

Dear [REDACTED]

Thank you for placing your order with Ivy Writing. You have a very compelling college path, from physics to economics. While at first these fields may seem to be unrelated, my impression of economics graduates programs is that they mainly care about quantitative ability and not so much about *a priori* knowledge. This seems like an exciting change, and I wish you the best success in your future career.

In this document you will find three the standard 3 components of our essay editing service: first, a discussion of some of the strengths and weaknesses of your statement of purpose, organized by theme; second, your original essay with comments in the margin (using Microsoft Word's "Track Changes" feature); and finally, a revised version of your essay.

While your essay is already quite good, please review the comments and revised essay carefully. I have indicated specific areas of improvement that require more details from you. After you complete these details and comment on other edits, I suggest that you send the essay for a second revision so that we can perfect your final statement.

Again, thank you for choosing Ivy Writing.

Sincerely,
Eric Kim

General Comments

Your essay is generally good, and your physics background is a unique background among applicants. I would make these general comments:

More Specific Details on the School

All graduate schools want you to answer this question:

- Why would you attend our school instead of any other school?

You would do best in identifying two or three faculty and explaining why you would like to work with them. You did well in identifying one and naming several others, but go deeper than this. If you don't, the school will not think you are committed to their institution and are less likely to accept you.

Transitions

You have several abrupt transitions between paragraphs here. We need to have smoother links between paragraphs to make the reading easier. Usually this can easily be accomplished by relating the topics of the two paragraphs to each other.

Insufficient Research Explanation

I do not know if there is another section where you can discuss your research, but it is currently shortened. You should follow this general outline for any description of the research:

- Background of project and what you plan to do
- Importance of project
- Brief technical details of what you did
- Eventual result of the project

Giving an explanation like this shows that you have a clear idea of what you are doing, can work independently, and are focused in your research. There is not enough space here, but I wanted to let you know what you should describe if there is another section for research.

Academic Statement of Purpose

My goal has never changed since high school: to become a scholar to do research and to pass on knowledge. As a major in Physics, I believe Economics resembles Physics in modeling and mathematical methodology; only the purposes differ—Economics is used to study human behaviors and Physics is used to study scientific phenomenon. The methodology and the purpose of Economics are appealing to me, and I would like to study Macroeconomics and the complex adaptive system, especially heterogeneous-agent models.

My interest in Economics was sparked in the class of Liquid Crystal Optics, which introduced me to the complex system on emerging phenomenon of molecules in condensed matter. Some physicists, cooperating with economists, applied this methodology to analyze economy and financial market. Further, my experience in the military and financial engineering motivated me to pursue graduate studies in Economics¹.

My physics education has trained me rigorously in thinking logically. It has also given me a solid background in mathematics², which helps me to see the meaning behind mathematical equations of models. When I was learning economics theories and models, my background in Physics has helped me understand the economic meaning behind the theories and models. Furthermore, what differentiates me from the students majoring in Economics is my attitude toward the testing of Economics models.

While most economics students are taught that since assumptions of hypotheses are wildly unrealistic, the test of the validity of the assumptions is unnecessary and the only way to test models is to see how sufficiently accurate predictions they can yield, my physics training thinks otherwise. Simplification does not necessarily mean a good model; only those which contain the most crucial factors of a complex circumstance would work. Assumptions are not necessarily realistic or unrealistic; they must contain the most crucial details. In short, assumptions must be examined on the basis of whether they contain the crucial elements or not, instead of seeing whether they are realistic or unrealistic. As a result, when I learned neo-classical macroeconomics, I had doubts about unbounded rationality, the representative-agent macroeconomic model, and the life-circle hypothesis. Assumptions in heterogeneous-agent macroeconomic models, such as adaption and evolutionary learning, naturally yield “fat-tail” phenomenon in an artificial stock market (Arthur et. al., 1996), and it seems more reasonable to analyze the financial crisis by these models.

When Arthur’s El Farol bar game (1991, 1994) demonstrated the impossibility of a homogeneous deducible forecast to determine the winning strategy in the minority game, Krusell and Smith (1998) showed that in the distribution of income and wealth, heterogeneity-agents behave like a representative-agent in complete markets, but not in incomplete markets. In my graduate studies, I want to figure out what roles the representative- agent model and the heterogeneous-agent model play in macroeconomy.

I learned numerical optimization methods in the biomedical engineering laboratory in my senior year. Based on this numerical training, I became the RA in the financial engineering area. I solved many numerical problems and gained the trust of Professor

Comment [AC1]: This is interesting – you may want to speak more about it if it was a very important moment.

Comment [AC2]: You may want to be careful with statements like these unless you are absolutely sure they are true. This would cast doubt on the validity of economics research and can therefore be controversial to faculty members. It is your choice to include this, but you may want to temper the strength of the statement a little.

Comment [AC3]: You may want to explain your doubts to show your thinking.

Comment [AC4]: This is quite insightful and shows the reader you are sophisticated in your analysis.

Comment [AC5]: This is an abrupt transition. We need to have smoother links between paragraphs to make the reading easier.

Comment [AC6]: This is a little too specific – people often change their research focuses upon entering graduate school. We will take it out for space reasons.

Comment [AC7]: This is an abrupt transition. We need to have smoother links between paragraphs to make the reading easier.

¹ please see my *Personal Statement*

² please see *My Courses in Mathematics and Physics*

Chung so that he let me take full charge of the research on the “Three Conditional Static Hedge Portfolio.” He also asked me to be his teaching assistant in his class: *Computational Finance* (please see my *Resume*). In this class, I taught graduate students how to write pricing programs by using MATLAB, C++, and VBA³.

The Department of Economics in the University of Michigan has a strong team of macroeconomists, and hold Research Seminars in Quantitative Economics and many other seminars in different subfields - no other school has as many seminars in the subfields. I love this open academic atmosphere and resourceful environment. There are also many respected macroeconomists, such as Professor Robert Barsky, Miles Kimball, John Laitner, Matthew Shapiro, and Rudiger Bachmann, whom I really want to learn from. I especially want to study with Professor Bachmann on heterogeneous agent models on macroeconomy. Also, the Complex System program in the University of Michigan offers me the courses and education in the complex system, which is rarely taught in other universities. For all these reasons, the University of Michigan is the best school for me to pursue my Ph.D.

Comment [AC8]: This is little more than name-dropping. You want to give some more substantial details on these people and why you are interested in their work.

³ Please see my *Resume*

Academic Statement of Purpose

Since high school I have been committed to becoming a scholar to do research and pass on knowledge. My background is in Physics, but I believe the two fields are actually closely related, especially in their modeling and mathematical methodologies. In graduate school I would like to study Macroeconomics and the complex adaptive system, especially heterogeneous-agent models.

My interest in Economics was sparked in a course on Liquid Crystal Optics, which introduced me to the complex system on emerging molecular phenomena in condensed matter. Some physicists, cooperating with economists, applied this methodology to analyze financial markets. Additionally, my experience in the military and financial engineering motivated me to pursue graduate studies in Economics to understand the financial foundations of modern society⁴.

My physics education has trained me to think logically and mathematically, especially when considering dense equations in models.⁵ When I taught myself economics from textbooks, I was able to understand the meaning behind theories and models. I carried my mathematical expertise to a research assistantship in financial engineering, where I worked on a project titled, “Three Conditional Static Hedge Portfolio.” I also served as a teaching assistant in computational finance, where I taught graduate students to write pricing programs by using MATLAB, C++, and VBA.⁶

Indeed, my experience in physics differentiates me from economics students in developing a unique attitude toward the testing of economics models. Most economics students seem to be taught that since assumptions of hypotheses are unrealistic, testing the validity of the assumptions is unnecessary. Therefore, the only way to test models is apparently seeing how accurate the models’ predictions can be.

My physics training makes me think otherwise. Simplification does not necessarily mean a good model – only models that contain the most crucial factors of a complex circumstance, realistic or not, are the most robust. Realism should therefore not be a criteria for evaluating assumptions. As a result, when I learned neo-classical macroeconomics, I had doubts about unbounded rationality, the representative-agent macroeconomic model, and the life-circle hypothesis. **[insert some details on your doubts]** In contrast, assumptions in heterogeneous-agent macroeconomic models, such as adaption and evolutionary learning, naturally yield the “fat-tail” phenomenon in an artificial stock market (Arthur et. al., 1996). This model therefore seems more applicable to the current financial crisis than others.

Problems like these stirred my passion for heterogeneous-agent models. In my graduate studies, I want to figure out what roles the representative-agent model and the heterogeneous-agent model play in macroeconomy. I believe University of Michigan is the ideal place to do it with its strong team of macroeconomists and unparalleled seminars. I especially want to study with Professor Bachmann on heterogeneous agent models in macroeconomics, and with **[insert another professor]**. Furthermore, the unique Complex System program offers me the courses and education in the complex system.

⁴ please see my *Personal Statement*

⁵ please see *My Courses in Mathematics and Physics*

⁶ Please see my *Resume*

For all these reasons, the University of Michigan is the best school for me to pursue my Ph.D. I will greatly enjoy the open academic atmosphere and resourceful environment, and U of Michigan would be an exciting place to begin my academic career.

