Some Fundamentals in Making Any Decision
(I'll let you choose what you are deciding about)

Whenever we come up with any idea, it often raises the "Should-I-or-shouldn't-I" question. If we decide to follow through with it, make that our objective and go along that path, there are a number of significant consequences. It can be a simple decision, like preparing and serving a meal or doing the laundry. Or perhaps it is an important life-changing decision, like whether or not to go to college or to take a job offer. Or it can be anything in between.

When we heard over the news that Hurricane Florence was headed straight for North Carolina, my friend and co-author Erin suggested that I make preparations for it. With her help I stocked up on food and drinking water, put large containers of water in the bathtub, made sure I had a stock of meds and batteries for my hearing aids and for the flashlights, just in case the power went out. I was ready.

As it turned out Florence hit Wilmington as a Category 3 and dumped large quantities of rain and heavy winds there. It stalled out and went into South Carolina before heading north through Western North Carolina. Since I live in Carrboro, in the center of the state, Florence bypassed us.

I've had a lot of experience with hurricanes. In 1989 the eye of Hurricane Hugo a Category 3 passed directly over my apartment on St. John in the USVI. I experienced calm and sunlight in the middle of a devastating storm. Torrents of rain, strong winds and downed trees came along with it. The remaining trees were stripped of greenery and blue tarps on roofs covered the landscape during the extended recovery period.

As a result of my experience with Hurricanes Hugo, Irma, Maria, Florence and the tropical storm that was the remnant of Hurricane Michael, I learned that it is the actual path, not the predicted path, and the distance from the center of the hurricane that makes the real difference. Moreover, current predictive techniques are not very accurate and the hype about them engenders fear.

What is clear is that while Hurricane Florence had a devastating impact in the coastal area of North Carolina, here in Carrboro I did not experience a lot of rain, very strong winds or a power outage. The preparation for the hurricane took time, energy, resources, and funds (TERF). It is TERF that I could have used for other purposes. I'll let you decide whether you would have made similar preparations if you were faced with the same circumstances.

There are a number of important concepts and issues involved in making any decision. Here are some of them:

- The process of production
    - Limited time, energy, resources, and funds (TERF)
    - Opportunity cost

- Optimal production techniques
- Basic inputs
- Disposable income
- The role of innovations
- Monopoly pricing
- Excess profits

Based on my professional training as an economist and my personal experience, they are some of the concepts I would like to share with you. It is my hope that understanding them will clarify the decision-making process and help you make choices that will improve your well-being.

The ideas presented in this essay are divided into two sections. The first is entitled: *Decision-making When the Technological and Economic Conditions Remain the Same*. The second is called: *Decision-making When the Underlying Conditions Change*. For those who want to dig into some of the underlying concepts more deeply, accompanying papers are also included entitled, *Innovations: From the Creative Idea into Reality and Monopoly Pricing*.

I. When the Technological and Economic Conditions Remain the Same

Whenever we begin to implement a decision that we made, some significant factors come into play. They are things we might not have thought of at the time. Nevertheless, those factors affect every decision we make. Let's take a closer look at the factors step-by-step.

First, there is the recognition that the accomplishment of the desired outcome becomes a primary objective. Making it happen becomes a priority. Other objectives take second place.

The second step is to get from where we are now to where we want to be. To do this it is necessary to perform a series of tasks. The output resulting from each task becomes an input into the next one in the sequence. Let's call it the process of production. When each step in the process is completed -- when the meal is served or the clean laundry put away -- the product is produced, the outcome is achieved and the objective is met.

When we have gone through the process many, many times before, we know how to do it and what is required to accomplish that objective. For now, let's assume it is a situation where the process is well-known. We have been there before and are very familiar with the sequence of tasks necessary to accomplish the objective.

That brings us to the third and important step. We know how much time, energy, resources, and funds (TERF) are required to perform each of the tasks. Since we've done it many times before, we can assume that we do it in the best possible way. That is, in the way that uses the least amount of time, energy, resources and funds.

That brings us to the fourth step. It is the realization that our TERF is limited. Whenever time, energy, resources and funds that we used up to achieve that objective, we are giving up that amount of TERF. That time, energy, resources, and funds could have been used to satisfy some other objective.

<u>Opportunity cost</u>
That leads us to the first important concept in decision-making.Whenever we make and implement any choice, we are giving up the TERF required to make it happen. That same amount of TERF has alternative uses. Among them is the outcome that we would have preferred over all others. That foregone outcome is what we give up when we make and implement our choice. Economists have a name for it. We call the foregone outcome the “opportunity cost” that is the result of the choice we made.

Every choice has its net benefits -- the benefits minus its costs.

When the net benefits of the outcomes of the choice we made exceed the net benefits we would have received had we chosen the best alternative, the result is that our choice makes us better off than any other one. When the net benefit of the alternative is greater than that of the one we chose, we would have been better off if we had selected the alternative.

Importantly, it makes no difference whether or not we considered the opportunity cost of the alternatives when we made the decision. Once we make and implement the choice, we are faced with the opportunity cost of the alternatives. That’s enough for the first important concept in decision-making. Let’s go on to the second one.

<u>Basic inputs</u>
Each of us must be provided with the “basic inputs” on a daily basis to survive. They include air, water, food, rest, clothing, shelter, etc.

We must pay attention to our bodily needs. Our body will tell us what it requires. It talks to us. Like when we were sitting in the chair and unexpectedly fell asleep. Or when we urgently have to empty out the waste products our human machine produced. Taking care of the body’s needs becomes our first priority. Everything else comes after that. The TERF necessary to make that happen also comes first. Whatever else we might want to do takes second place.

Either we provide the products -- the goods and services -- required to fulfill our basic needs and meet our other primary objectives ourselves or others provide them for us. Much of the time we pay them for the products they provide. Typically the funds come out of our income. The income comes from the goods and services we or members of the household provide to others. Those goods and services take the form of labor services; products, including tools, materials supplies and other resources, like our personal skills; and funds -- a.k.a. capital -- that firms use to purchase the inputs that go into their production processes.

The primary use of the household income is to provide its members with the basic inputs. That takes priority. After that, the income is used to fulfill any obligations that have been taken on, to satisfy current commitments, and to purchase additional goods and services with any income that is left over. It is called the “disposable income”.

The individual or household can use those discretionary funds to purchase additional goods and services -- a.k.a. for “consumption” --or withhold them from current consumption -- a.k.a. “saving” (without the final s). The withheld funds:

- become available for additional and future consumption;
- can be used to establish a “contingency fund” in order to help rectify the unintended negative consequences of one’s actions -- for example, when a physician misdiagnoses a problem or when a prescribed medication has undesirable side effects or any action has unpredictable negative outcomes;
- can be used to deal with unexpected problems, like recovering from an accident, fall or illness or from the loss of one’s job;
- can be set aside to meet a specific objective -- like taking a trip, buying a vehicle, providing for retirement, etc. or
- are available to “invest” with the hope of having greater income in the future.

The same holds true for any remaining time, energy, and resources that are still available. Recognizing and establishing priorities among the various expenditure options is the second important consideration in making good decisions.

A reminder: the price is the rate of exchange. It is the amount of money -- what we give up to get a unit of the product (the good or service). That money comes out of our limited income. Consequently we are giving up whatever else that money could have purchased. The same is true whenever we use our limited TERF for any endeavor designed to meet an objective. We give up whatever else that TERF could have been used for. Here again, the concept of “opportunity cost” comes into play.

Individuals and households at the lower end of the income distribution have limited ability to withhold from current consumption. That is because almost all, all, or sometimes more than all of their current income is required to purchase the basic inputs necessary to survive. Those circumstances make it very difficult for them and their family to have greater income in the future.

Before we get into the discussion of the next stages is important to realize that in the discussion up to now we have assumed that the underlying technological and economic conditions remain the same. That is the same as saying that, typically when making most decisions, our expectation is that we will be faced with essentially the same circumstances in the future as those that currently exist.

Optimal production techniques
In that context there is something else to consider. Namely, we have assumed that the way we adopted to meet the chosen objective -- that is the sequence of tasks in the production process -- is accomplished in the best possible way. The production process is the most efficient, least cost method of production. It uses less of our own and society's resources to accomplish that objective than any other way of producing the product.

Typically under the existing circumstances, there are often a number of alternative ways of meeting any particular objective. In making any decision it is helpful to make sure that we are accomplishing that objective in the best possible way. Doing so avoids waste and unnecessary costs. In manufacturing there is a name for that approach. It is called "lean production". That same concept applies to the other units that make economic decisions, like not-for-profit organizations, associations, government agencies, as well as to the decisions made by individuals and households. Whenever there is any waste, we are giving up whatever else the "wasted" TERF could have been used for.

Uncertainty
For many, if not most decisions, we assume that the basic conditions won't change, that tomorrow will be like today. For the most part, that's a good way to go. That is more likely to be the case when we are knowledgeable about the process of production and have been through it over and over again. That prior experience makes it more likely that we made the choices that are the best for us.

There are times, however, when change comes into play. The inevitable result is that uncertainty arises. Under those circumstances, the old ways of doing things may no longer be the best way. When there is uncertainty, in order to find the way that is best under the current circumstances some of our TERF has to be devoted to that effort.

Let's take a look at how uncertainty affects decision-making. The first thing to acknowledge is that as a result of the uncertainty the outcomes are not predictable. So is the amount of TERF required to successfully achieve the objective. In short, when uncertainty is involved, there is no guarantee that we will achieve our objective and it is not possible to determine ahead of time what the cost will be.

Nevertheless, we take the consequences -- both the favorable and unfavorable outcomes -- that is what we incur once we decide to go down a road that involves uncertainty. There is no turning back. Returning to the original decision point is not an option. It is important to remember, however, that sometimes going down an uncharted path can be rewarding. It can lead to success and significant accomplishments. Sometimes it results in important innovations.
In a previous blog post entitled *I'm Sorry?*, I talked about the nature and consequences of an unpredicted and unplanned-for event. Those events can have an important effect on the decision-making process.

Here's an example of how a fall caused me to change my plans, priorities and objectives. After I retired from teaching in 1985, I wandered around the country working with artists and crafts people. That path allowed me to meet my desired objective. I was staying at a friend's house in Vermont. It was a really neat place he rebuilt out of an old barn. While helping him, I fell off the hayloft, 8½ feet to the floor below. I fractured some ribs, punctured a lung and was unconscious and hospitalized. Obviously that changed the game plan. The unexpected, unplanned for event brought a new set of conditions into play. They affected subsequent decisions. Recovery and moving on also used up some of my limited TERF. It also made it necessary to re-examine and reevaluate previous goals. In some cases, following the path to the old objective may no longer be possible or relevant.

When faced with uncertainty, seeking help from someone with prior experience can be useful. However, there are things to take into consideration when seeking advice or suggestions from others. The first is to try to make sure that they are knowledgeable and experienced about the problem. Moreover, there is also the question of whether they benefit when we follow their advice. When they do, their recommendation may be biased. Certainly, each of us is familiar with that situation. The ads that we are bombarded with on a daily basis are a classic example. It's time to step back and think twice when someone tells us what we 'should' do -- just as our parent did. Importantly, even when there is no bias, it is important to remember that each of us is different. Consequently, what is "right" for one person in the same situation is not necessarily right for another.

There's another important fact. If we follow through on any advice or suggestion, we are the one who takes the consequences -- both the favorable and unfavorable outcomes. By making and implementing that decision, we take full responsibility for it.

Under conditions of uncertainty there is no guarantee that the way we choose will be the best way. Nonetheless, the time, energy, resources, and funds (TERF) that we used up in the process of making the decision are gone.

II. Decision-making when the underlying conditions change

Now let's address what happens in the decision-making process when the underlying technological and economic conditions change. As a result of those changes the old ways of producing and delivering any good or service -- of meeting one's objective -- may no longer be the best way.

That opens up the third important realization regarding decision-making. Namely, when taking the longer view, with very few exceptions, the future is unpredictable. There is, however, an important thing I would like to remind you of. During my lifetime, the underlying technological and economic conditions have changed drastically. The best each of us can do when making current decisions is face up to the new conditions -- the ones we face now. The new conditions make it possible, perhaps even likely, that the old way of doing things is no longer the best way. They also open up the possibility that the outcome of one's actions are no longer predictable. It is also a good idea to make some allowances for and provide some flexibility to be able to adjust to future changes.

The changes brought about by the innovations over my lifetime have been dramatic and profound. When I was growing up in the 1930s and early 40s there was no TV, no interstate highways, no plastics, antibiotics, jet planes, computers, Internet, GPS and no iPhones. Those changes brought about a rash of new products including Google, Facebook, and multiple Apps.

On the business side of things there was no containerization, no robotics, no Amazon or Walmart, Target or Sam's Club. We did have 'supermarkets', starting with King Kullen, that first opened up in the 1930s, and A&P, the Great Atlantic & Pacific Tea Co., that replaced the "butcher, baker and candlestick maker". They are gone now too.

That is just to mention a few of the things we are all very familiar with now. The impact the new products and new processes of production have had on everyone's life, livelihood and lifestyle is pervasive. As you can well imagine, the world at that time was a very different place. [For a closer look at the changes check out my blog post, *Me --Then 'til Now.*]

Now let's consider the last gap in the discussion of Fundamentals, namely, how the changes in technology and economic conditions affect the decision-making process. Up to now we have examined innovations once the idea becomes a reality. Let's take a step backward to see what is required to bring the innovation -- the new and novel product and process of production -- into existence. Then we will take a step forward to understand the broader implications once the new and novel product or process of production comes to market. With that behind us we will see how the changes brought about by innovations affect the decision-making process.

As mentioned earlier there is no guarantee that the idea that serves as a basis for the invention, and ultimately for the innovation, will ever come to life. The process of making that happen is fraught with uncertainty. Regardless of whether or not the outcome is ultimately successful, in the interim a considerable amount of disposable time, energy, resources, and funds (TERF) must be devoted to the endeavor. Importantly, that is TERF that could have been used to produce other goods and services. They are is what is given up in attempting to create the innovation.

Before the person who comes up with the idea can even attempt to make it happen, he/she must be able to take care of themselves by providing the basic inputs to survive and fulfilling all of their obligations and commitments. That is necessary before they can put any time and effort into making the idea into a reality. The same is true for anyone who helps them along the way by providing some of the TERF that is required. In short, the necessary TERF must come from somewhere. When the project is unsuccessful it was all a gamble, like betting on a horse that doesn't win, place or show.

When the project is successful and when the innovation makes an important contribution, the innovator, the person or firm, that made it happen is entitled to be reimbursed for the TERF involved. The same is true for the others who helped along the way. The innovator is also entitled to be rewarded for their successful contribution. Those funds can come out of the excess profits the company producing, marketing and distributing makes by selling the innovation to its buyers. [For a better understanding of where the excess profits come from and how they are related to the innovation, check out my accompanying papers entitled, *Innovations: From the Creative Idea into Reality and Monopoly Pricing.*]

Some of the funds to reimburse and reward the innovator may also come from government agency expenditures when it believes that the innovation provides the public with a benefit. Or from individuals or institutions that believe the innovation would make a contribution to society.

Innovations, by their very nature, change the technological and economic conditions under which society operates. They make things, that were previously impossible, possible. A quick glance at the above list proves my point. The effect of some innovations can be profound. Furthermore, the above list includes just a few of the recent changes.

Those changes have two important effects. First, they provide opportunities -- for consumers and producers -- that did not previously exist. Just to make the new products and processes of production available to customers it is necessary to reallocate society's limited resources. The producers of the new products, their employees and the suppliers of the resources benefit. Second, the producers, suppliers and employees of the products that were replaced by the innovations are made worse off. Some firms go out of business and employees lose their jobs. That is all part of the mandatory transition from the old ways of doing things to the new ones.

For many, the changes in the technological and economic conditions brought about by the innovations make it necessary for both producers and consumers to reconsider previous decisions. New products are available. The old ways of doing things may no longer be the best way. Prices are no longer the same. Household incomes have changed, either increased or decreased. All those changes make it necessary to re-examine previous decisions, taking into account the current technological and economic conditions and today's prices. It is also important to take the currently relevant circumstances into consideration when making current and future choices. [For a more detailed look at the changes brought about by innovations, see the accompanying paper entitled *Innovations: From the Creative Idea into Reality* and my book entitled, *Making the Poor Richer:The Causes, Consequences and Potential Remedies for the Greater Inequality in the Income Distribution*.
Those are some of the effects that innovation have on the decision-making process. Taking account of the changes in technological and economic conditions brought about by innovation is an integral part of the Fundamentals underlying any decision that we make.

Not only do the concepts in this approach to decision-making apply to individual and personal choices, they also apply to the decisions that are made for the household, by the team, a unit, company or organization. They also apply to the government's decisions designed to improve the welfare of the public.

I am also not suggesting that every decision that we make should be implemented using the approach presented here. The information necessary to make that happen is frequently difficult to come by. Nonetheless, it is important to recognize that the issues raised in this discussion lie behind every decision that is made.