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IDENTITY ECONOMICS AND HIGHER EDUCATION

Abstract: The aim of this paper is to propose a hypothesis explaining the rather surprising choices of Polish prospective students, who prefer to study fields that do not entail a high salary in the future over those that increase the likelihood of getting a well-paid job. Our hypothesis says that one of the causes of such decisions is a norm that says that a person who did not study is less worthy than a college graduate. In order to explicate this hypothesis in detail, we use the framework of identity economics.

Keywords: identity economics, economics of education, higher education, norms.

1. Introduction

Currently, there are too many students in Poland. Although knowledge is one of the most important factors of economics growth – if not *the* most important factor – and higher education is believed to be conductive for knowledge, it is more likely the case that there too many people studying in Poland right now [Ernst & Young Business Advisory, Instytut Badań nad Gospodarką Rynkową 2009; Szafraniec 2011; CSO, SO Gdańsk 2011; Cichocki et al. 2011; Frączek et al. 2010]. The reason for such a statement is rather simple: there is an oversupply of graduates of human sciences, pedagogy, and social sciences. These graduates are either unemployed, or in their professional lives they do not use the knowledge gained during their studies. On the other hand, the demand for, say, computer scientists, engineers, and medical doctors is not being met, which makes the salaries of the members of these professions increase steadily. Yet, although the prospective students seem to be aware about the current state and trends of the Polish job market – after all, newspapers keep publishing the average salaries in each profession – the average student's preference is rather clear: he/she chooses pedagogy over computer science, and political sciences over pharmacy.

The aim of this paper is to propose a hypothesis explaining these rather surprising choices of prospective students, together with a framework that might prove useful

in evaluating this hypothesis; the framework utilizes the assumptions of identity economics. In other words, we just want to test the waters, and check how identity economics might be used in the economics of education.

We proceed as follows. In section 2, we discuss human capital theory, and argue that it does not describe the Polish job market (or rather, Polish students' choices) adequately. Then, in section 3, we concisely describe identity economics and its basic assumptions. In sections 4, 5, and 6, based on these assumptions, we formulate a model that is supposed to account for young Poles' educational choices better than human capital theory does.

2. The inadequacy of human capital theory

Let us begin with human capital theory: its basic assumptions and the prediction it makes about students' educational choices. According to this theory, an agent treats his/her education as an investment. When he/she is studying, does not earn money, but rather has to cover the expenses of attending college. Moreover, each year spent studying is tantamount to one year less of working, and hence one year less of earning money. Now, if the agent is rational and no other incentives play a significant role in his/her decisions, he/she will choose studying if the present value of his/her future earnings, less the costs of education is higher, than the present value of his/her income as a high school graduate. Conversely, if the latter is bigger than the former, he/she will choose working over studying [Becker 1975; Mincer 1958; Mincer 1974].

A corollary of this model is that in equilibrium the present value of a graduate's income and the present value of the income of an individual who did not study are equal. The reason is simple. Assume that the present value of a college graduate is higher than that of a high school graduate. In such a situation, agents will choose studying over working after high school. Hence, the supply of skilled workforce will increase, whereas the supply of unskilled workforce will decrease. The salaries will react to this change, and, eventually, the market will reach an equilibrium where the present values of the income of a college graduate and a high school graduate are the same.

When applied to Polish students' choices, the model yields false predictions. Firstly, different fields of study are related to different levels of future income, and, surprisingly, prospective students keep choosing the majors whose graduates do not earn much. Yet, the time spent studying is the same (or similar) for all specializations. Secondly, graduates of many of the specializations earn actually less than many of the high school graduates who had only some vocational training. Additionally, many college graduates work in areas where the knowledge acquired during their studies is irrelevant and hence useless.

One of the possible explanations is that the prospective students are just misinformed – that they believe that graduating from a college, regardless of the

specialization, gives them an advantage over any individual who did not study. Yet this seems implausible since the information on average salaries of different professions is easily accessible.

We would like to explore here a different possibility. Namely, that there is a norm prevailing in our current culture that says that everyone should study — that a person that has not studied is somewhat less worthy than a college graduate. This would account not only for the extremely large number of students in Poland, but also for the fact that many of them put almost no effort into studying, as if studying was not their choice, but they were forced to do it.

3. Identity economics

The framework that we want to use to discuss this possibility comes from identity economics. Since this is a rather new current within economics, we would like to concisely describe its tenets before moving on to formulating the model.

There is a growing body of studies in identity economics which are taken to explain economic phenomena that the traditional approach had difficulties to account for: the influence of workgroup identity on work efficiency [Akerlof, Kranton 2008], voters' attitudes toward redistribution [Shayo, Klor 2010], and gender discrimination at work [Akerlof, Kranton 2010]. Identity economics is a very young branch of economics – the first papers were published only around ten years ago [Akerlof, Kranton 2000]. Its core idea is that an economic explanation should account for the influence of norms on agents' economic decisions.

Akerlof and Kranton, the authors who initiated the whole movement of identity economics, give a short description of a study in this discipline: „We first associate individuals with particular social categories. Second, we specify the prevailing norms for these categories. And third, we posit individual gains and losses from different decisions, given identities and corresponding norms. These gains and losses, combined with the standard concerns of economic analysis, will then determine what people do" [Akerlof, Kranton 2010, p. 14].

A traditional economic explanation shows how a rational agent's actions satisfy his/her preferences and therefore increase his/her utility, and a traditional economist is not interested in these preferences' origin or configuration. However, an identity economist looks at an agent's preferences as partially organized by his/her identity. Some of them, say, the need for food or the desire to maximize one's wealth, are simple to identify, assumed to be universal and norm-independent, and uncontroversial on the grounds of the classical theory. Then, however, there are also preferences which are specific for an agent's social category, and this is the most significant change brought into economics by identity economists.

While economists got interested in many superficially non-economic preferences (e.g. preferences for children or for being surrounded by people of the same race) since the works of Becker [Becker 1968; Becker 1975], they were treated as specific

for individuals. For identity economics, preferences are organized around or into social categories, which come with their own norms and, often, ideals. A norm is a rule specifying actions that are required, permissible, or forbidden for a member of a social category in a specific situation; an agent who internalized a norm has an intrinsic motivation to comply with it – that is, he/she treats complying with the norm as an ultimate end, not as a means to reach some other goal [Sripada, Stich 2007].

4. Three categories of students

The model we want to construct now, if true, is supposed to explain prospective students' choices of the specialization of their studies. According to the procedure described in the previous section, we begin building the model with identifying social categories. We posit three groups of students: *idealistic* students, *pragmatic* students, and *easy-going* ones, which differ with respect to their motivation for studying. For the idealists, a significant role is played by the intrinsic value of the subject: because they find it amusing and interesting to study, and because learning new facts is rewarding on its own. The pragmatists treat their education indeed as an investment, expecting it to significantly raise their future income. Finally, the easy-going students are those who are not passionate about their major, and who do not acquire useful skills during the time spent in college.

A pragmatist is not simply a student who holds that the purpose of studying is to find a well-paid job, since it is a platitude that almost anyone will subscribe to. Rather, a pragmatist has a career plan and is aware of his/her chances on the job market after he/she graduates. On the other hand, an easy-going student has only a blurred idea of what he/she wants to do and how his/her education is supposed to help. Moreover, an idealist should have a career plan, although not necessarily as detailed as the one of a pragmatist. This plan, though, would focus on the further development of a person's knowledge or using this knowledge (e.g. Ph.D. studies, a R&D department of a particular company) rather than on his/her future earnings. Hence, idealists would be talented in the subject and put a considerable effort into studying. Pragmatists can be either talented or not, whereas easy-going students would reveal little talent and passion for their major. Rather, their choice was based on avoiding subjects that seem hard to them, and choosing from the remaining possibilities. (However, it is also possible for a pragmatist to choose the best option among those which were left after eliminating the fields requiring abilities he/she simply does not possess.)

Now, let us discuss a paradigmatic easy-going student in more detail. He/she has decided to study following slight reflection (namely: because everyone of his/her age studies), neither has a detailed plan of his/her future career, nor is ardent about the subject. He/she chose his/her major not due to what he/she really wanted to study, or what skills appeared in demand at the moment, but rather what seemed easy and did

not involve the subject he/she really disliked in high school. Because studying technical or medical sciences is demanding, such a person usually chooses social sciences, management and marketing, pedagogy, and such like. However, since he/she puts minimal effort into studying – only enough to pass the exams – he/she does not excel in these studies. After graduating, he/she will not find a job related to his/her major, because there is small demand for such skills, and the few available vacancies will be taken by other more hardworking, talented, and passionate co-students. Instead, after several months, he/she will get hired in a low-skilled position that does not require a college degree. People his/her age, who were hired for the same positions but did not attend university, are already five years ahead in terms of experience. Underemployed, she will be dissatisfied with his/her professional life, at risk of developing depression, and less productive than his/her less educated colleagues [Dooley, Prause, Ham-Rowbottom 2000; Dooley, Prause 2004]. Notice that if he/she treated education as an investment, it turned out to be an unfortunate one. He/she lost five years of experience and the income he/she could have gained during those years; hence, the salary is lower than his/her more experienced colleagues. If he/she attended a private college, he/she also lost the tuition fees; if he/she did not pay for the education, it was the taxpayers' money that was lost.

5. The model

Having identified the social categories and their norms, we can finally move to constructing the actual model. We begin with the utility function of each agent, then we discuss the agents' interactions, and eventually identify one possible equilibrium which might explain Polish high school graduates' choices.

After graduating from high school, an agent faces a choice: to study a specialization which is difficult (*d*), that is, one which requires a lot of effort (e.g. medicine, computer science, engineering); to study an easy specialization (*e*) (e.g. sociology, management, pedagogy); or decide not to study at all, despite the prevailing norm (*n*) that says that everyone should study. Agents of different categories value these choices differently (Table 1).

Table 1. The utility functions of agents of different categories: pragmatist (u_p), idealist who is talented toward a difficult specialization ($u_{i\text{-}d}$), idealist who is interested in an easy specialization ($u_{i\text{-}e}$), and easy-going student (u_{eg})

	Difficult specialization	*Easy specialization*	*No studies*
u_p	$s - c + (1\text{-}p_d)\cdot\Delta_d$	$s - c + (1\text{-}p_e)\cdot\Delta_e$	$s - (p_d + p_e)\cdot n$
$u_{i\text{-}d}$	$s - c + f + (1\text{-}p_d)\cdot\Delta_d$	$s - c + (1\text{-}p_e)\cdot\Delta_e$	$s - (p_d + p_e)\cdot n$
$u_{i\text{-}e}$	$s - c + (1\text{-}p_d)\cdot\Delta_d$	$s - c + f + (1\text{-}p_e)\cdot\Delta_e$	$s - (p_d + p_e)\cdot n$
u_{eg}	$s - c - f + (1\text{-}p_d)\cdot\Delta_d$	$s - c + (1\text{-}p_e)\cdot\Delta_e$	$s - (p_d + p_e)\cdot n$

Source: authors' own work.

A pragmatist who chooses to study a difficult specialization gains utility from the present value of his/her income. This income comprises: the basic salary (s), less the cost of studying and postponed earnings (c), plus the income bonus for possessing valuable knowledge $(1–p_d)\cdot\Delta_d$. Coefficient p_d denotes the ratio of people who have specialized in a difficult field, and Δ_d is the income bonus gained if the person was the only one in the whole economy having a difficult specialization. Hence, the model takes into account the number of people having this kind of education: the more people there are who studied a difficult field, the smaller the bonus $(1\text{-}p_d)\cdot\Delta_d$ is.

Analogously, $s – c + (1–p_e)\cdot\Delta_e$ is the utility of a pragmatist who studied an easy field, where p_e is the ratio of people who have specialized in an easy field, and $(1–p_e)\cdot\Delta_e$ is his/her income bonus. We assume that $\Delta_d > \Delta_e$, and $p_d, p_e, p_d + p_e \in (0, 1)$. Also, we take it to be the case that $p_e > p_d$.

Lastly, a pragmatist who decided not to study – and this is also true for any other such agent – has a utility of the present value of his/her salary (s), but suffers from the fact that people around him/her have higher education than him/her, making him/her feel less worthy. That is, the higher the probability $p_d + p_e$ of meeting an agent with higher education than his/hers, the bigger the loss $(p_d + p_e)\cdot n$.

In the case of an easy-going agent who decided to study a difficult specialization, the analysis is similar except that such an agent loses utility f. This loss is due to the fact that, firstly, studying this kind of a field is onerous, and the agent does not enjoy it, the more so that he/she is not talented toward it. Secondly, as a rather obtuse student, he/she does earn as much as a student of the same specialization who took his/her studies seriously. However, in the case of an easy specialization, an easy-going agent earns as much as a pragmatist, as the slight effort he/she puts into the studies is enough to achieve reasonable grades, and, moreover, the knowledge acquired is of little use for many graduates of such a field (whether pragmatists or easy-going agents).

There are two types of idealists, because each field has its enthusiasts: there are avid students of computer science (who do not pursue the degree thinking about their future salary, but because they, say, enjoy devising algorithms), and there are ardent philosophy students as well. The only difference between an idealist and a pragmatist, in terms of their utility, is that an idealist gains utility f when he/she is studying the field that he/she is intrinsically interested in. This additional utility comes, firstly, from the joy of studying matters that the student is really interested in. Secondly, at least in the case of some such students, they earn a higher salary than an average graduate of their field–after all, an exceptionally good, say, economics graduate is likely to find a good job even in these times of an oversupply of economists.

6. The agents' choices

With the utility functions determined, we can now discuss the agents' choices. Firstly, the pragmatist. He/she will always choose studying a difficult field over an easy one as we take $(1–p_d)\cdot\Delta_d > (1–p_e)\cdot\Delta_e$ to be an assumption in our model; this is satisfied not

only by Poland, but virtually all the developed countries [OECD 2011]. He/she will choose studying over not studying, as long as the cost of studying is not exorbitantly high: $c < (1-p_d)\cdot\Delta_d + (p_d + p_e)\cdot n$, which, again, we take to be true for Poland and many other countries (especially where higher education is free).

Under these assumptions, we can infer that an idealist enthusiastic about one of the difficult specializations will always choose studying this specialization over the two alternatives. Yet, an idealist who is passionate about an easy field, still might choose studying a difficult one if the monetary incentive $(1-p_d)\cdot\Delta_d$ is higher than $f + (1-p_e)\cdot\Delta_e$.

Now, let us focus our inquiry on the easy-going agents. An easy-going agent chooses studying an easy field over a difficult one, when f, which now denotes the agent's dislike of the subject and the monetary penalty for low performance at school, is higher than the difference between the bonus for a difficult specialization minus the bonus for an easy one, $(1-p_d)\cdot\Delta_d - (1-p_e)\cdot\Delta_e$. Yet, if the model is supposed to describe the situation in Poland, we surmise that $-c - f + (1-p_d)\cdot\Delta_d < -c + (1-p_e)\cdot\Delta_e > -(p_d + p_e)\cdot n$, and hence that easy-going students choose easy specializations. However, our conjecture is that if there was no norm saying that a person who had not studied made a sort of a failure in his/her professional life, these agents would choose looking for a job (or a short vocational training) after graduation from high school: $-c + (1-p_e)\cdot\Delta_e < 0$.

Notice that this model is capable of explaining the trend that took place in Poland over the last twenty or so years. Just after the transformation, college graduates were scarce (low p_d and p_e), and hence the bonus for graduating from any field was high. This bonus attracted more and more students, which led to diminishing the bonus itself (p_d and p_e rose). Normally, this would impede the trend, but more and more people kept enrolling in college as the pressure on studying rose: $(p_d + p_e)\cdot n$ increased. According to our model, this is why right now people prefer to study even a useless (in terms of their future professional life) specialization, and then get a vocational training, than to start working immediately after high school.

The model suggests some tools for improving the situation–assuming that the government does not want people to study fields whose knowledge will not prove useful in the graduates' future careers. The first and most obvious recommendation is to differentiate the costs of studies: a student might be forced to pay a tuition in the case of a specialization for which the demand is low. Also, students of economically desirable majors might get a stipend for the very fact that they are studying such a major (and this is happening right now in Poland in the form of so called 'ordered specialties'). Yet another way to go would be to alter the way society perceives unskilled labor. If n in the model diminishes – that is, if a high school graduate does not feel pressure toward enrolling in college, because they no longer would be ashamed of not studying – it will affect the choices of easy-going agents. Instead of studying for five years a subject that neither they enjoy learning nor will be useful for them in the future, some of them could begin their professional lives much earlier.

7. Conclusions

In this paper we just wanted to sketch out a possible framing of one of the problems that Polish education is facing right now: the too high number of students whose choices do not seem to be rational from the purely economic perspective. We do not state that the model we put forward is true; rather, we wanted to explore whether identity economics might shed some light on this problem. We are aware that more empirical evidence is needed to evaluate the model proposed.

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WYKSZTAŁCENIE WYŻSZE Z PERSPEKTYWY EKONOMII TOŻSAMOŚCI

Streszczenie: Celem artykułu jest wyjaśnienie, dlaczego kandydaci na studia wyższe w Polsce wybierają – raczej niespodziewanie – kierunki studiów, które nie gwarantują wysokich zarobków w przyszłości, częściej niż kierunki, po których wzrasta prawdopodobieństwo znalezienia dobrze płatnej pracy. Twierdzimy, że jedną z przyczyn tych wyborów jest norma, mówiąca, że osoby, które nie studiowały, są gorsze od absolwentów studiów wyższych. W celu rozwinięcia tej hipotezy korzystamy z metodologii ekonomii tożsamości.

Słowa kluczowe: ekonomia tożsamości, ekonomia edukacji, wykształcenie wyższe, normy.