

RESEARCH STATEMENT

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I am a post-doctoral fellow at the University of Oxford, which I joined after obtaining a PhD in Economics from Sciences-Po Paris in 2016. My primary research fields are development economics, economic history, political economy, and applied economic geography.

My research investigates the historical determinants of spatial inequalities of development. I am especially interested in understanding the specific ways in which historical events have led to institutional or cultural changes that can explain persistent inequality over time.

Economists have gained significant expertise in identifying the efficacy of policies designed to improve health, education, and household income (Banerjee and Duflo, 2009). However, despite these advances and the concerted global efforts to eradicate poverty since the Millennium Development Goals, we still observe development patterns that are deeply rooted in the past (Nunn, 2009; Michalopoulos and Papaioannou, 2018). It is thus crucial to determine how these historical events have shaped and continue to shape long-run development. My research aims to address this puzzle, with a focus on understanding how cultural, institutional, and technological changes in the past matter today.

I have studied in depth two particular cases of cultural and technological change, on the one hand, and of institutional change, on the other. The first case is the spread of Christian missions in sub-Saharan Africa in the early 20th century, on which I have developed three papers. The second case is Italian Unification in the late 19th Century, which is an unusual event of extremely rapid nation-building and dismantling of the *ancien régime*. In this research statement I provide an overview of these projects and plans for next steps.

Before turning to the exposition of my projects, I wish to emphasize that my work is resolutely interdisciplinary, as it lies at the intersection between economics, history, political science, and geography. Methodologically, I rely on geospatial analysis that allows me to combine original data from historical sources with modern geographic data, such as satellite imagery, or other types of raster sources (e. g. terrain maps). I collaborate and co-author research papers with economists, historians, and political scientists. I also teach in a graduate program that is jointly coordinated by the History Faculty and the Department of Economics at Oxford.

CHRISTIAN MISSIONS AND LONG-RUN DEVELOPMENT IN AFRICA

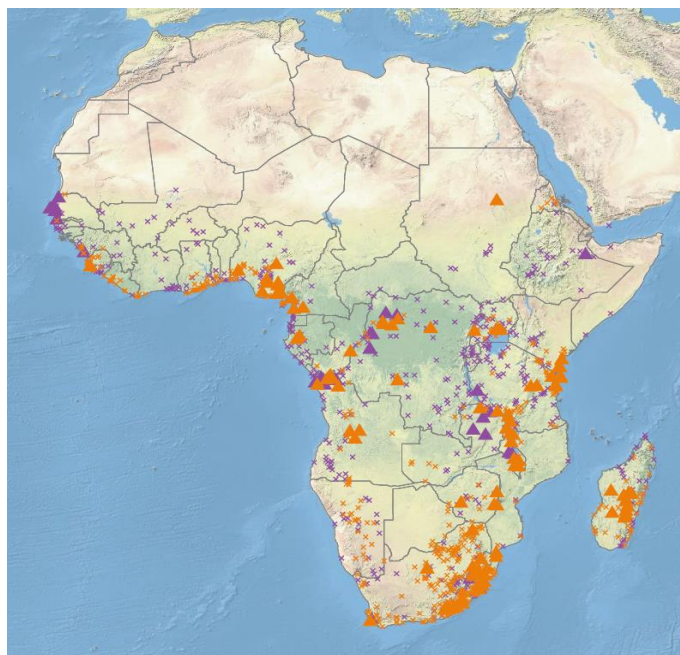
Since my PhD, I have advanced a research agenda on the study of the long-term effects of Christian missions on African sub-national development. In the late 19th and early 20th centuries, missionaries were the equivalent of today's development non-governmental organization, only with a more explicitly stated religious orientation. In other words, missionaries invested in development programs that involved setting up new schools, dispensaries, or printing presses; but they also deeply changed culture by converting people to Christianity. My work has thus aimed at understanding the consequences of these technological and cultural legacies on long-run African development.

To conduct this research agenda, I have digitized and geocoded different historical maps and other sources that depict the geographic location and activities of Catholic and Protestant missionaries in the early 20th century. Compared to sources used before, the novelty of these data is they better capture the array of development investments missionaries were making in education, health, and printing. Figure 1 illustrates the type of information contained in these data. It shows the locations of mission stations (Catholic and Protestant) in the early 20th Century, and identifies those for which there is a record of a health facility. The data and the empirical strategies that I initially developed for this project have since then been used by other researchers.¹ Next I summarize the first three papers coming out of this research project.

1. Job Market Paper - “Sex and the mission: the conflicting effects of early Christian missions on HIV in Africa”

Joint with Julia Cagé (Sciences Po)

My job market paper investigates the effect of Christian missions on HIV in Africa. On the one hand, missionaries pioneered the advancement of Western medicine in the early 20th century. On



● Protestant ● Catholic ▲ Health facility

Figure 1: Location of Protestant and Catholic missions

the other hand, conversion to Christianity produced beliefs and behaviours that affect the risk of infection. Comparing missions that invested in health facilities with those that did not, and Christian versus non-Christian populations, we can separate out cultural and infrastructural mechanisms. We find that cultural and technological effects can be conflicting. Within regions close to missions, proximity to a historical missionary health facility decreases the likelihood of HIV. Safer sexual behaviours and the persistence of health infrastructure can explain this effect. However, the cultural legacy of missions can increase HIV prevalence. We find that historical missionary presence is associated with a higher probability of testing positive for HIV. We show that this effect is driven by the Christian population in our sample, and that this population exhibits riskier sexual behaviours. Our findings thus suggest that conversion to Christianity is a possible mechanism through which missionaries negatively affected long-run health outcomes.

Stage of this research: This article will be submitted for publication by the end of November 2018.

¹ See, for instance, Calvi and Mantovanelli (2018), or Dahlum and Wig (forthcoming)

2. The long-term effects of the printing press in sub-Saharan Africa.

Joint with Julia Cagé (Sciences Po)

This article investigates the long-term consequences of the Protestant missionary printing press. Protestant missionaries were the first to import the printing press to Africa and diffused the technology to indigenous population. We show that, within regions close to missions, proximity to a printing press is associated with higher newspaper readership, trust, and political participation. This effect of improved civic attitudes is specific to the printing press, and cannot be explained by other missionary investments in education or health.

Stage of this research - This article was published in the *American Economic Journal: Applied Economics* (Cagé and Rueda, 2016).

3. A political economy of ethnic politicization in Africa.

Joint with Philip Roessler (William & Mary) and Yannick Pengl (ETH-Zürich)

My previous research has shed light on the consequences of the missionary printing presses on individual-level political engagement in Africa. But, following from Benedict Anderson (2006), the printing press may also introduce powerful socio-political effects and strengthen ethno-nationalism. To address this question, I have paired with two quantitative political scientists. Our project focuses on the historical determinants of ethnic politicization.

Ethnicity is found to profoundly influence economic and political processes, from the allocation of state resources to public goods provision to civil war. Yet, the historical drivers of ethno-political configurations remain poorly understood. We argue that Africa's ethnic landscape was powerfully shaped by dual economic revolutions that swept across the continent in the 19th and 20th centuries: the spread of cash crop agriculture and the diffusion of printing and writing technologies. Both economic transformations are hypothesized to have contributed to the politicization of ethnicity by endowing some groups with higher mobilizational capacity through increased wealth and improved communication capabilities (Posner, 2004). First, cash crop agriculture increased the value of land, incentivizing farmers to use ethnicity as a social barrier to prevent migrants from gaining property rights. Second, language standardization and printing in vernacular, mostly initiated by missionaries, cemented identities that were previously more fluidly defined. It also endowed certain groups with a powerful tool—writing and printing—for political mobilization. The interest of comparatively studying these two phenomena, is that while they both increased ethnic politicization, just one of them – cash crop agriculture – is tied to the land. Therefore, for groups treated with cash crops, we expect ethnicity to be most salient among those who stay within the homeland and diminishing for those who move. On the contrary, the formation of an *imagined community* through printing and writing is likely to be more persistent for both “ethnic movers” and “ethnic stayers.”

Stage of this research - For this project, we have recently finalized a unique new dataset that inventories publications in sub-Saharan African languages from the first one in 1820s until the 1970s for all the African language groups that have a written form. We have also already merged this source to commonly used mappings of ethnicity such as *Ethnologue*. Similarly, we have mapped the locations of 9 groups of cash crops and 20 groups of minerals in the 1960s. We are currently merging our outcome measures of ethnic salience and politicization from *Afrobarometer* to our

historical datasources. This project has already been presented at several conferences in 2018, where it received positive feedback. These conferences and seminars include: the African Economic History Network, the American Political Science Association meeting, the seminar in Comparative Politics at Princeton University, and the Working Group on African Political Economy meeting at the LSE. A draft of the research design is available upon request.

NATION-BUILDING AND THE SPATIAL DISTRIBUTION OF ECONOMIC ACTIVITY: THE ITALIAN UNIFICATION 1861-1871

Joint with Brian A'Hearn (University of Oxford)

What is the effect of removing national borders on economic activity at the local level? This article studies this question in a unique historical setup: the Italian unification. During the nineteenth

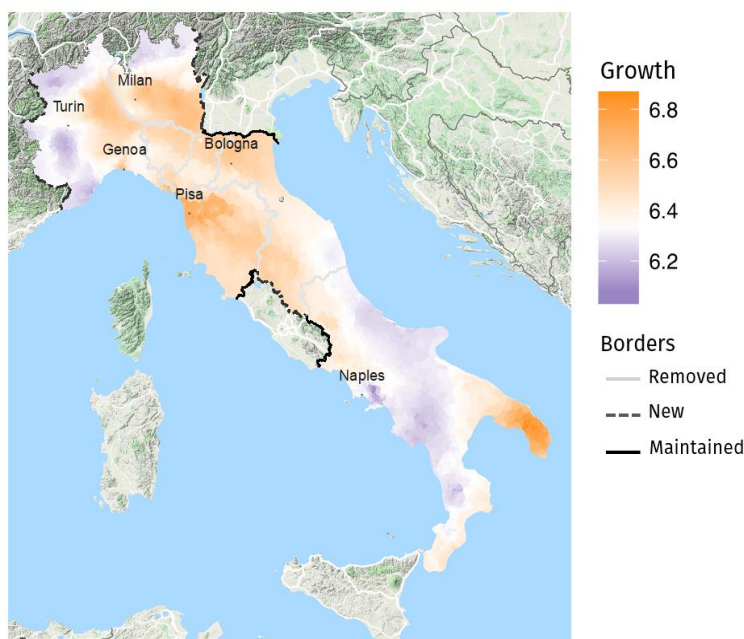


Figure 2: Spatially smoothed population growth

century, the Italian peninsula went from being a region mostly dominated by France and the Austrian Empire, to an almost completely-unified state in 1861, and fully unified one in 1871. This event is a unique case of rapid nation-building and transitioning out of the *ancien régime*. Figure 2 illustrates the border changes and the spatially smoothed population growth in the peninsula in the first decade after unification.

This unusual historical event enables estimating the effect of a market access shock on economic activity. Following Redding and Sturm (2008), we use a difference-

in-difference approach, and show that proximity to a removed border is, on average, associated with an increase in population growth. Proximity to the border is also associated with increased variability in population growth, an indication of reallocation of economic activity. Results thus suggest that increased market access engendered by eliminating national border increased growth, but that these gains were unevenly distributed, giving rise to significant losers from unification.

The unification was also an important institutional shock. For most states, it was the end of the *ancien régime*. The institutions adopted by the new Kingdom of Italy were predominantly the Piedmontese liberal ones. We can therefore evaluate the effect of liberalizing institutions in the short run by comparing Piedmont, where there was institutional continuity to other parts of Italy where there was significant institutional divergence. Our results show that Piedmont was actually the largest winner of unification. This suggests that *in the short run*, the effect of increasing market access for border areas was much more important than the adoption of liberal institutions. This does not mean that institutional changes were not important, nor that they did not matter over a

longer time horizon. Rather, it illustrates that institutional shocks take time to have significant effects.

To conduct our analysis, we have produced the first historical geocoded database of population at the municipality level for the period of unification that is linked it to pre-unification sources, for Tuscany, the Kingdom of Sardinia, and the Kingdom of the two-Siciles. This is a novel dataset and constitutes our first contribution to the research on 19th Century Italy.

Stage of this research: We have established most of the results for this research and the article is in the process of being written-up. A full working paper version should be ready by the end of 2018. The results have already been presented in seminars at Paris School of Economics, the Tinbergen Institute, and the University of Warwick.

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My work aims at understanding the cultural, institutional, and technological sources of path dependency in geographical patterns of development. As a scholar, I relish interdisciplinary and collaborative work. To conduct research, I build upon my wide interest in all the social sciences and humanities, as well as my knowledge of applied econometrics and programming skills. In the future, I would like to continue with projects that still address these interdisciplinary questions. I am currently in the initial stages of establishing a new research agenda on the economic and social consequences of persistent exposure to conflict and urban violence in Colombia, where I am from. In particular, I wish to study its effect on the demand for new evangelical churches – thus continuing with my interest in the economics of religion– and on deforestation.

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