

A Conversation with Will Baumol on Capitalism, Innovation and Growth

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1. Introduction

William J. Baumol has been one of the most influential economists in the last fifty years. Pioneering work in the theory of money, foremost research in the theory of competition, industrial organization and technological change, notable analyses in the theory of externalities and environment, influential research in the theory of productivity and growth are, perhaps, his best known contributions.

In his most recent book, “The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism,” Baumol reconsiders his analysis of industrial organization and technological change and makes one point: “Whatever the deficiencies of the free-market, it is certainly very good at one thing: the manufacture of economic growth.” Baumol attributes the unprecedented and unparalleled growth performance of capitalist economies to their ability to create and diffuse innovations and apply them to different purposes. The entire book is devoted to explain this ability, to capture the different mechanisms that make capitalism such a unique innovation and growth machine. In other words, for Baumol is not static efficiency what makes a big difference between capitalism and communism or capitalism and medieval societies: the great disparity is in dynamic efficiency, i.e., in the pace of technological change useful for industrial purposes. In this view, the fact that many actual capitalist economies are far from the model of perfect competition, for instance because of oligopolistic power or technological externalities (spillovers), is not necessarily negative for welfare. On the contrary, Baumol shows that oligopolistic rivalry and spillovers have substantial positive effects on the rate of innovation and growth.

On a methodological ground, the book is an invitation to economists to devote more effort to discuss the process of innovation and growth. The theory of value- Baumol argues - is by now well established and it is time to think more deeply about dynamic issues. For this purpose, in many points of the book Baumol goes back to the analysis of classical economists, Say, Marx and Schumpeter, the scholars who chose innovation and growth as the main topic of their research activity.

On August 8th, 2002 we have interviewed Baumol in his office in the Department of Economics at New York University. The interview lasted about one hour and a half. We started our interview by discussing his new book and then moved to different topics, such as globalization, labor market, growth in underdeveloped countries, environment, education and health systems, financial markets, history of economic thought and methodology in economics. We have classified our questions in four groups:

- 1) Capitalism and innovation;
- 2) Economic growth;

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- 3) Free market and government intervention;
- 4) Economic theory.

The tape of the entire interview is available from the authors on request.

2. The interview

2.1 On Capitalism and Innovation

Guarino: I will start by asking you some questions about your new book, “The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism.” In your book you refer to capitalism as the system that promotes innovation and growth most effectively. Which system in particular do you have in mind when you talk about “capitalism?” Can you say anything about the differences between the Anglo-Saxon system and, for example, the German or the Scandinavian? Which form of capitalist system is able to produce more innovation and growth?

Baumol: First, let me emphasize that in the book I am not arguing that capitalism is an ideal system in any sense. I am well aware of all the very serious problems, such as inequality, unemployment, environmental damage, that beset capitalist societies. My thesis is that capitalism is a special mechanism that is uniquely effective in accomplishing one thing: creating innovations, applying those innovations and using them to stimulate growth. The answer to your question is that there is not one mechanism that always best in all circumstances. There are historical and cultural differences that led to different forms of capitalism. The main point is that slightly different forms of capitalism will work equally well in different situations. So I am not suggesting that there is one rigid form that works best. Apparently, however -and this is not a result of my own research- the Common Law system is more effective in stimulating growth than the legal system based on the Code Napoleon, presumably because the Common Law is more effective in guaranteeing contracts and in providing a variety of legal protections that make it easier for entrepreneurs to gather and keep the fruits of what they have produced. And a basic requirement of an effective capitalist economy is that the entrepreneurs can choose -with minimum interference from the State- how much they want to invest, which products they want to produce, and so on. And they have protection of their intellectual property both from other entrepreneurs and from government intervention or confiscation.

Iacopetta: According to a simple calculation that you suggest in the book, in the capitalist system the magnitude of spillovers is surprisingly high. Do you think that capitalist economies differ very much with respect to spillovers?

Baumol: They differ in the opportunity for spillovers – the ease with which benefits of an innovation go to individuals or groups other than the innovator. Let me indicate what I mean with the help of an illustration. As I understand it, and I am not an expert in the details of the patent laws, in Japan the amount of protection that the patent law gives is much weaker than, say, in England or in the US. The result has apparently been that

Japanese business innovators have taken steps themselves to obtain compensation for the spillover benefits, still imperfectly but to a greater degree than is done here. They are much more likely, for example to enter into technology trading agreements. They do it more quickly in Japan than they do it here in the US. The result is that in Japan obsolete products and processes disappear more quickly and, at the same time, the innovators are compensated because the agreements provide for compensation terms. Having said this, there still remain large spillovers for which innovators are not compensated. There is no question in my mind that if you could reduce those spillovers you would have more investment in innovations, but you would increase inequality in income and wealth. I am by no means convinced that it would be a good thing.

Guarino: What are the policy implications of your analysis of innovation? In other words, what can a government do to improve the free market's management of innovations?

Baumol: The answer is that, to me, the implications for a bunch of advanced industrial countries (England, US, France, Italy, etc.) are not terribly significant because they are doing roughly the "right thing" from the point of view of creating innovations and stimulating growth. Governments should and do some things such as helping to finance basic research, whose returns are too uncertain to be attractive to private enterprise. The important lessons, however, are for places like South America and Africa. Not only are they failing to converge to the wealthiest countries, they are falling further and further behind. And I think the main lessons of the book are that the sorts of interference that governments have attempted in South America and in various African countries that seem to make sense are in fact the surest way to prevent innovation, growth and increase in per capita income. For me the extreme example is India, where, with the best of intentions, all sorts of inhibiting government intervention used to occur. An example is the severe restriction of computer usage in the insurance industry in order to preserve the jobs of clerks. You can understand why it was done. But the result was that India, that started up with a per capita income very similar to that of Taiwan in about 1950, fell further and further behind. Incidentally, what this implies for a country such as Italy is that restrictions on job mobility, restrictions that prevent employers from eliminating unneeded jobs - and one can understand why it is done, and one can sympathize with it - in the long run are going to make life harder for the families of the very same people whose jobs are protected.

Guarino: Let me turn to a methodological problem. At the center of Economics textbooks there is the theory of value. I understand that you think that we should rewrite economic theory putting, innovation and not price at the center of our analysis. Some other economists who share your view on the importance of innovation have tried a different approach to Economics. You refrain from that. Why?

Baumol: I am very glad that you ask this question. First, by saying that more attention should be paid to innovation I do not mean that attention should not be paid to the theory of value. They are both important. Second, the reaction I have got from people who are involved in evolutionary rather than neoclassical economics raise the question "Why

don't you abandon neoclassical theory altogether?" The answer is that I think neoclassical theory is also very good, and very productive. In fact, I want both neoclassical and evolutionary theories. Neither of them is perfect. So even if we do more of one, we should be happy to keep the other. Moreover, a nice feature of my position on the desirability of greater emphasis on the role of innovation in our theory is that we can use neoclassical methods to go forward with innovation theory. I don't think we need to invent a whole brand new set of methods. I do not think we need to leave the neoclassical analytical approach. What I am saying is that the topic needs to be added, not as a replacement but an addition.

Guarino: In several points in your book you quote Marx and Schumpeter. Many people, however, would consider your main thesis an apology of capitalism. I don't consider it so but, still, don't you think there is a bit of contradiction in this? It looks like your interpretation of Marx and Schumpeter is quite different from the traditional one.

Baumol: My comment is that actually Marx believed that capitalism from the point of view of innovation is a really extraordinary, effective instrument. What he believed is that eventually capitalism would have done its job and that at that point it would have to be replaced. But it does not mean that he would have disagreed with my conclusion about the effectiveness of capitalism as an innovation machine. As a matter of fact, he says that over and over again. He asserts, for example that relative to a feudal economy from the point of view of production growth there is just no comparison, as capitalism is so vastly superior a type of economy. His objections to capitalism are many. I also say that there are many criticisms that you can make of capitalism. But Marx, too, emphasized that it is a marvelously effective growth machine. Schumpeter, too, took this Marxian point of view saying that though capitalism has been a good growth machine, it was approaching the end of its life cycle. The evidence is that he was a little too early in offering his obituary of capitalism. But I do not see any fundamental difference between his idea of capitalism as an innovation machine and mine.

Guarino: But Schumpeter claimed that once R&D would have been routinized, capitalism would have declined.

Baumol: You are absolutely right. There, our views certainly differ. And yet there is a passage of Schumpeter that I quote where he says that the difference between price competition and innovation competition is the difference between a gentle push and breaking down of the door, which is essentially what I am saying.

Guarino: Maybe you are closer to the young Schumpeter of 1911...

Baumol: Even a piece of "Capitalism, Socialism and Democracy" is close to my view. It is not clear what comes out of that last book.

Iacopetta: In your book you also discuss technological cooperation and take an unconventional position. Both in Europe and in the US, technological consortia are

sometimes impeded on the ground that they can hurt competition. How can we distinguish between “good” and “bad” cooperation among high-tech firms?

Baumol: It is an important question, but not one that I can answer in few minutes. It is a subject that I am working on at the moment. But let me offer an answer, which is excessively simple, to give you some ideas of how I am approaching the problem. Cooperation on technology is fine as long as three things happen: first, there is no discussion of prices among the cooperating firms; second, there is no agreement on the amount to be spent on R&D; and third, if the firms license the innovation, the licenses should be made available to everybody on similar financial terms. I think if you have those three conditions, though you can still not be sure that no problems will arise, you can be reasonably confident that an innovation sharing consortium will promote competition rather than harming it.

Iacopetta: Some commentators argue that in high technology industries there should be no worry about market dominance since dominant positions do not last long. Therefore, the antitrust authorities should just leave the market work. What do you think?

Baumol: I think that there is some substance to that, and yet you have to keep your eyes open. Just to offer a caricature of the remaining perils to competition: suppose that Bill Gates were to hire a small army with machine guns to shoot anybody with labs working on software. That would be a way to preserve his dominance for a long time and antitrust authorities should surely do something about it! It’s true, in these markets, as long as there is no action of the dominant firm that prevents other firms from innovating, I would not worry about dominance. But there is still another issue and that is that in many of the high technology industries what is important for your success is having a lot of people using your innovative product – many people use Windows or Word because that enables them to communicate with many others who use the same software. And this means that entry becomes very difficult because the entrant has to be able to catch a large share of the market almost instantly, so even an entrant with a better product would not be able to get very far against a firm that already has many customers. There are many historical examples where this has happened. The ultimate answer is yes, there is some substance to the argument that in innovative fields dominance does not usually last too long, but that does not mean that we should ignore the possibility of problems or fail to constrain steps taken by a dominant firm to preserve its dominance by preventing innovative activity by others that threatens its future.

Guarino: Let me ask a last question about innovation. Globalization is one of the most frequently used words these days. Some people are critical of the effects of globalization and of the way international organizations are dealing with it. Most economists, however, would agree that globalization is good: markets more open means more competition and increased welfare. Does the free-market innovation machine work better when it is globalized?

Baumol: The answer is that globalization has a very mixed record. Just in the last months we have seen to what extent management will ignore the interest of stockholders and

employees and do terrible things to them. And we know cases of medical manufacturers who have sent contaminated products or inferior products to developing countries. Those who worry about the effect of globalization do have a legitimate concern. I think the economists who have denied that, really have not looked at reality. At the same time, I think globalization ultimately is the one hope of the really impoverished countries. And it is a hope that will only be realized in the long run. Its instrument are initial exploitation, misuse of the labor force, etc., all of the things that were done by the robber baron capitalists in the US which, eventually, but only after the initial stages, began to raise standards of living. You know that in the US and in England in the 19th century with the growth of capitalism, longevity and living standards of the bulk of the people did not go up right away. Let me remind you of an interesting set of figures, which are not accurate, but approximate. In the 17th century the life expectance of an average Englishman was about 34 years and that of an aristocrat was 35 years. Standards of living, in some fundamental sense, were low for everyone. Then in the 19th century the life expectancy of an average Englishman actually went down, while that of the aristocracy went from 35 years to about 70 years. Only in the 20th century did the rest of the population catch up, so that now in all of England the life expectancy is near that higher figure. And the same has happened in Western Europe and in the US. I am just picking England as my example because I know the approximate numbers there. Globalization probably will work in the same way. It will make life harder and worse for a substantial period unless government intervenes in reasonable ways; and yet it's the one hope we have for the long run.

I want to add that I do believe in various forms of government intervention. I believe in unemployment insurance, in health care, in many other things that governments do to supplement the workings of the market. But you have to be very, very careful how you do them. Because it is so easy for the government, as it is for any individual groups, to intervene in stupid ways that make things worse rather than better. I have lectured all over the world on government regulation and I always started off by saying: "You must think very presumptuous of me, coming from America and lecturing the Australians, the Italians, etc. on how they should operate the regulation of their industries. But I believe I have a good basis for doing so, because the US has made every stupid mistake in regulation that is possible to think of, and the rest of the world has a great deal to learn from that experience."

Iacopetta: I have a question related to the origin of capitalism. Once I read a paper of yours on economic leadership in the middle ages. Do you think there were already elements of capitalism in Northern Italy at that time?

Baumol: Oh yes, no question. And in fact Italy was ahead of everybody else, in Florence, Venice and elsewhere, it was a model for everybody. For example, the Venetian fleet is the first example that I know in the world history of standardization in production. Competition, entrepreneurship, you have all of them there. And a good deal of innovation, including practical utilization of inventions, the Schumpeterian sense of the word "innovation," not just creating an invention, to be displayed in a museum, but along with the additional steps needed actually to put it into use. In terms of record keeping, in terms of applied business arithmetic, cloth production, in terms of banking practices, yes, Italy beat us all.

Iacopetta: I am curious about the painting of the cover of the book. Whose painting is that and why did you choose it?

Baumol: It is a painting by Kandinsky. The publisher chose it, with my consent. But I must tell you that the design of the cover was provided by my granddaughter.

2.2 On Economic Growth

Iacopetta: Let me ask a question related to the labor market. Europe grew at a slower rate pace than the US during the 1990s. Some people say that it is because in Europe the labor market is more rigid. Do you agree?

Baumol: I suspect that this is one contributing factor. And I am not saying that it is a bad thing. All I am arguing in these matters is that there is a trade-off between growth and more certainty in employment. You may rightly feel that it is worth sacrificing some growth to provide more certainty in employment, to adopt the kind of tenure rules such as we have in our universities. One thing is to say that it is wrong -which I don't- another thing is to say that you should know the price that you are paying for that sort of decision. I can't have any objections when there is a trade-off, as in this case, if you decide to go one way or the other. But you should be well aware that every increase in rigidity in the labor market has some costs in terms of growth.

Iacopetta: Do you think that Africa is not catching up with the rest of the world because many African governments implement bad policies?

Baumol: That has certainly played a very large role. But there is also the usual take-off problem. There are huge areas in which education is almost nonexistent, no one has technical training. After all, one of the secrets of growth is not only learning how to innovate, but learning how to imitate. In fact the distinction between innovation and imitation is not a clear one, because usually imitators change the innovation to adapt it to local circumstances. But you cannot be imitator of something highly technical if you have no engineers, if your people are ill educated. I remember visiting Haiti, decades ago, just after the Swiss had put in a modern telephone system. There was not a single hotel in Port-o-Prince where a telephone was working anymore, one year later. One thing is to import some technology, and quite another thing to have the capacity for making use of it. And there is the second very critical problem, for countries such as those in Central Africa.

Iacopetta: Also the disparity between Southern and Northern Italy, as well as between West and East Germany seems to persist over time. What do you think of the cause of the lack of convergence within these two countries?

Baumol: First dealing with East and West Germany, I would imagine that the difference probably will disappear but it will take 10 or perhaps even 30, 40, or 50 years. Remember, growth miracles do not happen overnight. In fact, the great tragedy in Russia

was that politicians allowed people to expect that they would attain American standards of living two years after the end of the communist regime. For Japan -the fastest economic growth miracle in history- took perhaps 20 years to achieve anything near our standards of living. For East Germany I am not at all surprised by the catch up lag. You know the old joke of the Soviet Union: “We pretend to work and they pretend to pay us.” And that was clearly true there, in East Germany and other Communist regimes. It takes time to break old work habits and old forms of economic organization, so you do not get a growth miracle overnight. I have relatives by marriage in Honk Kong. They tell me that when members of the family come over from the mainland looking for work, as a matter of family obligation they are always given a job in the family factories. But it is considered a pure act of charity because these new employees have lost all sense of workmanship, of obligation to be efficient and work with care. The next generation will be different. It takes time.

Let me say a few words about Italy, now. However, while I have been to Italy many times because I love it, I cannot say that I am an authority in matters concerning the Italian economy. I think, however, that there is a difficult problem created by its huge cultural differences. Southern Italy is in some sense a cross of many cultures of the world: cultural influences that are Greek, Roman, Arabic, Norman, Spanish and others. It has had more sorts of cultural infusion than one can easily comprehend. Their culture is, consequently, very different from that in the North of Italy and culture does not change overnight. In addition its economy has suffered problems stemming from the breakdown of the law. The rule of law to me is one of the most critical requirements for a successful growth performance, because it is necessary for the incentives to work, to invest and to innovate.

Iacopetta: Some people say that mafia is holding back Sicily from economic development.

Baumol: That’s an accusation that probably has some basis in reality. Yet whenever there is an economic lag people try to find some villain to blame. Whenever you find two regions that are not progressing at an equal pace, the one that is falling behind, quite understandably envies the other and starts to believe that there is some sort of plot or criminal exploitation. There probably may be some element of truth to such an explanation but I do not believe that in most cases that is the heart of the problem.

Iacopetta: Do you think that terrorism is a real threat to economic growth?

Baumol: The real issue is whether we will learn how to keep terror under control without too great a cost. Clearly, if terrorists are really successful in increasing costs, in increasing uncertainty to a substantial degree, that will reduce growth. If, however, we learn how to control them - there is no way to eliminate terrorism completely but we can limit its actions- then I think the economy can very easily withstand it. The other side of the story is the fact that an economy with rapid growth and GDP is in a better position to deal with such a threat. In the 17th century there was a standard phrase describing the theory of warfare which consisted of three words: “pecunia nervus belli.” If you look at the history of war you find very few cases where good generals made the difference.

Usually throughout history what made the difference was who had most money, who could finance the largest army. If we are really worried about long run military strength I believe the priority should be to invest more in education rather than in military preparation..

2.3 On the Free Market and Government Intervention

Iacopetta: Capitalism has outperformed other systems in its economic growth. But its record for the conservation of the environment is less impressive. Do you think that modern capitalism will do better in this aspect?

Baumol: There are two points I want to make here. One is that, however bad capitalism has been for the environment, communism was far worse. We know what happened to the environment in Poland, Ukraine and China. It makes capitalism look very benign by comparison. Certainly, socialism does not solve this problem. I am not picking on socialism. I am just saying that it is a bad instrument for protection of the environment, just as unrestrained capitalism is not a good instrument for this purpose. The second point is that we are already making considerable progress under capitalism in the protection of the environment. If you look at the records, at what has happened to air pollution in England or the US, or water pollution, you see that the results have been fantastic, and this is, I think, because capitalism makes people wealthier. They are more willing to make the sacrifice necessary to protect the environment. I can well understand why a poor Brazilian farmer wants to burn down a forest, producing an ecological catastrophe. He has to provide enough food to protect his family. So success in environmental protection is dependant on success of steps towards elimination of poverty. That offers to me hope for the environment. When I say hope I mean that I am hoping we will act in time to do effective things about global warming, and crucial issues such as that. The record shows that we can do such things, and have done them in many areas.

Guarino: Do you think that the free market would work also for the educational system or the health system? Are you in favor of the voucher system that Friedman proposed for schools and health care?

Baumol: The answer is that I take a much more radical view than anyone I know on education. And that is that we simply do not know what we are doing. You know that only some 50 years ago systematic medical experimentation first began on a substantial scale, and for the first time we had reliable evidence on what cigarettes and other products do to health. Until then the doctors were only guessing. Now, in education, here in the US, we face critical problems for groups of students whose performance is systematically lower than the national average. Yet, there has not been, to my knowledge, a single experiment in the US finding out how much you can help students from slum areas by using computers. We haven't set up a control group in a systematic experiment to see what difference this can make. Yet there is so much to be tested and learned in this important field. I have a hypothesis, for instance, that smaller classes are very important for writing, but not very important for teaching of history. If it turns out to be true, then instead of spending vast amounts of additional money on making all classes smaller, you

can benefit the students by mere reallocation of the current budget -- by spending less on history teaching and more on teaching how to write. It would be a relatively easy thing to find out. Nobody, however, has tried the experiment in a systematic way. We are spending millions and millions of dollars on these things without any knowledge of what we are getting for it. The same is true with vouchers. Milton Friedman has the hunch that they would work. He has no proof. I am inclined to think that they won't work, but I have no proof. The crime is that we do not get some people who are expert in designing experiments to begin to find out what would really work for the very large group of students that is urgently in need of help.

For the health system, the government evidently has to play a role. The cost of health care is so high and growing so quickly, that unless you want only the rich to get health care, government has to pay. But what is most effective way to pay, we do not know. Whether it is the voucher system or some other approach, we do not know. So I have two conclusions. The market by itself without government will not produce an adequate educational system or an adequate health care system, and the reason is that they are too expensive and becoming more so. But how do you raise the money? What are the best procedures? What is the best organization? We are not only ignorant, but we are also determined to preserve our ignorance because we are not beginning to conduct the sort of studies that can answer these questions.

Guarino: How would you define your position on these issues?

Baumol: My sympathies are never with the right, because even though they talk about free enterprise, I find too often that what they want is interference of an even more inhibiting sort for freedom of enterprise, without having the excuse of caring for the poor and worrying about the old and the sick. As much as I believe that all of us make mistakes, and the left has made mistakes, I still prefer the mistakes of the left over what I consider the basically unethical mistakes of the right.

Guarino: What do you mean by left and right?

Baumol: I do not refer to any particular party. I believe that in many trade-offs that have to be made, the left is composed of the people who are prepared to sacrifice some growth and the huge output of the industrial countries for the protection of the poor, to help the uneducated. It is a matter on where you stand on the many trade-offs involved in that sort of choice. However, often people do not think through the rational steps that promote their objectives. Very often, I believe that to attain the preferable goals of the left may require use of instruments that appear to belong to the right. The most obvious example is the use of market methods for improving the environment rather than direct government intervention. I want the market methods there because I believe they work, not because I prefer those methods inherently. My goal is the environment, not the method.

Guarino: Hahn, a friend of yours I think...

Baumol: Oh yes, a very good friend of mine.

Guarino: Well, in a short autobiography he said that over the years he has moved from left to right. And I do not remember who, but a famous economist used to say that students enter Economics Ph.D. programs being leftist and exit being rightist. Is Economics an instrument of the right?

Baumol: No, in fact I see just the opposite judgment in the conservative press, which claims that most academic economists are leftist. I think my previous answer explains the source of the confusion because I think many of us start with leftist ideals and then support only the most obvious ways to promote them, in effect to declare poverty illegal, to declare slums illegal, imagining that once you declare them illegal they will disappear. Well, when we study the matter we see that in fact declaring slums illegal can make things worse not better. Rent controls create slums by making improved housing unprofitable, they do not eliminate the slums. So what we have learned is that methods that appear to belong to the right are sometimes the most effective ways to promote the ideals of the left. And that is the sense in which I think we economists often become more conservative as time passes.

Iacopetta: The recent financial scandals have made investors lose confidence. Some people say that there is something intrinsically wrong with capitalism.

Baumol: There are many things wrong with capitalism, and one is that there is a great temptation to become a robber baron. Adam Smith two and a half centuries ago pointed out that “people of the same trade seldom meet together, even for merriments and diversion, but that the conversation ends in a conspiracy against the public.” That is, evidently, one of the weaknesses of the capitalism. And it is a recurrent weakness, but it is also a weakness of economies of other types. What constantly amazes me is what little we learn from history. I know a number of economists who during the great boom of the 90s invested aggressively and lost heavily, and I remember asking “how can they do this?” They knew that no booms last forever and there were companies that had never made a dollar and that had no clear prospect of making a dollar, why pour money into them? In the 1970s people were saying the American economy was finished. In the 1990s they were saying that the boom would go on forever. Now some are implying again that capitalist growth is at its end. This has happened so many times before. I am absolutely confident that we will again have scandals like these 50 years from now. We will have some new great breakthrough innovation in which people will again over-invest, as they did in railroads, electricity and computers. What is clear is that people don’t learn as they should from history. It was no act of genius when Ed Wolff and I looked at the US in the 1980s and discovered that there was no sign that economy was about to collapse.³ We just looked at the evidence. Sure, investors have lost confidence. How long they will continue to have that attitude who knows, but I am convinced that eventually the cycle will turn upward again. The business cycle is one of the unfortunate features of capitalism.

Iacopetta: Maybe the government can have a role in restoring investors’ confidence...

³ See Baumol, Blackman and Wolff (1989).

Baumol: Yes, it can. But our government is doing a number of very idiotic things. The big tax reduction is an example of what you shouldn't do to help restore investors' confidence. It will have any stimulating effects 10 years from now when there is no reason to think they will be needed. I think that very strong measures should be taken in dealing with stock options. I believe that stock options are potentially the best instrument we have for dealing with what economists call "the principal-agent problem," that of aligning the personal self interest of managers of business firms with those of their stockholders. So I would radically change rules on stock options, for example, forbidding any stock option that goes to management from being exercised, say for 5 years, and requiring that the minute that a member of the management exercises the stock option this be made public information.

2.4 On Economic Theory

Guarino: You have been asked many times to give advice on regulation and other things. I have two questions: First, when you were asked to give such advice, did you ever feel you were not in a position to give answers because of the state of economic theory; second, what was our position 30 years ago and how does it differ now? Are we now in a better position in advising policy makers?

Baumol: The answer to the first question is that often I have been asked to give advice on things on which I did not have answers and I think no one had answers. In those cases, I always asked for some research funds to work through the problem. So there has been a very tight relation between my academic research and the consulting activity. Many times I have used my consulting activity as an opportunity to do research and to learn new things on new topics. But at the same time, I used the research opportunity to explore ways to deal with the consulting issues rationally. To get to your second point, yes we do have now more sophisticated views on many issues, but I am surprised to find that very little of what we were saying 30 years ago has been rejected. And I am surprised at that. I had thought we would have changed our mind on many things and that has not happened. I am quite sure of that because on the witness stand when a lawyer on the other side wants to discredit you, he looks at things you said in the past and at what you are saying now to see if there are contradictions. To my surprise there has not been a single instance in which this has happened to me in any of the cases in which I have testified.

Guarino: What is your judgment of the "General Theory" of Keynes? If you ask macroeconomists, some of them would say that there is nothing correct in it and others would say the opposite...

Baumol: I am not a macroeconomist, but my own opinion is that the basic keynesian approach continues to be valid. In fact, recession, inflation, fiscal policy, monetary policy continue to be discussed in these those terms, with some people putting more emphasis on monetary policy and others on fiscal policy but basically there is not a completely new and totally different way of looking at these matters. What I think has become clear from the academic criticisms is that what I regard as the great virtue of macroeconomics also

has a cost, and that virtue is oversimplification. The way macroeconomics obtains results is by dividing the economy into a few aggregated sectors, by homogenizing industries, speaking of a single interest rate, etc. But basically macroeconomics is good because of the genius of its oversimplification, which is done on purpose, not by accident. Just as I believe that the theory of price and theory of innovation should both be retained, so I believe that economics needs both the work of people who focus on the complications of the economy and those of people who oversimplify. You have to realize that when you simplify you are unavoidably distorting reality. The question is: are you distorting it in a justifiable and useful way? And my conclusion is that yes, macroeconomics usually distorts reality intelligently. We should be aware of this, but just to complicate things because otherwise they are not “realistic” is throwing out the baby with the bath water.

Guarino: Let me ask you a related question. Macroeconomists disagree on one crucial point and that is the assumption of sticky prices. Is this an assumption (or distortion) that we can accept?

Baumol: I cannot answer specifically in terms of sticky prices but I can tell you what I think in more general terms. It’s clear that prices are to some degree sticky, some more than others. We should recognize this and keep it in mind. We should then work with models that use both assumptions of sticky and flexible prices and find out what differences in results they generate, which are the most useful and then proceed, possibly keeping both of them. I believe that there is not such a thing as “the best model.” How good a model is depends on the purpose for which it has to be used. After all, a model is just a judiciously chosen set of simplifications and hence misrepresentations of reality. What features of reality your model should leave out depends on the purposes for which the model will be used.

Guarino: To conclude, I have a suggestion. You are one of the relatively few economists who have also done some work in History of Economic Thought. And you have contributed to Economics in many ways. In many places, I have read that you don’t want to choose a clear methodological position. This is surprising, as your methodological position seems quite clear to me in your writings. As your next work – why don’t you write a small essay on this topic?

Baumol: Thank you for the suggestion. I do have a strong methodological position: let one thousand flowers bloom.

Bibliographical Note

To know more about William Baumol, see the biographic interview of Krueger (2001). A good starting point to learn about Baumol’s contribution to Economics is Bailey and Willig (1992). Below we list the publications cited or referred to during the interview.

Elizabeth E. Bailey and Robert D. Willig, "William J. Baumol," in *New Horizons in Economic Thought: Appraisals of Leading Economists*, Elgar, Aldershot, United Kingdom, pp. 30-57.

William J. Baumol, 2002, *The Free-Market Innovation Machine: Analyzing the Growth Miracle of Capitalism*, Princeton, Princeton University Press, 2002.

William J. Baumol, 2000, "What Marshall Didn't Know: On the Twentieth Century's Contributions to Economics," *Quarterly Journal of Economics*, vol. 115, no. 1, pp. 1-44.

William J. Baumol, Sue Anne Batey Blackman, and Edward N. Wolff, *Productivity and American leadership: The Long View*. Cambridge, Mass. and London: MIT Press, 1989.

William J. Baumol and Burton G. Malkiel, "Stock Options Keep the Economy Afloat," *Wall Street Journal*, p. A18, April 4, 2002.

The Economist, "Finance and Economics: The Growth Machine," May 18, 2002, vol. 363, Issue 8273, p. 102.

John Maynard Keynes, *The General Theory of Employment, Interest and Money*, New York, Harcourt, Brace, 1936.

Alan B. Krueger, "An Interview with William J. Baumol," *Journal of Economic Perspectives*, vol. 15, n. 3, summer 2001, pp. 211-31.

Joseph A. Schumpeter, *The Theory of Economic Development. An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle*, Oxford, Oxford University Press, 1934 (edition in German: 1911).

Joseph A. Schumpeter, *Capitalism, Socialism, and Democracy*, New York, Harper, 1942.

Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, London, W. Strahan and T. Cadell, 1776.

Michael Szenberg, *Eminent Economists: Their Life Philosophies*, Cambridge (UK), Cambridge University Press, 1992.