

# SINGLE-MODE VERSUS DUAL-MODE RATIONALITY

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## ABSTRACT

*In making decisions, the psychological aspect of the human mind is examined. To economize on cognitive resources, humans rely on information in their long-term memory, where institutions (habits, values, norms, and customs) are stored. Thus, institutions play a major role in human behaviors, including economic behavior. This is in contrast to assumptions in mainstream economics. Moreover, due to changing circumstances and new challenges, behaviors could be calculative and deliberative; it is also collaborative because we rely on past experiences and socially accepted behaviors in our community. Choices based on habits, norms, and customs are referred to as rule-following behaviors, which produce ceremonial outcomes and lead to stagnant or regressive societies. Choices that are calculative, deliberative, and collaborative are instrumental and lead to progressive societies. Therefore, rationality is a function of institutions. The institutional space of every society is dichotomized into ceremonial and instrumental rationalities, which is a dual-mode rationality, compared to mainstream economics that assumes “rational choice”—a single-mode rationality. The stark difference in the areas of technological innovations and development is also vivid. While the institutionalists believe technological innovation is a problem-solving process that subsequently exposes other societal problems, mainstream economists view technological innovation as a product of the availability of human capital through proper education. Furthermore, institutional economists believe economic development is a consequence of changes in the instrumental warranted knowledge funds, and underdevelopment is due to “ceremonial encapsulation” of instrumental values. Mainstream economists theorize underdevelopment results from low capital accumulation.*

Key Words: Single-Mode; Dual-Mode Rationality; Ceremonial and Instrumental Behaviors; Capital Accumulation; Ceremonial Encapsulation; Lysenko Effects.

JEL Classification: O14, O35, B13, B15, B25, B52.

## **Introduction**

The act of making the right decision is the core principle of mainstream neoclassical economics. The idea is captured in the economic literature by one swooping assumption referred to as “rational choice.” That is to say, people’s desires are different and whatever decisions they make depends on their individual preferences. Evolutionary

economics approaches rationality from the viewpoint of institutional rationality in psychology. Do institutions have impacts on the decisions people make? If yes, what are institutions, and how are institutions different from place to place at different points in time? Institutions across Europe, for instance, during the Dark and Middle Ages were not the same as institutions after the Industrial Revolution. If institutions changed during the period, the mode of valuation, reasoning, rationality, and thus behaviors also changed. Rationality is a function of institutions and has so many economic ramifications. They range from consumer behavior, historical social dynamism, and contemporary technological innovation to economic development policies. If the rational choice assumption, the pillar of modern economic development theories, is inadequate, the expected outcomes of development policies grounded on it would not materialize.

Rationality is a mental process of thoughts aimed at choosing behaviors and activities. A method of reasoning and reaching a conclusion is known as rationality, but reacting to the conclusion is known as behavior. Rationality, therefore, cannot be separated from behavior. There are various factors that trigger human behaviors. Most notably are instinct, impulse, habit, norm, custom, tradition, values, and laws. Instincts are automatic, such as breathing and blinking. Impulses are less automatic and more of desire and inclination, which cannot be detached from belief and habit. Habits emanate from people's norms and customs. Beliefs and habits are the core sources of behaviors. Psychologists place the causal chains starting from active cognition, thinking, and thoughts at rest (beliefs), becomes a habit. Fortunately, beliefs and habits are changeable and dynamic, thus, institutional rationality in evolutionary economics.

### ***Single-Mode Rationality***

Mainstream economics (orthodox neoclassical economic theories) approach economic analyses using scientific methods. These methods, through one sweeping assumption of “rational choice,” yields results reminiscent of pure sciences. It permits the application of various mathematical techniques to achieve short-run equilibrium and long-run stability. Mainstream economics, descriptive and predictive in nature, allows rigorous quantitative analysis using data. In fact, models are considered robust if stipulated hypotheses are supported by empirical data analyses. Therefore, starting from the neoclassical era, models including economic development models have to be mathematically savvy to be considered scientifically cogent.

Beliefs, habits, traditional values, norms, customs, and religion (institutions) could create categorical variables that are not readily measured and, thus, not quantifiable. From the viewpoint of mainstream economists, these institutions, albeit implied, are biologically determined. Therefore, single-mode rationality, where inflexible individuals’ habits and economic behaviors are ingrained right from conception, becomes necessary.

### ***Institutional Economics***

The institutionalists, on the other hand, treat habits, norms, customs, traditional values, and religion as core fundamental institutions that are the determining factors for human behaviors. In institutional economics based on institutional rationality theories in psychology, one cannot discuss rationality without examining active cognition, reasoning, belief, habit, and value. In any actions, humans cannot go through these processes (active cognition through beliefs to values) every time prior to exhibiting behaviors. To conserve resources, we are inclined to fall back on institutions (habits/values) in exhibiting

behaviors, including economic behaviors. Displace these core institutions, and economic behaviors are significantly altered.

Also, human beings have the ability to acquire, transmit, create and modify values and culture (Redmond, 2004). For example, we acquired languages, mores, foods and fashions from our forefathers and transmitted them to our children. The practice of relying on past generations for immediate response to situations makes humans a social being, as opposed to a know-it-all solo person illustrated in mainstream economics “rational choice” literature.

### ***Dual Mode Rationality***

Reliance on norms, traditional values, and religion in response to a situation by conserving cognitive resources is referred to in the literature as a *rule-following* behavior. However, these age-old habits/values do not yield appropriate or optimal practical outcomes unless redefined and modified over time. These behaviors that stemmed from countless millenniums of ingrained beliefs known as traditional values have not been “tested and refuted,” therefore, cannot face changing circumstances, threats, and opportunities. “We do things this way because our forefathers did it this way” (Bush, 1987). They are destined to yield unfavorable outcomes and produce stagnant or regressive societies. Redmond (2004) refers to *rule-following* behaviors emanating from traditional values/religion as “pre-scripted” rationality.

Note that humans not only have the capacity to acquire and transmit culture, they also have the power to create and modify culture to enable them cope with new challenges. This brings us to the second mode of dual-mode rationality in institutional economics. Rule-following behaviors are habitual and reflexive. It requires little amount

of cognitive effort before the exhibition. The second mode is deliberative and calculative. By seeking alternative solutions, it needs enormous cognitive efforts and time, and once attained, it becomes Instrumental to changes. This behavior, by being calculative, deliberative, and inherently collaborative, is referred to as *planning rationality*. It leads to technological advances and social progress. To face new challenges and threats, planning rationality leads to instrumental behavior that helps to refine and modify rule-following behavior.

Why so? Psychologist H. Simon (1996) helps us understand the structure of the mind. Our brains have short-term and long-term memories. Short-term memory is limited and can process only seven chunks of information at a time, whereas long-term memory is vast and unlimited. Furthermore, it takes about five to ten seconds to transfer information from short-term memory to long-term. However, it takes a fraction of a second to retrieve information from long-term memory (Redmond, 2004), where habits, norms, customs, and religion are stored.

Consequently, the institutional mind possesses the inclination to effortlessly retrieve information from the vast long-term memory littered, perhaps, with centuries of traditional values/habits (rule-following). That is, engage in pre-scripted rationality. In so doing, they avoid the rigorous calculation and deliberation needed by instrumental (*planning*) rationality. Also, when previously relied upon (rule-following) solutions fail due to new circumstances and threats, society would have to “reformulate” a new mechanism instrumental in resolving the new challenges. This is *planning rationality* in evolutionary economics. .

### ***Ceremonial Dominance***

Institutionalists dichotomize value into two—ceremonial and instrumental values. Ceremonial values create rule-following behaviors originating from norms, customs, and traditional values, which were “not tested and validated.” On the other hand, instrumental warranted behaviors require “tools and skills” in their inquiry for problem-solving processes. Therefore, the instrumental mode of valuation is not fixed and it is subject to scrutiny and validation owing to its calculative and deliberative tools in the validating process.

Every society has historical (tradition), and contemporary experiences and thus are confronted with ceremonial and instrumental modes of valuations. However, the ceremonial mode of reasoning easily correlates with instrumental behavior because ceremonial action only requires “sufficient reasons.” When the ceremonial mode of behavior remains popular in society, institutional economists refer to this outcome as *ceremonial dominance*. In this case, the society would be stagnant or regressive. Instrumental behaviors, in their validation tools cannot justify ceremonial behaviors. Ceremonial behaviors are completely nonsensical to those with instrumental mode of valuation. Spiritual protection through mystical powers and charms, for example, are beyond the imaginations of those with instrumental values. Thus, instrumental behaviors do not correlate with ceremonial behaviors. The index of ceremonial dominance is high in societies where ceremonial behaviors are rampant.

### ***Technological Innovation***

Mainstream neoclassical economics conveys technological innovation to be a consequence of research and development through an educated and skilled workforce.

In this case, developed countries have the advantage in technological innovation owing to the large number of human capitals in these countries. Mainstream economics experts recommend developing countries to train their workforce or borrow technology from developed nations.

However, from the perspective of institutionalists in evolutionary economics, technological innovation is a problem-solving process. A community or a country recognizes a problem; by being instrumental, choices are made to resolve the problem through changes in instrumental warranted behaviors (deliberative, calculative, and collaborative). Thus, the society discovers a host of new problems. From the institutional perspective, technological innovation starts within; it is “cumulative, combinatorial and accelerating.” It is cumulative and combining because new solutions to problems are based on previously existing solutions (Ayres, 1962)

For example, the United States cities became congested in the early 20<sup>th</sup> century and there was suburban sprawl. Suburban sprawl created commuting problems; it took longer to arrive at the Central Business Districts (CBD). Possessing the altruistic spirit to resolve social issues, coupled with the passion for fuel-powered combustion vehicle rather than a horse-dragged cart, there was an opportunity to make a profit. An entrepreneur designed the first vehicle, and a host of new problems and industries emerged. Some of them were street lights and freeways to and from the suburbs and country to the CBD. Safety concerns generated more affiliated industries—antilock brakes, seatbelts, third brake lights, airbags, etcetera.

Furthermore, as the 20<sup>th</sup> century drew to a close, the solutions to the commuting time, traveling from one country to another, coupled with industrial pollutions created

another human existential problem that requires a change in behavior—the problem of carbon dioxide emission, which created the climate crisis. Solving the climate change problem has led to a call for the global use of renewable energy to displace fossil fuels. The manufacturing of environmental-friendly electric vehicles is currently the new trend.

The same could be narrated about the information technology, which started with resolving the problems of information processing, transfer, and storage. The invention of the internet through information technology has given birth to a host of digital industries and improved the quality of life in the last two decades. It has also created new problems of hacking into industrial systems and circulations of false information. Thus, technological innovation is domestically a problem-solving process that is augmented with changes in behaviors.

Now, one could ask, with a host of problems in Africa, why are there no technological innovations? The answer is clear: African economic policies do not target the people's issues, innovate on the basic problems and change behaviors. To them, technology and development models are based on mainstream macroeconomics and global economics trickle-down solutions from abroad. Solutions that assume people everywhere are economic agents that could be incentivized by market opportunities created by reforms. Besides, mainstream economics resonates quite well with Africa's fundamental but ceremonial values that believe in external sources to resolve problems. It reinforces the value system instead of displacing it, thereby leading to a deluge of ceremonial outcomes.



## **Ceremonial Encapsulation and Underdevelopment**

Mainstream economics explains that economic development starts from the accumulation of capital. Which capital? All of them—human capital, social capital, physical capital, financial capital, and entrepreneurial capital. Since there is a dearth of these capitals in developing countries, they would have to carry out needed reforms to attract these capitals from developed countries. After 60 years of reforms, however, capitals never came to Africa. Instead, capitals are fleeing Africa, especially human and financial capitals. According to Global Financial Integrity, between 1970 and 2015, a net total of \$1.8 trillion flowed from 30 African countries (Iorio, 2019). Reasons given for the capital flights, in the language of mainstream economics, are currency devaluations, exchange rate volatility, high rates of inflation, and political instability. All these terms are operational variables that are unrelated to fundamental values. Knowing that most of the flights occurred through illicit methods, we have to look beyond economic operations.

Besides, institutionalists have a different explanation for the sources of economic development—the availability of instrumental knowledge funds. The structure of every society includes a knowledge fund that is split between ceremonial and instrumental values. As mentioned above, ceremonial thinking leads to a regressive outcome and underdevelopment. Instrumental value produces progressive society and development. Unfortunately, only the portion of knowledge funds that the society could resonate and reconcile with existing knowledge funds would be incorporated into the society's scheme of things. Developing nations in their history have been exposed to developmental knowledge funds through access to international practices and the acquisition of proper education. However, these nations' norms and customs (fundamental institutions) are

saddled with ceremonialism, which engulfs or “encapsulates” all developmental knowledge funds (instrumental institutions) they come across.

### ***Types of Ceremonial Encapsulation***

Based on institutional space, Bush (1987) constructed four sectors of institutional feasibilities. The first sector is both ceremonially and instrumentally feasible, which could result in ceremonial encapsulation if the index of ceremonial dominance is very high. This sector produces a regressive society unless the instrumental warranted values “displaced” or destroyed ceremonial values. The second sector is instrumentally feasible but ceremonially non-feasible. This is the best-case scenario, which leads to a progressive society. The third sector is ceremonially feasible but instrumentally non-feasible (the worst-case scenario), known as the Lysenko Effects. The fourth sector is where both ceremonially and instrumentally are non-feasible and become meaningless.

*Past-Binding Ceremonial Encapsulation*—the existing value systems are a source of pride that binds a community. There is every attempt to preserve the existing ceremonial values because they support a distinct symbol of the community. *Future-Binding Ceremonial Encapsulation*—In an effort to maintain control over the community or country, vested groups grab power and steer the technological innovation in their desired direction. There are historical or contemporary examples of past-binding and future-binding ceremonial encapsulations in under-developed or semi-developed countries of the world.

*The Lysenko Effects*—a sector where there is ceremonial feasibility but non-instrumental feasibility. Here, ceremonial practices are the only methods of thinking and are applied to mimic instrumental values and behaviors. In the society’s key problem-

solving processes, local cultural practices are substituted for workable instrumental behaviors learned or borrowed from other developed societies. Veblen describes this type of institutional sector as “the absolute triumph of imbecile institutions over life and culture” (Bush, 1987).

### ***Historical Evidence***

In Europe, the separations of ceremonial and instrumental values dated back to 500 AD through 1700 AD. The period could be divided into the Dark and Middle-Ages. The Dark Ages witnessed feudalism, sorcery, witchcraft, rituals, mystical powers, and superstitions. These practices were a common way of life across Europe. The concerted efforts made in Europe to exterminate these behaviors and replace them with instrumental values are under-reported in history. Therefore, the subsequent socio-economic impact remains unrecognized. Historians agree that feudalism ended by the outbreak of the Black Plague that spread all over Europe in the 14<sup>th</sup> Century (Koenigsberger 1987); while the other remaining ceremonial practices were initially eliminated by Christianity through ex-communication and persecution, and later by Parliamentary Acts, which made witchcraft, and other pagan practices punishable by death through execution and burning (Wikipedia, n.d.). Today, one would agree that it was a wise move by the European leaders to prosecute and discourage ceremonial institutions across Europe. However, the church that assisted in ending paganism, as those practices were referred to, suffered its fate in the Middle-Ages during the movements to separate secularity from spirituality. This was followed by series of social revolutions aimed at aligning the desires (ceremonial behaviors) of the peasants and wage earners with the national objectives (instrumental behaviors) of the upper class.

The Church in Europe was a symbol of spirituality and the monarchy a vestige of traditional European values. Both should not interfere with science and secular schemes of things. History indicates that it was a tough battle in England and Rome. The church was ultimately separated from science and secular issues; the monarchies were relegated and restricted to their palaces to play ceremonial roles. When mainstream economics theories were formulated in the 18<sup>th</sup> century (14+ centuries later), Europe was ready for single-mode rationality. Fourteen centuries were long enough to learn, adapt, and for a greater portion of the population to transmit and habituate instrumental values. In Asia, the Japanese were even more brutal in their attempts to separate ceremonialism from instrumentalism (Enajero, 2015). Therefore, one would not be wrong to conclude that the strong European influence in the world today should be credited to the displacement of ceremonial rationality in their culture.

Many of those ceremonial values eliminated or “displaced” by Europeans and elsewhere in the Dark and Middle-Ages are still prevalent and visible in Africa in the 21<sup>st</sup> century. Starting from the colonial days, for example, the British governed Nigeria via “indirect rule” (Natufe, 1984). That is, governing through the local Kings and Chiefs. The colonial authorities meant no “double standards” (displacing traditional values at home but using them in the colonial territories). The intention of this method was to make the British authorities more authentic at the grass-root in Nigeria.

However, generally, the main responsibility of local Kings and Chiefs is to promote and sustain traditional values in their domains. The Kings and Chiefs are the roots of ceremonialism (traditional values, several local religions, and two competing imported religions) that are heavily embedded in the long-term memories of the educated and

uneducated indigenes. Indirect rule resulted in an entire ceremonial encapsulation of every instrumental institution Nigeria inherited from Britain. Therefore, behaviors of politicians, government officials, military, scientists, educators, managers in the country are heavily adulterated, such that instrumental institutions established by Britain in Nigeria do not thrive. . . .

**Table 1 – Summary**

Domains	EVOLUTIONARY ECONOMICS	
	Institutions (Generic)	Mainstream Neoclassical (Operant)
Rationality	Dual-Mode	Single-Mode
Modes of Valuation	Rule-Following and Instrumental (purposeful)	Rational Choice
Human Mind	Social	Cartesian Individualism
Analysis	Normative	Descriptive & Predictive
Theoretical Framework	Psychology & Sociology	Mathematics & Physics
The Brain & Reasoning	Short & Long-Term Memories	Not applicable
Short-term memory (ST)	Active Processing (limited)	Not applicable
Long-term memory (LT)	Storage (vast & fast)	Not applicable
Habits	Acquired (LT-changeable)	Biological (fixed)
Economic Behaviors	Ceremonial & Instrumental	Everyone is rational
Ceremonial Behaviors	Rule-following, norms, customs, religion (LT)	Not applicable (everyone is purposeful)
Instrumental Behaviors (purpose-seeking)	Deliberative, calculative, and collaborative	Assumes everyone is purposeful
Ceremonial Dominance	Possible	Not applicable
Index of Ceremonial Dominance	High – Regressive Society Low – Progressive society	Not applicable
Technological Innovations*	Problem-solving process changes in instrumental behaviors	Education, Research & Development
Economic Development*	Availability of instrumental warranted knowledge fund	Capital Accumulations
Economic Underdevelopment	Ceremonial Encapsulation of instrumental values	Lack of Capitals.
Why lack of Capital?	Not applicable	Poor Legal Environment
Why Poor Legal Environment?	High index of ceremonial dominance.	Cannot explain, probably biology (implied)
Three types of Ceremonial Encapsulations	Past-binding, future-binding, & Lysenko Effects	Not applicable

Lysenko Effects	Substitution of spurious model for non-instrumental feasible institutional space.	Not applicable
Reasons for Democracy and Federations	Behaviors are social and community sanctioned	Market Failures
<i>*Note for institutional economists, technological innovations and development start from solving problems and changes in behaviors rather than acquisitions of capitals.</i>		

Questions: What type of ceremonial encapsulation is visible in African nations? Is it past-binding, future-binding, or the Lysenko Effects? Is the index of ceremonial dominance so high that it encapsulates learned or borrowed instrumental institutions in African nations? If the response to the last question is “yes,” to initiate true and fast development, African nations must look for the sources of ceremonial values, eliminate, “displace,” or restrict them similar to practices in other parts of the world.

**Conclusion**

This paper compares orthodox mainstream economics to institutional economics in the areas of behaviors, rationality, technological innovations, development, and underdevelopment. It explains the role of institutions in human behaviors. According to institutional economists, institutions are located in our long-term memories. These are habits, norms, customs, values, and religion, which control our behaviors. Fundamental institutions are rule-following and could be modified over time. To economize on cognitive resources, humans rely on rule-following in their decision making, and thus behaviors. Rationality in institutional economics is dichotomized into rule-following and instrumental (purpose-seeking) behaviors. Rule-following behavior produces ceremonial outcome and, therefore, leads to a regressive society. Whereas instrumental behaviors are calculative, deliberative, and collaborative. Progressive societies are consequence of instrumental behaviors. This is in contrast to mainstream economics literature that

assumes a one-swoop single-mode behavior across the board known as “rational choice.” In so doing, the sole culprit for economic underdevelopment is undermined by mainstream economics.

Ceremonial encapsulation is one social problem completely ignored by mainstream economics. This is not surprising because at the time current economic models were formulated starting from the 18<sup>th</sup> century, the developed world had either destroyed, separated ceremonial from instrumental institutions, or relegated them to the palaces. This was explicitly accomplished in Europe from 500 AD to 1700 AD (Dark through late Middle-Ages). Ceremonial encapsulation is when rule-following behaviors (beliefs, habits, norms, customs, and religion) overshadow instrumental warranted behaviors needed for technological innovations and development.

Moreover, institutional economics theorizes that technological innovation is a problem-solving process that subsequently exposes other issues .by changes in instrumental warranted behavior. Economic development, therefore, arises from the availability of instrumental warranted knowledge funds. Here, people (not materials and money) are required to acquire instrumental behaviors. However, economic development could be hindered by ceremonial encapsulation of instrumental behaviors depending on the size of the index of ceremonial dominance. On the other hand, economic development, as modeled by mainstream economics, is a consequence of capital accumulation. Mainstream economics exonerates people for economic failures by constructing development models based on single-mode rationality.

For the past 60 years, new independent nations of Africa have carried out one reform or another to attract capital, instead, capitals are fleeing Africa. This author

believes that the institutional model is the correct conceptualization with respect to technological innovations and economic development. Identify your basic problems (food, housing, transportation, and education). Many aspects of these problems require unskilled labors and low technology. Africa has an abundance of these resources domestically. As they focus on resolving these problems, other issues would surface. That is technological innovations in evolutionary economics.

### **References**

- Ayres, C. (1962). *The Theory of Economic Progress: A Study of the Fundamental of Economic Development and Cultural Change*. Reprint, New York: Schocken Books.
- Bush, P. (1987). "The Theory of Institutional Change." *Journal of Economic Issues*," Vol. 21(3), pp. 1075-1116.
- Enajero, S. (2015). *Collective Institutions in Industrialized Nations: Economic: Lessons for Sub-Saharan Africa*, New York: Page Publishing.
- Iorio, Ben (2019). "Out of Africa: Capital Flight." *Global Financial Integrity*, <https://gfintegrity.org/out-of-africa-capital-flight/> downloaded October 3, 2021 at 2:40 pm.
- Koenigsberger, H. (1987). *Medieval Europe 400-1500—A History of Europe*. Hong-Kong: Longman Ltd.
- Natufe, Igho (1984). "The Role of Traditional Rulers in the Governance of Nigeria." *Institute of African Affairs, University of Ibadan Working Papers*.
- Redmond, W. (2004). "On Institutional Rationality." *Journal of Economic Issues*," Vol. 38(1), pp. 173-188.



Simon, H. (1984). *Models of Bounded Rationality*. Cambridge, MA::MIT Press.

Veblen, T. (1919). "Why Is Economics Not an Evolutionary Science," In Veblen, *The Place of Science in Modern Civilization and Other Essays*. New York: Vikings.

Wikipedia,(n.d.), [Ceremonial Practices Accessed] September 30, 2021..