

# Financialization of Agriculture Commodity Markets

## Paper #1: The Safe-haven & Hedge Properties of Agriculture Commodity Markets against the Stock Market

**Aim:** Assess the safe-haven, hedging, and diversifying properties of agricultural commodity futures with respect to the S&P 500 index between 1999 and 2021.

**Data & Methodology:**

- Daily data on 11 agricultural commodities and a benchmark stock index (S&P 500) from 1999 to 2021 from the **Refinitiv Database**.
- GARCH Model à la Baur and Lucey (2010) that measures the effect of extreme stock returns on commodities
- Two distinct risk measures, the value at risk and the semi standard deviations, to assess the diversification benefits of agricultural commodity futures with respect to a stock portfolio.
- Portfolio analysis by computing the cumulative average returns of stocks and agricultural commodities following major stock market drawdowns.

$$r_{i,t} = a + b_1 r_{S\&P500,t} + b_2 D(r_{S\&P500,t}, 10\%) + b_3 D(r_{S\&P500,t}, 5\%) + b_4 D(r_{S\&P500,t}, 2.5\%) + b_5 D(r_{S\&P500,t}, 1\%) + \epsilon_{i,t}$$

## Paper #2: Speculation in Agricultural Commodity Markets: Implications for Returns and Volatility

**Aim:** Understanding of the impact of speculation on agricultural commodity prices.

The U.S. Commodity Futures Trading Commission (CFTC) defines a speculator in commodity futures as "a trader who does not hedge, but who trades with the objective of achieving profits through the successful anticipation of price movements."



EXHIBIT 4  
Model à la Baur and Lucey (2010)

	Cocoa		Coffee		Corn		Cotton		Feeder Cattle		Kansas Wheat	
	Coeff	Z	Coeff	Z	Coeff	Z	Coeff	Z	Coeff	Z	Coeff	Z
b1	0.135	5.44***	-0.166	-5.71***	-0.102	-4.75***	0.116	7.83***	0.046	3.34***	-0.086	-3.92***
b2	-0.171	-0.99	-0.085	-1.08	-0.159	-2.45**	-0.127	-2.12**	-0.050	-2.12**	-0.059	-0.91
b3	0.143	0.48	0.114	1.21	0.248	3.60***	0.275	3.76***	0.057	0.91	-0.011	-1.26
b4	-0.029	-0.31	0.261	0.60	-0.041	-0.55	-0.118	-1.61	-0.046	-0.75	0.031	0.40
b5	0.180	2.33**	-0.035	-0.38	0.041	0.74	0.140	2.29**	0.089	2.19***	0.080	1.40
Cons	0.000	0.19	-0.000	-2.17**	-0.000	-0.84	0.000	0.64	0.000	1.67*	-0.000	-0.86
ARCH	0.100	8.00***	0.194	16.23***	0.141	9.49***	0.133	8.67***	0.015	9.67***	0.140	8.27***
GARCH	0.709	7.15***	0.646	15.22***	1.010	17.11***	0.971	17.77***	0.080	12.64***	0.902	7.27***
Cons	0.000	2.04**	0.000	4.11***	0.000	3.30***	0.000	2.48**	0.000	2.15**	0.000	0.51

	Live Cattle		Lean Hogs		Soybeans		Sugar		Wheat	
	Coeff	Z	Coeff	Z	Coeff	Z	Coeff	Z	Coeff	Z
b1	0.069	6.34***	0.014	0.61	0.135	5.20***	0.115	6.58***	-0.115	-5.01***
b2	-0.004	-0.09	0.183	2.86**	-0.140	-1.85*	-0.178	-1.43	0.113	1.94*
b3	0.053	1.00	-0.087	-1.12	0.022	2.20**	0.129	1.86*	-0.017	-1.93*
b4	-0.023	-0.46	0.043	0.56	-0.099	-1.04	-0.021	-0.31	-0.008	-0.09
b5	0.058	1.75*	-0.058	-0.93	0.107	2.49**	0.080	1.45	0.116	1.77*
Cons	0.000	0.95	0.000	0.03	-0.000	-0.08	0.000	1.97**	-0.000	-1.90*
ARCH	0.130	9.92***	0.126	8.67***	0.132	8.98***	0.149	10.61***	0.100	7.98***
GARCH	1.014	10.67***	0.987	12.38***	0.761	7.41***	0.997	18.41***	0.970	10.18***
Cons	0.000	1.84*	0.000	1.79**	0.000	1.04	0.000	3.53***	0.000	2.78***

NOTES: \*, \*\*, and \*\*\* denote statistical significance at the 10%, 5%, and 1% level, respectively. The three bottom lines provide the coefficients for the variance equation, which is modeled according to a GARCH process.



EXHIBIT 6  
Semi-Standard Deviation of Various Agricultural Commodity Allocations (1999-2021)

Commodity Weight	Cocoa	Coffee	Corn	Cotton	Feeder Cattle	Kansas Wheat	Live Cattle	Lean Hogs	Soybeans	Sugar	Wheat
1%	0.89%	0.90%	0.90%	0.90%	0.89%	0.90%	0.90%	0.90%	0.90%	0.90%	0.90%
2%	0.89%	0.89%	0.89%	0.89%	0.88%	0.89%	0.89%	0.89%	0.89%	0.89%	0.89%
3%	0.88%	0.88%	0.88%	0.88%	0.88%	0.88%	0.88%	0.88%	0.88%	0.88%	0.88%
4%	0.87%	0.88%	0.87%	0.88%	0.87%	0.87%	0.87%	0.87%	0.87%	0.87%	0.88%
5%	0.86%	0.87%	0.87%	0.87%	0.86%	0.87%	0.87%	0.87%	0.87%	0.87%	0.87%
6%	0.86%	0.86%	0.86%	0.87%	0.85%	0.86%	0.86%	0.86%	0.86%	0.86%	0.86%
7%	0.85%	0.86%	0.85%	0.86%	0.85%	0.85%	0.85%	0.85%	0.85%	0.85%	0.86%
8%	0.84%	0.85%	0.85%	0.86%	0.84%	0.85%	0.84%	0.85%	0.85%	0.84%	0.85%
9%	0.84%	0.85%	0.84%	0.85%	0.83%	0.84%	0.83%	0.84%	0.84%	0.84%	0.85%
10%	0.83%	0.84%	0.83%	0.85%	0.83%	0.84%	0.83%	0.83%	0.84%	0.83%	0.84%

100% S&P 500				
0.90%				
Safe-Haven				
Hedge	1%	2.50%	5%	10%
Coffee	Corn	Corn	Coffee	Cocoa
Corn		Kansas Wheat	Corn	Coffee
Kansas Wheat		Soybeans	Kansas Wheat	Corn
Wheat		Wheat	Wheat	Cotton
				Feeder Cattle
				Kansas Wheat
				Soybeans
				Sugar
				Wheat

**KEY FINDINGS:**

- Agricultural commodities appear to be valid diversifiers for stocks.
- Various agricultural commodities exhibit safe-haven and/or hedging properties against the S&P 500 index.
- A small exposure to agricultural commodities enables a significant reduction in a stock portfolio's downside risk as proxied by semi standard deviation and value at risk.

**Data**

- Weekly supplemental Commitments of Traders (SCOT) report (CFTC Website). The common practice in the literature is to consider the commercial traders as hedgers and non-commercials traders as speculators (Haase et al., 2017).
- Commodity futures prices from Refinitiv for eight agricultural commodities: wheat, corn, soybeans, soybean oil, cotton, cocoa, sugar, and coffee for a period of 2006-2022, yielding 879 observations per series.

$$ESV_t = [(NCL_t - NCS_t) - (CL_t - CS_t)] \quad \frac{TV_t}{OI_t}$$

$$WT_t = \begin{cases} 1 + \frac{SS_t}{HS_t + HL_t}, & HS_t \geq HL_t \\ 1 + \frac{SL_t}{HS_t + HL_t}, & HS_t < HL_t \end{cases}$$

$$MS_t = \frac{\Delta SL_t - \Delta SS_t}{|\Delta SL_t| + |\Delta SS_t|}$$

$$MH_t = \frac{\Delta HL_t - \Delta HS_t}{|\Delta HL_t| + |\Delta HS_t|}$$

$$NSP_t = \frac{SL_t - SS_t}{SL_t + SS_t + (2 \times SSP_t)}$$

$$NCNL_t = NCL_t - NCS_t$$

$$SI_t = \frac{NCL_t + NCS_t + (\alpha_t \times (NRL_t + NRS_t))}{2 \times OI_t}$$

$$SOI_t = \frac{SL_t + SS_t + SSP_t}{2 \times OI_t}$$

$$r_{i,t}^2 = \alpha_i + \beta_{1,i} SPEC_{i,t-1} + \beta_{2,i} r_{i,t-1}^2 + \beta_{3,i} OILRET_t^2 + \beta_{4,i} OILRET_{t-1}^2 + \beta_{5,i} WORLDRET_t^2 + \beta_{6,i} WORLDRET_{t-1}^2 + \epsilon_{i,t}$$

	Wheat	Corn	Soybeans	Soybean oil	Cotton	Cocoa	Sugar	Coffee
WT	Negative	Negative	-	Negative	-	-	Negative	Negative
SOI	Negative	Negative	-	Negative	Negative	-	Negative	-
NSP	-	-	Negative	Positive	-	-	Positive	Positive
TV/OI	Positive	Positive	-	Positive	Positive	Positive	Positive	Positive
SI	Negative	Negative	Negative	Negative	-	Negative	Negative	-
MS	-	-	-	-	-	-	-	-
MH	-	-	-	-	-	-	-	-
NCNL	-	-	-	Positive	-	Negative	Positive	Positive
ESV	-	-	-	Positive	-	Negative	Positive	Positive

**KEY FINDINGS:**

- The impact of speculative activity on agricultural commodity returns' uncertainty is a function of how we measure speculation.
- Increases in the Working's T, speculative open interest, and speculative intensity are in most cases associated with lower subsequent volatility.
- TV/OI appears to be positively associated with subsequent volatility for most commodities.



The Published article in JWM



REFERENCES



For further information Contact Me!

# L'appréhension de la cybercriminalité organisée par le droit pénal

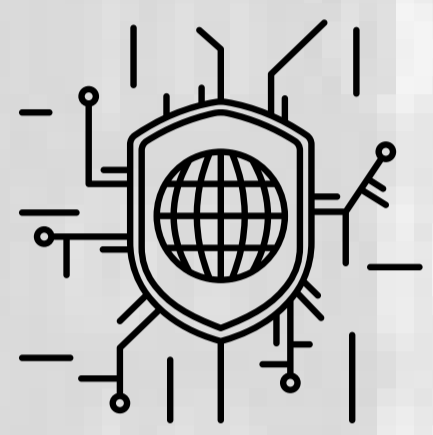
Par Tímea BAJUL, doctorante en droit privé et sciences criminelles

Sous la direction du Professeur Evan RASCHEL

## Introduction

« La plus grande menace de demain, [sera] la cybercriminalité organisée »  
(Guillaume POUPARD, ancien directeur de l'Agence nationale de sécurité des systèmes d'information)

L'utilisation accrue de l'expression « cybercriminalité organisée » dans la littérature non juridique



L'attrait grandissant de la criminalité collective pour le cyberspace

## Objectifs

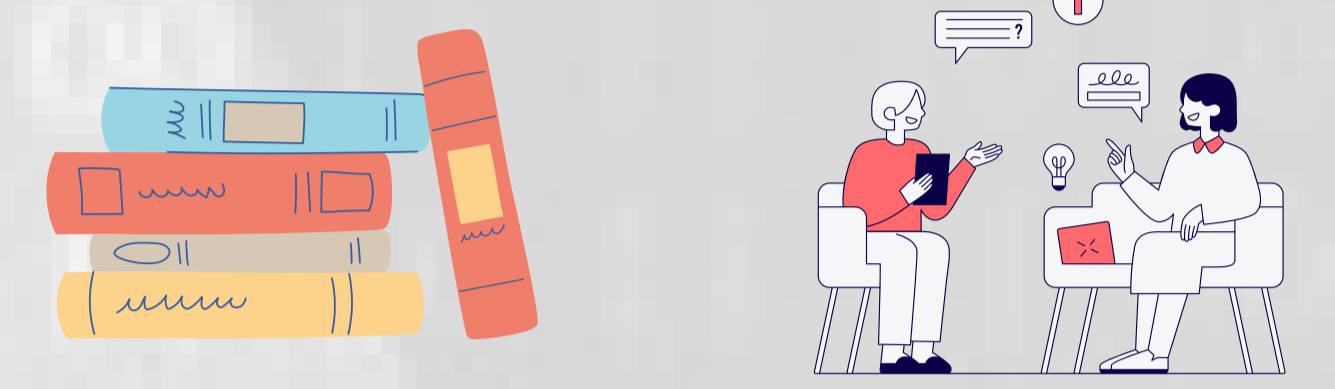
Définir les contours juridiques de la notion de cybercriminalité organisée tels qu'ils ressortent du droit pénal



Une approche prospective : réfléchir aux évolutions du droit pénal en adéquation avec la structure, les pratiques et les implications de la délinquance relevant de la cybercriminalité organisée

## Méthode

Exploitation de la littérature et des connaissances relatives à l'écosystème de la cybercriminalité organisée



Approche comparatiste = possibilité de s'inspirer de droits étrangers



## Analyse et perspectives

### Les contours juridiques de la notion de cybercriminalité organisée

Criminalité collective dépendante du cyberspace

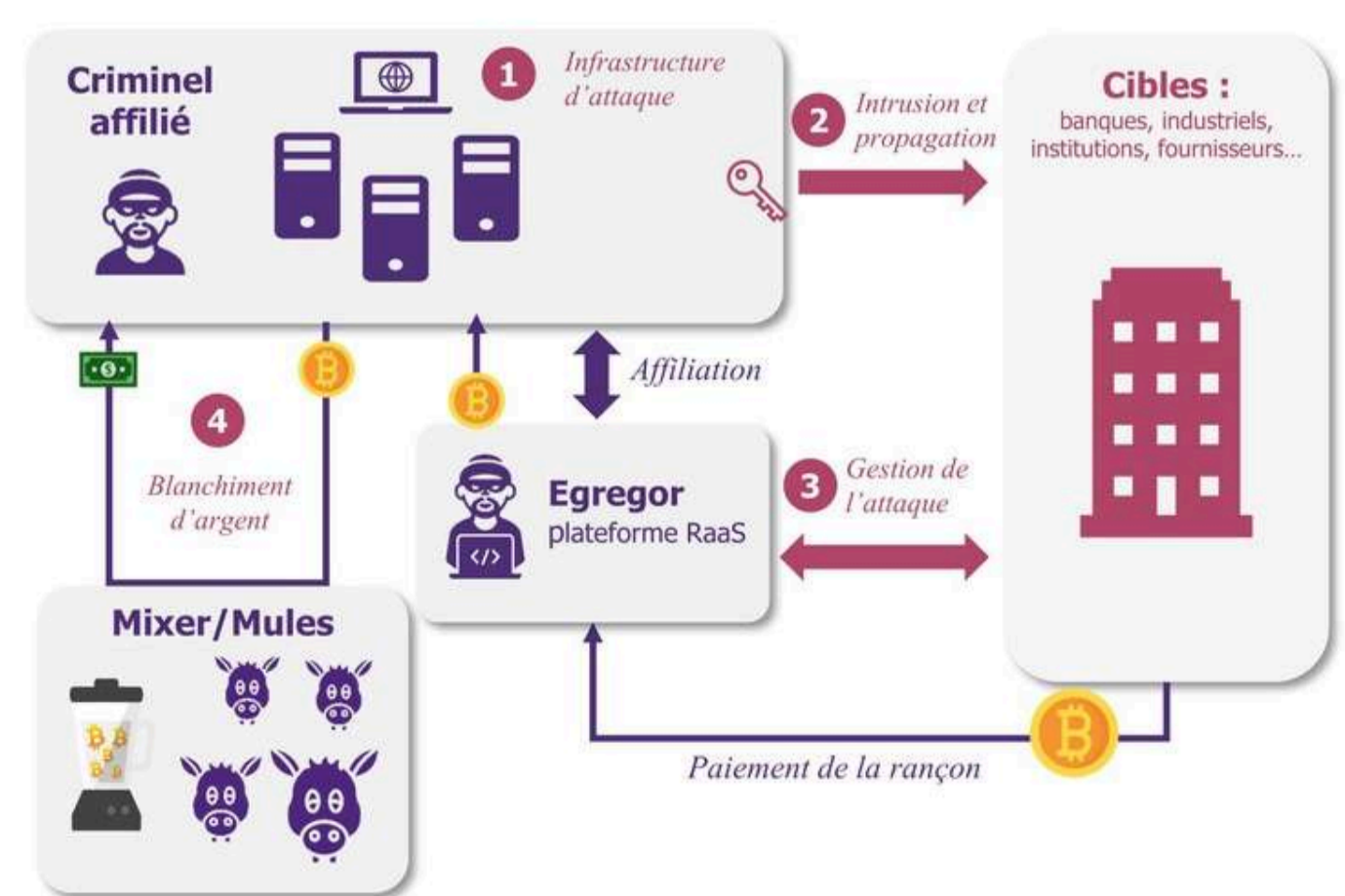
Appât du gain Géopolitique

4 types de groupes cybercriminels classés selon leurs motivations

Activisme Terroriste

Critères de la criminalité organisée

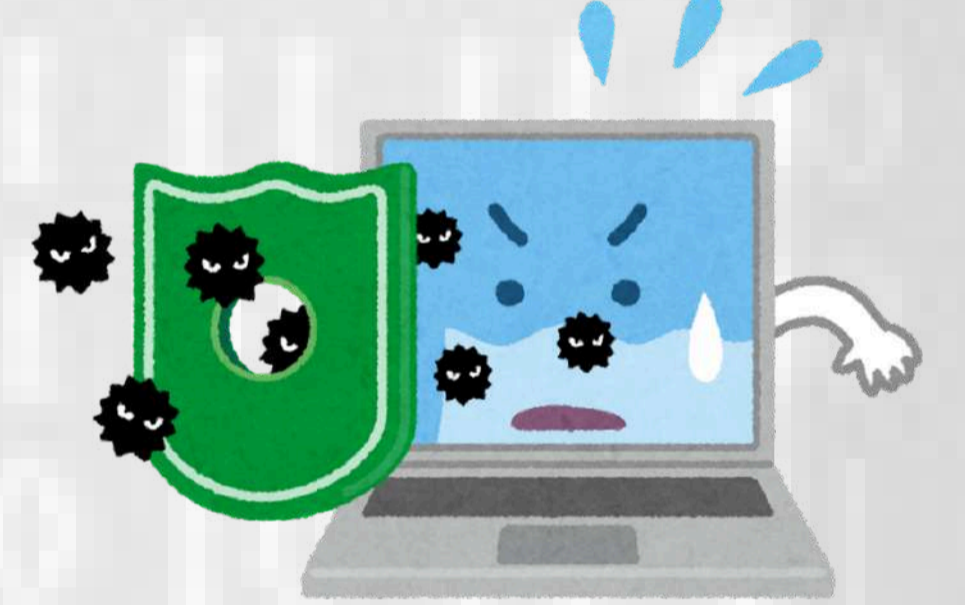
Une forme de cybercriminalité industrialisée : une division des tâches au sein des groupes cybercriminels & entre différents groupes cybercriminels



Source : « Cybercrime : plongée dans l'écosystème », Jérôme Billois, Marwan Lahoud, Blog de l'Institut Montaigne, 15 mars 2021.

Une notion tentaculaire, mobilisant plusieurs incriminations et valeurs sociales protégées dont les contours méritent d'être clarifiés

### L'écosystème généré par la cybercriminalité organisée



« Démocratisation » de la cybercriminalité du fait de de son industrialisation

Mobilisation croissante d'acteurs privés visant à assurer la protection des systèmes d'information

Une prise en compte en demi-teinte

### La procédure pénale à l'épreuve de la cybercriminalité organisée

Les critères de compétence

Des services spécialisés L'adaptation des actes d'enquête

Coopération interétatique / avec les acteurs privés

Indemnisation des victimes

Recherche de lisibilité, de cohérence, d'efficacité, de protection des droits et des libertés fondamentaux

## BACKGROUND

#1

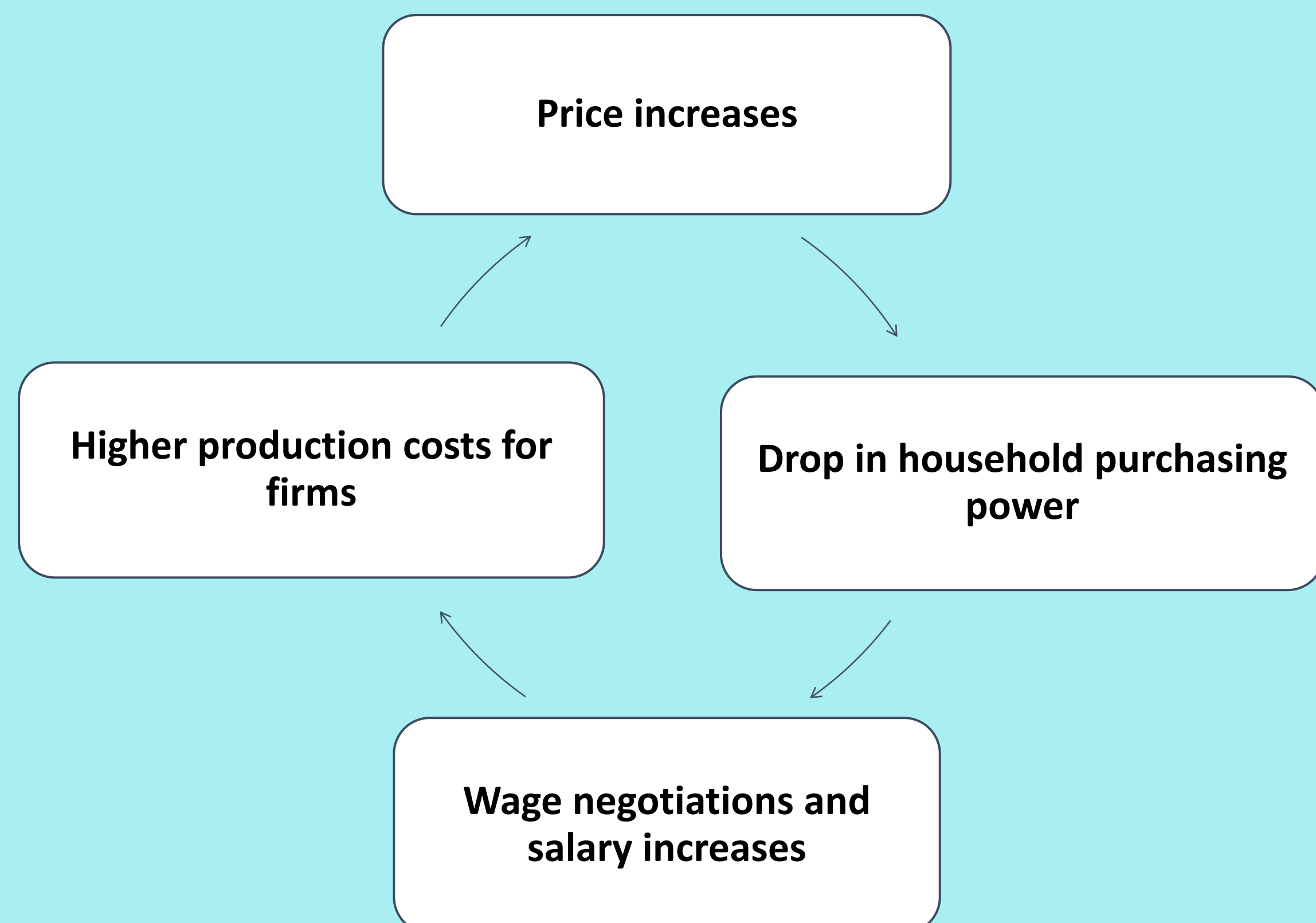
- By creating uncertainty about business conditions, inflation leads firms to adopt a risk-averse behavior when investing, which can significantly affect their production and productivity.
- Household and firm expectations are key factors in shaping current inflation.
- By anchoring inflation expectations more firmly, inflation targeting (IT) improves macroeconomic stability in developing countries (lower inflation and its volatility, interest rate, or exchange rate volatility).



## QUESTIONS

#2

- Does inflation targeting improve firm performance in developing countries?



## DATA

#3

- Outcome: Firm performance, mainly measured by sales growth and productivity growth.
- Data: World Bank Enterprise Surveys (WBES) dataset and macro data (WDI; WEO; ICRG; etc.)

## METHODOLOGY

#4

- Impact assessment techniques (entropy balancing), using a sample of 31,027 firms in 47 developing countries from 2006 to 2020 (15 IT and 32 non-ITers)

## POLICY IMPLICATIONS

#6

- A monetary framework that strongly anchors public expectations —such as IT— can be an important strategy to improve firm performance in developing countries, which are generally subject to high macroeconomic instability.

## MAIN RESULTS

#5

- IT significantly increases firm performance.
- IT is more effective in countries with a sound fiscal reputation and sound institutions; the positive effect of IT increases over time; while IT is less effective when the central bank deviates from its inflation target.
- The favorable effects of IT on firm performance seem related to the capacity of the IT framework to reduce macroeconomic instability or uncertainty.

## CONCLUSION

#7

- Evidence from a sample of 31,027 firms in 47 developing countries over the period 2006-2020 using entropy balancing reveals that IT significantly improves firm performance, captured by firm sales growth and productivity growth in the main estimations.
- Adding up to the evidence in favor of important effects at the macroeconomic level, our results show that IT can exert significant side effects even at the firm level.

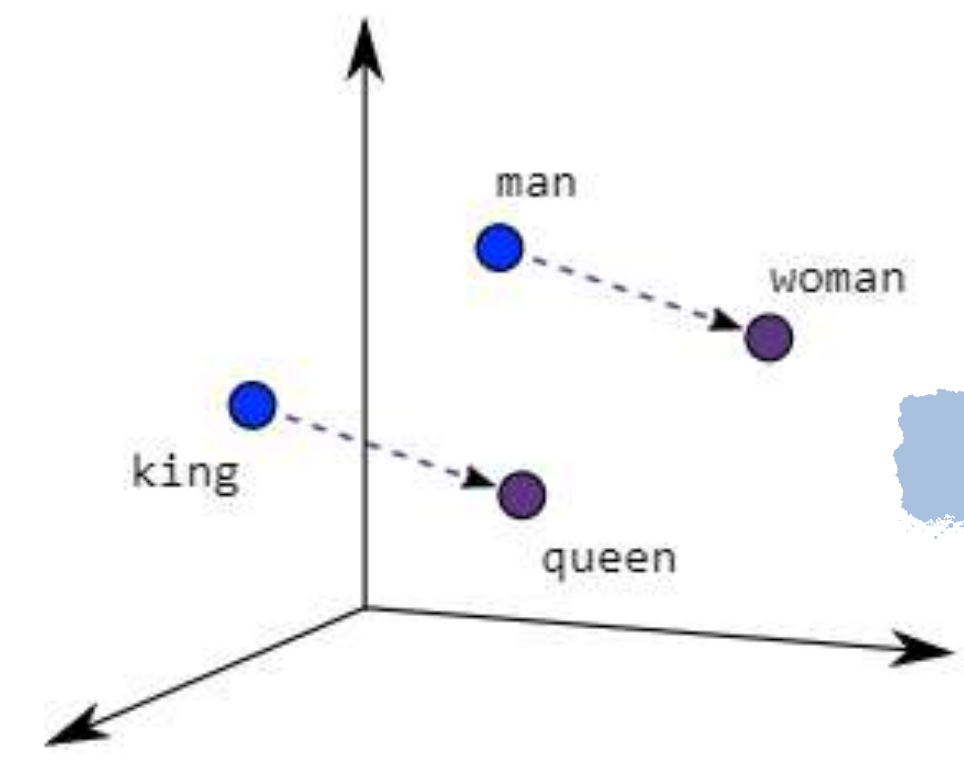
# Cracking the Code: Enhancing Development Project Classification with NLP on OECD CRS data.



**Categorising development projects** is crucial for understanding donors' aid strategies, recipients' priorities, and on-the-ground actions. In this area, the Organisation for Economic Co-operation and Development's (OECD) Creditor Reporting System (CRS) dataset is a reference data source. This dataset provides a vast collection of **project narratives** from various sectors (approximately 5 million projects). While the OECD CRS provides a rich source of information on development strategies, it falls short in informing project categories due to its reporting process based on **self-declared** (donors') main objectives. Our research employs a novel approach that combines **Machine Learning (ML)** techniques, specifically Natural Language Processing (NLP), an innovative Python topic modeling technique called BERTopic, to **categorise development projects based on their narrative descriptions.**

## 01 EMBEDDINGS

In order to make text understandable by the computer, we need to create a **vector representation of text**. We utilise a sentence transformers model (BERT, from google) for word embeddings that supports multilingual settings, which is essential for our setup. Project descriptions may be in languages such as French, German or Dutch.



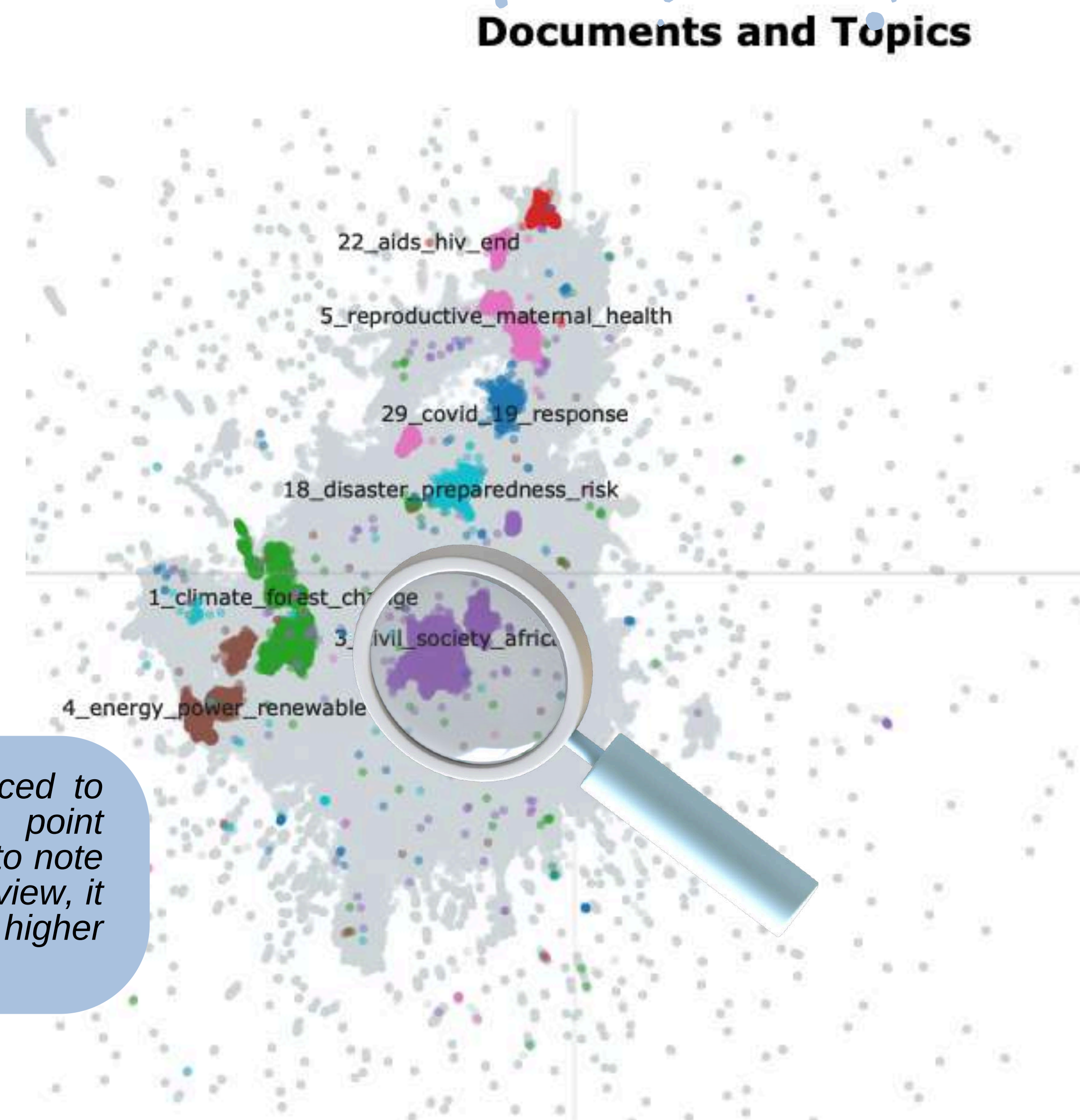
In an effective word embedding model, certain relationships between words should be reflected in the spatial positioning of their vector representations. For instance:

- The distance between "Woman" and "Man" should be similar to the distance between "King" and "Queen".
- Similarly, "King" and "Man" should be positioned close to "Queen" and "Woman".
- Conversely, the distance between "King" and "Woman" should be greater, as the distance between "Queen" and "Man".

It demonstrates the model's ability to capture both gender and semantic nuances in language.

## 02 CLUSTERING

Once our project descriptions are vectorized in space, we can use machine learning algorithms in order to **create clusters of homogeneous projects** based on their description. To do so, we use HDBSCAN: HDBSCAN is a popular clustering algorithm due to its strong performance on **large datasets** with high-dimensional embeddings. HDBSCAN has an advantage over other clustering processes as it supports non-convex structures of vectorized data, such as texts, and **finds the optimal number of clusters without any parameters**, such as silhouette score.



This visualization depicts our clustering results, reduced to two dimensions for illustrative purposes. Each point represents a distinct project description. It is important to note that while this 2D representation provides a useful overview, it may not fully capture the clustering quality present in higher dimensions.

## 03 LABELLING TOPICS

To obtain a precise description of the created topics, we employed a cluster-based TF-IDF approach to extract the **top five words for each cluster** in comparison to others. We are currently using a new large language model (LLM) derived from Mistral. Zephyr-7B-β is the second model in this series, and it is a fine-tuned version of Mistral-7B-v0.1, **Mistral AI is a French company** selling artificial intelligence (AI) products. It was founded in April 2023 by previous employees of Meta Platforms and Google DeepMind. We have formulated a prompt for this LLM to **generate appropriate names for our clusters based on their top five words and representative documents** (project descriptions that accurately characterize each cluster).

## 04 RESULTS AND IMPLICATIONS

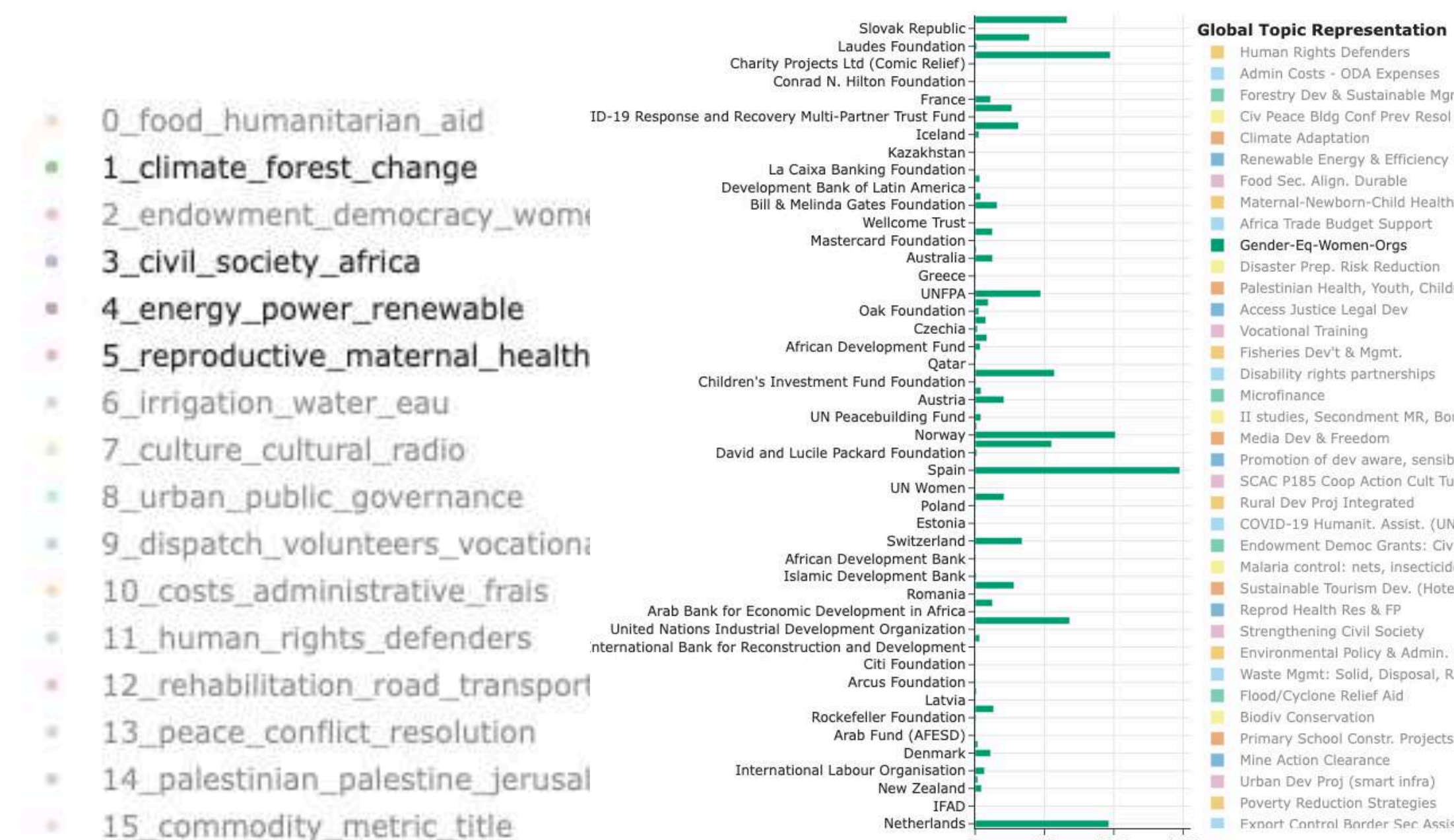
This study introduces a **new and refined dataset** for classifying development projects using unsupervised **machine learning techniques**. The methodology offers significant practical benefits for **policymakers, researchers, and stakeholders** in development planning.

### Key Benefits

- Rapid Analysis:** Automated categorization enables quicker and more informed decision-making and resource allocation.
- Detailed Insights:** Provides a finer classification of development projects, facilitating in-depth studies on topics like climate finance and poverty reduction.
- Hidden Patterns:** Unveils previously unnoticed patterns in project themes across different donors and implementing agencies.
- Enhanced Comparisons:** Allows for comparisons with existing sectoral and thematic variables, enriching the diversity of analyses.



Projects per donors



### Implications for Stakeholders

- Policymakers:** Enhanced data granularity supports better policy formulation and strategic planning.
- Researchers:** Enables more detailed economic analysis and forecasting.
- Development Practitioners:** Facilitates more targeted and effective project implementation.

## 05 FUTURE DEVELOPMENT

Next steps of research will be to utilise those clusters in order to study several type of financing in order to assess their **determinants, levels and effects** according to their baseline description. All the process of our clustering and output will be made **available online** in order to insure reproducibility of our method.

## 06 WANT TO LEARN MORE?

More details about our method and visualisations are available on my **personal website**, following this QR code:



## 1. Définitions et cadre

Quoi ?

### LA RESPONSABILITÉ

- Répondre de ses actes
- Réparer le dommage subi
- Généralement par le versement d'une somme d'argent : l'indemnisation

Devant qui ?

### LE JUGE JUDICIAIRE

- Juge habituel des particuliers et des entreprises
- Tribunaux, Cours d'appel, Cour de cassation
- Exclusion du juge répressif

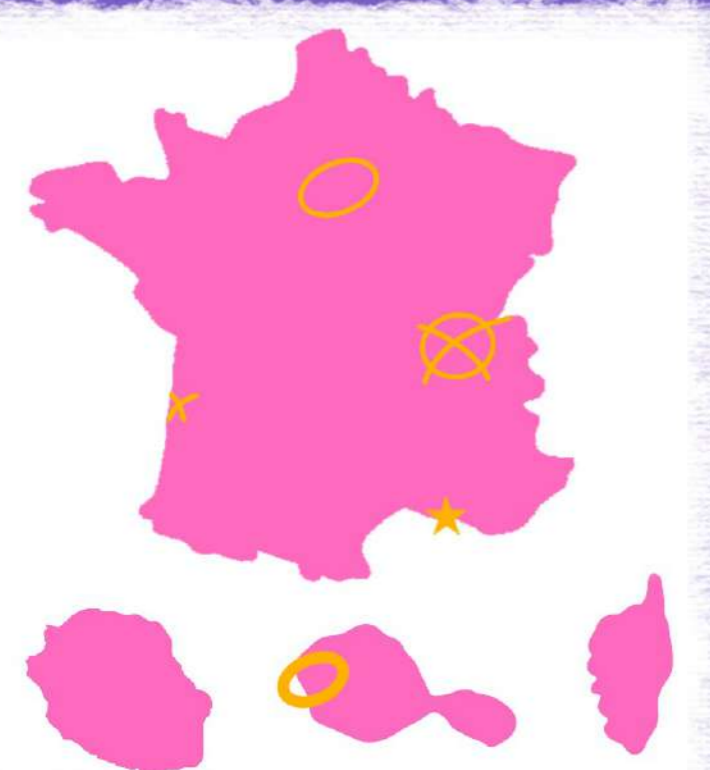
Qui ?

### L'ÉTAT

- Personne morale de droit public dotée de la souveraineté.
- Acception large : envisagé en tant que personne publique et puissance publique
- Exclusion des démembrements de l'État. Ex : collectivités territoriales

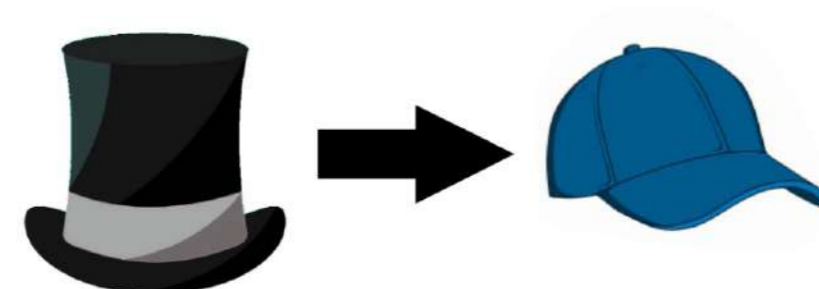
Où ?

FRANCE MÉTROPOLITAINE + OUTRE-MER



Quand ?

DÉBUT XIXe À NOS JOURS



## 2. Intérêt du sujet

Pourquoi traiter un tel sujet ?

Juge administratif



Juge judiciaire



### SUMMA DIVISIO.

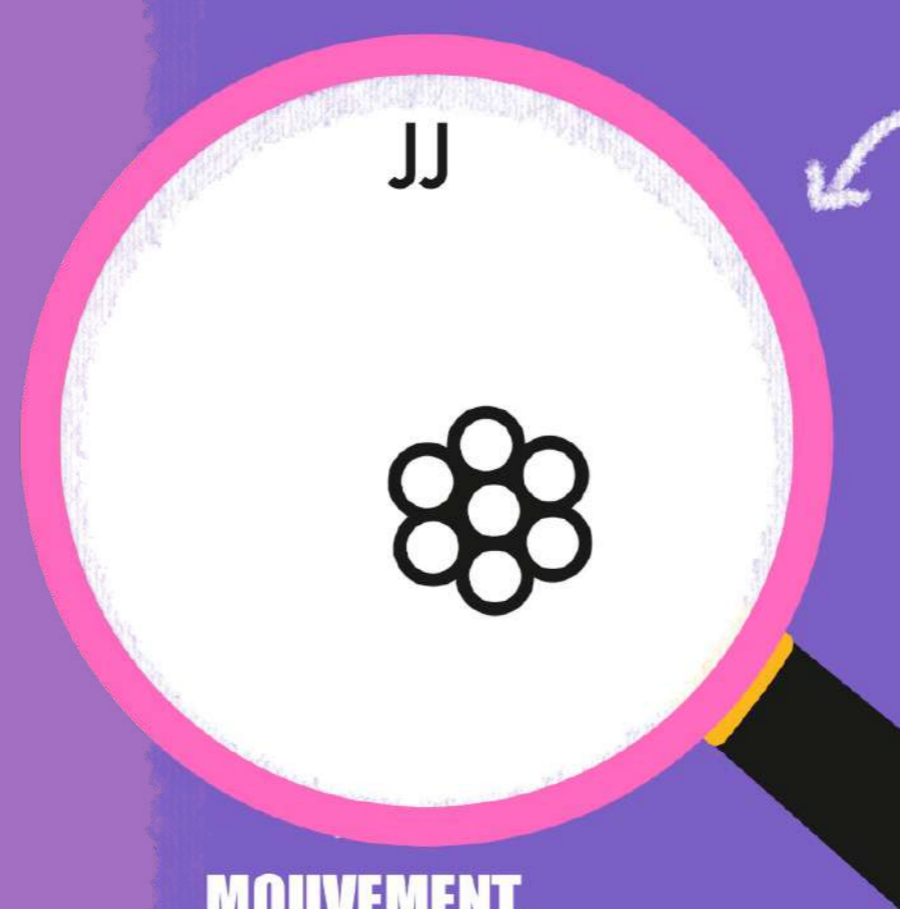
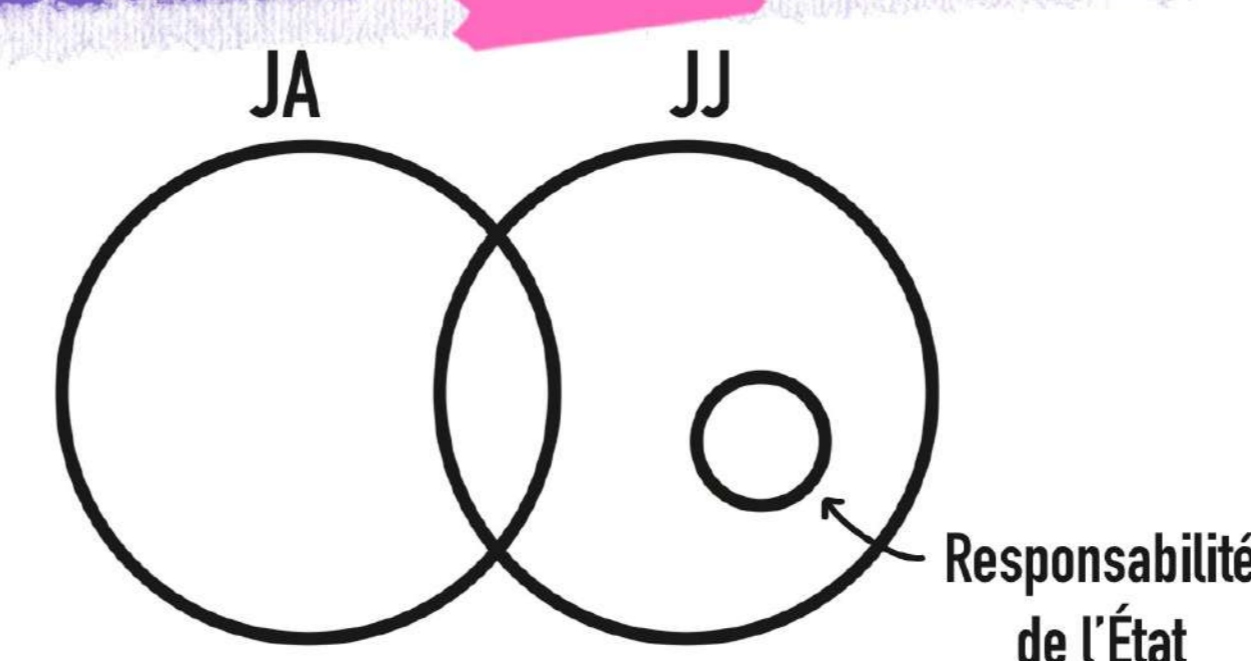
En droit français, nous avons 2 ordres de juridiction :

- Le juge administratif règle les rapports impliquant l'administration, y compris l'État, et applique le droit public
- Le juge judiciaire règle les rapports des individus entre eux et applique le droit privé

### EN RÉALITÉ.

Le schéma est plus complexe :  
- il y a des enclaves  
- il y a des zones frontalières

Je travaille sur les exceptions : les enclaves dans lesquelles l'État, une administration, est jugé par le juge judiciaire, juge des individus



### ZOOM.

A priori, si on regarde de plus près, notre enclave étatique ressemble même à cela : un ensemble hétérogène

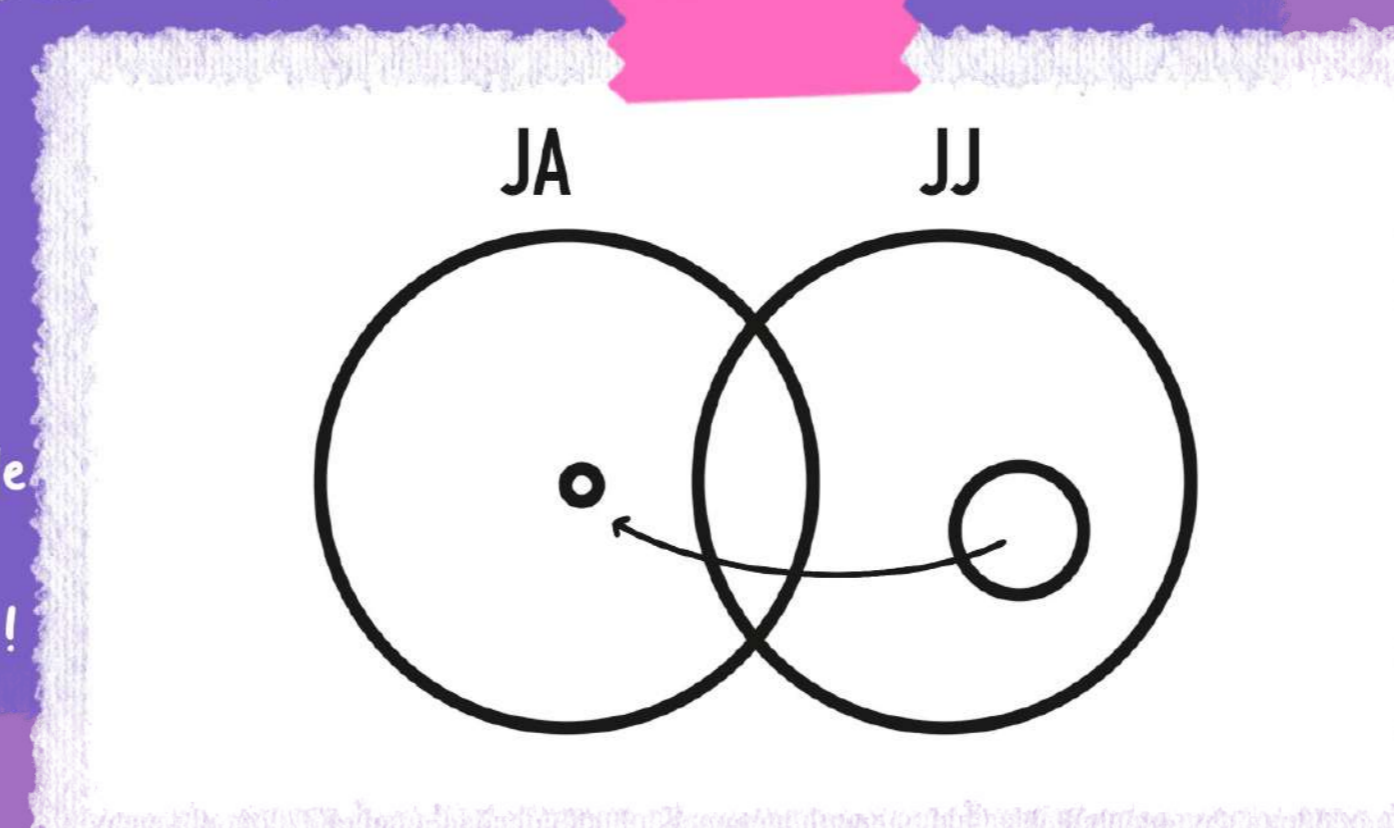
Leur point commun : les litiges concernent tous l'État  
Mais les régimes de responsabilité ne sont pas unifiés

### MOUVEMENT.

Il y a même des litiges qui repartent vers le juge administratif

Des exceptions aux exceptions !

Ce désordre empêche les justiciables de comprendre le droit. Il est nécessaire de l'étudier pour mieux l'appréhender !



## 3. Méthode

Niveau de la recette : difficile

La responsabilité de l'État devant le juge judiciaire

Fiche recette n°031



QUANTITÉ	PRÉPARATION	CUISSON	REPOS
400 pages	4-5 ans	À point	Pas assez

Droit comparé interne  
Comparer les régimes de droit public et de droit privé

Sondages jurisprudentiels  
Répertorier la plupart des domaines concernés depuis le XIXe siècle

### PRÉPARATION

#### LISTER

Établir une liste des domaines concernés par la responsabilité de l'État devant le juge judiciaire

#### SYSTÉMATISER

Trouver les points de convergence entre les régimes pour trouver une unité

#### CONSTRUIRE

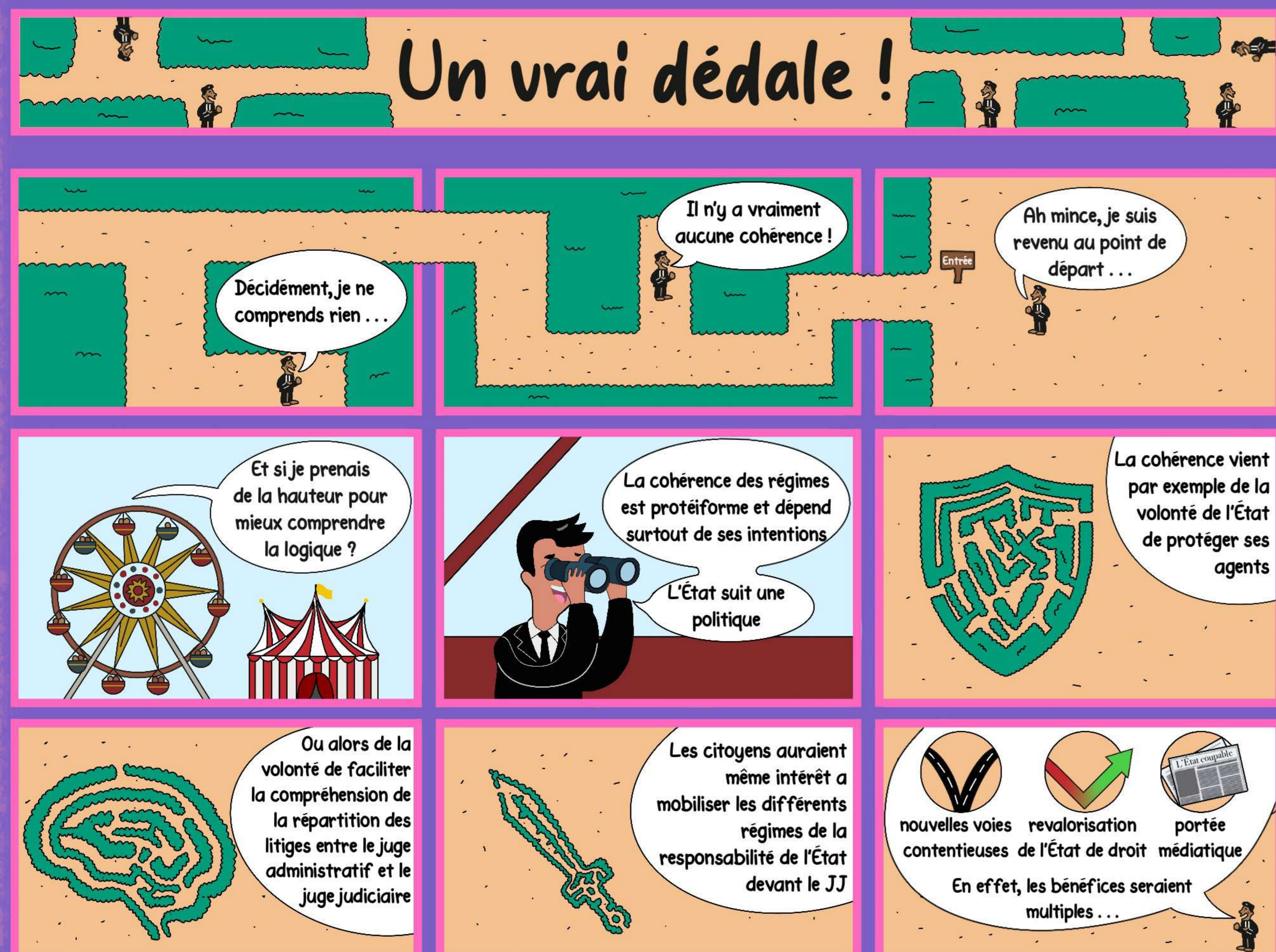
Trouver une cohérence afin de faciliter la compréhension et l'utilisation des régimes par les justiciables

Bon appétit !

## 5. Thèse, antithèse, foutaise !

Les régimes de responsabilité de l'État devant le juge judiciaire varient selon qu'il agit en tant que personne publique ou puissance publique, rendant leur systématisation difficile. Cependant, une cohérence émerge dans les intentions de l'État : protéger ses agents ou clarifier la répartition des litiges. Or les citoyens pourraient aussi bénéficier d'une meilleure connaissance de ces litiges.

### Un vrai dédale !



## 4. Principaux litiges concernés



Le fonctionnement défectueux du service public de la justice

Les accidents scolaires

Les accidents impliquant des véhicules de l'État

Les contributions indirectes

La gestion du domaine privé de l'État



**MORGAN BLANGEOIS**

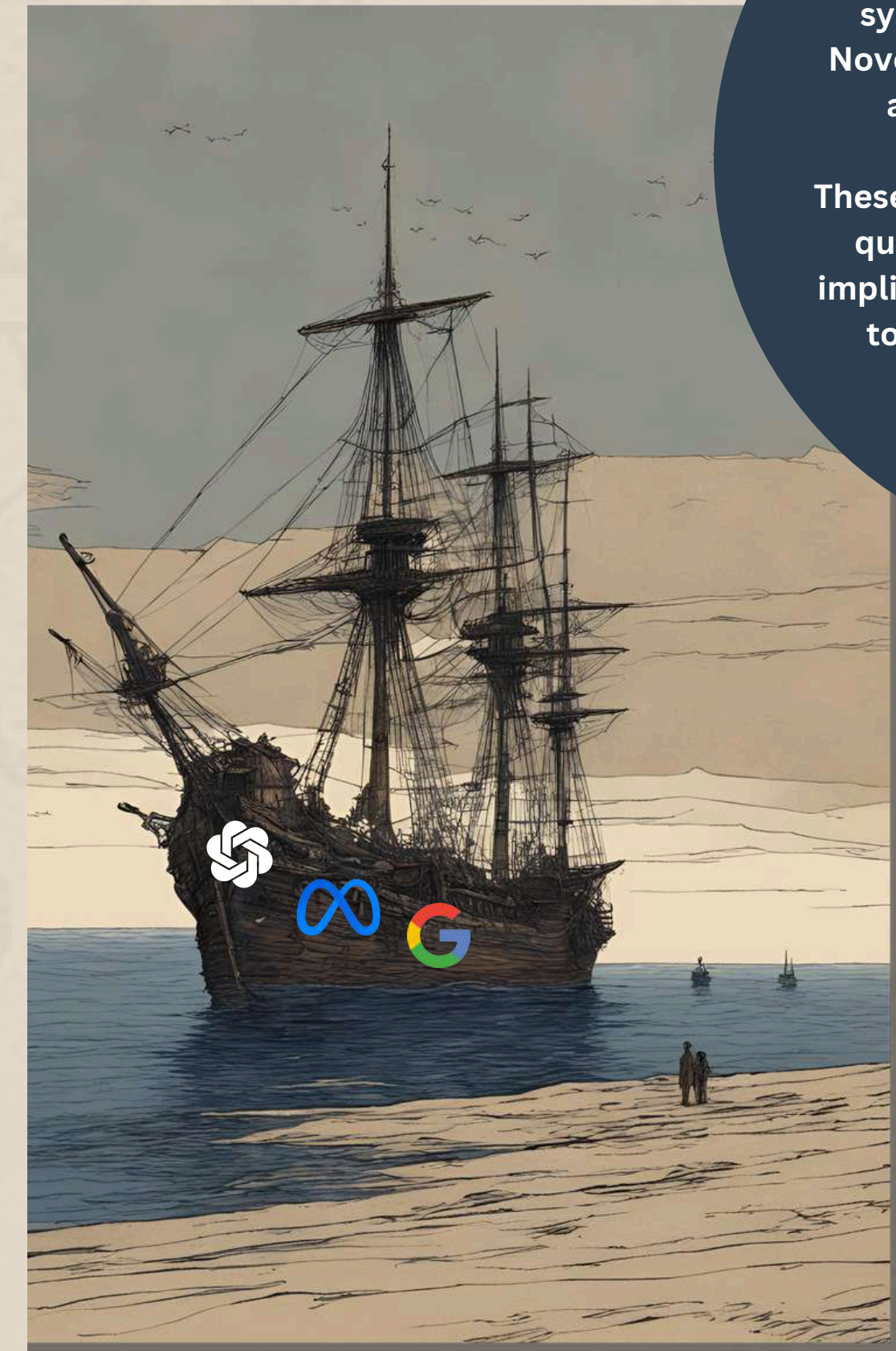
1ST YEAR DOCTORAL STUDENT AT CLERMA,  
UNDER THE SUPERVISION OF Pr. NORBERT LEBRUMENT



# The challenges of generative artificial intelligence for digital services companies

As we witness the emergence of generative AI systems, how can companies in the digital sector respond to these new challenges?

## I Context



*The Generative AI Armada navigating uncharted waters !*

The emergence of generative AI systems, such as ChatGPT, since November 2022 has triggered a buzz around artificial intelligence.

These technologies raise fundamental questions about their nature and implications for business, making this topic crucial for digital services companies.

OK. But how can we analyze all these ?



CGI's CEO plans to train 100% of workforce in generative AI.



Executives of Atos mentioned that they "drink their own champagne" in reference to the internal use of their generative AI systems.



IBM's CFO says "AI-driven productivity continues to be a top priority for businesses for both cost reductions and new revenue opportunities."

## II Theoretical framework

Dynamic capabilities refer to a firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments (Teece, Pisano, & Shuen, 1997).

Let's take on the challenge of explaining this concept through the analogy of boxing.

Dynamic Capabilities explained through boxing ?  
Challenge accepted !

### Boxer's basic training



Let's start with the basics. Just like a boxer develops basic skills (strength, technique, endurance) to prepare for fights, a company has static resources like technology and management processes (Teece et al., 1997).

### Match begins !

Once the match has started, the opponent's strategies and the fight conditions change, as our boxer begins to perceive new weaknesses in his opponent, similar to the rapidly changing technological and business environment companies face (Peteraf et al., 2013).



### Dynamic capabilities

Teece's model of dynamic capabilities involves three core processes to maintain a competitive advantage :

- **Sensing opportunities:** Just as a boxer must be alert to their opponent's weaknesses, companies need to sense changes in the market.
- **Seizing opportunities:** Once an opportunity is identified, they must quickly seize it, akin to a boxer landing a decisive punch.
- **Transforming resources:** Finally, companies must transform and reconfigure their resources continuously, much like a boxer who constantly hones their skills and adjusts their training regimen to stay ahead (Teece, 2007; Eisenhardt & Martin, 2000; Helfat et al., 2007).



But, what is planned for the study ?

## III Epistemology & Methodology

### Epistemology

I have adopted **critical realism (Bhaskar, 2008)** as the epistemological foundation for this study. This framework is grounded in a **realist ontology** that acknowledges an independent reality, composed of **generative mechanisms** distinct from the events they produce and the knowledge observers have of them (Avenier & Thomas, 2011).

Ontology	Reality that exists independently of human observation, structured and differentiated.
Epistemology	Epistemic relativism: reality is not directly observable, but experienced events are knowable.
Purpose of knowledge generation	Identify the generative mechanisms responsible for events and patterns.
Status and form of knowledge	Plausible conceptions corresponding to the generative mechanisms activated. Field-testable statements.

### Abductive reasoning

I adopt abductive reasoning, which, in a critical realist paradigm, **does not aim to establish rules but seeks to identify plausible causes of observed phenomena by utilizing all available information, even if heterogeneous (Avenier & Gavard-Perret, 2018).** It is particularly suitable for discovering "other variables and relationships".



### Methodology

I use mixed-research based on both quantitative and qualitative data analysis to get a grasp on the multifaceted impacts of generative AI adoption. This methodology allows for a comprehensive understanding of the phenomenon, combining statistical analysis of large datasets with in-depth insights from interviews and case studies to explore both broad trends and individual experiences.



*A little added value to my research ? I'm a real tinkerer in Python programming !*

## IV Expected Results

### At sector level

Initial analyses reveal that generative AI began serious integration into digital service companies in early 2023. Executive speeches highlight **organizational reinvention, focusing on improving internal operations and enhancing customer business.**

### At the organizational level

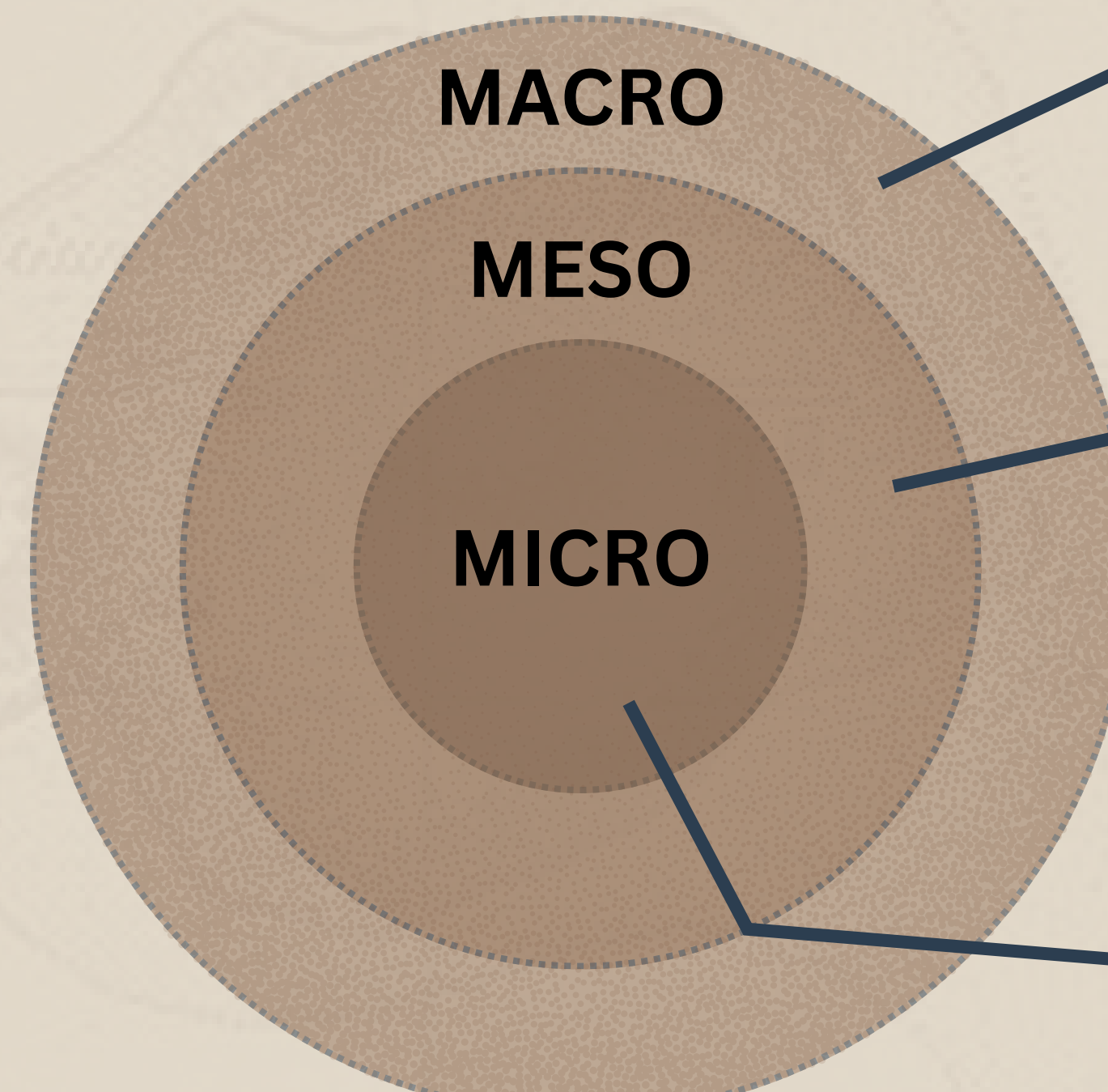
*Work in progress*

My qualitative research aims to understand the strategic dynamics induced by generative AI for digital services companies using the theoretical framework of dynamic capabilities (Teece et al., 1997).

### At the individual level

*Work in progress*

My aim is to measure the impact of generative AI adoption within digital services companies using the UTAUT2 framework, providing insights into how individual characteristics and situational variables influence the adoption and utilization of generative AI.



### My contributions

I want my research to offer a unique empirical perspective on generative AI systems.

It should stand out by exploring how digital services companies, often neglected in the literature, integrate and adapt their practices to these disruptive technologies.

And, by the way, we shouldn't say "an AI", because AI is a discipline !

So, how about the results ?

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**DID YOU KNOW?**  
EVERY SINGLE  
PICTURE YOU SEE  
HERE IS WHIPPED UP  
BY AN AI SYSTEM !

## CONTEXT



The experiment was conducted in the Bagoué region, located in the northern part of Côte d'Ivoire. Agriculture is almost exclusively rainfed. Currently, only a minority of farmers have access to weather information, which is predominantly daily and general. Corn is one of the primary crops and a staple food in the region. It is particularly vulnerable to dry spells during the rainy season, with climate change exacerbating the frequency and impact of such phenomena.

FARMERS' DEMAND FOR WEATHER INFORMATION	INFORMATION NEEDED	KEY RELATED QUESTIONS
Sowing (57%)	<ul style="list-style-type: none"> <li>Onset/offset of the rainy season</li> <li>Rainy days / Dry spells</li> </ul>	<ul style="list-style-type: none"> <li>When is the optimal sowing window for this rainy season?</li> <li>Are there potential dry spells during this season that could damage my corn sowings, and if so, when might they occur?</li> <li>Should I consider splitting or delaying my sowings to mitigate the risk of damage from dry spells?</li> </ul>

## THE EXPERIMENTAL GAME

What is the impact of an information about the risk of dry spells  $p(s)$  during the rainy season on the sowing decision ?

### REPRESENTING THE RISK OF DRY SPELLS



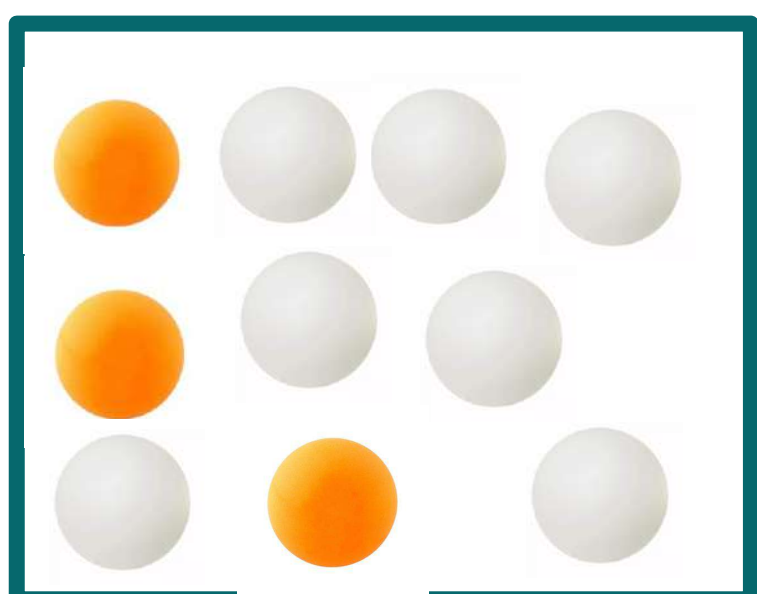
A dry spell occurred  $p(s)$  :

- The usual sowing is lost.
- I only gain the later and certain sowing that gave lower yields.

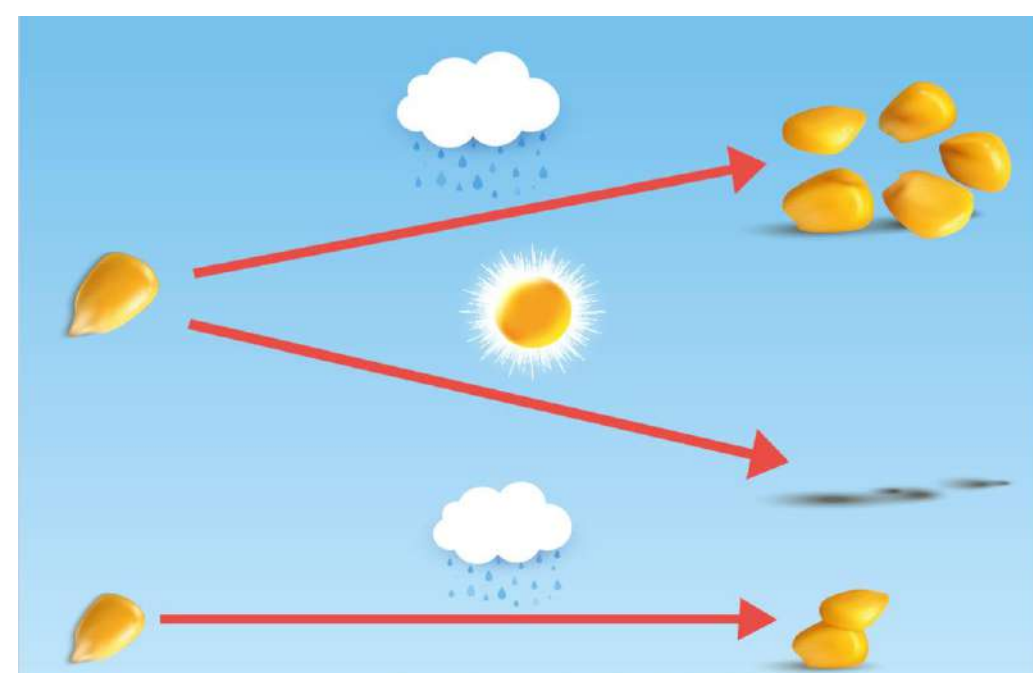


The rains continued normally  $p(1 - s)$  :

- The usual sowing gave high yields.
- I also gain the later and certain sowing that gave lower yields.



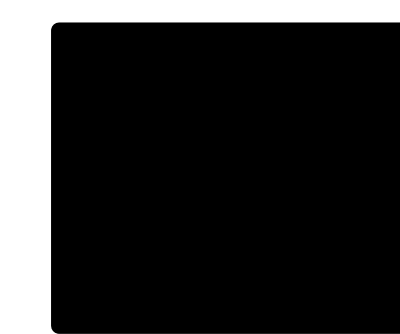
In this illustration, the box contains a 30% risk of dry spells



The yields of the game have been determined with local experts and calibrated with farmers after the pilot survey.



### TESTING FOR DIFFERENT SCENARIOS



#### Ambiguity :

The farmer does not know what is the risk level inside the box. It is the reference situation (round 1)

#### Five risk levels:



In each round, the interviewer randomly picks a risk level, announces it to the farmer and puts the balls inside the transparent box. The farmer can see how many white and yellow balls there are inside the box. Then, the interviewer hides the box and picks a ball randomly to see if the dry spell occurred.

Each farmer plays randomly the 5 situations once. (round 2 -> 6). Then, each farmer plays randomly the 5 situations a second time. (round 7 -> 11) to see if he/she will react differently.

Comprehension checks were realized before the risky part.

The initial dotation is always 10 seeds at the beginning of each season and represents the all seeds he/she wants to sow during year. All the seeds are planted now or later during the year.

Each round is a new season. No constraints of workforce or materials are taken into account in the game.

At your regular corn sowing time, considering the risk of dry spells this season, how many seeds would you choose to sow now?

## DATA ANALYSIS

- 313 farmers were interviewed.** We treated the collected data as panel data and employed a **random effects model with individual effects** to mitigate statistical inflation.
- The risky sowing ( $X1$ ) is our dependent variable, we opted for **OLS**. We decided to treat **Ambiguity as a category of risk levels** and add a dummy to check for learning effect during the two sets of risky rounds.
- Following the intuition of Holden and Tilahun (2022), we incorporated lagged variables for past occurrences of realized dry spells and past amounts of risky sowings. We choose the cumulative average of past risky sowings ( $X1\_mean$ ), the cumulative rate of dry spells ( $dry\_rate$ ), and the level of risk in the previous round  $lag(risk\_level)$ .
- We put fixed effects on villages and interviewers to **control for geographic and explanations disparities**.

## KEY RESULTS

On average, the expected gain is **27.91% higher** when considering information compared to if they had sown the same amount as under the reference situation (ambiguity) regardless of the risk level. The largest increase is observed at the 10% risk level, with a rise of 72.3%, while the smallest increase occurs at the 50% risk level, at 6.2%.

**Around 59% of the choice of the risky sowing amount is explained by the information.** However, farmers take also into account past sowings to make their choices. **Household size, belief in their luck, as well as having a high locus of control (believing that one's fate is in one's own hands) encourage riskier sowing.** Whereas, more educated farmers are more prudent. The learning effect is not significant between the two risky sections.

## CONCLUSION

- Developing climate services could really help farmers to make their decision and adapt to climate changes. Such games allow farmers with low level of education to understand the mechanics of weather forecasts.
- However, since real forecasts cannot estimate the risk with such accuracy, national authorities must be cautious while delivering the information. Moreover, in the reality, farmers could have more constraints to delay their sowings.
- A check for attention would have been useful in the middle of the experiment.

# Le concept de « rurbanisation » ou de la nécessité d'un nouveau cadre juridique pour une agriculture urbaine

Léa Bordenave, doctorante en Droit privé

Sous la co-direction de Monsieur le Doyen Jean-François Riffard et Monsieur le Professeur Didier Krajeski

**Définition de l'agriculture urbaine** → Toute activité agricole pouvant être développée au sein d'un milieu urbain et entretenant avec la ville des rapports fonctionnels réciproques.

Selon Pierre Donadieu et André Fleury, « *c'est ensemble qu'espaces cultivés et espaces bâtis participent au processus d'urbanisation et forment le territoire de la ville.* »<sup>1</sup>

**Concept de rurbanisation** → bouleversement de la dichotomie actuelle urbain / rural afin de pouvoir instaurer un concept mixte permettant le développement d'une pratique agricole au sein d'un milieu dense urbain.

## CADRE JURIDIQUE ACTUEL APPLICABLE A L'AGRICULTURE URBAINE



## LES LIMITES D'UN CADRE JURIDIQUE TROP RURALISTE

**Art. L.311-1 du Code rural et de la pêche maritime :**

- ❖ Maîtrise professionnelle d'un cycle biologique  
Ou
- ❖ Activité exercée dans le prolongement d'une activité agricole  
Ou
- ❖ Activité ayant pour support l'exploitation
- ❖ Absence de lieu géographique

- ❖ Statut social incertain de l'agriculteur urbain
- ❖ Problématiques liées à l'installation agricole  
→ Difficulté dans la reconnaissance de nouveaux biens agricoles en milieu urbain.
- ❖ Incompatibilités des règles agricoles et urbaines  
→ Possibilité de résilier le bail rural pour cause d'urbanisme.

**ABSENCE DE RECONNAISSANCE PAR LE DROIT DE  
L'AGRICULTURE URBAINE**

## OBJECTIF : CREATION D'UN NOUVEAU CADRE JURIDIQUE

- ❖ Déruraliser le cadre juridique agricole
- ❖ Reconnaître le milieu urbain comme un nouveau lieu de culture
- ❖ Créer des espaces multifonctionnels
- ❖ Créer une articulation juridique entre les règles régissant le milieu urbain et les règles agricoles

### COMMENT ?

- ❖ Approche pluridisciplinaire  
(Droit rural, Droit de l'urbanisme, Droit des biens,  
Droit social, Droit fiscal, Droit de l'environnement).
- ❖ Enquêtes de terrain afin de proposer un cadre juridique adapté aux problématiques agricoles.

### POURQUOI ?

- ❖ **Bienfaits environnementaux** : lutte contre le réchauffement climatique :
  - Régulation de la consommation d'énergie
  - + limitation des pics de température
  - + rétention des eaux pluviales.
- ❖ **Bienfaits sociaux** : création de lien social entre les citoyens et les agriculteurs.
- ❖ **Bienfaits économiques** : développement d'une économie circulaire : « *un modèle économique qui consiste à produire des biens et des services de manière durable en limitant la consommation et le gaspillage des ressources ainsi que la production des déchets.* »<sup>2</sup>

<sup>1</sup> A. FLEURY et P. DONADIEU, « De l'agriculture péri-urbaine à l'agriculture urbaine », Courrier de l'environnement de l'INRA n° 31, août 1997, p. 45.

<sup>2</sup> Ministère de la transition écologique et de la transition des territoires.



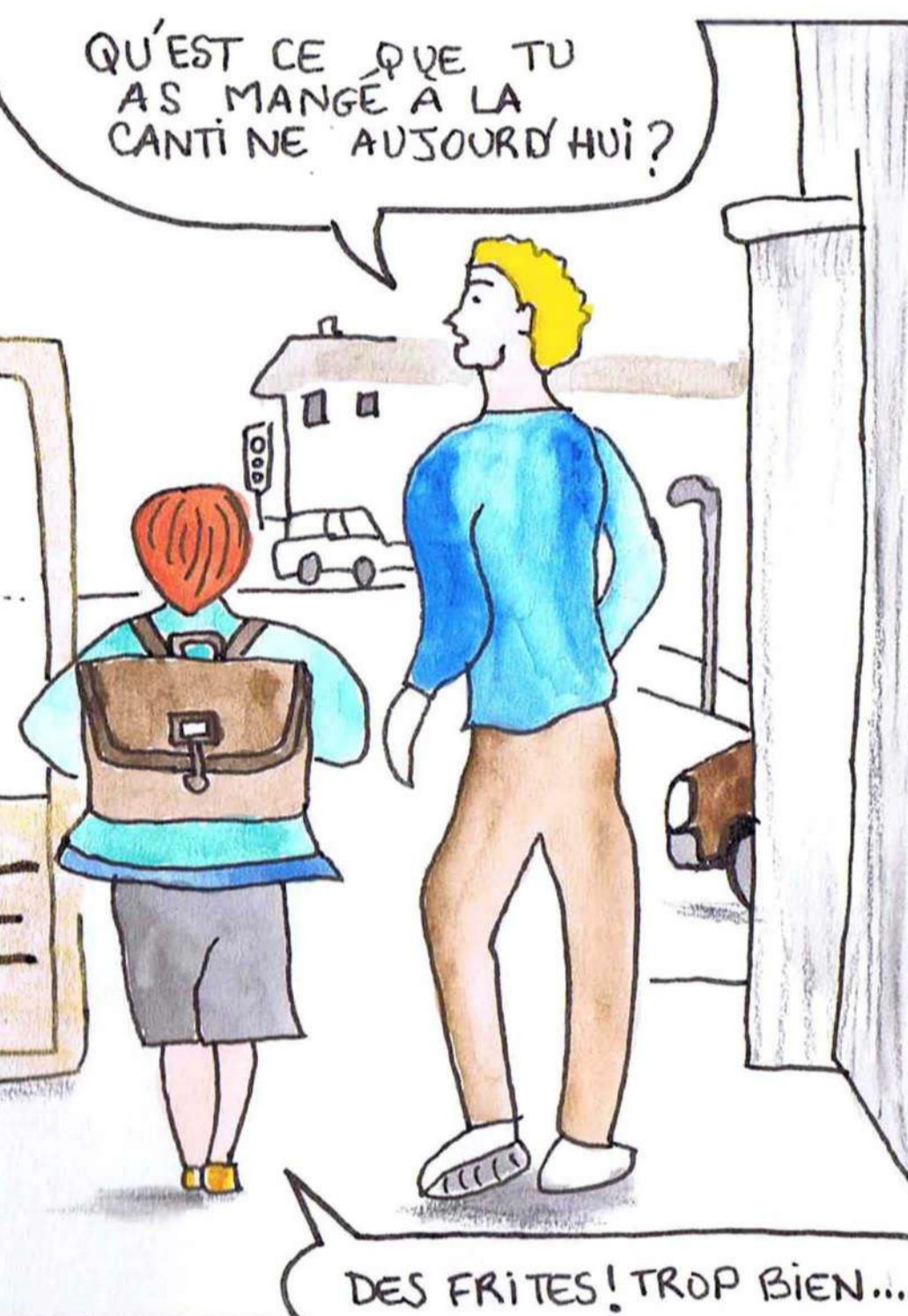
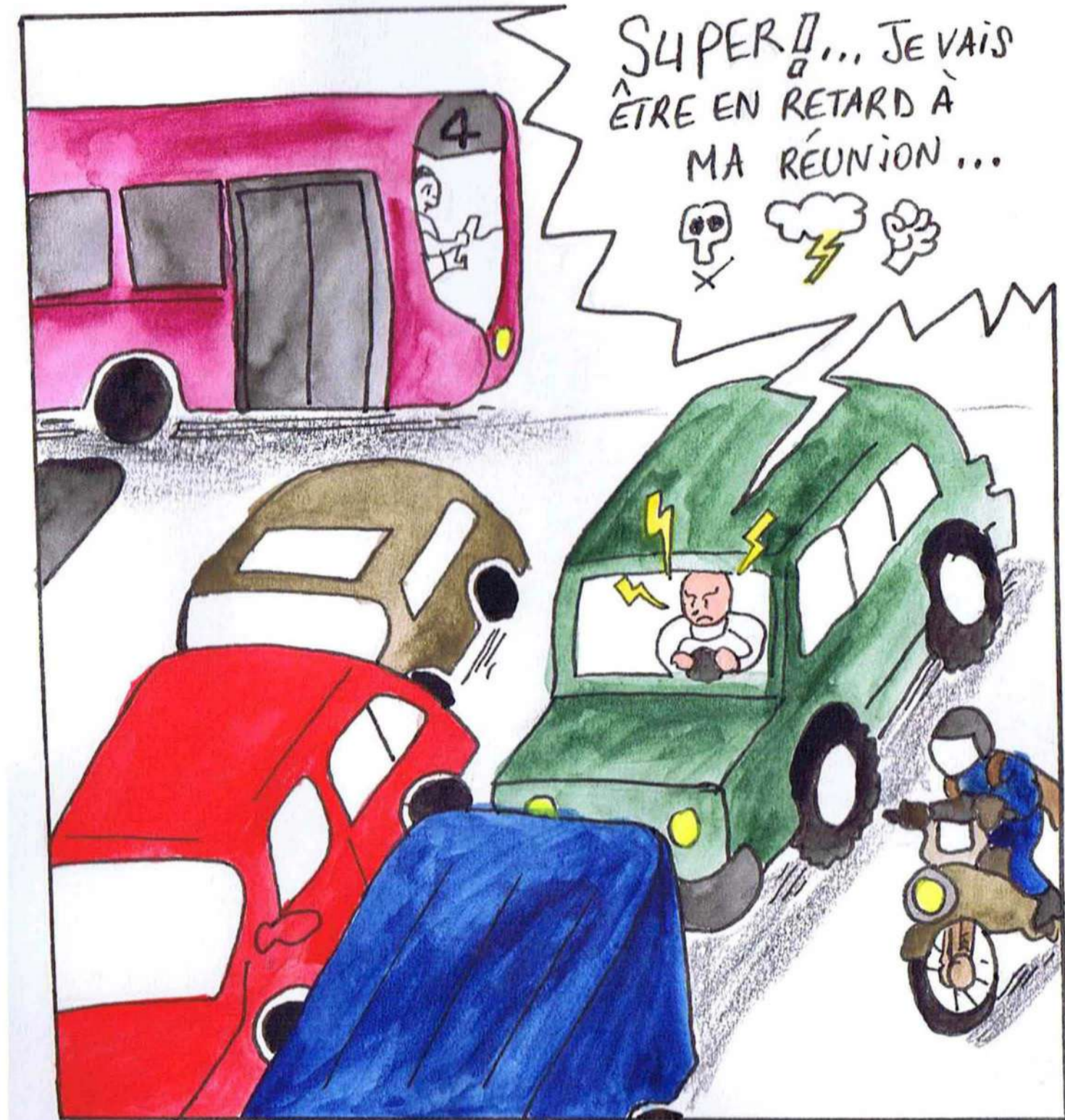
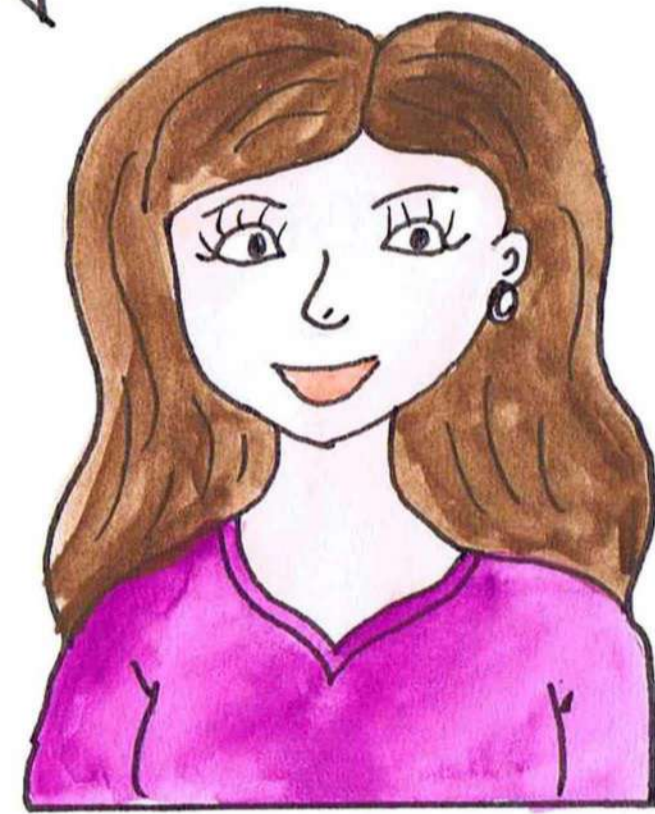
# Le télétravail

au sein des équipes

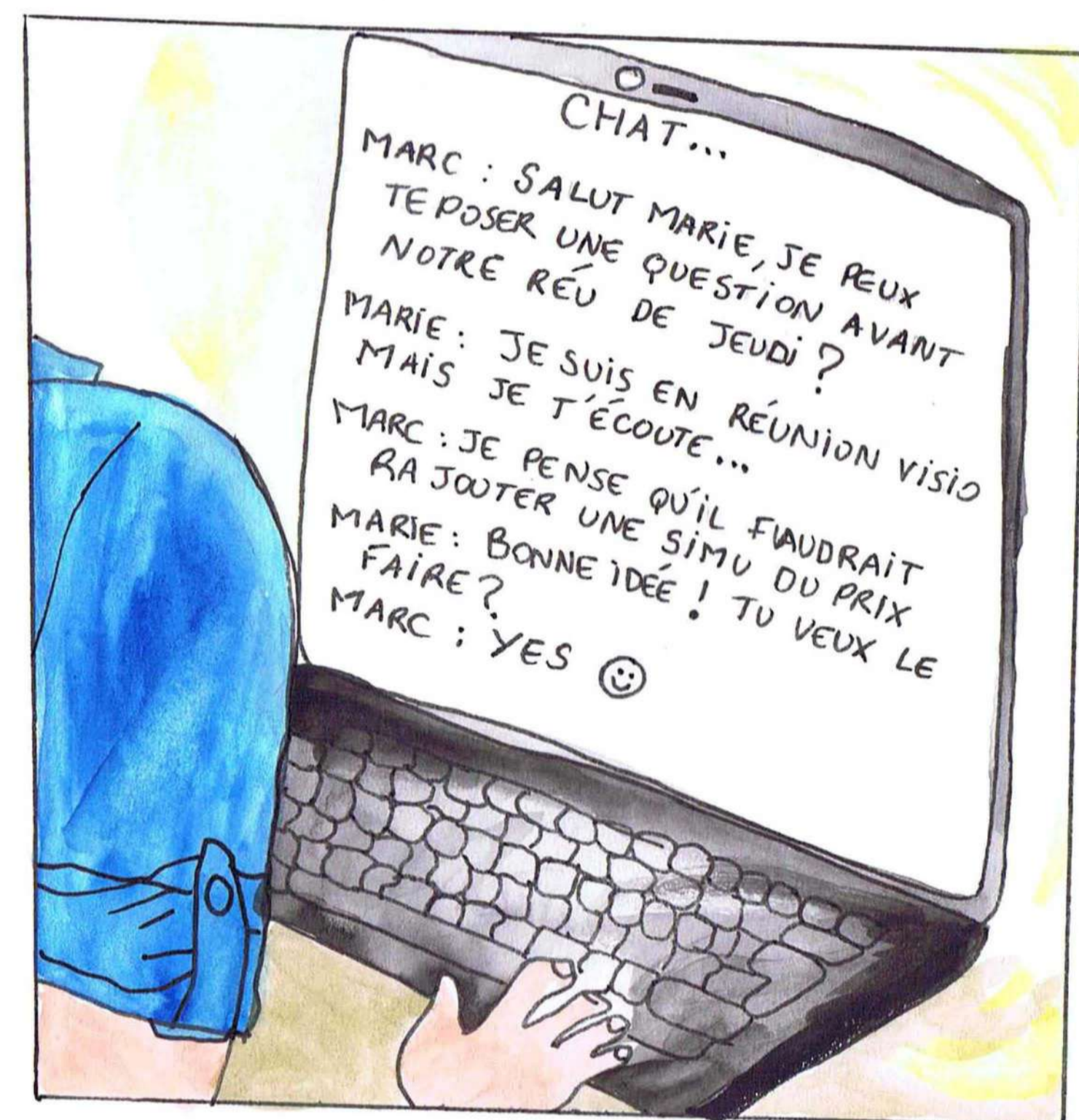
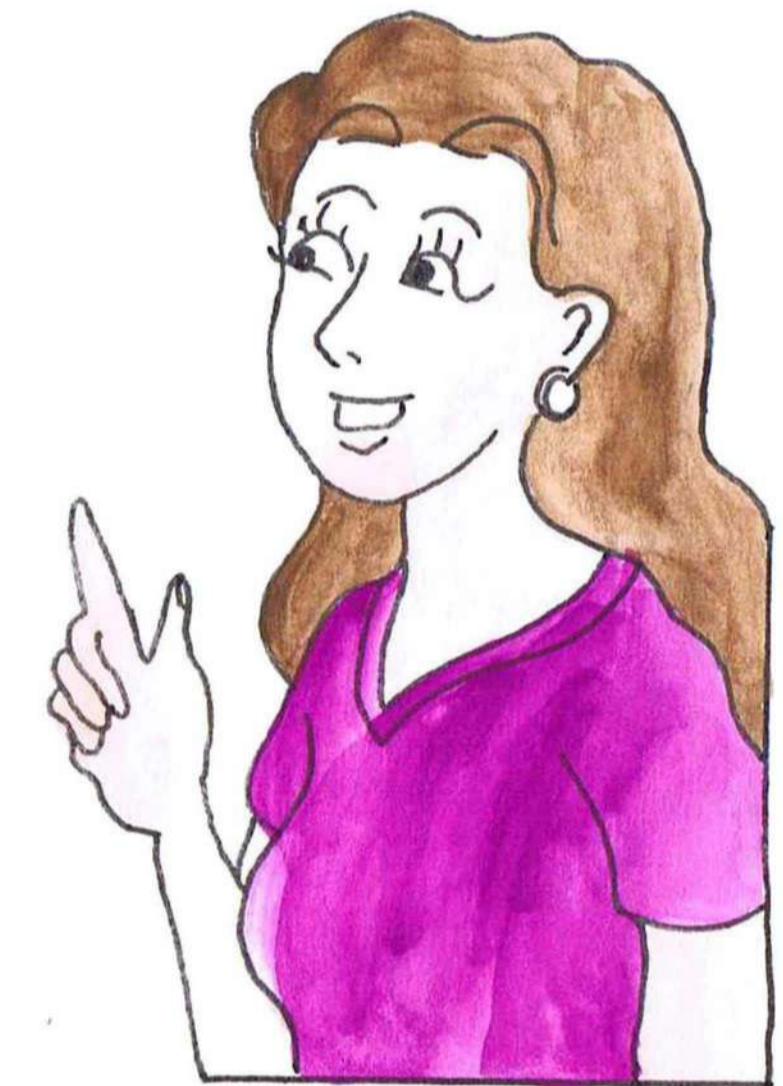
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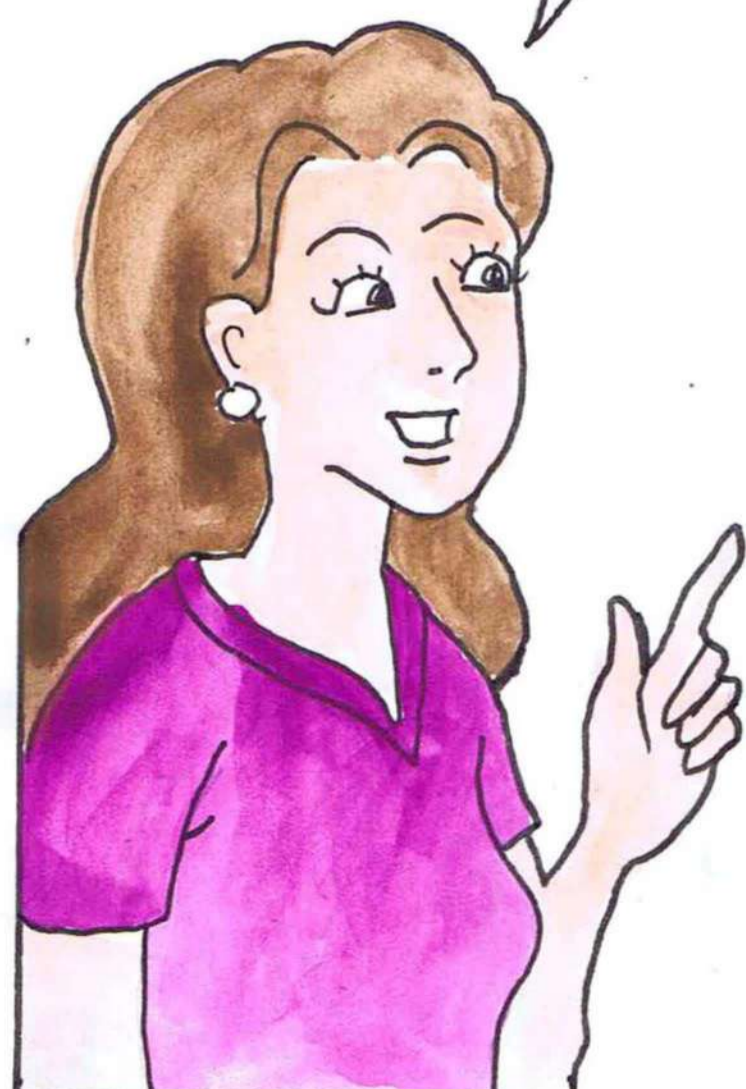
LE TÉLÉTRAVAIL CONNAÎT UN ESSOR DEPUIS LA CRISE COVID 19... IL A EN EFFET PLUSIEURS AVANTAGES COMME... ÉVITER LES EMBouteillAGES MAIS ÉGALEMENT UN MEILLEUR ÉQUILIBRE ENTRE LA VIE PROFESSIONNELLE ET LA VIE PERSONNELLE ...



ON PEUT S'APERCEVOIR QUE TOUS CES BÉNÉFICES SONT INDIVIDUELS... DANS LE CADRE DE MA THÈSE, J'ÉTUDE LES DYNAMIQUES DE TÉLÉTRAVAIL AU SEIN DES ÉQUIPES...



LES AVANTAGES DU TÉLÉTRAVAIL SONT : L'EFFET DÉMULTIPLICATEUR, RÉSISTANCE À UN HAUT NIVEAU DE STRESS ET UN FORT OBJECTIF COMMUN ...



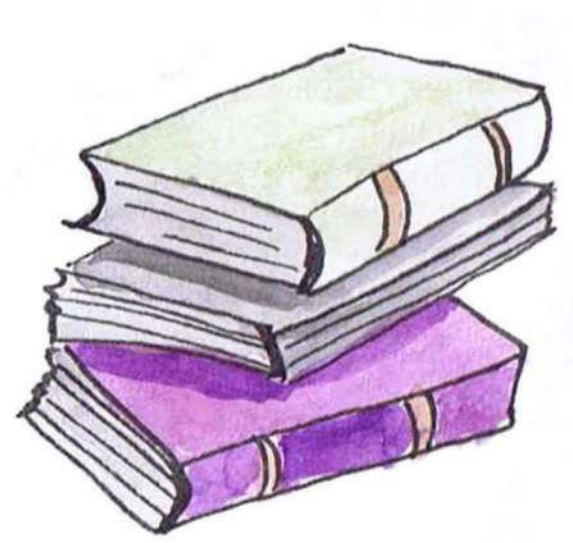
ON A PU OBSERVER QUE LES ÉQUIPES COMPOSÉES DE MEMBRES AUTONOMES ONT TENDANCE À FAIRE DU TÉLÉTRAVAIL SANS CONSULTER LEURS COLLÈGUES ... CE N'EST PAS LE CAS DANS UNE ÉQUIPE COHÉSIVE

UN OBJECTIF COMMUN À L'ÉQUIPE CRÉE DE LA COHÉSION ...

ON SE DEMANDE AUSSI SI UN FOCUS DES DIRIGEANTS SUR L'INTELLIGENCE COLLECTIVE EST UNE SOLUTION POUR AVOIR DES ÉQUIPES QUI FONCTIONNENT SUR LE LONG TERME ...



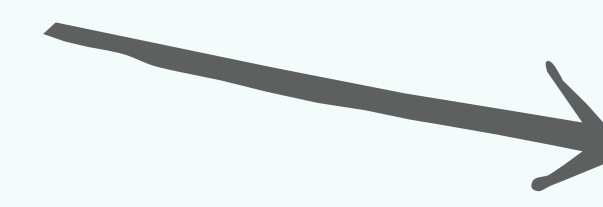
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# Migration and the epidemiological approach: time and self-selection into foreign ancestries matter

Melchior Clerc

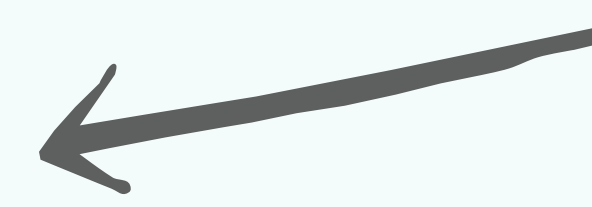
Why are some people more trusting than others? Or less risk-averse?  
A booming part of the literature highlights the role of deeply-rooted historical determinants, but isolating their effect is hard.



Use of the epidemiological approach: comparing people living in the same place, but coming from different origins.

But what if... time since immigration mattered?

Let's say a researcher wants to see if crop yield at origin determines future-orientation. He regresses having a private pension plan on crop yield at origin, and finds a positive robust correlation (!)

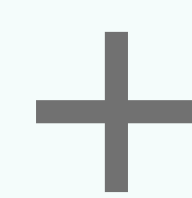


A nice approach... known to suffer from an attenuation bias: a Mexican who migrates to the US is closer to the US culture than a Mexican who stays at home, because of the self-selection into migration.

But if people from more future-oriented origins have started migrating earlier, they spent more time in the receiving country. They may have better knowledge of pension systems, and thus use them more. And so, even if crop yields have nothing to do with it.

## Limitations of the epidemiological approach

Individuals who arrived first spent more time in the destination country and assimilate more into the local culture → time since ancestral immigration shapes the evolution of cultural traits.



In the case of the US, country-specific immigration waves occurred at different points in time → the influence of the time since ancestral immigration on cultural traits is country-specific, and not random.

If the time elapsed since ancestral immigration is correlated with the origin-specific variable of interest, a spurious correlation can appear.

## So, researchers face a trade-off

The differentiated self-selection of immigrants is correlated with the origin-specific variable (bias already discussed in the literature) → exerts at the most with 1st or 2nd generation migrants

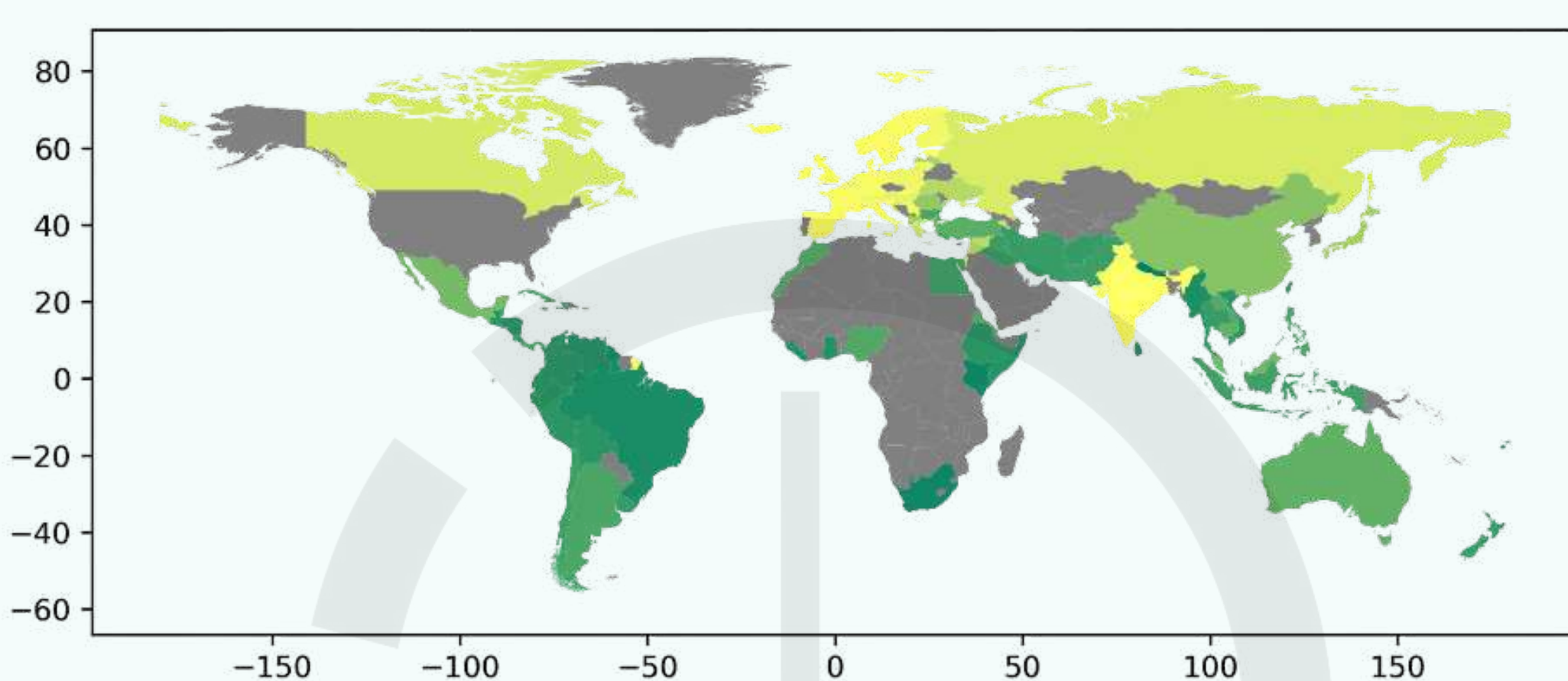
VS

The origin-specific ancestral time since immigration correlated with the origin-specific variable (not discussed in the literature) → exerts at the most with high generation migrants

How to overcome this? Add to the estimations proxies to control for heterogeneities related to the time elapsed since ancestral migration:

### Time since ancestral migration

Share of first-generation immigrants



For each foreign ancestry, share of individuals born in the ancestral country.

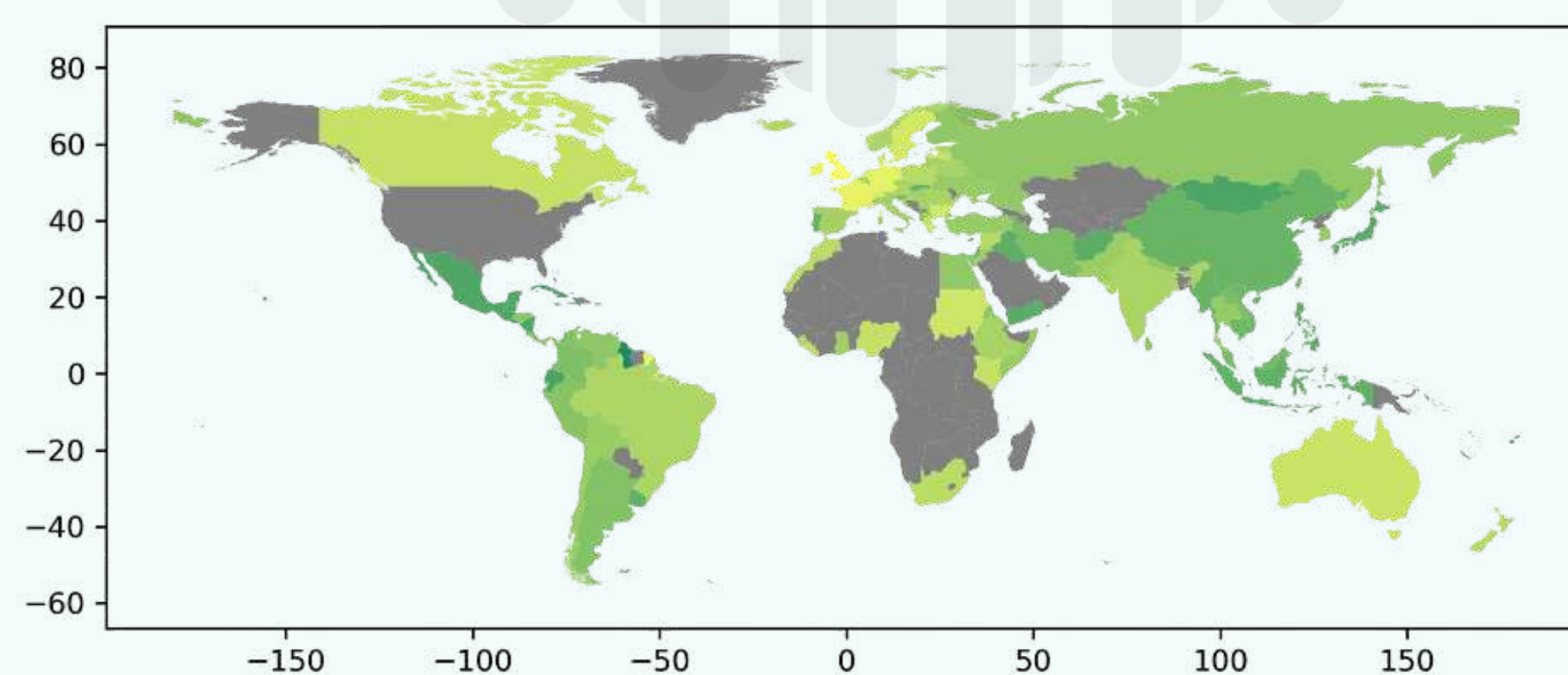
High value = share of first-gen. migrants is high → the origin-specific time since immigration is low.

### Spatial concentration

The HH index gives the probability that two randomly drawn natives with the same ancestry reside in the same state.

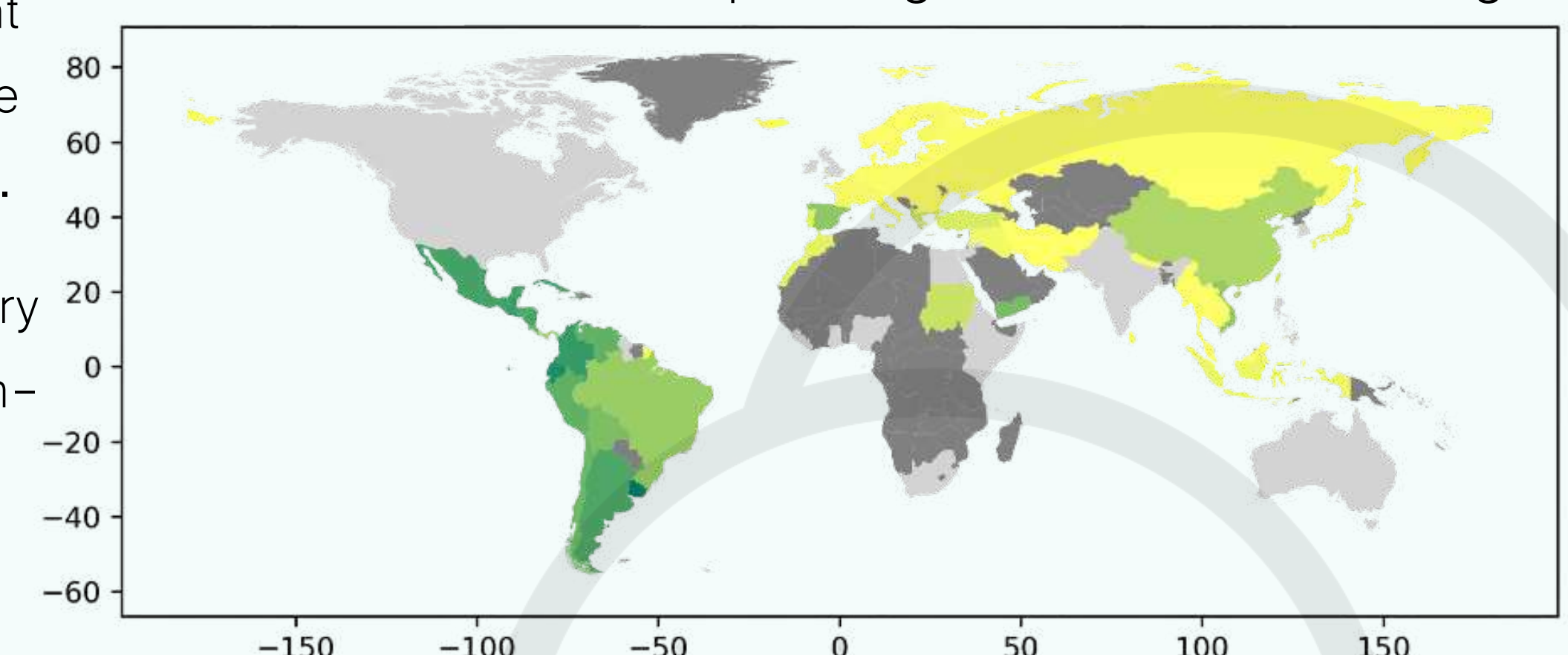
High value = natives are very concentrated in the US → the origin-specific time since immigration is low.

Herfindahl-Hirschman index of spatial concentration



### Attachment to origin's identity

Share of natives speaking their ancestral language



Share of the population that speak their ancestral language at home.

High value = natives are very attached to origin's identity → the origin-specific time since immigration is low.

### Validity of the proxies:

1. Coherent with what we know about the history of origin-specific migration flows to the US: European countries have low values of the proxies, Latin American countries have way higher values.

2. The proxies are well correlated to each other.

corr(time;concentration) = 0.836

corr(time;attachment) = 0.402

corr(concentration;attachment) = 0.500

UCA  
CNRS, IRD, CERDI,  
F-63000, Clermont-Ferrand

### To keep in mind:

The literature rests on the epidemiological approach to exhibit empirical evidence between a cultural trait and a historical determinant.

Only the self-selection into migration, which leads to an attenuation bias, is discussed. However, the threats to identification represented by the time elapsed since ancestral immigration is omitted.

We propose and test three proxies to get past the bias we uncover.

# Improving the understanding of the respective role of public action in the renewal of the agricultural workforce in France



Pauline Ibgui, INRAE, PhD in economics, ED SEJPG

Supervision: Christine Léger-Bosch, researcher at INRAE (Territoires)

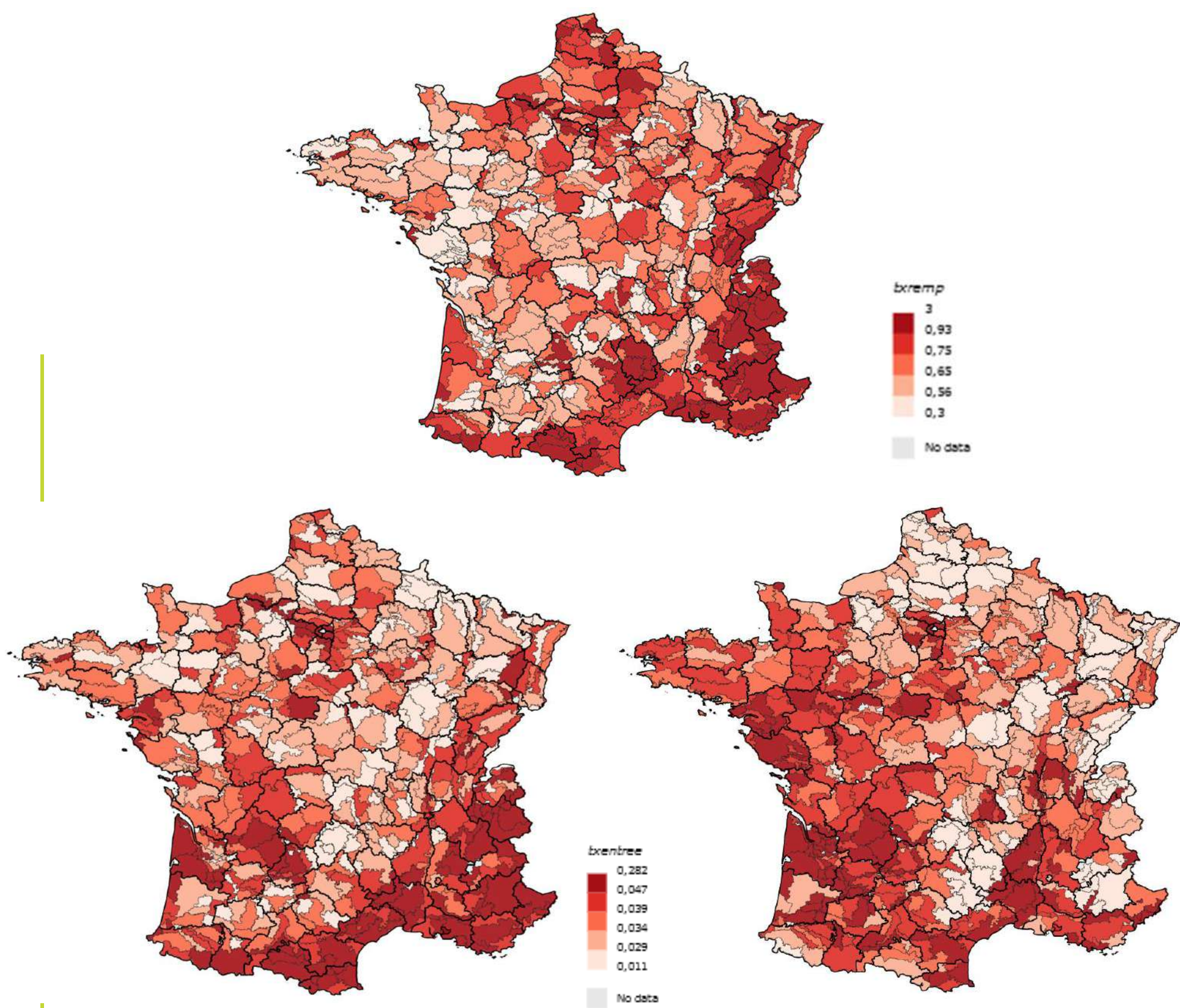
Dominique Vollet, researcher at Territoires

pauline.ibgui@inrae.fr

## Context and challenges

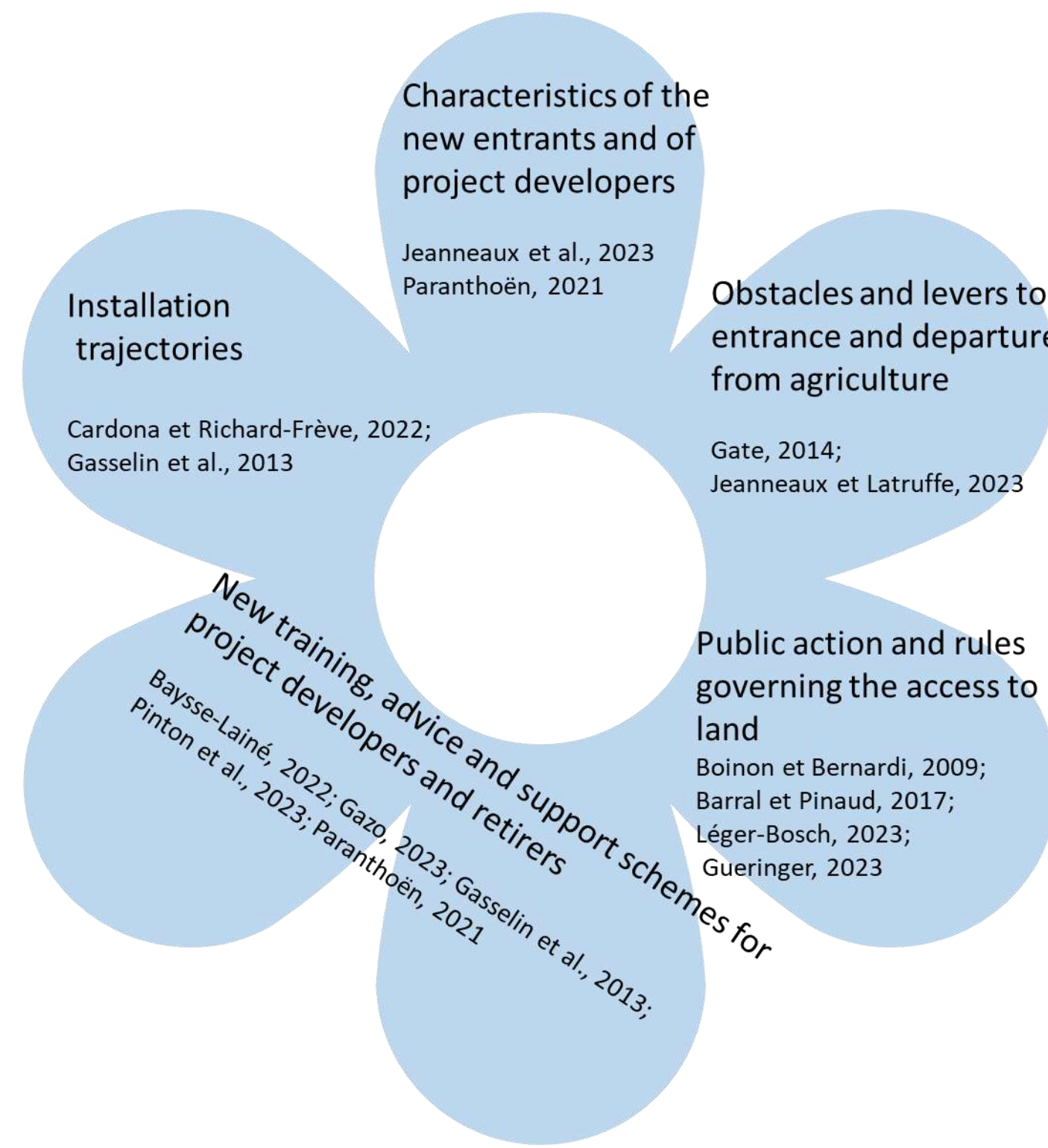
The 2020 agricultural census highlighted the urgency of the situation when it comes to renewing the agricultural workforce. One French farm in two is likely to see at least one of its farm managers retire over the decade 2020-2030. This would not be such a cause for concern if farm managers were systematically replaced by new entrants when they retire. However, this is not the case: figures vary, but in France as a whole, the replacement rate has been between 50 and 75% in recent years. The result is a decline in the number of farm managers, which raises a number of questions: what impact will this decline have on the supply of French produce, on the development of rural areas and on the landscape? Will the agro-ecological transition be possible with fewer farmers? So, today, the societal question for many players is the following: What can be done to encourage the establishment of new farms, and prevent the French agricultural landscape from being dominated by ever larger, capitalized farms?

## State of the art

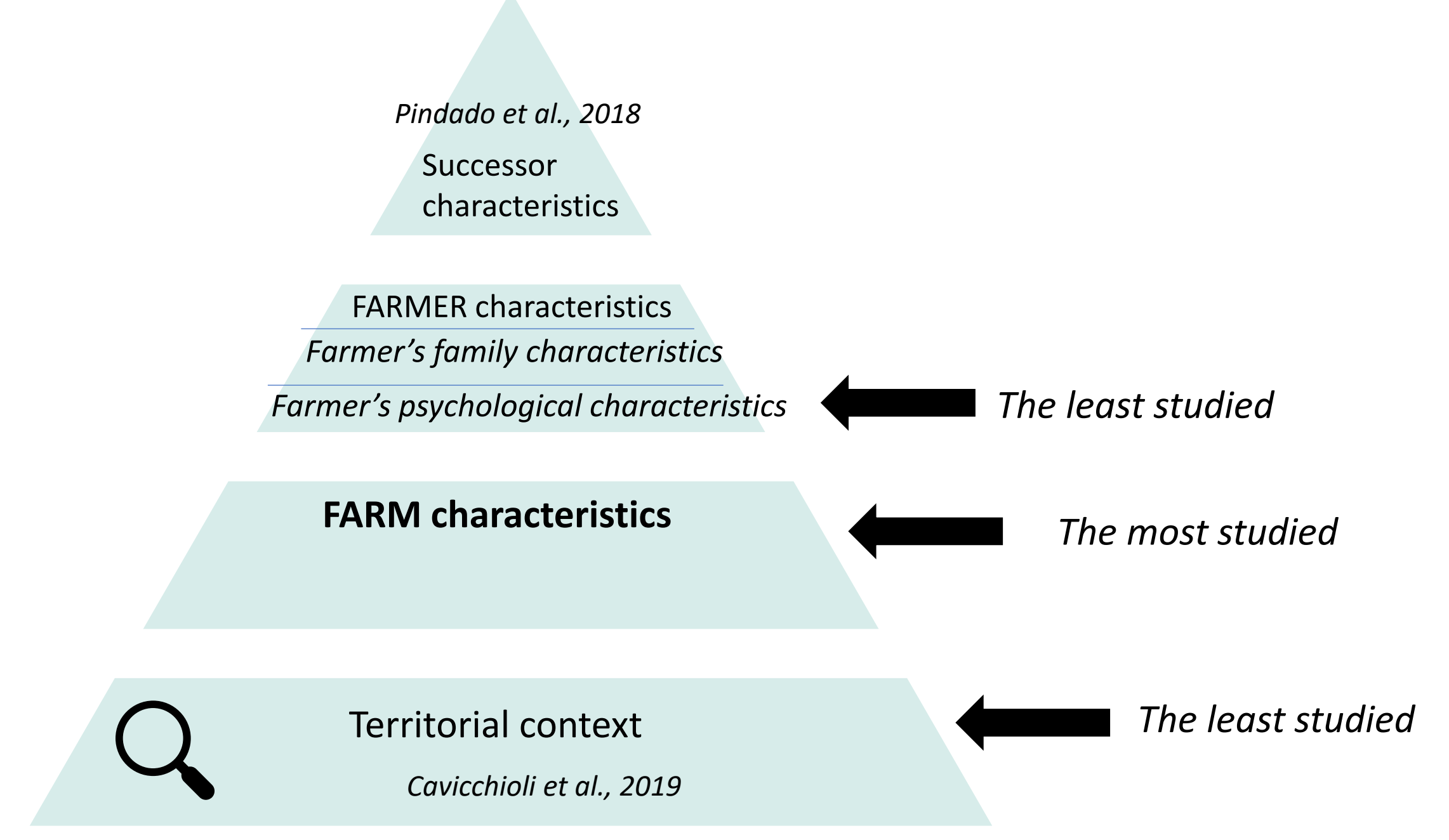


Replacement rate (above) (=entries/departures)  
 Entrance rate (on the left) (=entries/whole population of farm managers)  
 Departure rate (on the right) (=departures/whole population of farm managers)  
 Quantile discretization  
 Data: MSA 2017-2021

In French literature, qualitative approaches to explaining the renewal of the workforce have focused on different topics :



In European and Anglo-Saxon literature, quantitative approaches to explaining the renewal of the workforce are based on variables related to:



Adapted from Rodriguez-Lizano et al, 2020

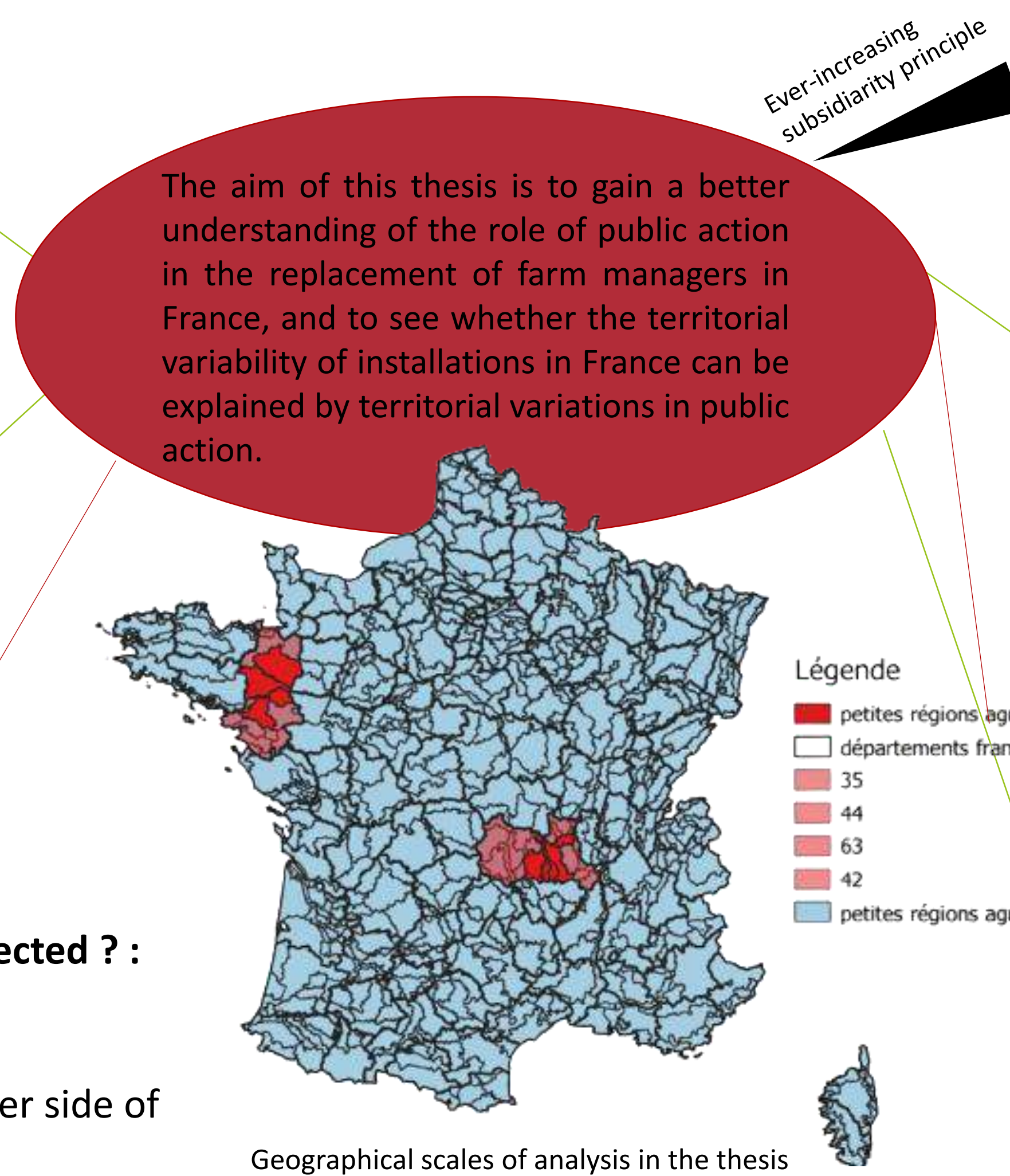
## Question, strategy and expected results:

Characterization of the territorial dynamics of farmers starting a farm and of retiring farmers in France

Identification of institutional, socio-economic and agricultural variables impacting the level of entries and departures from agriculture  
 Model of multiple linear regression  
 Statistical population: all small agricultural regions  
 Dependant variables: replacement rate, entrance rate, departure rate

Which is the respective role of institutional factors in explaining the dynamics of entries and departures from agriculture?

**How were the case study small agricultural regions (SAR) selected ? :**  
 -SARs separated by at least one administrative boundary\*  
 -SARs with strong agricultural and socio-territorial similarities  
 -SARs with different entrance and departure dynamics on either side of the administrative boundary.



In the départements with case study SARs, presentation of:

- How the big rules governing entrance and departure from agriculture are locally written and implemented (AITA program, agricultural land regulation, CAP's young farmer payments)
- How the institutional environment of entrance and departure from agriculture gets larger under the effect of complementary measures to compensate for shortcomings of the main rules governing entrance and departure
- How this enlarged institutional environment impacts on/ AND is impacted by the operation of support structures

In the case study SARs, presentation of installation trajectories of project developers representative of the new entrants/project developers in the SARs and comparable on either side of the administrative boundary.  
 ⇒ Process analysis for access to causal relationships  
 COMBINED WITH  
 ⇒ Analysis of the private costs borne by project developers (transactions costs, direct costs, opportunity costs) with a special focus on transaction costs  
 ⇒ Analysis of the quality of installations; quality is assessed through:

- professionalization (social and human capitals & autonomy)
- sustainability of production factors & inclusion in the family farming model
- contribution to agro-ecological and food transitions

Identifying the sources of private cost reduction in the installation trajectories . Are there links between those sources of private cost reduction and the local public action in favour of new entrants? What are the underlying mechanisms behind this reduction in private costs through public action (specific, particularly effective schemes, particular forms of coordination between support organizations, etc.)?

## \*Theoretical framework in institutional economics

Regional economics

Analysis of institutional environments

- For old/American institutionalism and NIE
- Institutions= formal rules + informal rules
- According to Ménard, 2003:

Institutional environment= Formal rules+ the ways formal rules are implemented

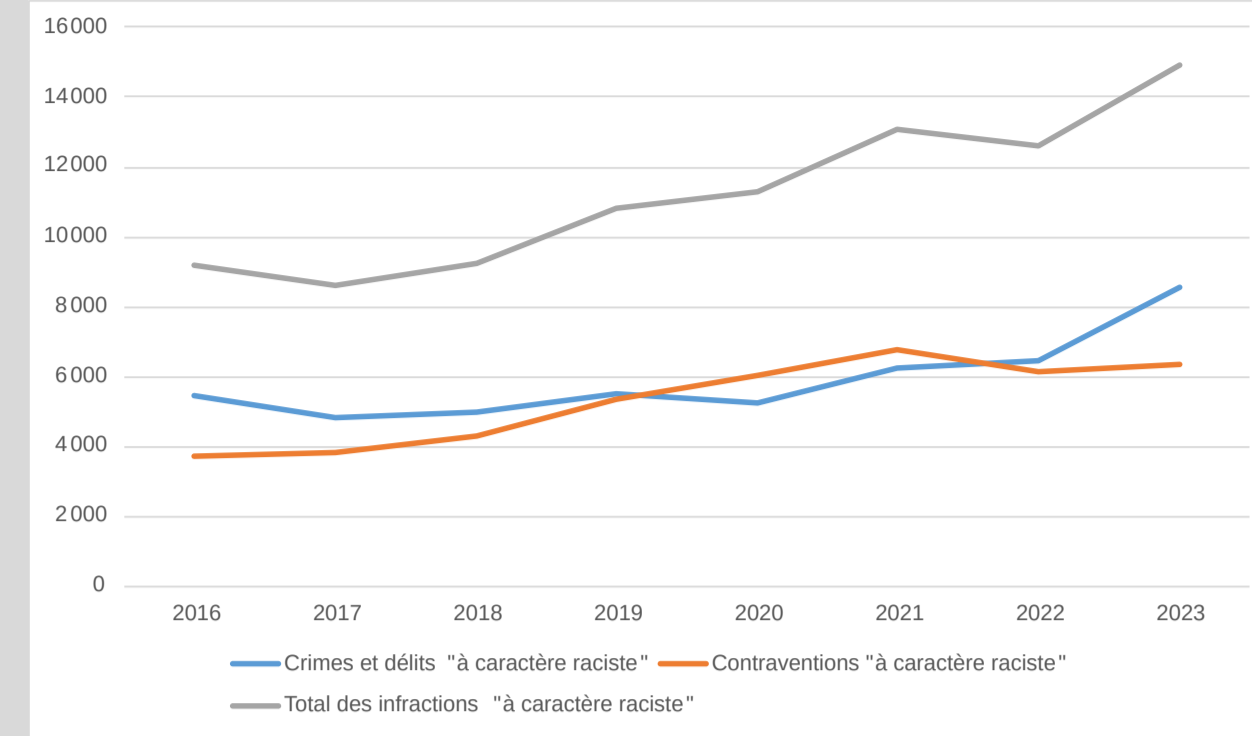
## Transaction Costs Economics

TC applied to a new topic: =>STARTING A FARM  
 Starting a farm, one or many transactions?  
 Theoretical/Methodological issue: How to estimate private transaction costs?  
 -by a chronological or a thematic way?  
 -by the time spent ? The level of difficulty experienced?  
 Preliminary step:  
 -identifying the tasks performed by project developers and classifying them into search and information costs, bargaining costs, and enforcement costs.

# INTRODUCTION

## CONTEXTE

Croissance du phénomène de polarisation sociale et politique  
 +  
 Développement des réseaux sociaux et des outils d'intelligence artificielle  
 =  
 Recrudescence des discours de haine et des actes haineux



# LA PÉNALISATION DES DISCOURS DE HAINE

Par Justine Labaune, doctorante en droit pénal, 1ère année, sous la direction du professeur Evan Raschel, Centre Michel de l'Hospital, ED SEJGP

"Il en faut toujours un. Quand il y en a un, ça va. C'est quand il y en a beaucoup qu'il y a des problèmes." : B. Hortefeux à propos d'un homme d'origine arabe dans une vidéo diffusée par *Le Monde* en 2009.

**Relaxe du chef d'injure raciste** pour défaut de publicité ; les propos avait été initialement tenus dans le cadre d'un échange avec une militante de l'UMP (Cass. crim. 27 novembre 2009, n° 11-86.982).

J.-M. Le Pen à J.-J. Bourdin sur *BFMTV* en 2015 : « Pas du tout. Ce que j'ai dit correspondait à ma pensée que les chambre à gaz était un détail de l'histoire de la guerre, à moins d'admettre que ce soit la guerre qui soit un détail des chambres à gaz »

**Condamnation pour contestation de crime contre l'humanité** à 30 000€ d'amende (Cass. crim. 27 mars 2018, 17-82.637).

## ÉTAT DE L'ART

Les discours de haine ne sont jamais précisément visés dans les textes répressifs. Néanmoins, pour la doctrine majoritaire, les discours de haine recouvrent quatre infractions de la loi sur la liberté de la presse du 29 juillet 1881 :

- Diffamation raciste ou sexiste (art. 32 alinéas 2 et 3)
- Injure raciste ou sexiste (art. 33 alinéas 3 et 4)
- Provocation à la discrimination, à la haine ou à la violence (art. 24 alinéa 7 et 8)
- Contestation de crime contre l'humanité (art. 24 bis)

## DÉFIS

- Foisonnement de sources qui rend plus difficile un traitement lisible et pratique du sujet.
- Absence de consécration juridique et uniforme de la notion.
- Sujet polémique au cœur de débats philosophiques.

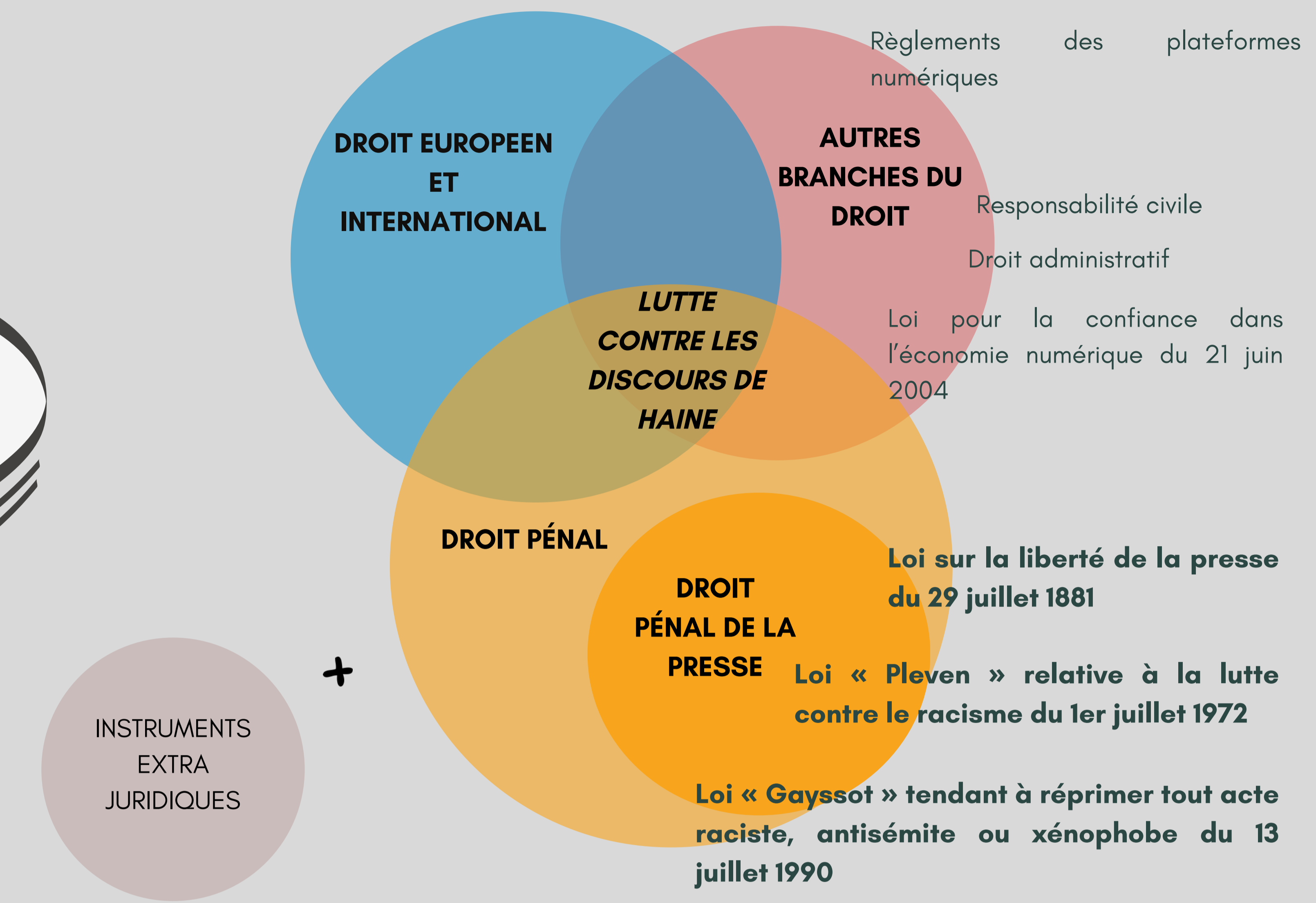
## OBJECTIFS

- ➔ **ÉLABORATION D'UNE NOTION JURIDIQUE** : Qu'est-ce-qu'un discours de haine en droit ? Où s'arrête "le discours" ? Quelles qualifications pénales recouvrent ces expressions ? Quelle est la *ratio legis* des incriminations des discours de haine ? Comment concilier cette notion avec les libertés fondamentales ?
- ➔ **ÉLABORATION D'UN RÉGIME JURIDIQUE** : Quel traitement procédural pour les discours de haine ? Faut-il un traitement particulier des discours de haine au sein du droit de la presse, déjà dérogatoire du droit pénal ? Quelles peines sont adaptées pour réprimer ces abus de la liberté d'expression ? Quelle doit être la place du droit pénal parmi les autres instruments de la lutte contre les discours de haine ?

## MÉTHODE

- 1 Compréhension du traitement des discours de haine dans la législation pénale et des dynamiques de lutte contre ces expressions.
- 2 Choix de qualifications pénales des discours de haine pour un traitement efficace du phénomène et respectueux des principes du droit pénal.
- 3 Analyse du mouvement de création d'un "régime procédural des discours de haine". Élaboration de propositions pour une répression pertinente des discours de haine (efficace et légitime).
- 4 Pistes de transformation de la législation actuelle : article unique réprimant les discours de haine ? Transfert dans le code pénal ? Clarification de la place du droit pénal.

## CADRE JURIDIQUE



## HYPOTHÈSES

### ✔ POSTULAT - Faut-il punir les discours de haine ?

#### OUI

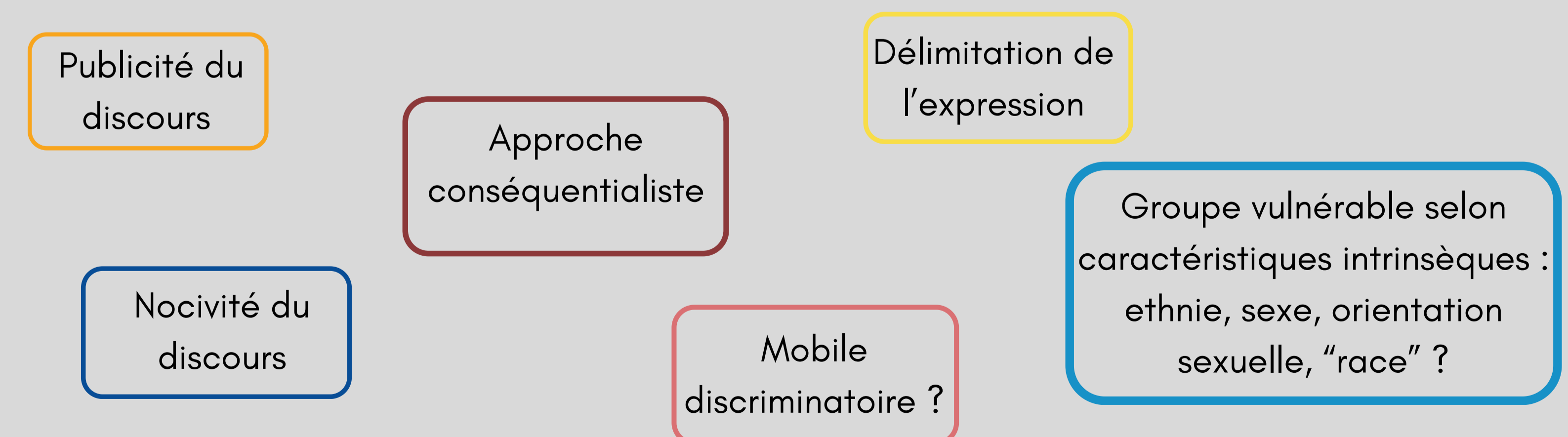
- C. GIRARD, philosophe, admet la nécessité de la pénalisation des discours de haine pour la reconnaissance sociale de l'égalité de statut des citoyens, et pour garantir la « valeur équitable » de la liberté d'expression.
- Reconnaissance du danger des discours de haine et de l'importance de la langue dans les évolutions sociétales.

#### NON

- Thèse du libre marché des idées = le débat public s'autorégule
  - Selon J. S. MILL, toute restriction à la liberté d'expression revient à nier l'humanité
- ↪ Valable au XVII mais utopiste aujourd'hui à l'ère d'Internet.

**Il faut punir les discours de haine, le droit pénal a sa place dans la lutte contre les discours de haine.** La question du "comment ?" reste à traiter.

### ✔ FAISCEAU D'INDICES - Vers une notion juridique des discours de haine.



#### Bibliographie

- Étude du service statistique ministériel de la sécurité intérieure (SSMSI) portant sur les atteintes à caractère raciste, xénophobe ou antireligieux en 2023 <https://www.interieur.gouv.fr/Interstats/Actualites/Info-Rapide-n-34-Les-atteintes-a-caractere-raciste-xenophobe-ou-antireligieux-en-2023>
- T. Hochmann, M. Soula, *Combattre le racisme. Études pour le jubilé de la loi de 1972*, Presses universitaires de Paris Nanterre 2023
- V. Malabat, "Quelles qualifications pénales pour les discours de haine ?", *RDLF* 2024 chron. n°10

# Gendered laws and intimate partner violence (IPV) in developing countries

Jeannie Sylvia Yannick MALALANIRINA  
CERDI, Université Clermont Auvergne, CNRS, IRD



## MOTIVATION

- Gender equality as an integral part of development prospects (Duflo, 2012).
- Global encouraging efforts toward women empowerment (Bank, 2020).
- Positive relationship between gendered laws and women's employment (Islam et al., 2019; Roy, 2019; Hyland et al., 2020; Sever, 2022).
- 30% of women worldwide victims of IPV (WHO, 2021).
- Ambiguous effects of women empowerment on IPV (Kalmuss and Straus, 1982; Macmillan and Gartner, 1999).

## OBJECTIVES

- Shed light on the complexity of IPV phenomenon.
- Assess the effect of gendered laws.

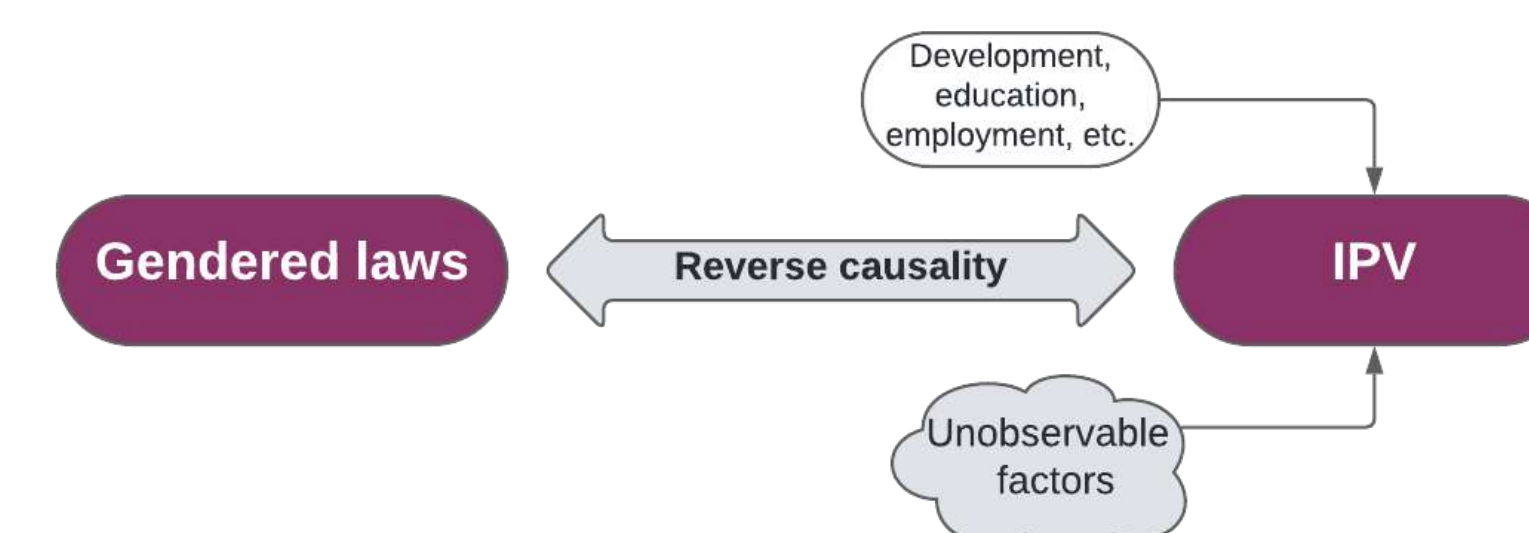
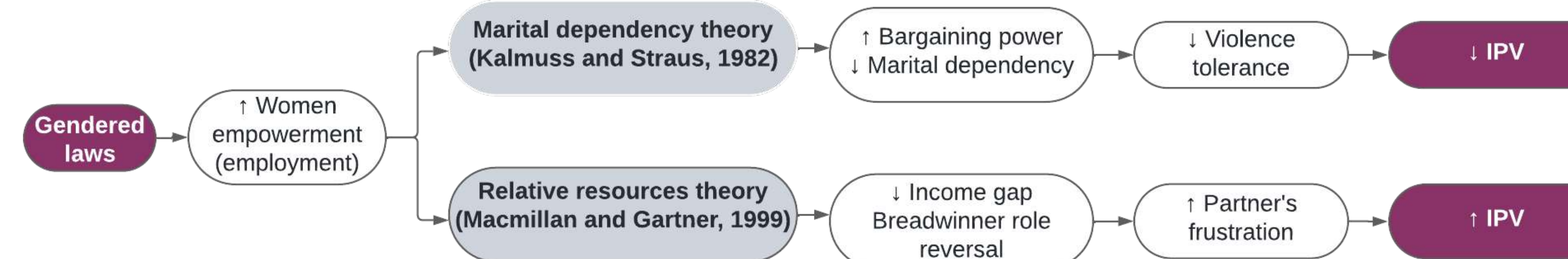
## RESEARCH QUESTION

To what extent does the adoption of gendered laws influence the prevalence of IPV in developing countries?

## MAIN DATA SOURCES

- Global Burden of Disease (GBD) database,
- Women, Business and the Law (WBL) database,
- World Development Indicators (WDI).

## THEORETICAL FRAMEWORK & METHODOLOGY



- Endogeneity issues: reverse causality, omitted variables.
- Macroeconomic analysis.
- Instrumental variables method.

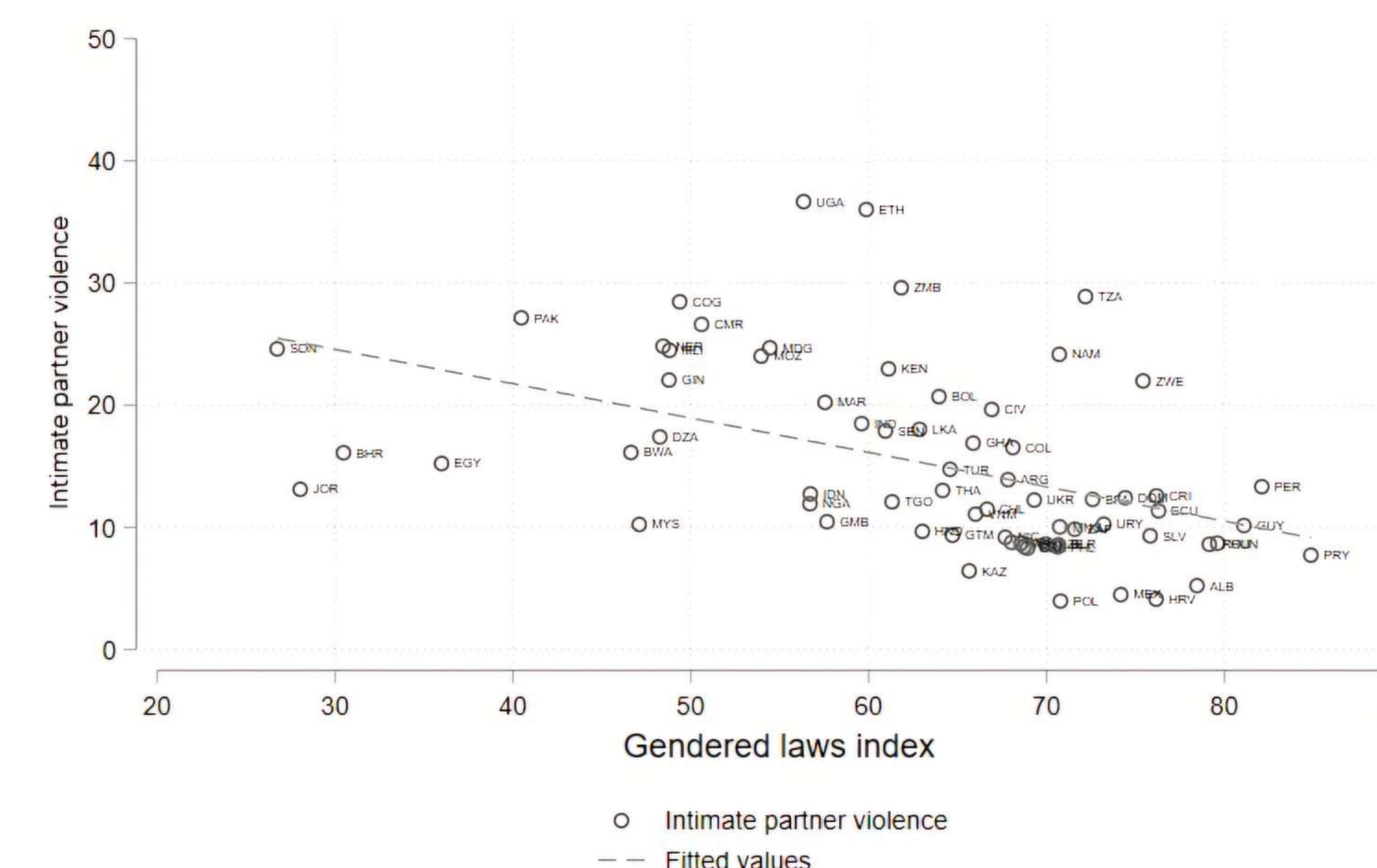
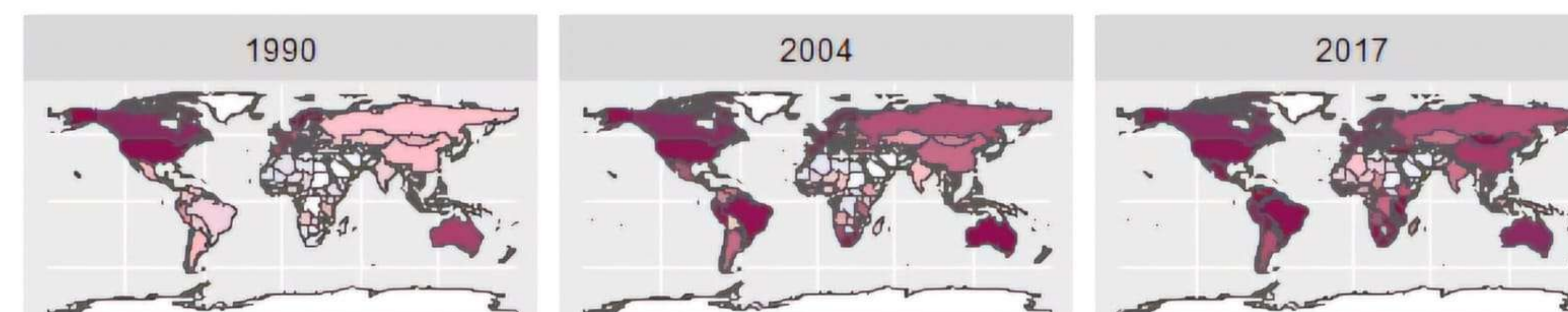
## MAIN RESULTS

- Adoption of gendered laws is associated to the decrease of IPV prevalence in developing countries.
- The adoption of different categories of laws matters: mobility, workplace, pay, etc.
- Convergence towards the marital dependency theory.

## POLICY IMPLICATIONS

- Importance of adoption and effective implementation of gendered laws.
- Disentangle reporting from prevalence of IPV.
- Consider gender programs' designs to avoid backlash effects on women.

## STYLIZED FACTS



## OTHER RESEARCH TOPICS

- Weather shocks (e.g.: natural disasters),
- Women empowerment, gender-based violence, gender attitudes,
- Sensitive topics and misreporting.

# PLAIDOYER POUR DES PASSEPORTS D'ŒUVRES

Guilhem Monédiaire

Doctorant en Histoire du droit

Centre Michel de l'Hospital – UR 4232, École de droit, UCA

PASSPORT



## OBJET DE LA THÈSE

### Les appropriations de biens culturels à l'ère coloniale

#### *Le cas de l'Afrique subsaharienne*

Thèse d'Histoire du droit – S03, s/d du Pr. d'Histoire du droit Xavier Perrot.

Effort de clarification juridique des collectes réalisées lors des colonisations françaises de l'Afrique subsaharienne.

## LA PROVENIANCE

### *La tradition des « cartes d'identité »*

Communément, les connaissances sur les objets présentées dans les musées se résumaient à leur nature et origine. Les cartels précisent ainsi les matériaux de l'œuvre, son origine géographique, sa date de création, parfois son auteur ou les collectionneurs qui l'ont détenue. C'est ce qu'on nomme la *provenience* en anglais, ces connaissances pouvant être assimilées à une « carte d'identité ».

## LA RECHERCHE DE PROVENANCE

### *Le renouveau des « passeports »*

Une discipline en plein essor, la recherche de provenance, étudie non plus seulement l'origine des artefacts, mais l'ensemble de leur parcours depuis leur création. Ce sont alors les appropriations et les déplacements juridiques, géographiques et symboliques qui sont documentés et qui enrichissent la connaissance des objets.

Cela s'apparente à une sorte de « passeport ».

## LE DROIT

### ET LES PROVENANCES

#### *L'histoire du droit au service des recherches de provenance*

La méthodologie juridique et sa neutralité axiologique permettent d'éclairer l'histoire des artefacts, notamment compte tenu du contexte colonial et des enjeux mémoriels. L'époque contemporaine a vu naître le conflit des restitutions et des retours d'œuvres d'art. Le droit, instrument de clarification, contribue à déterminer des régimes juridiques, entre illicéité des collectes et banalité des échanges.

## LES CARTOGRAPHIES DE PROVENANCE

### *La cartographie est parfois éclairante : le Sabre dit d'El Hadj Oumar Tall.*



Anciennement : Musée de l'Armée (Paris), n° 6995. Désormais : Musée des civilisations noires (Dakar).



# LABOR MARKET DYNAMICS IN AFRICA: DEMOGRAPHY, INFORMALITY AND ICTs

JED 2024  
ED SEJPG  
13 Juin 2024

PhD Student: Magloire SESHIE  
Supervisors : Prof Grégoire ROTA GRAZIOSI  
Prof Ahmed TRITAH

01

## Africa's population is growing rapidly, at a rate of over 2% these last decades.

UN forecasts predict a population of 2.5 billion in Africa in 2050, i.e. almost 2x 2020s population.

50% of this population in 2050 will be under the age of 25, which calls for major efforts in terms of education, infrastructure and jobs.

Regarding jobs, needs will be huge. Only for Sub-Saharan Africa (SSA), there is an estimation (IMF, 2018b) of 20 millions a year from 2020 to 2040, which is enormous.



02

## Africa concentrates the largest share of informal employment

External margin: whether or not firms are legally regist  
Internal margin: whether or not workers have a contract and social protection

Informal firms are thought to be smaller, less productive and to concentrate low-skill workers than formal ones.

Africa has the largest part of informal employment -85.8%-(ILO, 2018). This poses the problem of social protection and decent jobs for future generations



03

## Africa knows a quick evolution of ICTs particularly mobile phone and its services.

There is still a low internet penetration rate in Africa; 97.4% in Northern Europe vs 42.3% in Western Africa (Statista, 2024).

But there is high mobile phone subscriptions; 88.6 per 100 people in SSA (World Bank, 2024).

And massive mobile money use; around 50% of world wide mobile money accounts – 334.77 million - are located in SSA (GSMA,2024).



## How ICTs adoption could boost informal sector productivity, help informal firms grow and create decent jobs in Africa?

**Q1:** ICTs adoption could enhance informal firms productivity? What channels?

**Q2:** What about heterogeneity in the informal sector? Are there productive informal firms that gov could help to grow and deliver decent jobs?

**Q3:** Is it possible through ICTs, to design a program of sces (registration, financing, taxation, social protection) for informal sector?



RAPID DEMOGRAPHIC CHANGE

LARGE INFORMAL SECTOR

QUICK ICTs DIFFUSION

PROBLEMATIC

## ICTs adoption and informal firms performance

Main objective: Assess the effects of ICTs adoption (mobile money) on firms performance (sales or sales per worker)

Data: Survey ICT Africa Datafirst 2018

Methods: Entropy Balancing (matching method), Weighted Least Squares, Oster (2019) sensitivity test

Results: Mobile money adopt increases sales of informal firms by 41% and annual sales per worker by 31%. Oster (2019) sensitivity test shows that results are not subject to unobservables' selection.

Limitations: Panel database of firms would be useful to check if ICTs adoption effects last. Number of firms surveyed is limited, this makes difficult heterogeneity analysis, No info on firms ICTs intensity of usage to tell channels through which ICTs boost firm performance.

Q1

### Sample:

- 4108 firms
- 9 African countries
- Around 93% of the firms have less than 4 employees
- 1/3 of firms are regist with local auth. 40% of firms pay local taxes.
- The ICT most used by the firms surveyed is mobile money (28%)

## A selection model based on firms' heterogeneity in presence of informal sector

Main objective: Design an occupational choice model where agents could choose betw wage-workers and informal/formal entrepreneurs

Classify the continuum cases of informal entrepreneurs with thresholds based on financing constraints and talent

Identify the category of informal firms, productive enough to be competitive in formal sector  
Apply the model on a sample of firms

Data: Looking for SMEs database with both formal and informal firms

Methods: Theoretical model, micro-simulations

Q2

### A continuum of informal firms' statuses; Ulyssea (2018):

- Potential productive firms: out of formality by high regulatory costs.
- Parasite firms: prod. enough to survive in the formal sector but remain informal to earn higher profits.
- Low-skill ind: too unproductive to ever become formal.

## Evaluation of E-tax

Main objective: Many African countries implemented E-tax, a tax on mobile money operations, as an attempt to tax informal sector.

What about the targeting of such tax and what effects on informal sector?

With the previous researches, define a framework to identify productive informal firms of a country based on a national representative sample of firms

propose a program to accompany these informal firms; ICTs access, financing constraints, registration...

Data: Nationally represent households and firms surveys before and after the implementation of the E-tax

Q3

### Ghana E-levy tax on Digital Financial Services (DFS) impl in January 2022:

- Rate from 1.5% to 1%, to reduce avoidance/increase transactions
- E-levy raised 612.34 million in 2022, 1.19 billion in 2023 for a target of 6.96 billion GHS in 2022.
- +15 African countries intro. DFS Tax
- ICTD's DIGITAX Programme aims to advise gov on DFS taxes

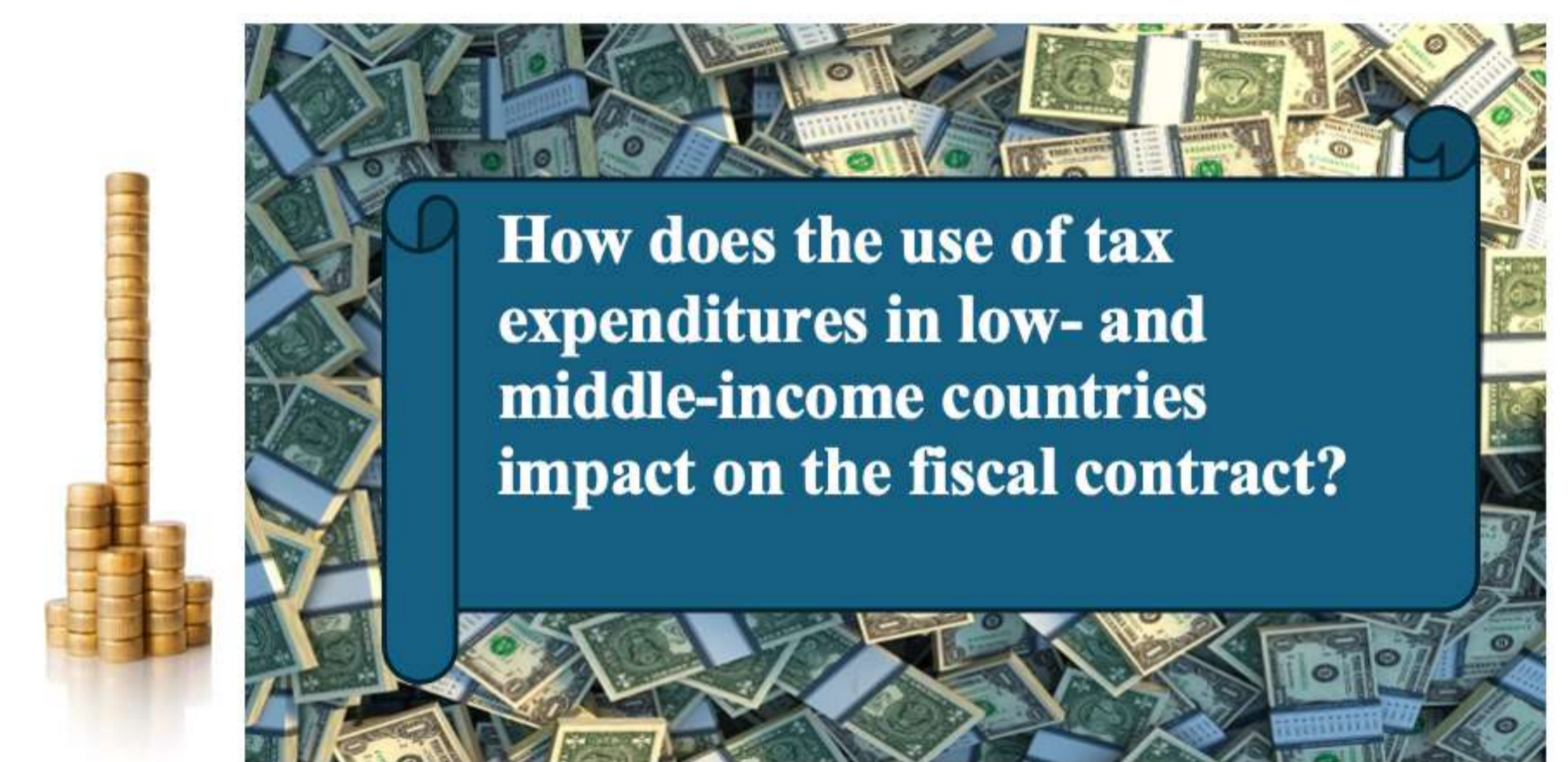
# Tax Expenditures and the Fiscal Contract (TEFISCON Project)



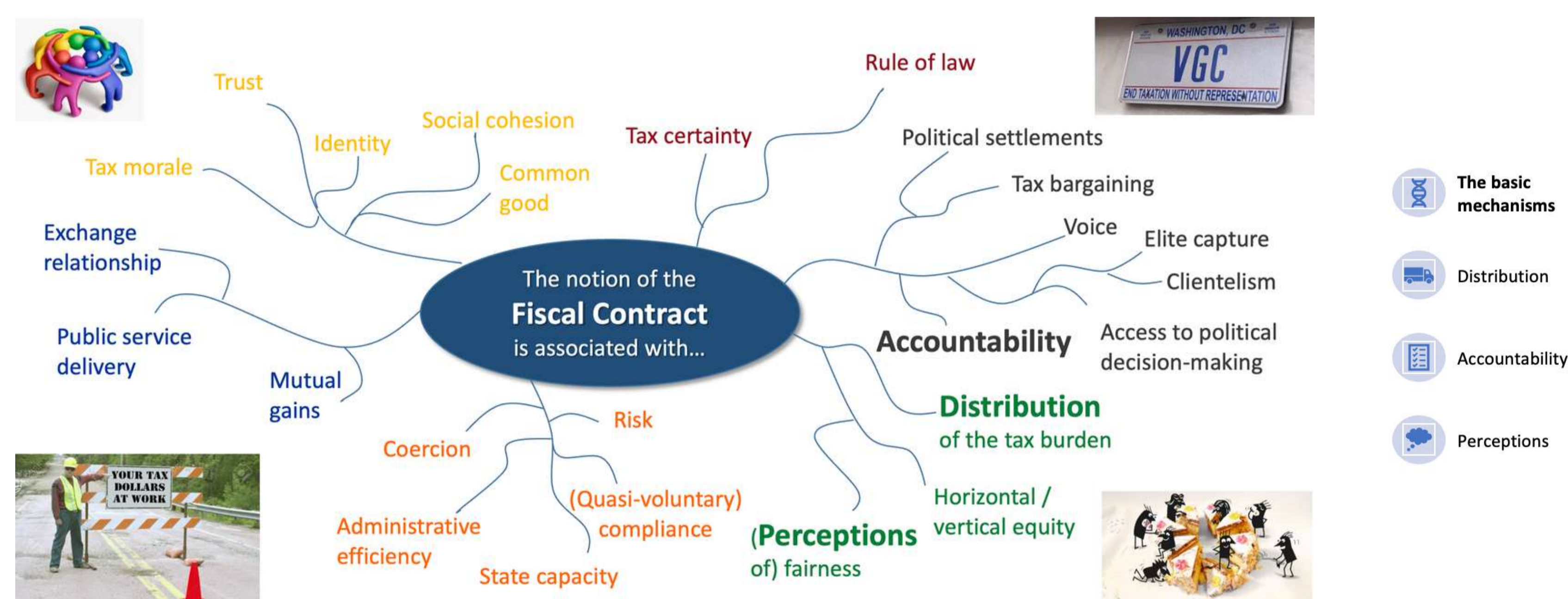
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CERDI, Clermont-Auvergne University

## BACKGROUND

- Since the Monterrey Consensus (2002), tax policy has been acknowledged as a powerful tool for shaping development policies.
- In the current scientific debate tax expenditures are often considered opaque, regressive, and inefficient (Redonda et al, 2019; Redonda et al, 2021; Granger et al., 2022).
- Tax expenditures are tax advantages (which can be exemptions, deductions, tax credits, or reduced tax rates, etc.) that reduce the tax burden of a taxpayer or group of taxpayers compared to what it would be in the absence of these provisions (Cordes et al., 2005).
- Tax expenditures are departures from the normal tax structure, designed to favour a particular activity, or group of taxpayers (Von Haldenwang et al, 2021).



## Core project concepts: Fiscal contract

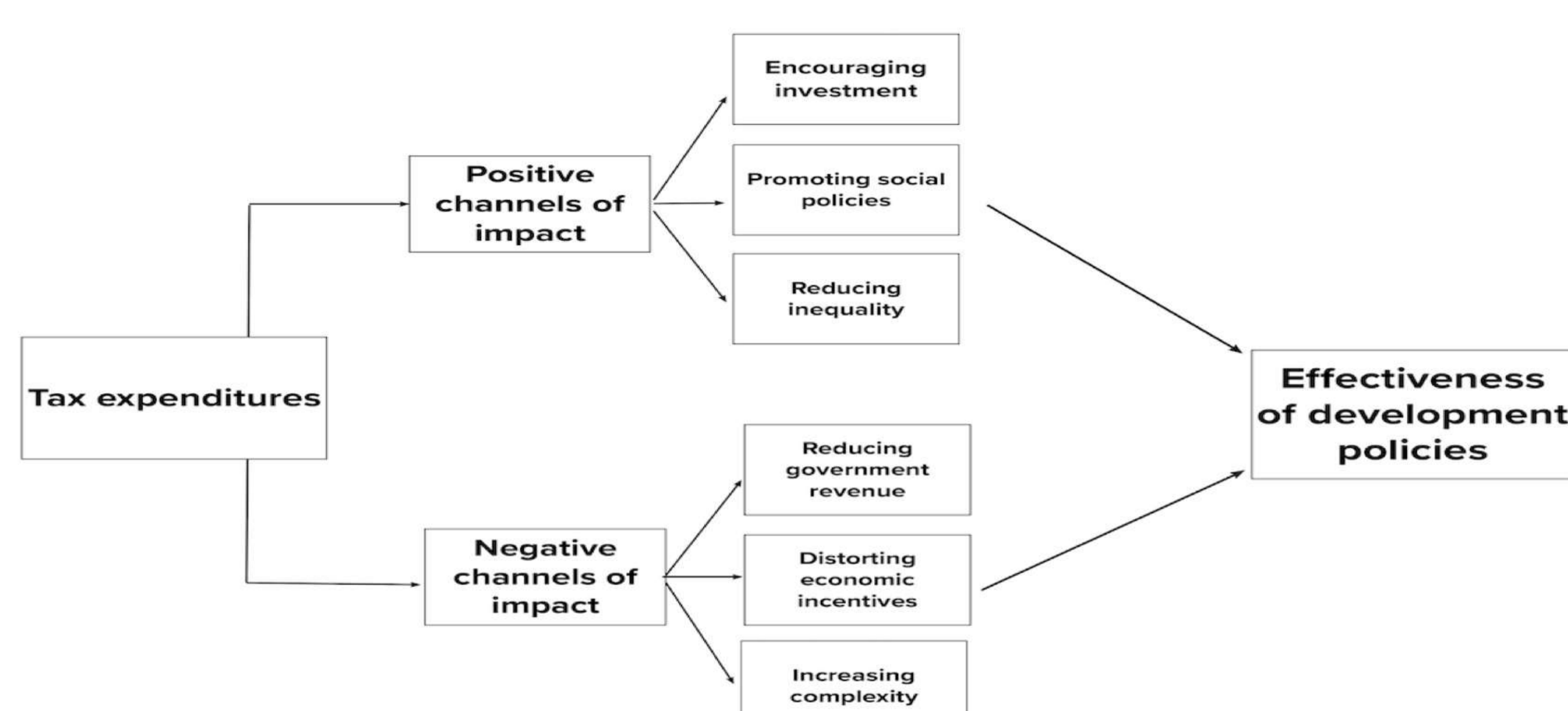


## Main Hypothesis, Data and Methods

The use of tax expenditures changes the characteristics of the fiscal contract in low- and middle-income countries

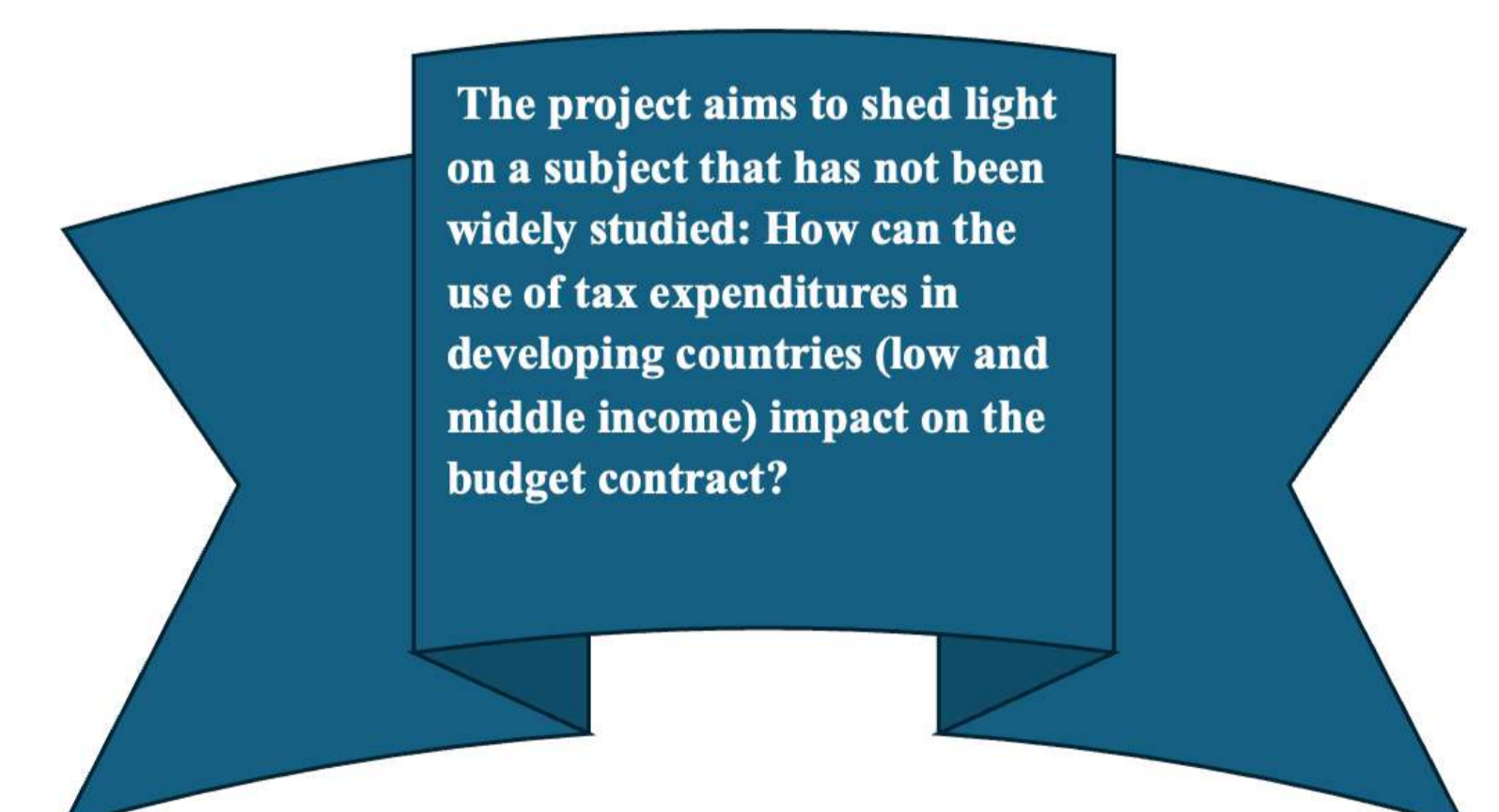
- **Data**
  - Afrobarometer,
  - Global Tax Expenditures Databases (GTED),
  - WDI (World Development Indicators), etc.
- **Methods**
  - Probit regression,
  - Logit Regression,
  - GMM, etc.

## Transmission Channels



## Objective

- **Political implications**
  - This research will raise awareness on the issue of tax expenditures and will best help states in the management of public finances.
  - Addressing the issue of reporting and transparency of tax expenditures is important to strengthen the relationship between state and citizens, particularly for LMICs that have limited capacity to raise domestic revenue.
  - Etc.



## Link to project





# Climate Shocks Abroad and Trade: Costly Consequences or Hidden Benefits?

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<sup>°</sup>Chair Industrial Economics of Emerging Africa, Mohammed VI Polytechnic University, Morocco

## INTRODUCTION

- Climate change affects international trade in two opposing ways:
  - Encourages countries to maintain trade links to mitigate domestic extreme weather costs.
  - Pushes countries to reduce dependence on vulnerable countries to minimize exposure to foreign extreme weather events.
- Literature has long focused on countries directly affected by climate shocks, but little is known about spillover effects. This paper attempts to fill this gap by analyzing the impact of climate shocks on trade from the perspective of the country whose partner suffers the disaster.
- The aim is to find out whether it is costly or beneficial for countries to trade with a partner that is experiencing shocks.

## METHODOLOGY

### ECONOMETRIC MODEL

- Use the structural trade gravity model and the Poisson Pseudo-Maximum Likelihood estimator for high dimensional fixed effects (PPML HDFE) to estimate the impact of foreign climate shocks on trade.
- Dependent variable: bilateral exports in value in each sector  $k$
- Variable of interest: Foreign Climate Shocks

$$FCS_{ij,t}^k = \phi_{ij,t}^k \times CS_{j,t}^k$$

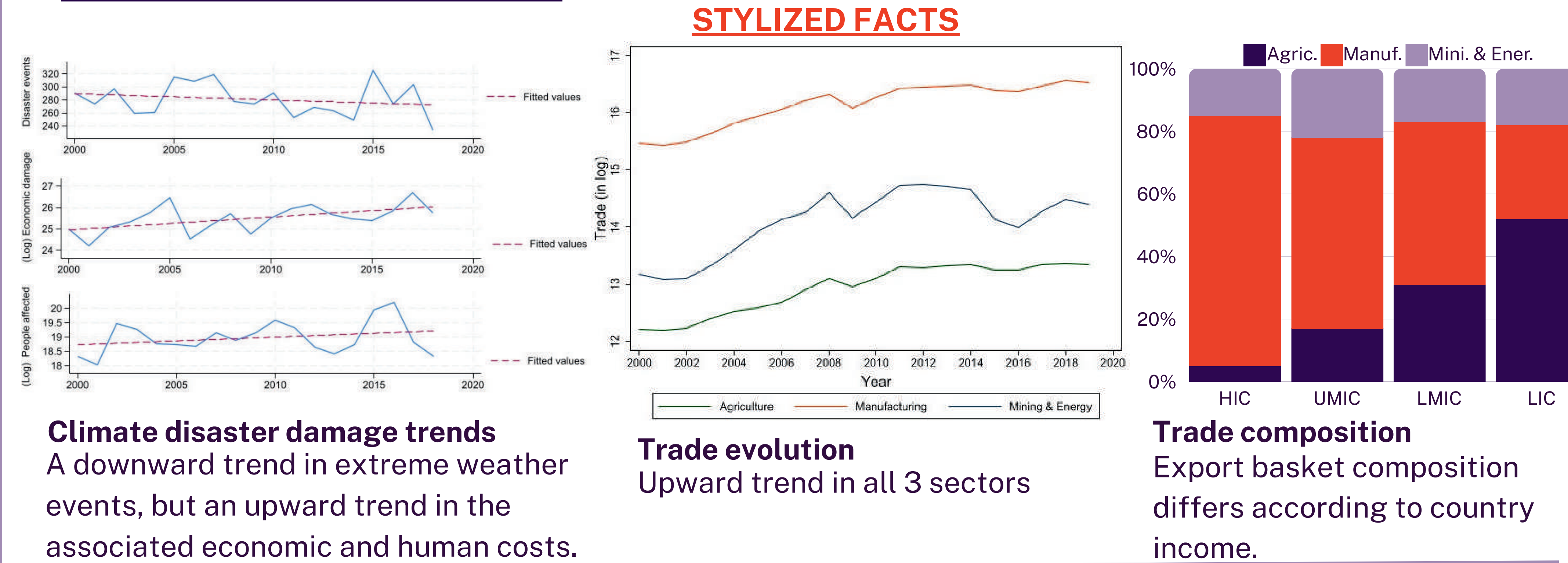
- Baseline specification:

$$X_{ij,t}^k = \exp[\gamma_{i,t}^k + \zeta_{j,t}^k + \omega_{ij}^k + \beta_0 FCS_{ij,t}^k + \beta_1 FCS_{ij,t-1}^k + \beta_2 FCS_{ij,t-2}^k] \times \epsilon_{ij,t}^k$$

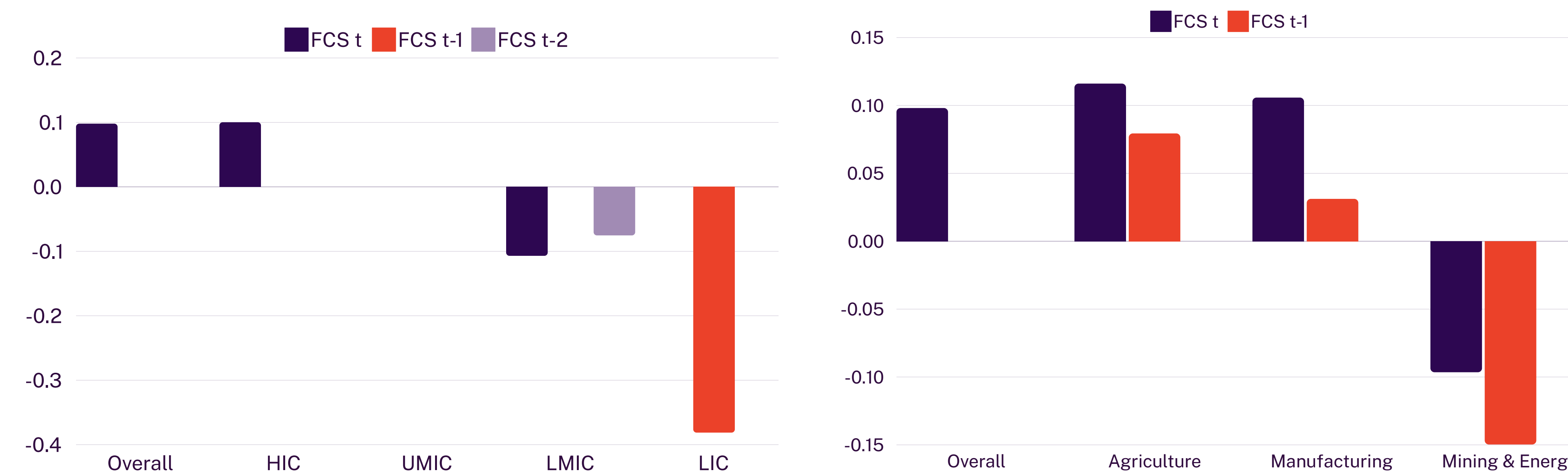
### SOURCE OF DATA

- Emergency Events Database (EM-DAT)
  - The study covers 5333 extreme weather events worldwide between 2000 and 2019, including floods, droughts, storms, extreme temperature, wildfire and mass movement.
- International Trade and Production Database for Estimation (ITPD-E) - Release 2
  - 3 sectors: Agriculture, Manufacturing, and Mining and Energy.
  - 213 unique reporter countries, and 39,298 reporter-partner pairs over 2000 - 2019.

## RESULTS



## BASELINE RESULTS



## KEY INSIGHTS

- Climate shocks abroad increase bilateral trade. 10-standard deviation increase in FCS, is associated with a 4.4% increase in the bilateral trade.
- FCS increase exports in high-income countries, but reduce them in lower-middle- and low-income countries.
- FCS do not appear to have a significant impact on exports from upper-middle-income countries
- FCS increase trade in Agriculture and manufacturing sectors, but decrease it the Mining & energy sector.
- A 10-standard deviation increase in FCS, is associated with an increase of 6% and 3.8% respectively in agriculture and manufacturing bilateral trade, and 6.5 % decrease in mining and energy bilateral trade

## CONCLUSION

- This paper shows that, contrary to popular belief, foreign climate shocks do not always have a negative impact on bilateral trade.
- Trade from developed countries is positively impacted, while trade from developing countries is negatively affected by FCS.
- Developing countries suffer doubly from climate shocks, both domestic and foreign.
- The export basket composition also plays a role, as not all sectors are affected in the same way. Agriculture and manufacturing are positively affected, while mining and energy are negatively impacted.

## REFERENCES

- Borchert, I., Larch, M., Shikher, S., and Yotov, Y. (2022), "The International Trade and Production Database for Estimation - Release 2 (ITPD-E-R02)," USITC Working Paper 2022-07-A
- EM-DAT - The international disaster database, <https://www.emdat.be/>
- International Trade and Production Database for Estimation (ITPD-E), [https://www.usitc.gov/data/gravity/itpd\\_e.htm](https://www.usitc.gov/data/gravity/itpd_e.htm)