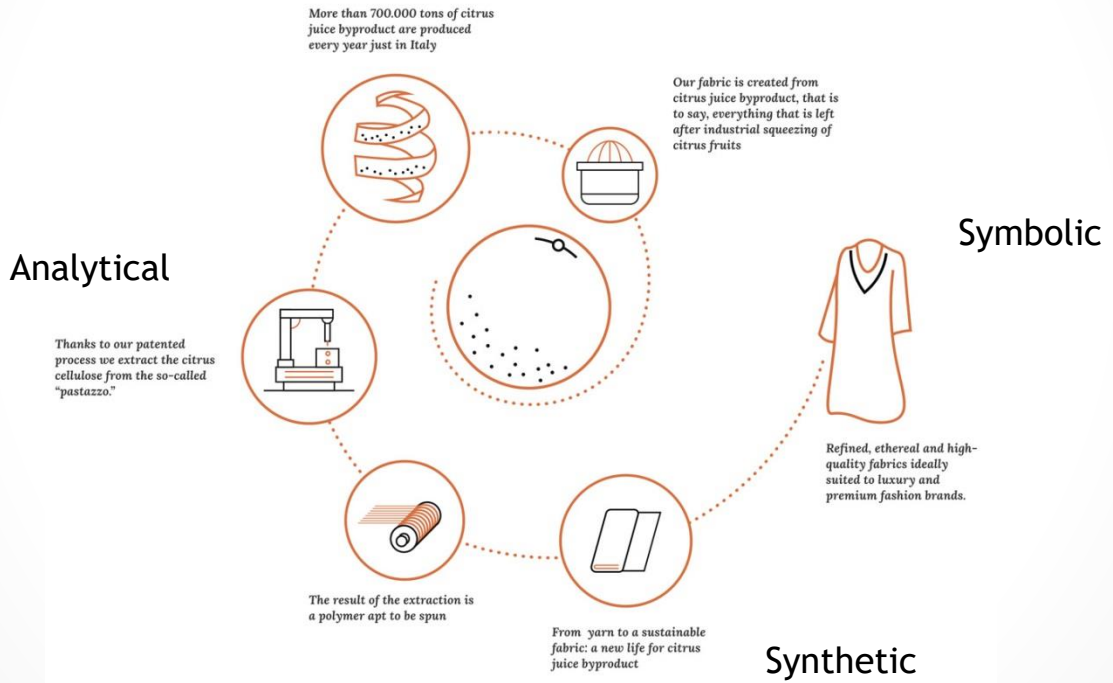
“Unrelated variety contributes to new path development due to the learning and innovation potential arising from the combination of dissimilar knowledge between sectors that have no/limited interdependencies” (Grillitsch et al., 2018).



Differentiated knowledge bases: A typology

Analytical (science based)	*Synthetic* (*engineering based*)	*Symbolic* (art based)
Developing new know-ledge about natural systems by applying scientific laws; *know why*	*Applying or combining existing knowledge in new ways; know how*	Creating meaning, desire, aesthetic qualities, affect, intangibles, symbols, images; *know who*
Scientific knowledge, models, deductive	*Problem-solving, custom production, inductive*	Creative process
Collaboration within and between research units	*Interactive learning with customers and suppliers*	Experimentation in studios and project teams
Strong codified knowledge content, highly abstract, universal	*Partially codified knowledge, strong tacit component, more context-specific*	Importance of interpretation, creativity, cultural knowledge, sign values, implies strong context specificity
Meaning relatively constant between places	*Meaning varies substantially between places*	Meaning highly variable between place, class and gender
Drug development	*Mechanical engineering*	Cultural production, design, brands

Unrelated variety/knowledge combinations



Source: www.orangefiber.it

Related and unrelated diversification

Knowledge/ technology Sector/market	Related	Unrelated
Related	***Related diversification*** regional branching	***Unrelated diversification*** (KB) functional food, technical textiles/shoes – KET
Unrelated	***Unrelated diversification*** (KB/EEG) Fischer – ski to aviation (composite material) Pumps & pipes; Lyse	***Unrelated diversification*** (KB) new media (combining analytical, synthetic and symbolic knowledge); and ***New path creation*** (KB)

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Supportive vs. competitive relationships (Trippl)

- When discussing how S3 can promote new path development it is important to avoid *competitive* relationships, where different path developments compete over scarce resources, and to promote *supportive* relationships providing opportunities for path coupling through expanding the opportunity space for sourcing capabilities and resources
- This will require adaptation of organisational and institutional support structures to allow for new types of entrepreneurship and governance to meet these more long-term development goals and to promote supportive relationships between different path developments
- The largest varieties of sources for new path development is found in metropolitan areas, which can draw on the benefits of specialisation and urbanisation economies as well as related and unrelated variety in concrete geographic and abstract economic space
- Peripheral areas with strenghts in one industry are not limited to specialisation in concrete geographic space but can also tap into related and unrelated variety in abstract economic space

Opportunity space for regional industrial path development (Grillitsch et al., 2018)

	Concrete geographic space (agglomerated external economies)	Abstract economic space (non-agglomerated external economies)
Specialisation (localisation economies)	⇒ Path extension	⇒ Path extension ⇒ Climbing GVC
Related variety	⇒ Shifts between paths	⇒ Related path diversification (path branching)
Diversity/ unrelated variety (urbanisation economies)	⇒ Niche development ⇒ Renewal ⇒ Unrelated path diversification ⇒ Path creation	⇒ Niche development ⇒ Renewal ⇒ Path importation ⇒ Unrelated path diversification

New industrial innovation policy (Radosevic 2017)

- Characterized by:

1. No single agent has a total overview of the economy
2. Its key feature is designing a policy process that leads to the 'discovery' of new (diversified) specialisations
3. Policy making is an **endogenous** factor in the design and implementation of industrial policy facilitating the process of self-discovery by agents

Smart specialisation is EU's version of new industrial innovation policy

Thanks for the attention

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