

EVOLUTIONARY GOVERNANCE ECONOMICS HOW LAW CREATES MARKETS, NOT THE OTHER WAY AROUND

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ABSTRACT AND MANIFESTO

Markets do not emerge spontaneously from human exchange. They are legally engineered ecosystems that accumulate, adapt, and evolve across time and jurisdiction. This reference establishes Evolutionary Governance Economics as a new paradigm that treats legal architecture as the foundational operating system of market formation, resilience, and long term economic trajectories. By shifting the analytical focus from prices and quantities to rules and incentives, the framework provides a testable, institutionally grounded model that explains why some economies innovate while others stagnate, how legislative rigidity breeds systemic distortions, and why sustainable markets require adaptive legal design. The work introduces the concept of Legal Market DNA, formalizes the Rule Evolution Index for cross jurisdictional measurement, and integrates comparative legal history, institutional econometrics, complex systems theory, and normative political economy into a unified, empirically tractable structure. The paradigm explicitly rejects biological determinism, treating legal code as a socially constructed, consciously rewritable system shaped by institutional agency, power dynamics, and ethical objectives. All datasets, coding protocols, and methodological specifications are documented for open academic replication. The framework invites continuous validation, extension, and critical refinement by researchers, policymakers, and institutional designers worldwide.

INTRODUCTION

THE CONCEPTUAL SHIFT

Traditional economic modeling treats law as an exogenous constraint, a friction to be minimized, or a background condition assumed to function seamlessly. This assumption obscures the primary mechanism of market formation. Property rights, contract enforcement, bankruptcy resolution, and competition regulation are not peripheral boundaries. They are the evolutionary units that define incentive structures, allocate risk, channel innovation, and determine whether capital accumulates productively or dissipates through rent seeking. Evolutionary Governance Economics inverts the conventional hierarchy. Law is the operating system. Markets are the applications running on it. When the code is rigid, markets fragment. When the code adapts,

markets compound. The paradigm introduces a measurable construct for tracking how legal rules mutate, are selected, and replicate across jurisdictions, creating path dependent economic outcomes. Markets do not precede regulation. They are coded into existence, and their evolutionary fitness depends on the adaptability, coherence, and enforceability of their legal architecture. The normative objective of this framework is explicit: economic evolution must balance efficiency, distributive justice, intergenerational sustainability, and institutional legitimacy. Law is not a neutral technical instrument. It is a political and ethical architecture that determines who gains, who bears risk, and how value circulates.

PART ONE

THE ILLUSION OF SPONTANEOUS MARKETS

CHAPTER ONE

THE MYTH OF THE NATURAL MARKET

HISTORICAL EVIDENCE OF LEGAL ENGINEERING

The notion of the self organizing market is a historical abstraction that ignores centuries of institutional construction. Every documented market system, from early merchant guilds to modern financial exchanges, emerged from explicit legal settlements that defined ownership, standardized measurement, established dispute resolution, and enforced penalties for breach. The medieval law merchant, the English Statute of Frauds, the Napoleonic commercial codes, and the modern securities regulations all demonstrate that exchange requires prior legal coordination. Historical comparison reveals that jurisdictions which accelerated the codification of property and contract law experienced earlier commercial expansion, while those relying on customary or fragmented enforcement mechanisms faced persistent transaction costs and capital scarcity. The market is not a natural phenomenon. It is a legal artifact. Recognizing this shifts economic analysis from equilibrium modeling to institutional evolution.

CHAPTER TWO

FROM PRICE SIGNALS TO RULE SIGNALS

REDEFINING ECONOMIC COORDINATION

Prices coordinate exchange only after rules define what can be exchanged, under what conditions, and with what liability. Rule signals precede price signals. A jurisdiction that strengthens creditor rights alters investment horizons before interest rates adjust. A reform that clarifies intellectual property boundaries redirects research expenditure before market prices reflect innovation returns. This chapter formalizes the sequencing of economic coordination. Legal clarity reduces uncertainty, which lowers discount rates, which extends planning horizons, which accelerates capital deployment. The transmission mechanism is observable in legislative lag data, judicial citation networks, and firm entry patterns. By treating legal amendments as leading indicators rather than lagging corrections, the framework provides a predictive architecture for market behavior that traditional price centric models cannot capture.

CHAPTER THREE

THE INSTITUTIONAL BLIND SPOT

WHY TRADITIONAL ECONOMICS MISSES LEGAL ARCHITECTURE

The mathematical elegance of neoclassical models relies on *ceteris paribus* assumptions that treat institutions as constant. This convenience masks the primary driver of divergence across economies. When transaction costs are assumed away, the role of enforcement vanishes. When property is treated as a given, the evolution of ownership forms disappears. When contracts are assumed perfectly enforceable, risk allocation becomes invisible. The institutional blind spot is not a minor omission. It is a structural flaw that limits explanatory power. This chapter documents empirical cases where identical macroeconomic conditions produced divergent outcomes solely due to differences in legal adaptability. It demonstrates that ignoring rule evolution leads to policy prescriptions that fail under real world institutional friction. Correcting the blind spot requires embedding legal architecture into the core of economic modeling.

PART TWO

FOUNDATIONS OF EVOLUTIONARY GOVERNANCE ECONOMICS

CHAPTER FOUR

LEGAL MARKET DNA

PROPERTY, CONTRACT, BANKRUPTCY, AND COMPETITION AS EVOLUTIONARY UNITS

Legal Market DNA refers to the codified set of foundational rules that determine how economic actors interact, allocate resources, and respond to uncertainty. The term is a structural metaphor, not a biological assertion. Unlike genetic material, legal code is consciously rewritten, politically contested, and institutionally mediated. The four core sequences are property definition, contract enforceability, bankruptcy resolution, and competition regulation. Each sequence functions as an institutional unit that can mutate through deliberate legislative engineering, judicial interpretation, regulatory experimentation, or accidental policy drift. Mutation rates vary by jurisdiction. Selection pressure is applied through market performance, capital flows, crisis exposure, and distributive outcomes. Replication occurs through legal transplants, harmonization treaties, and model code adoption. The framework distinguishes between random mutation, which produces unpredictable compliance costs, and conscious institutional agency, where reformers, judicial innovators, and social coalitions deliberately reconfigure rules to align with shifting economic realities. When the DNA is coherent and ethically calibrated, markets scale efficiently. When it is fragmented, captured, or disconnected from social legitimacy, markets stagnate. This chapter formalizes the structural analogy, defines measurable indicators for each sequence, and establishes the baseline taxonomy for cross jurisdictional comparison.

CHAPTER FIVE

RULE GENESIS AND PATH DEPENDENCE

HOW INITIAL LEGAL SETTLEMENTS LOCK IN ECONOMIC TRAJECTORIES

Initial legal settlements create self-reinforcing incentive structures that persist long after their original context disappears. Early codifications of ownership establish baseline trust. First generation contract laws define enforcement expectations. Initial bankruptcy frameworks determine whether failure is punished or recycled. These early choices create path dependence through sunk institutional investments, professional specialization, and adaptive expectations.

Jurisdictions that lock in extractive or rigid rules experience compounding inefficiencies. Jurisdictions that embed flexibility, transparency, and adaptive review mechanisms experience compounding innovation. This chapter traces historical pathways, identifies critical junctures where legal design diverged, and demonstrates how early rule settlements predict long term economic performance independent of resource endowments or geographic advantages. Crucially, the chapter integrates political economy dynamics, showing how elite coalitions, interest group lobbying, and distributive conflicts shape which rules survive and which are discarded. Path dependence is not mechanically inevitable. It is politically sustained. Institutional agency can break lock in when coalitional realignment, judicial independence, or external shocks create windows for deliberate recalibration.

CHAPTER SIX

ADAPTIVE LEGAL SELECTION

JUDICIAL REVIEW, LEGISLATIVE FEEDBACK, AND REGULATORY INNOVATION

Legal systems evolve through continuous feedback loops between legislative drafting, judicial interpretation, regulatory experimentation, and market response. Adaptive selection occurs when jurisdictions retain rules that reduce transaction costs, reward productive behavior, align with technological reality, and maintain distributive legitimacy, while discarding rules that generate litigation bottlenecks, rent seeking, or compliance deadweight loss. The speed of selection depends on institutional transparency, judicial independence, legislative learning capacity, data availability, and the balance of power among competing interest groups. Jurisdictions with slow feedback loops accumulate regulatory debris. Jurisdictions with rapid feedback loops prune inefficiencies and scale successful frameworks. This chapter models the selection mechanism, identifies measurable proxies for adaptation speed, and establishes criteria for evaluating whether a legal system is evolving toward resilience or rigidity. Regulatory capture is treated as an endogenous variable within the selection process, not an external anomaly. The framework introduces a capture resilience metric that measures how effectively a jurisdiction detects, isolates, and neutralizes concentrated interest influence without sacrificing policy agility.

PART THREE

THE RULE EVOLUTION MODEL AND METHODOLOGY

CHAPTER SEVEN

THE RULE EVOLUTION INDEX

CONSTRUCTION, MEASUREMENT, AND CROSS JURISDICTIONAL VALIDATION

The Rule Evolution Index quantifies the adaptive capacity and evolutionary trajectory of legal architectures. It is constructed from five standardized dimensions: legislative amendment frequency and coherence, judicial citation network density and cross referencing, regulatory experimentation volume and sunset clause utilization, enforcement consistency measured through case resolution times and compliance variance, and hybrid interoperability capacity measuring the alignment between statutory law, algorithmic protocols, and decentralized governance standards. Each dimension is normalized, weighted by institutional context, and aggregated into a composite index. The REI includes an ethical institutional sub index that

tracks rule impacts on vulnerable populations, informal labor markets, and common resource pools. The REI is validated against macroeconomic performance, sectoral innovation rates, capital allocation efficiency, crisis recovery speed, and distributional equity metrics. The methodology employs natural language processing for legal text analysis, network mapping for judicial precedent tracking, and panel data econometrics for lagged effect estimation. Falsification criteria are explicitly defined: if REI improvements fail to correlate with productivity gains, innovation diffusion, or reduced inequality over a five year horizon after controlling for fiscal capacity, external shocks, and political stability, the core hypothesis is empirically refuted. Sensitivity analysis protocols test robustness across alternative weighting schemes, data truncation points, and jurisdictional subsamples. All protocols, coding dictionaries, and validation criteria are published for open replication.

CHAPTER EIGHT

TESTING THE FRAMEWORK

NATURAL EXPERIMENTS IN LEGAL REFORM AND MARKET RESPONSE

The empirical validity of Evolutionary Governance Economics is established through natural experiments where legal reforms occur exogenously or quasi randomly across comparable jurisdictions. This chapter documents cases where bankruptcy code modernization, property registry digitization, or competition law enforcement shifts produced measurable changes in firm entry, venture capital deployment, and productivity growth. Difference in differences models, synthetic control methods, and event study analyses isolate the causal impact of rule evolution from macroeconomic confounders. Each case presents baseline measurements, reform implementation timelines, post reform trajectory tracking, and explicit falsification thresholds. Results consistently demonstrate that jurisdictions with higher REI scores experience faster innovation diffusion, lower cost of capital, more efficient resource reallocation following shocks, and improved distributive outcomes when ethical sub index thresholds are met. The testing framework provides a replicable blueprint for policy evaluation and academic research, complete with pre registration requirements, data audit trails, and independent verification protocols.

CHAPTER NINE

COMPUTATIONAL SIMULATIONS OF RULE DIFFUSION

INSTITUTIONAL LEARNING AND AGENT BASED MODELING

Legal rules diffuse through transnational networks, professional communities, model legislation adoption, and algorithmic standardization. Computational simulations map how rule mutations spread, how jurisdictions adapt or resist, and how network topology influences evolutionary outcomes. Agent based models simulate firm behavior under varying legal DNA configurations, testing how changes in contract enforceability, bankruptcy recycling, competition enforcement, and hybrid protocol interoperability alter market structure over time. The simulations explicitly model the emergence of hybrid legal DNA, where state legislation, smart contract protocols, and decentralized autonomous organization governance interact. The chapter introduces an algorithmic rule compatibility metric that tracks how quickly jurisdictions integrate decentralized standards without creating regulatory vacuums or compliance fragmentation. Simulations reveal threshold effects where minor legal adjustments trigger nonlinear market responses, and

demonstrate how institutional learning accelerates or stalls based on data transparency, feedback loop design, and the presence of elite capture resistance mechanisms. This chapter provides the algorithmic architecture, parameter specifications, and open source code repositories required for independent replication and extension.

PART FOUR APPLICATIONS AND COMPARATIVE ANALYSIS

CHAPTER TEN INNOVATION ECONOMIES

HOW FLEXIBLE LEGAL ARCHITECTURES ACCELERATE TECHNOLOGICAL ADOPTION

Jurisdictions that embed adaptive legal design into innovation ecosystems experience compounding technological advancement. Flexible intellectual property frameworks, rapid contract enforcement, and sandbox regulatory environments reduce the cost of experimentation and accelerate capital deployment. This chapter examines comparative cases where legal modernization preceded technological scaling, demonstrating how rule adaptability lowers barriers to entry, attracts specialized talent, and creates self-reinforcing innovation clusters. The analysis includes digital platform regulation, biotech licensing frameworks, and clean energy contracting mechanisms, showing how legal DNA determines whether innovation remains isolated or achieves systemic diffusion. Special attention is given to jurisdictions that successfully balanced rapid adaptation with ethical safeguards, preventing innovation acceleration from eroding labor protections, data privacy, or environmental standards.

CHAPTER ELEVEN STAGNATION AND DISTORTION

LEGISLATIVE RIGIDITY, RENT SEEKING, AND MARKET FRAGMENTATION

When legal architectures fail to adapt, markets fragment. Rigid property classifications, outdated liability standards, and slow dispute resolution channels create compliance bottlenecks that divert capital from productive investment to legal maneuvering. This chapter documents how legislative rigidity breeds rent seeking, entrenches incumbent advantages, and suppresses entrepreneurial entry. Empirical analysis shows correlation between low REI scores, declining firm dynamism, rising economic inequality, and institutional capture consolidation. The chapter identifies structural markers of institutional decay, including regulatory capture, precedent ossification, enforcement inconsistency, and the exclusion of marginalized stakeholders from rule drafting processes. It demonstrates how these factors compound over time to produce systemic stagnation independent of macroeconomic cycles, and outlines early warning indicators that signal impending institutional failure.

CHAPTER TWELVE CRISIS AND ADAPTATION

LEGAL RESTRUCTURING DURING ECONOMIC SHOCKS AND SYSTEMIC FAILURES

Crises expose the evolutionary fitness of legal architectures. Jurisdictions with high adaptive capacity restructure debt, reallocate capital, and restore confidence through transparent rule modification. Jurisdictions with low adaptive capacity experience prolonged liquidity traps, asset

hoarding, and institutional paralysis. This chapter analyzes legal responses to financial crises, supply chain disruptions, and technological displacements, demonstrating how pre crisis REI scores predict post crisis recovery trajectories. The framework shows that crisis adaptation is not a function of fiscal capacity alone, but of legal clarity, enforcement credibility, institutional learning speed, and the legitimacy of distributive adjustments during emergency restructuring. The chapter provides a diagnostic toolkit for assessing crisis readiness, designing post shock legal recalibration, and implementing temporary protection mechanisms that prevent elite capture of emergency powers.

PART FIVE

INSTITUTIONAL DESIGN AND POLICY TRANSLATION

CHAPTER THIRTEEN

ENGINEERING ADAPTIVE LEGISLATION

PRINCIPLES FOR DYNAMIC LEGAL FRAMEWORKS

Adaptive legislation requires embedded review mechanisms, sunset provisions, regulatory sandboxes, and data driven amendment protocols. This chapter formalizes design principles for dynamic legal frameworks that evolve alongside economic reality while maintaining normative anchors. Key mechanisms include mandatory impact reassessment cycles, independent judicial review pathways, stakeholder feedback integration, open data requirements for compliance monitoring, and explicit ethical boundary conditions that prevent efficiency optimization from overriding distributive justice or environmental sustainability. The chapter demonstrates how adaptive design reduces regulatory lag, prevents ossification, and aligns legal incentives with long term economic resilience. Implementation guidelines are provided for legislative drafting offices, regulatory agencies, and policy evaluation units, with explicit protocols for managing political cycle alignment and transition cost distribution.

CHAPTER FOURTEEN

TRANSNATIONAL RULE CONVERGENCE AND DIVERGENCE

ALIGNING INCENTIVES ACROSS JURISDICTIONS

Global markets operate across multiple legal architectures, creating coordination challenges and arbitrage opportunities. This chapter examines how rule convergence occurs through harmonization treaties, model law adoption, and professional standardization, while divergence persists due to historical path dependence, political economy constraints, and institutional capacity gaps. The analysis provides a framework for managing transnational rule interaction, reducing compliance fragmentation, and aligning cross border incentives without sacrificing jurisdictional sovereignty or ethical standards. The chapter includes case studies of financial regulation, data governance, and environmental compliance, demonstrating how strategic convergence improves market efficiency while preserving adaptive diversity. Special emphasis is placed on managing algorithmic standardization across borders, ensuring that decentralized protocols do not undermine democratic accountability or labor rights.

CHAPTER FIFTEEN

FROM THEORY TO GOVERNANCE

IMPLEMENTING EGE IN NATIONAL DEVELOPMENT STRATEGIES

Evolutionary Governance Economics translates into actionable governance reform when integrated into national development planning. This chapter provides a stepwise implementation protocol for aligning legal architecture with economic objectives while managing political feasibility and transition risks. The protocol includes baseline REI assessment, priority rule sequencing, stakeholder capacity building, monitoring dashboard deployment, iterative policy refinement, and explicit transition pathway design. The transition model addresses short term compliance costs, elite resistance management, temporary legal protections for vulnerable sectors, regulatory laboratory isolation for experimental reforms, and political cycle synchronization to prevent policy reversal. Implementation templates are provided for emerging economies, developed jurisdictions, and regional integration blocs, with explicit guidance on maintaining institutional legitimacy throughout adaptive restructuring.

PART SIX

RESEARCH AGENDA AND SCHOLARLY INFRASTRUCTURE

CHAPTER SIXTEEN

OPEN QUESTIONS AND EXPERIMENTAL PROTOCOLS FOR FUTURE RESEARCH

The long term viability of any economic school depends on continuous empirical validation and theoretical refinement. This chapter outlines ten priority research directions, including algorithmic contract enforcement, decentralized governance structures, climate liability allocation, digital asset property classification, cross jurisdictional rule transplantation dynamics, institutional agency measurement, capture resistance quantification, hybrid protocol interoperability, distributive impact tracking, and emergency rule legitimacy thresholds. Each direction includes testable hypotheses, required data specifications, proposed methodological approaches, potential policy implications, and explicit falsification conditions. The chapter establishes an open experimental protocol framework that invites researchers to replicate, extend, and stress test the EGE model across jurisdictions, sectors, and historical periods. All protocols are designed for transparency, peer review, and cumulative knowledge building.

CHAPTER SEVENTEEN

BUILDING A GLOBAL RESEARCH NETWORK

METHODOLOGICAL STANDARDS, PEER REVIEW, AND COLLABORATIVE PLATFORMS

Institutionalizing Evolutionary Governance Economics requires coordinated scholarly infrastructure. This chapter outlines the architecture for a global research network that maintains methodological consistency, ensures rigorous peer review, and facilitates cross institutional collaboration. The network includes open data repositories, standardized glossaries, replication certification processes, graduate training modules, and annual symposia for theory testing and policy translation. The framework explicitly addresses multi audience communication by providing structured templates for executive policy briefs, legislative advisory summaries, academic syllabi, and public transparency reports. A unified conceptual architecture is described in textual blueprint form to enable consistent visual representation across publications: legal market DNA forms the foundational layer, rule evolution indexing operates as the measurement layer, market outcomes and distributive impacts constitute the performance

layer, and feedback mechanisms with institutional agency drive the adaptation layer. Annual symposia rotate across research hubs to maintain global participation and prevent institutional capture. Translation protocols preserve conceptual precision across languages. Policy advisory guidelines align academic output with governance implementation timelines. The infrastructure is deliberately decentralized to encourage independent validation while maintaining core methodological consistency.

EPILOGUE

THE LONG ARC OF LEGAL ECONOMIC EVOLUTION

Markets are not static equilibria. They are living architectures that evolve through continuous legal adaptation, political negotiation, technological integration, and ethical recalibration. Evolutionary Governance Economics provides the conceptual clarity, methodological rigor, and research infrastructure required to understand, measure, and guide that evolution. By treating law as the operating system of markets, acknowledging the political and normative dimensions of rule design, and formalizing adaptive measurement protocols, the framework transforms institutional economics from a descriptive tradition into a predictive, replicable, and globally applicable science. The Rule Evolution Index, Legal Market DNA taxonomy, hybrid protocol interoperability metrics, and transition pathway models offer durable tools for scholars, policymakers, and institutional designers. The reference is complete, the methodology is open, the falsification criteria are explicit, and the agenda is active. The next generation of economists and legal scholars is invited to build upon this foundation, stress test its assumptions, validate its empirical protocols, and extend its reach into uncharted economic terrain.

METHODOLOGICAL APPENDIX

REI CONSTRUCTION PROTOCOLS

The Rule Evolution Index is constructed through a five stage process. Stage one involves legal text digitization and semantic coding using standardized taxonomies for property, contract, bankruptcy, competition, and hybrid algorithmic provisions. Stage two maps judicial citation networks to measure precedent utilization, cross referencing density, and interpretive consistency. Stage three quantifies regulatory experimentation through amendment frequency, sunset clause deployment, sandbox participation, and compliance variance metrics. Stage four assesses hybrid interoperability by measuring statutory alignment with smart contract standards, decentralized governance recognition, and cross platform compliance harmonization. Stage five aggregates normalized dimension scores using jurisdiction specific weighting calibrated to institutional capacity, market structure, and ethical distributional benchmarks. Validation employs panel data regression, synthetic control benchmarking, out of sample forecasting, and explicit sensitivity analysis across alternative weighting configurations. Falsification thresholds are pre registered: if REI trajectories diverge from productivity, innovation, or equity indicators beyond statistically defined confidence intervals after controlling for macroeconomic and political variables, the model requires structural revision. All code, dictionaries, validation reports, and sensitivity test outputs are archived in open access repositories. Replication requires access to publicly available legislative databases, court record systems, regulatory publications, and algorithmic protocol documentation. The protocol is

designed for continuous updating as jurisdictions modify legal architectures and integrate decentralized technologies.

RESEARCH INFRASTRUCTURE NOTES

Open data standards, version controlled documentation, and peer reviewed replication certificates ensure methodological transparency. Graduate training modules include computational legal analysis, institutional econometrics, comparative regulatory design, political economy modeling, and ethical impact assessment. Annual symposia rotate across research hubs to maintain global participation and prevent institutional capture. Translation protocols preserve conceptual precision across languages. Policy advisory guidelines align academic output with governance implementation timelines. Multi audience communication frameworks ensure that technical findings are translated into executive briefs for finance ministries, legislative summaries for parliamentary committees, and public transparency reports for civil society oversight. The infrastructure is deliberately decentralized to encourage independent validation while maintaining core methodological consistency. All derivative research must cite the original framework and adhere to the open replication standards established herein.

FINAL INTELLECTUAL PROPERTY DECLARATION

THIS ENTIRE MANUSCRIPT, INCLUDING ALL THEORETICAL CONSTRUCTIONS, TERMINOLOGY, METHODOLOGICAL FRAMEWORKS, INDEX SPECIFICATIONS, COMPUTATIONAL PROTOCOLS, TRANSITION MODELS, AND RESEARCH INFRASTRUCTURE DESIGNS, IS THE EXCLUSIVE INTELLECTUAL PROPERTY OF DR. MOHAMED KAMAL ARAFA ELRAKHAWI. NO PORTION MAY BE REPRODUCED, TRANSLATED, ADAPTED, OR DISTRIBUTED WITHOUT EXPRESS WRITTEN PERMISSION. FULL ATTRIBUTION IS MANDATORY FOR ALL CITATIONS, DERIVATIVE WORKS, AND ACADEMIC APPLICATIONS. ALL RIGHTS RESERVED INTERNATIONALLY.

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