Overview

My research explores the interaction between institutions and economic outcomes. I am interested in institutions broadly defined, which includes economic, political, legal, and judicial institutions, as well as informal institutions that are embedded in cultural norms and social capital. I apply empirical methods to quantify the effects of institutions on economic outcomes.

Roughly half of my work is historical: Examples include Native American reservations, ancestral cultural norms of private property and their interaction with income shocks, social capital in 19th century U.S. towns, group cohesion of military units in the Union Army during the Civil War, slavery in the Caribbean and the U.S., and colonial institutions of the British Empire. I am drawn towards historical applications for a number of reasons. One is that to study the persistent effects of something, we need to go back to its origins by default. This was the motivation with some of my work on Native Americans. Another reason is that history contains institutional arrangements that we no longer observe, but that nonetheless contain lessons for the present by offering an otherwise unobservable counterfactual to today’s institutions. This was an important part of the motivation for studying colonial institutions. A third reason is that historical applications allow us to study the long run evolution of slow-moving institutions. This was part of what motivated my research into the evolution of labor markets from their inception at the end of slavery to 80 years later. Increasingly, with the digitization of the Full Count U.S. Populations Censuses up to 1940, and with computational advances in record-linkage methods, historical applications also allow researchers to study the long-run evolution of individual-level outcomes. My recent work in progress on the effect of exogenous battle promotions on the long-run careers of Civil War soldiers takes advantage of this.

The other half of my work is contemporary, and studies specific institutions of broader relevance. For example, my work on trade liberalization and voting behavior is motivated by my interest in the recent surge in populism and nationalism in many mature democracies. My work on pension under-funding is motivated by the observation that pension promises are one of the biggest components of the median U.S. household’s wealth, and that their under-funding has the potential to either create severe drags on state budgets, or—if funding gaps are not filled—be a hugely recessionary force in years to come.

My work is focused on observational (i.e., non-experimental) data settings, and almost always entails original data collection. Examples of original data-sets I created are: a 50 year panel of per capita incomes on Native American reservations; a linked panel of the universe of (roughly 350,000) individual Native Americans from the 1920s to 1940s, a geo-located database of the universe of Union Army enlistments in over 10,000 towns from 1861—1865; the universe of mid- and high-ranking administrators in the British Empire from 1860 to 1960. These, as well as several contemporary datasets will be (and already are) of considerable value to other researchers working in related areas.
**Native Americans and the Interplay of Ancestral Cultural Norms and Formal Institutions**

My first paper in this area ("Forced Coexistence and Economic Development", Dippel 2014, *Econometrica*) investigates how Native American sub-tribe groups were shoe-horned into shared reservations in the second half of the 19th century. It geocodes ancestral maps of tribal territories and overlays them with historical mining rushes to create exogenous variation in how reservations were formed. This variation is interacted with measures of tribes’ ancestral cultural norms of shared governance. Reservations that were formed out of bands that had no ancestral norms of shared governance are characterized by “forced coexistence.” The paper finds that forced coexistence significantly reduces incomes on reservations even today, but that the negative effect only appeared after the federal government granted more local autonomy to reservations, i.e. once local governance started to matter. Newspaper-text based measures show that the effect runs through local political conflict and the resulting insecurity of property rights on reservations.

My second paper in this area uses several newly compiled archival sources to compile a linked panel of the universe of individual Native Americans in the first decades of the 20th century ("The Effect of Land Allotment on Native American Households during the Assimilation Era", Dippel and Frye, 2019, working paper). In this paper, we study the consequences of a policy of land redistribution called ‘Indian allotment’ that granted individually owned land to Native American households on about half of all reservations between 1906 and 1934. The policy had two treatment arms: all households on allotted reservations received a land allotment ‘in trust’, giving them full usage rights and the right to lease out the land, but not full property rights that allowed the sale or mortgage of the land. On the second treatment arm, Indians that were deemed ‘competent’ (i.e. sufficiently assimilated) later obtained full property rights to their allotment (in ‘fee simple’). We conceptualize this policy as a conditional transfer program aimed at cultural assimilation. We show not only short-run direct treatment effects on farming and labor markets of the first treatment arm, but also—more surprisingly—large effects on education attainment. These were not a program target. Instead, we argue that allottees used education to signal their assimilation in order to obtain their allotments in fee simple (the second treatment arm). For causal identification the second treatment arm, we build an instrumental variable: we coded up the identity of all “allotting agents”, who were exogenously rotated across reservations over time, and who varied significantly in their disposition towards transferring land from trust into fee simple, and use this variation to construct a probability of being treated with fee simple rights. As a last exercise, we interact both treatment arms with tribes’ ancestral norms of having had traditions of private property, which we code from the Ethnographic Atlas. To the best of our knowledge, ours is the first study that investigates the effects of a personal wealth shock as a function of cultural norms of private (vs communal) property rights. On the data front, this project required us to record-link the universe of Indian allotments from the Bureau of Land Management, to a special DOI-administered Indian Census that recorded all Native Americans in the 1920s, and from there to the Full Count Population Census in 1930 and 1940 (where we can measure socio-economic outcomes. The paper includes a methodological contribution to record linkage methods when faced with noisy individual data but good information on household structures.
A third paper in this area also investigates Indian allotment but “follows the land” rather than the allottees ("The Costs of Fractionated Land-Ownership: Evidence from Indian Land Allotment", Dippel, Frye, Leonard, 2019, working paper). Land that had not passed into ‘fee simple’ before 1934 got locked into ‘trust status’ indefinitely thereafter. The key long-run aspect of this ‘trust status’ is that such land was regulated by the Bureau of Indian Affairs to be bequeathed to all allottees’ heirs in ‘equal undivided interests.’ Over generations, this leads to a continuous increase in the number of claimants with veto rights over the usage and sale of land. This continuously raised transaction costs associated with using the land productively, and makes it less and less likely that there will be a Coasian solution to the land use problem. Causally identifying the long-run costs of this kind of fractionation of claims is relevant not only for Native Americans: almost fifty percent of Black-owned land in the South is held under similar circumstance as “heir’s property,” and considered one of the biggest drags on rural Blacks’ incomes even today; however, no rigorous empirical studies exist on this topic. In our setting, satellite imagery allows us to track the land use of ‘fee simple’ land and trust land (in at fine-grained 160 acre quarter sections) one hundred years after the land was allotted. We find large costs of fractionated ownership when measured in terms of differences in land use. Consistent with the increase in the number of claimants over time, the estimated land use differences also increase over time. The satellite imagery recognizes which crops are planted, and estimates an output per acre. Combining this with existing crop-price data and crop-specific value-added measures enables us to calculate the welfare loss to a tribe from having portions of their land stuck in trust as a dollar figure.

The Civil War and the Creation of Local Culture from Individual Leadership

The Civil War was the formative event not only for the United States in maintaining its Republican institutions, but also for a generation of American men who fought in it and a generation of women who were affected by it as abolitionists, wives, mothers, and daughters. Furthermore, the study of the Civil War affords a unique opportunity to understand how, at critical junctures, local culture can be shaped by leadership of prominent individuals.

From today’s point of view it is striking that the Union army was almost entirely a volunteer-based army and yet over one quarter of all adult Northern men fought in it. An obvious question that emerges from this observation is what motivated men to risk their lives in the war. More specifically, what determined the local social capital that led men in some communities more than in others to risk their lives in the struggle against what was broadly conceived as ‘the slave power’? To be able to measure local enlistments rates, two colleagues and I collected the entire universe of 2.2 million Union Army soldiers, and record-linked it to the 1860 Full Count Census. To measure enlistment at the ‘local community’ level, we established a geo-located database of all Northern towns (over 10,000, excluding the South and far West) at the time of the Civil War. With this, we simultaneously constructed the first database of the universe of Northern towns in the U.S. mid-19th century, and the first database of local enlistment for the Union Army.

1 Previously available data on the Union Army covers a random sample 300 companies, about 2 percent of the entire army. This data was prominently used in a series of influential papers by my UCLA colleagues Dora Costa and Matthew Kahn.
In the first project to use this data (“Leadership in Social Networks: Evidence from the Forty-Eighters in the Civil War”, Dippel and Heblich 2019, revision resubmitted at the AER), we study the extent to which local civic leaders shaped enlistment patterns in U.S. towns. We take advantage of a natural experiment afforded by the expulsion of political leaders from the 1848/49 revolutions in Germany, and their subsequent settlement in the U.S., where they became anti-slavery campaigners. We find economically and statistically large effects of a ‘Forty-Eighter’ on local enlistment rates in their town of settlement. We view the evidence in this paper as providing empirical support for a growing body of theoretical literature that emphasizes the importance of prominent individuals in shaping beliefs and social norms inside social networks. Local rates of Union Army volunteering give us a high-stakes measure of social norms, and the Forty-Eighters allow us to address the ‘reflection problem’ inherent in identifying leaders in social networks, because they arrived in the U.S. with the label of leaders already attached to them. We also show that the Forty-Eighters’ effect persisted beyond the Civil War: towns where they settled were more likely to form a local chapter of the National Association for the Advancement of Colored People (NAACP) in the 1920s and 1930s. We interpret this as evidence of a persistent effect on local social capital, rather than a more transitory effect of what we might think of as persuasion.

The second project in this area focuses on the Union Army during the war. It investigates the importance of leadership in shaping group cohesion “under duress,” by changing how soldiers traded off group loyalty, honor, and the basic desire to survive the war (“Group Cohesion Under Stress: An Event-Study Analysis of Desertions in the Civil War”, Dippel and Ferrara 2019, working paper). For this project, we built a weekly panel of the roughly 20,000 companies that fought in the Union Army from 1861—1865. We focus on the twenty largest battles in the Civil War and use an event-study framework to estimate their effect on group cohesion, utilizing the fact that the combination of military strategy and weapons technology at the time meant these battles were very bloody, very brief (typically lasting a single day) and totally unanticipated in their ferocity by both sides. We test which characteristics made groups better able to remain cohesive under these shocks to morale.

**Colonial Institutions**

Colonial origins have been an important part of the intellectual history of applied research on institutions and economic development since the late 1990s. Where the majority of the literature relates past colonial conditions to present-day outcomes, my research in this area is more focused on opening the black box of how colonial institutions functioned during colonialism, and to enrich our understanding of institutional legacies in that way.

My first two papers in this literature focus on the British Caribbean islands after the Emancipation of slaves in 1836. A fascinating feature of these is that one gets to observe a dozen islands that were extremely homogenous early on, with practically identical colonial institutions and economic structures up until 1836, but then diverged dramatically thereafter, when an average ninety-five percent of their populations had been freed from slavery.

One paper in this area studies how nominally free labor markets evolved on the islands after 1836 (“Outside Options, Coercion, and Wages: Removing the Sugar Coating,” Dippel, Greif
and Trefler, 2018, conditionally accepted at the Economic Journal). We are particularly interested in the role that the suppression of workers’ outside options can play in agricultural labor markets when these are dominated by a small group of employers, i.e. a “plantation system”. Labor markets like this were the norm through much of history, and are still common in many developing countries today. Beyond pure monopsony power, we argue that well-organized employers may systematically co-opt the government, and use its legislative, executive and judicial powers to coerce workers into accepting lower wages by undermining their outside options away from formal employment. We develop a simple model in which profits, coercion levels and wages are jointly determined as a function of the ability to reduce workers’ outside options, and then test this model in a panel of 14 islands over eighty years. We exploit geographic variation across the islands in peasants’ ability to leave formal employment and set up as small-hold farmers in the hinterlands, and show that the plantation system soon collapsed after 1836 in places where this ability was high, continued to thrive until the end of our data in places where this ability was low.

A second paper in this area (“Elite Identity and Political Accountability: A Tale of Ten Islands,” Carvalho and Dippel, 2018, accepted at the Economic Journal) studies the same Caribbean islands through the lens of a theory in which accountability to the citizenry places constraints on the policies that get passed in equilibrium. The theory is motivated by the fact that many developing countries experienced transitions from colonialism to independence in which (all or some of) the old colonial elite was replaced by local elites that were closer to the citizenry (in ethnicity, for example). The theory endows individual elite members with a social identity that determines their proximity (and thus accountability) to the citizenry. Increasing the share of accountable types reduces the overall cohesion of the elite even when all elites have identical objectives, and can lead an existing extractive equilibrium to fragment. The theory is framed by a case study of institutional change in the Caribbean islands, where the elite’s composition was changing after the emancipation of slaves, leading it to become less cohesive and unable to maintain extractive policies. Our theory explains why the elites on almost all islands eventually took abolished their local parliaments to shield themselves from their own growing accountability.

Based on this work, I also contributed two chapters to the (non-refereed) volume “Nurturing Institutions for a Resilient Caribbean” edited by the Inter-American Development Bank.

As part of a new project on colonial institutions more broadly, two colleagues and I coded up the entire mid- and top-level of administrators for all colonies in the British Empire, from the inception of Her Majesty’s Colonial Service (HMCS) in the early 1860s to its dismantling in 1954. These data include salaries as well as biographical information on individuals’ educational background. One appeal of this data is that it allows us to answer old questions about “the motives of the British Empire,” for example whether HMCS rewarded colonial administrators for fostering local schooling and sanitation, or primarily for maximizing commodity exports and revenues. Another appeal of these data is their potential to contribute to the field of organizational economics. The most unusual feature of these data is that we observe entire careers playing out inside HMCS, with individuals climbing the career ladder vertically as being moved horizontally across colonies. Our first project using these data (“Managing the
Empire,” Dippel, Hoffman and Xu, 2019, work in progress) focuses on the exogenous turnover of governors across colonies, and attempts to disentangle the extent to which governors’ estimated effects on a range of outcomes (annual data on revenue, taxation and spending, infrastructure, trade, public health, schooling, land use) is explained by their re-organizing and turning over the local administration when they arrived in a colony.

Research on Contemporary Institutions

While I am often drawn to historic settings, I am equally interested in contemporary institutions, which is reflected in the research I describe below.

A research topic of particular interest to me is the political economy of unfunded public-sector pensions, a first-order fiscal problem to state- and local governments in the U.S. today, with pensions underfunded by up-wards of three trillion dollars according to the best estimates. My first paper in this area combines fifty years of city-level mayoral election data with data on benefits, contributions and funding levels of municipal pension plans ("Political Parties Do Matter in U.S. Cities ... For Their Unfunded Pensions,” Dippel 2019, under review at AEJ Applied). Where previous research found no partisan differences for a wide range of fiscal outcomes in U.S. cities, I find a strong effect of having a Democratic Party mayor on pension benefits and pensions’ funding levels. The key insight is that, while Tiebout sorting may impose fiscal discipline for the easily observed expenditure types considered in previous research, it does not for expenditure types that are difficult to observe and that benefit a well-organized special interest group rather than being broadly redistributive. In follow-up work, we investigate the effect of changes in state-level union bargaining laws since the late 1950s on public sector pension funding, using changes in these laws at the [state x employment group x year]-level as exogenous shifters in public sector unions’ bargaining powers to investigate the effects of this on pension benefits and funding ("Does Union Power Explain Pension Under-Funding?” Dippel and Sauers, 2019, work in progress). For identification, we have separated changes by court-order (which are less likely to be driven by changes in voter sentiments) from statutory changes that are passed by state legislators who naturally worry about their re-election.

Motivated by the recent surge in political populism and nationalism in a number of mature democracies, “Instrumental Variables and Causal Mechanisms: Unpacking the Effect of Trade on Workers and Voters” (Dippel, Gold, Heblich, and Pinto, 2019a, under review at Journal of International Economics) estimates the effect of trade shocks on voting behavior, and the extent to which the estimated effect is explained by the labor market consequences of trade. We study German data where— unlike in the U.S.—we can measure trade shocks, labor market adjustments and voting behavior all at the same level of local disaggregation, as well as supplementing the analysis with individual level survey panel data from the German Socio-Economic Survey. This allows us to estimate the effect of trade shocks on labor markets and on voting behavior within one coherent empirical setup. Pushing further, we provide an econometric framework that allows for the estimation of a ‘mediation analysis’ in IV settings: specifically, it allows to estimate what portion of the effect of trade shocks (i.e. a treatment T)
on voting (i.e. a final outcome Y) works through its effect on labor markets (i.e. an intermediate outcome M). We show that labor market adjustments explain the entire response of voters to trade shocks. This is an important empirical finding because it provides a well-identified causal estimate to policy makers trying to design the correct responses to the recent surge in support for political populism. The novel econometric theory that underpins this application is in a separate paper (“Mediation Analysis in IV Settings with a Single Instrument,” Dippel, Gold, Heblich, Pinto, 2019b, invited and being prepared for a special issue of the Journal of Econometrics). To make the method more accessible to the wider research community, we also wrote a separate guide to its practical application (“ivmediate”, Dippel, Ferrara, and Heblich, 2019, re-submitted with minor revisions at the STATA Journal).

I also have work on judicial institutions and judicial decision making. These are motivated by the observation that the vast majority of court cases in the U.S. are heard by judges that face some kind of electoral pressures. This system has its origins in institutional reforms of the 1830s and 1840s that placed a higher value on judges’ local accountability than on judicial independence. Economic development relies on the rule of law, which in turn relies on its equal application by the judiciary. For this agenda, we collected trial-court sentencing data from twenty different states’ sentencing commissions, constructing the largest data base of judicial sentencing assembled to date. In the first paper in this agenda, we document that electoral cycles in judicial sentencing (sentences getting harsher closer to elections) are much less common than previously thought. We show that sentencing cycles are a function of electoral competition in judicial elections, and that the absence of sentencing cycles in most states is a result of relatively low levels of electoral competition that judges face in most states (“How Common are Judicial Electoral Cycles in Criminal Sentencing?” Dippel and Poyker, 2019, working paper). In the second paper, we combine the sentencing data with novel data on a panel dataset of all private prisons in the U.S. since their emergence in the 1980s. We use a state-border county-pair design to analyze the effect of private prisons’ opening and closing in a state on judicial sentencing in courts in the same state. We find a small but robust effect of private prisons on sentence length and no effect on the likelihood of being convicted. We find no evidence that judges are being directly influenced by prisons through political channels. Instead, we find evidence that judges consider the reduced costs of imprisonment in privately managed incarceration facilities in their decisions (“Do Private Prisons Affect Criminal Sentencing?” Poyker and Dippel 2019, under review at AEJ Applied). In follow-up work, we recently obtained California’s sentencing data (after a three-year application process), and are using this to push on the evidence that judges internalize incarceration costs and conditions into their sentencing decisions. Specifically, we are developing a county-level difference-in-difference estimation strategy anchored on a U.S. Supreme Court decision in 2011, which imposed an expansion of prison capacity on the state of California. Preliminary results suggest that sentence lengths increased significantly with this expansion of incarceration capacity.

Another area of research on contemporary institutions has centered on vote buying in committees. In one paper, I studied twenty years of voting behavior by member countries in the International Whaling Commission, a unique empirical setting in that it has two clearly designated rival lobbies, i.e. Japan and the UK, which use promises of foreign aid (or the threat of withholding it) to compete over the votes of smaller member nations (“Foreign Aid and