BEHAVIORAL INTERNATIONAL ECONOMIC DEVELOPMENT GROWTH PATH MODEL (BIED-GPM)

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ABSTRACT

The Purpose of this study was to design a new economic model that could better measure and label international economic development phases and paths. Grounded Theory's Constant Comparison Method was used to address two model indicators, gross domestic product composition by sector (the economic success of the system) and labor force occupation by sector (labors activities). The sample size used 279 nations from the CIA World Factbook to get an international comparison from 2002 to 2012. The key findings reveal 9 new development stages, 15 identified growth paths, and 4 distinct growth path clusters. The implications for social change go beyond the initial behavior economics and development economics communities as originally intended, as this study helps identify an effective way of using quantitative data to create new classifications to examine the behavior of these new groups providing more measurable labels and qualitative analysis benefits which may be specifically beneficial to developing nation public administrators.

A NEW MODEL

During the December 8, 2001 Nobel Prize lecture titled "Information and the Change in the Paradigm in Economics," Nobel Laureate Stiglitz (2001) stated, "When I began the study of economics some forty one years ago, I was struck by the incongruity between the models that I was taught and the world that I had seen growing up"(para. 4) Nobel Laureate Ostrom (2009) announced on the same day 8 years later in her Nobel Prize lecture titled "Beyond Markets and States: Polycentric Governance of Complex Economic Systems" that "we need to develop a better theoretical understanding of human behavior as well as of the impact of the diverse contexts that humans face"(para. 91). Ostrom went on to say, "We should continue to use simple models where they capture enough of the core underlying structure and incentives that they usefully predict outcomes" (para. 91).

Stiglitz and Ostrom are reputed as two of the brightest minds in the world of economics. They defined and prescribed two specific problems and call for new solutions. The first problem is one of applicable and efficient economic models. There is a need for as simple a model as possible that may help shape the understanding of events seen today and be used as a tool to promote an understanding of tomorrow's economic events (Stiglitz, 2001). Ostrom, the first woman to receive the Nobel Prize in Economics, identified the second problem,

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which is the need to include behavior in modern development research (Ostrom, 2009).

The limit to economic models and the absence of human behavior indicators has been identified. This gap is addressed in this study. This research focuses on the more specific sub discipline of economic growth known as development economics. Specifically, their research addressed the question of whether the same problem exists in development economics. Kooros and Badeaux (2007) further address this gap in the literature when they identify in their research the absence of extensive economic development models in the broader academic spectrum. The repeated acknowledgement that there is a gap in the literature both in economics and in the sub discipline of development economics suggests that a new model may be needed to further contribute to the understanding of such complex economic and development issues. Human behavior should be included as a new indicator in this developing model to depict the contribution of labor in economic growth. This new model with a behavioral indicator adds to the growing body of research known as behavioral economics.

In December 2010, the 8th Conference Agence Francaise de Developpement (French Development Agency) and European Development Research Network (EUDN, 2010) was held on the topic of how the international community should measure development. The notion of trying to build an aggregate indicator was discussed. The conclusion was that economic growth is not necessarily development (EUDN, 2010, para. 2). The public's attention and use of gross domestic product (GDP) as a sole statistic indicator was also seen as a problem with modern economic models.

The dominant use of GDP in economic growth models is more of a measurement concern. GDP is a "universal" indicator and is readily available by most active governments. It is the easy accessibility of this indicator that makes it so dominant in international studies. GDP alone, however, has a limited capacity to provide meaningful insight into the health of a nation. The problem is not the ability of a nation to increase its revenue divided by population excluding expenses. The problem is one of perspective. The 8th Conference explored, how should we look at the information we currently collect? Perhaps the goal should not be to identify revenue or income growth at all, but rather to look at the path taken and probability of this movement. Looking at information in a unique way may help. By creating new classifications focused on the dominant behavior of a society (what the majority occupation by sector is in a country) and an indicator that captures the success of financial growth (GDP by occupation sector), a new perspective is possible. While GDP can be used in each classification to identify growth of the new groups, it is the behavior of these new groups that promotes a stronger understanding, from a public administration management point of view. These groupings have behavior and it is the behavior of these groups that were studied here.

Because GDP is the outcome measurement of actual labor activity, behavior is the primary driving factor. By creating new groups, an attempt to observe the

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behavior of these groups in more detail to better understand what contributes to GDP success or failure is possible. In 1960, Rostow identified stages of growth, which were observations of actual behavior. This model became known as the Rostovian take-off model (Rostow, 1960). While it had mixed reviews, it included grouping behavior into five categories to enhance an understanding of the "nation level" activity. By using five distinct classifications, Rostow created labels of actual behavior. Rostow proposed criteria that were needed in order for a nation to mature, but most of these criteria were weak and highly criticized. This model also only allows for growth in a positive and linear direction. While Rostow made some assumptions that today seem unfounded, Rostow's use of behavior classifications is a concept that can be built up and further developed. It is the labeling of behavior that is important, not the attempt to list requirements to move to the next stage.

Individuals and nations can be classified into categories that may help provide insight into economic development. Most economic growth models focus on trying to predict growth rates with limited success, if any. Thus, it is worthwhile to identify stages of growth and look at the path those nations take along the way. Furthermore, probability statements can contribute to the understanding of such "stages of development" analysis. As discussed in the 8th Conference (EUDN, 2010), the entire international development community is currently looking for new ways to measure and analyze development indicators. This problem helps emphasize the need for a new way of approaching economic development and a new theory-generating study to contribute a better understanding of this behavior.

The Behavioral International Economic Development Growth Path Model (BIED-GPM) uses the grounded theory Constant Comparison Method of Strauss and Glaser (1967) and the structured coding procedures for data analysis from Strauss and Corbin (1990). Glaser and Strauss wrote a ground-breaking book titled *The Discovery of Grounded Theory: Strategies for Qualitative Research* in 1967. Glaser and Strauss believe that grounded theory can promote relevant theory from quantitative data and devote an entire chapter to it called, "Theoretical Elaborations of Quantitative Data." (p. 185). In this study I take quantitative data, as defined in the sub chapter titled secondary analysis of quantitative data (p.185) through the 3 defined coding processes to build a Conditional Matrix (open coding, axial coding, & theoretical selective coding). Then observe the behavior of these new stages of nonlinear growth with qualitative methods until patterns arise. Grounded theory allows for both quantitative and qualitative analysis, it, therefore, aligns well with this study. (Glaser & Strauss, 1967, p. 1).

The decision to use a sociology research method in an economic discussion is not common. It is, however, an appropriate method for this research project. The current paradigm with economic models leans heavily on quantitative methodology. Bitsch (Bitsch, 2005) identifies that "qualitative research as understood in other social sciences is virtually nonexistent in the American Journal of Agricultural Economics (AJAE)." (p.75) Also, nine classifications are created in the BIED-GPM (more than twice as many as most models) in order to get a more specific picture as to what might be happening in the labor sector. Strauss and Corbin's (1990) work

promotes grounded theory, "One does not begin with a theory, then prove it" (p22). Grounded theory was chosen for its fluid and open approach to theoretical conceptualization (Glaser & Strauss, 1967). Glaser and Strauss (1967) go on to identify that grounded theory should provide perspective on behavior. Strauss and Corbin (1990) have put together a good set of procedures to help guide a grounded theory study. They emphasize setting up structured coding procedures to facilitate this research design.

Using the Strauss and Corbin's (1990) coding procedures for grounded theory's constant comparative method, this study identifies layers of insight. The open coding stage identified the CIA World Factbook nations in 2002 and 2012. All nations were put into a BIED-GPM conditional matrix to identify if they had enough indicator information to determine if a dominate sub category (Agrarian, Industry, or Services) could be found in both indicators, Gross Domestic Product Composition by Sector and Labor Force Occupation by Sector. If a dominate sector was found in each sub category in both indicators, the nation was assigned an axial coding number and was examined further in the axial coding stage. If there was not enough information found in either the 2002 or 2012 CIA World Factbooks, the nation was not reviewed further.

The axial coding stage assigned each nation that had enough information on GDP and Labor Force a Growth Path number. This number was found by putting each nation into one of nine new classifications in the BIED-GPM for each year examined, 2002 and 2012. Once a determination could be made as to what classification each nation was in during each year, the path was examined. The path number is the 2002 BIED-GPM number followed by the 2012 BIED-GPM number. This combination of numbers creates a sequence known as the BIED-GPM growth path number. Finally, once each nation was reclassified into growth path numbers, the Theoretical Selective Coding Stage put the newly identified paths into yet another classification based on identified behavior. With this grounded theory process a wealth of information was identified, reviewed, observed, classified, and new insight is now possible.

NINE BIED-GPM DEVELOPMENT STAGES

Of the 268 identified nation states in the 2002 CIA World Factbook and 257 nation states in the 2012 CIA World Factbook (totally 279 different nations), 115 nation entries had enough data to clearly determine where the dominant behavior of sector GDP was coming and from what sector the majority of the working labor force was coming. These two indicators, when used together, help identify one of nine new BIED-GPM classifications or stages/phases. When both indicators had enough information to clearly determine each sector, they were combined in the growth path model to get a cross classification or a combined GDP/Labor Force by sectors label known here as a BIED-GPM classification stage.

Figure1. BIED-GPM Development Stages

A trend was identified only from the nations that had enough information in both 2002 and 2012 to clearly identify a BIED-GPM stage twice, showing two points to determine a trend. If both stages were identified and given new labels then they were included in the next stage of coding. In 2002, 67 nations fell into the advanced economic stage of having a GDP services dominated economy and a Labor Force by Occupation services dominated working force or stage 9 (bottom right of 2002 matrix in Figure 2). In 2012 this number increased by 34 nations states to 101. Open Coding Analysis showed the following information, two of the stages reduced (stage 1 and stage 3). During the ten years covered in this study, both stage 1 (Agriculture GDP & Agriculture Labor) and stage 3 (Service GDP & Agriculture Labor) lost nations. Three stages stayed the same, stage 4 (Agriculture GDP & Industry Labor), stage 6 (Services GDP & Industry Labor), and stage 7 (Agriculture GDP & Services Labor) with zero nation states. Ten nation states have moved into industry dominated GDP, stage 2 (Industry GDP & Agriculture Labor), stage 5 (Industry GDP & Industry Labor), and stage 8 (Industry GDP & Services Labor).

2002	GDP composition by sector		
Country Name	Agriculture	Industry	Services
Agriculture	14	4	33
Industry	0	0	0
Services	0	2	67

2012	GDP composition by sector		
Country Name	Agriculture	Industry	Services
Agriculture	4	8	28
Industry	0	2	0
Services	0	6	101

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Trend	GDP composition by sector		
Country Name	Agriculture	Industry	Services
Agriculture	-10	4	-5
Industry	0	2	0
Services	0	4	34

Figure 2. Open Coding Data Analysis

The first finding identifies the most popular trend classification change in the last ten year (2002-2012), BIED-GPM classification 9 (GDP Service dominated economy with a Labor Force by Occupation in the Services Sector) grew the most. This new classification increased over this time frame of ten years by 34 nation states, the only two digit increase. This study showed four of the nine new classification labels increased over the ten years 2002-2012 (classifications 2, 5, 8, & 9), while two classifications reduced in size (classification 1 & 3). The remaining three classifications remained the same, having no nation-states.

The findings of the open coding stage is that this study indicates the services GDP increased by 29 nation-states compared to an increase in the industry GDP by 10 nation-states and finally the agriculture GDP decreased by 10 nation-states. The trend indicates a movement to a service dominant work force and service dominance in GDP. The second finding shows the largest growth path identified was classification 3 (Services-GDP & Agrarian-Labor) to classification 9 (Services-GDP & Services-Labor), showing a switch from agrarian labor force to a service dominated labor force. This study shows 8 nations moved from classification 3 to 9 and two were in transition at the start of the ten years of research, for a total of ten nations following the same path.

The third finding in the open coding stage is that there is a noticeable absence of industry dominant labor nation states. In 2002 the BIED-GPM shows 51 nations with an agriculture dominant labor force and 69 nations with a services dominant labor force. There are no nations with an industry dominant labor force, creating a noticeable void in the middle of the model. While 2012 shows 40 nation-states having an agriculture labor force compared to 107 with a services dominant labor force. Only two nations in 2012 show an industry dominant labor force. This is a significant finding and could help indicate public administrations inability to manage economic efficiencies and efficient labor movements.

15 BIED-GPM GROWTH PATHS

The fourth finding in this research is found in the Axial Coding stage. This finding identifies 15 new BIED-GPM growth paths. This BIED-GPM New Path Classification Chart can be used to see what nations are behaving like other nation-states. This information can be used for multiple follow on studies. The fifteen new paths include a series of numbers. The first number is the 2002 BIED-GPM classification stage number. The second number is the 2012 BIED-GPM classification stage number. The fifteen new growth path classifications are: 1. (1-3) - Agrarian GDP/agrarian labor to a services GDP/agrarian labor society; 2. (1/2-2) - Agrarian GDP/agrarian labor split with industry GDP/agrarian labor to a non-

split industry GDP/agrarian labor society; 3. (1/3-3) - Agrarian GDP/agrarian labor split with a service GDP/agrarian labor to a non-split service GDP/agrarian labor society, 4. (1-1) - Agrarian GDP/agrarian labor society-with no movement; 5. (2-2) - Industry GDP/agrarian labor society-with no movement; 6. (2-3) - Industry GDP/agrarian labor to a service GDP/agrarian labor society; 7. (3-3) - Service GDP/agrarian labor-with no movement; 8. (3/9-3 neg.) - Service GDP/agrarian labor split with a service GDP/service labor negative move to a service GDP/agrarian labor society; 9. (3-2 neg.) - Service GDP/agrarian labor negative move to an industry GDP/agrarian labor society; 10. (3/9-9) – Services GDP/agrarian labor split with service GDP/service labor to a service GDP/service labor society; 11. (3-9) – Services GDP/agrarian labor to a service GDP/service labor society; 12. (8-8) – Industry GDP/industry labor – with no movement; 13. (8-9) – Industry GDP/service labor to a service GDP/service labor society; 14. (9-8 neg.) – Service GDP/service labor negative move to an industry GDP/service labor society; 15. (9-9) – Service GDP/service labor – with no movement.

FOUR BIED-GPM GROWTH PATH CLUSTERS

Theoretical selective coding is the third and final stage in this grounded theory study. The 15 identified paths show new behavior that can be examined. The fifth finding in this research, upon observing these new paths is a pattern that reveals four distinct clusters. These new clusters are (1) Non Transitional (Steady) States, (2) Positive Transitional States, (3) Split Transitional States, and (4) Negative Transitional States. These four new classifications are labeled based on the group's behavior. The first clusters, non-transitional (steady) states, are those that did not move BIED-GPM classification stages from 2002 to 2012. These nations simply remained steady. The second cluster, positive transitional states, moved up in BIED-GPM classification stages from 2002 to 2012. The third cluster, split transitional states, seem to be in the middle of a transition in 2002. These nations were actually in two stages at the beginning of the time studied, but finished the transition by 2012. The final cluster, negative transitional states, contained nations that moved down on the BIED-GPM classification stage during the ten years. This coding stage clearly shows new patterns that can help focus future studies as well.

BIED-GPM GROWTH PATH CLUSTER 1:
NON TRANSITIONAL (STEADY) STATES

The first cluster from the BIED-GPM Path Cluster Chart identifies five of the fifteen identified paths, specifically 1-1, 2-2, 3-3, 8-8, and 9-9. I have labeled this new cluster (1) Non Transitional (Steady) States. As far as actual path analysis in this group, the path remained the same over the ten years of the study for these nations. There is an absence of stages 4, 5, 6, & 7 in this cluster. One of the first questions that arose after this cluster was revealed was do these nations seem to be steady? While there were some nations that jumped out as being unstable, it became clear that the instability that I associated with the nation was often due to political strife. While political instability can affect the economy, it doesn't mean it will affect it. It is possible that political instability can be present and economic stability

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remains steady, at least for the short term. Therefore emphasis on economic output and labor movement labeling can help minimize bias that may arise from political perceptions. Using a grounded labeling structure can help keep focus and minimize social perception concerns.

This cluster makes up 83 of the 115 nation states that could be evaluated. This is the largest cluster of the four. This cluster identifies those nations that remained consistent in the same category in 2002 and 2012 encouraging a label of "steady state" due to the limited path movement.

The first item that stands out is the large size of the steady state cluster. With only ten years of data, I expected a small group of transition nation states. The three other clusters make up a larger group than I initially expected. There is more movement in the BIED-GPM than I would have expected. While the steady state cluster is large, there are already political changes that may impact countries like Egypt, Ukraine, Russia, and Libya, as we watch what happens in years to come. Future studies can build upon this model and are recommended. There are nations in this cluster that may not be considered stable politically, but this research shows that at least in the last ten years some economies have been economically stable while maintaining a stable work force.

I. Non Transistional (Steady) States					
1-1	2-2	3-3	8-8	9-9	
Burma	China	Bangledesh	Libya	Bahamas	South Korea
Ethiopia	Gabon	Dominic		Barbados	Latvia
Liberia		Morocco		Balgium	Lithuania
Togo		India		Brazil	Malta
		Haiti		Bulgaria	Mexico
		Guatemala		Columbia	Federated States of Micronesia
		Ghana		Costa Rica	Netherlands
		Gambia		Cuba	Netherlands Antilles
		Niger		Cyprus	New Caledonia
		Pakistan		Czech Republic	New Zealand
		Sudan		Denmark	Nicaragua
		Tajikistan		Dominican Republic	Norway
		Vantuatu		Ecuador	Panama
		Zambia		Egypt	Poland
		Zimbabwa		El Salvador	Portugal
				Estonia	Russia
				France	St. Lucia
				French Polynesia	St Vincent & Grenadines
				Germany	Seychelles
				Greece	South Africa
				Grenada	Spain
				Honduras	Sri Lanka
				Hungary	Sweden
				Iran	Switzerland
				Iceland	Taiwan
				Italy	Ukraine
				Ireland	United Arab Emirates
				Jamaica	United Kingdom
				Japan	Venezuala
				Jordan	West Bank
				Kazikstan	

Figure 3. BIED-GPM Cluster (1) Non Transitional (Steady) States.

BIED-GPM GROWTH PATH CLUSTER 2:
POSITIVE TRANSITION STATES

The second cluster identified is (2) The Positive Transition States (see Figure 4). This cluster moved from one of the BIED-GPM categories in 2002 to a higher numerical category in 2012. The second cluster of positive transitional states has 18 nations. Path 1-3 has eight nations and path 3-9 has eight nations. This path cluster helps give visual description to the second finding of this study, identified earlier. The determination of the non-steady states that had the second most movement was the 3-9 path. This conclusion was partially made from this cluster with eight nations identified. Two additional 3-9 paths were identified in the third cluster to make this path include ten nations. This is the largest actual path movement outside of the steady paths identified in the first cluster.

Further study of this group may show something in common as to why these specific nations have moved ahead in the BIED-GPM stages. These new found clusters should be critically analyzed as more data is available to identify any new insight as to what nations develop with positive paths and why.

II. Positive Transition States			
1-3	2-3	3-9	8-9
Afghanistan	Turkmenistan	Australia	Maldova
Albania		Austria	
Armenia		Belize	
Bhutan		Cayman Islands	
Camaroon		Nambia	
Mozanbique		Romania	
Nepal		Tonga	
Uganda		Tunisia	

Figure 4. BIED-GPM Cluster (2) Positive Transition States

BIED-GPM GROWTH PATH CLUSTER 3:
SPLIT TRANSITIONAL STATES

The third cluster identified in this study is (3) The Split Transitional States. Only four nations fall into this group, but it is clearly different behavior than the other three clusters. This cluster is the smallest of the four clusters. There are only four nation states in this category. These nations all have positive growth and could be put in the positive growth nation's cluster if desired, but I wanted to identify in this ten year study that the transition started before 2002, making this a distinct different cluster for this study. If a different set of years was used, this category could be included within the positive or negative trend cluster as appropriate.

III. Split Transitional States		
1/2-2	1/3-3	3/9-9
Nigeria	Kyrgastan	Syria
		Turkey

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Figure 5. BIED-GPM Cluster (3) Split Transitional   States

Syria and Turkey are the two nations that were added to the 3-9 path identified in the second cluster discussion. And the second finding is the eight nations in cluster (2) positive transitional states along with the two already transitioning, equal the actual largest group of non-steady state movement during this decade. The largest identified path is however, 9-9 non-transitional (steady state) BIED-GPM path.

BIED-GPM GROWTH PATH CLUSTER 4:
NEGATIVE TRANSITIONAL STATES

The fourth cluster identified in this study is (4) The Negative Transitional States. This group has ten nation states in it. While not specifically intended to be a negative label in country output, this label was called negative because it moves down in the 9 new BIED-GPM numbered stages. One stage is not better than another, but simply a means to identify different behavior. Because there are 9 stages, each stage has a number, but they are not intended to move sequentially or linearly. The negative transitional states cluster indicates a lower numerical BIED-GPM number in year 2012 than in 2002. Nine of these nations show a switch from dominance in GDP from the Service sector to dominance in the industry sector. This is a particularly interesting behavior change and should be studied further. Why do nine nations slide in international economic development and what behavior do they have in common? Future attention to these ten nations may provide insight as to this behavior observation.

IV. Negative Transitional States		
3/9-3 (neg)	3-2 (neg)	9-8 (neg)
Georgia	Indonesia	Algeria
	Maritania	Azerbajan
	Thailand	Chile
	Uzbekistan	Saudi Arabia
	Vietnam	

Figure 6. BIED-GPM Cluster (4) Negative Transitional States

All three layers of this grounded theory provide new insight into the academic discipline of development economics and behavior economics. The Open Coding phase gives actual combined economic stages in new classifications (BIED-GPM stages 1-9). The identification of these new nine stages help get more detailed comparison to the typical (first world, second world, third world) comparison most often used in economics. The Open Coding phase divided up nation-states into new categories that contribute to a new understanding of labor forces influence in gross domestic output. It is labors input that helps broaden the scope of economic activity analysis.

Axial Coding promoted yet another important distinction, one of growth paths. While the Open Coding phase identified new BIED-GPM stages, the growth path analysis is vital to identifying nation states that are behaving similarly. It is the study of this new growth path behavior that helps contribute to the third stage of this grounded theory constant comparison study.

The Theoretical Selective Coding phase ultimately identifies four new behavior based BIED-GPM Growth Path Clusters. It is these four new growth path clusters that can impact the macro level insight. By looking at these new groups and seeing what nations are behaving similarly, it can help public administrators get more accurate information to make stronger more evidenced based decisions.

Five key findings were identified in this research. Finding one shows the BIED-GPM Stage 9 (a Service GDP & Service Labor economy) grew the most. It is also the largest of the nine stages. The second finding identified that the BIED-GPM growth path 3-9 was the dominant growth path during 2002-2012. Finding three identified that there is a noticeable absence of industry dominant labor (a void in the middle) with polarized labor in the agrarian and service sectors. Finding four identified the BIED-GPM had 15 new growth paths over the ten years covered. And finally, the fifth finding revealed the BIED-GPM identified 4 new growth path clusters. Combined, these five new findings help shed new insight into behavior economics and development economics broadening the literature in both sub fields.

These new classifications/labels should help further research on development and behavior issues by giving another perspective or way of looking at complex information. In a discipline that is dominated by quantitative methods and analysis, it is helpful to use qualitative methods and analysis to broaden interpretation. This research should be looked at as a process and not a snap shot into economic activity. It is the new BIED-GPM (9 stage perspective) that helps give more detail to nation state growth and labor force activity, especially when compared to traditional 3 and 4 classification models. It is this foundation of 9 new economic development stage labels that give depth and insight to new paths between these new labels. It is the systematic (more scientific) identification, labeling, and further comparison of these growth stages that help shape the new insight. Further, the identification of growth path clusters can ultimately focus future research on like behavior (an input) and avoid studying like results (an output) alone.

Using the Grounded Theory Constant Comparison Method was a way to get new insight into economic development and behavior economics. Each of the three coding phases in this study produced new insight to the academic body of behavior economics and development economics. Three new data sets (products) were identified and can be called BIED-GPM Stages, BIED-GPM Growth Paths, and BIED-GPM Growth Path Clusters. Combined, however, the process of looking at economic quantitative data through a grounded theory constant comparative method to observe new qualitative behavior helps stimulate new perspectives and generate new theory. The BIED Growth Path Model seems helpful at organizing information, forming new labels, and observing/measuring the behavior of these new labeled groups.

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INTERPRETATION OF THE FINDINGS

The first data set product identified in this study, is the BIED-GPM development stage identification in both 2002 and 2012. The importance of this new data shows a disproportional number of nations that are acting similarly to post industrialized nations. Nations that can traditionally be seen as third world or even second world by other labeling criteria are seen in this model as stage nine in the BIED-GPM (often considered a post industrialized stage). This is peculiar, in that, the international organization labeling systems don't identify such significant behavior similarities.

The second data-set product that was created identifies 15 new growth paths. Over time, we can use the constant comparative method to collect additional years of information to help further define the economic behavior paths of nation-states. These new behavior/GDP growth paths can contribute to statistical probabilities over time. While probabilities were not calculated here, the notion that this new economic behavior model can provide a new perspective seems clear, it can and does. While 15 paths were identified in this study, over time, more may be identified. Studying these growth paths and the behavior of these paths in comparison to other (nation states) could become a more stable and consistent method of economic analysis as compared to some of the international organization models used today. With steps in place to be more scientific in the labeling than many of the international organization models (UN, WB, & IMF), a solid foundation can be created to build broader theories and be potentially more accurate or grounded.

Finally, the third data-set product that was created was the four distinct growth path clusters, which was identified in the theoretical selective coding phase of this grounded theory study. These four clusters identify new behavior that can and should be further researched. These groups could provide significant insight on multiple disciplines and on many topics. When economic data is reviewed in this manner, several questions arise. What is the most efficient BIED-GPM stage? What happens in a society that races to imitate developed post industrialized nations behavior, possibly skipping or racing through the industrialization phase? If the industrialization phase brings significant money into the system, if the stage is minimized or shortened, how does the amount of financial resources in the system impact the service sector later? Put another way, if one stage is more efficient and brings resources into the nation-state system better than other stages, should public administrators encourage slowing individuals into a less efficient stage in order to promote long term benefits to the nation stage system? These are important questions that have been difficult to address until now. With a systematic way of looking at economic data, future comparisons could be possible and beneficial. Political labels and classifications seem to have limited use in this capacity. A more scientific labeling system should contribute to better measurement of nation system comparison and analysis leading to better public administration management at the nation state level and possibly individual long term economic prosperity, seen as positive social change.

While many questions arose from this research, the first is what economic growth stage is the most efficient? While this study does not address this question, it seems to be an interesting next step. The follow on research suggestions would be to identify what BIED-GPM has the highest and lowest Gross National Savings rate, Budget Surplus or Deficit, Public Debt, GDP Consumption by Household, GDP Consumption by Government, GDP Investment in Fixed Capital, GDP Investment in Inventories, GDP Exports of Goods and Services, and GDP imports of Goods and Services. Inputting these ten new data sets into the BIED-GPM would strengthen the visibility into a 9 classification system and should give more specific details in the economic growth and behavior at the nation state system level.

Identifying the most common economic growth path and stage helps show a movement towards imitation. While individuals desire a high paying services job, does the rapid movement towards a services dominated economy create alternative problems? If the services sector is dominated by jobs that "move" money around and the industry sector is dominated with bringing money into the "nation-state" system, then serious attention needs to be on the impact of skipping or even moving too quickly through the industry phases. What is good for the individual level may not be what is in the nation-state levels best interest? Introduced in a different way, the short term benefit from pursuing policies that focus on individual gain may be served better by focusing on nation-state policies that promote steady long term growth leading to individual growth as well as nation-state growth? Does the good of the overall system build a better livelihood for the population and labor force if there is more money in the system before it goes to a services dominated cycle? And I believe this to be the most neglected question in economics, what is the cost of this option to that option? What is the most expensive BIED-GPM stage, or what stage burns the most cash? These are some of the proposed follow on research recommendations that can help further define behavior economics and development economics.

The importance of a nine classification economic model does help develop details that are not possible with only three or four classifications. While the dominance of international organizations to collect data, put labels on groups, and impact modern research is easily understandable, should it be accepted by scientific communities? The bias of these political organizations or at least the possibility of political conflict should be a concern. While this data was taken from the CIA World Factbook and the same can be said for it. The conclusion that many databases should be used to triangulate the concept this research suggests and to validate the international data and diverse collection techniques. Not just the CIA World Fact Book data should be used in this BIED-GPM. I encourage other databases to be used, to see if the results will be similar. The noticeable absence of a labor dominated industry economy is a concern. Service dominated economies seem to be in favor. Why are there only two nations with an industry labor dominant economy (stage 4, 5, or 6)? It would seem that stage 5 has the most options and be potentially the most efficient stage from a nation state perspective. Stage 9 on the other hand seems to favor the individual.

This study identifies five findings, (1) BIED-GPM stage 9 grew the most and is the largest of the growth path, (2) BIED-GPM 3-9 is the dominant growth path, (3) a noticeable absence of industry dominant labor, (4) BIED-GPM identifies 15 new growth paths, and finally (5) the BIED-GPM identified four new growth path clusters. An additional note is that qualitative sociology studies like the Grounded Theory (GT), constant comparison method can provide insight into complex economic issues. As a unique way to structure and observe quantitative data, the use of qualitative methods can and should benefit academic discourse on complex economic activities. Finally, this study did generate new theory. Economics cannot be properly studied without the equally important question of cost. With this new labeling system, more precise analysis and comparisons can be made at the nation-state level or in kind state or local government studies. I recommend follow on studies that help identify the most costly economic stage and the most efficient. Individuals are going to flock to what they see as the best economic decisions for them and their families. The social change from this study is this; public administrators need to be the ones looking out for the best nation state system. If that means slowing down the rate at which individuals flow towards the service sector from the agriculture sector, than policies should be used to promote nation state health.

New theory is the goal from any grounded theory study. The theory created in this study stems from a formulation of questions brought out by the new insights found in this research. To start, economics is about efficiency, having efficient markets, efficient labor forces, and efficient policies. Behavior economics seems to focus on consumer selection, but that is only the behavior to part of that economic pie. In order to buy goods or services, first decisions are made to make money, specifically what sector should be chosen to earn a living. This study addresses such behavior. While this research indicates that most nations are "imitating" the behavior of post industrialized nations as found in the number of nations in BIED-GPM stage 9 (Service GDP/Service Labor), more research is needed to address the proper balance to what is the most efficient use of time in each BIED-GPM stage. Both short and long term effects should also be studied on the phenomenon of nation-states racing to BIED-GPM stage 9. This theory could be abbreviated: Nation-state and individual economic interests diverge through the development process. Finding an efficient balance between the interests of nation-states and individuals as they move through BIED-GPM stages can build a stronger understanding of the efficiencies and impacts to both. Using BIED-GPM Growth Paths and BIED-GPM Growth Path Clusters to help compare and contrast economic behavior can help promote better policy and understanding. The BIED theory is that new labels (BIED-GPM Stages) help establish a sound scientific labeling of nation-states to anchor comparisons of BIED-GPM Growth Paths in order to improve analysis and comparison in regard to efficiencies. BIED-GPM Clusters add even more qualitative depth to the understanding of behavior in job selection. The goal of the BIED theory is to find and explain the efficient path through development at different levels, in this research, the individual economic systems and the nation-state systems. The BIED-GPM, BIED-GPM Stages, BIED-GPM Growth Paths,

BIED-GPM Clusters are all tools to help compare and analyze data in order to find efficiencies in the balance between different economic systems.

More research needs to be done to validate this theory, as this research only suggests such possibilities. Further studies should include costs of government in different stages, costs of business in different stages, and identification to which stage is the most efficient, which stage is least efficient, and when enough data has been collected, what time line is typical with the transition of different stages, and at different levels of economic systems as well. This study was only ten years and a review of a longer time frame should contribute to more understanding of these BIED-GPM stages, growth paths, and clusters.

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