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Potterian Economics

Abstract

Recent studies in psychology and neuroscience find that fictional works exert strong influence on readers and shape their opinions and worldviews. We study the *Potterian economy*, which we compare to economic models, to assess how Harry Potter books affect economic literacy. We find that some principles of Potterian economics are consistent with economists' models. Many others, however, are distorted and contain numerous inaccuracies, which contradict professional economists' views and insights, and contribute to the general public's biases, ignorance, and lack of understanding of economics.

“With all due respect to Richard Posner, Cass Sunstein, or Peter Schuck [reference to the books these scholars published in 2005], no book released in 2005 will have more influence on what kids and adults around the world think about government than [Rowling’s] *The Half-Blood Prince*.”
Benjamin Barton (*Michigan Law Review*, 2006, p. 1525)

“As economic theorists, we organize our thoughts using what we call models. The word “model” sounds more scientific than “fable” or “fairy tale” although I do not see much difference between them. The author of a fable draws a parallel to a situation in real life. He has some moral he wishes to impart to the reader. The fable is an imaginary situation that is somewhere between fantasy and reality. Any fable can be dismissed as being unrealistic or simplistic, but this is also the fable’s advantage. Being something between fantasy and reality, a fable is free of extraneous details and annoying diversions. In this unencumbered state, we can clearly discern what cannot always be seen in the real world. On our return to reality, we are in possession of some sound advice or a relevant argument that can be used in the real world.”
Ariel Rubinstein (*Econometrica*, 2006, p. 881)

“An investigation of novels and [economic] models...may help us better understand how the public thinks about economic issues.”
Tyler Cowen (In: *The Street Porter and the Philosopher: Conversations on Analytical Egalitarianism*, 2008, p. 321)

“I think the [popular literature] writers are not particularly sympathetic to or don’t understand how a market works. It’s not easy to convey that to a child. It’s not always easy to convey it to grown-ups.”
Gary Becker (*New York Times*, August 21, 2011, p. SR5)

1. Introduction

According to Caplan (2007), “...modern economic theories...begin by assuming that the typical citizen understands economics and votes accordingly.” Empirical evidence, however, suggests that economic literacy of the public is low. For example, OECD (2014, p. 1) reports that only “...10 percent of students can analyze complex financial products...while 15 percent can, at best, make simple decisions about everyday spending.” Similarly, Tang et al. (2015) find that, out of three simple intuitive questions assessing financial literacy, American young adults answered correctly only 1.8 questions, on average.¹

Better economic literacy improves economic decision making, and therefore, the low level of economic literacy is worrisome as it may lead to poor financial planning.² It may also lessen the effectiveness of economic policy (Bernanke 2006). There is also evidence that the general public has biases and misconceptions about the economy that influence and shape its views about the role of public policy (Caplan 2007, Hillman 2010). These observations raise questions about economic literacy. How do people become economically literate?

It is widely accepted that literature, even fictional, is a mirror of culture and society (Albrecht 1954). Recent studies in psychology and neuroscience, however, find that the causality goes the other way as well, offering systematic evidence of fictional stories’ effects on the human mind. Studies that focus specifically on Harry Potter books find that the books not only relate to and reflect the readers’ views, but also have powerful influence on them.

We focus on the influence of the literature on people’s views and opinions on the economy

¹ The three questions were: (1) Buying a single company stock usually provides a safer return than a stock mutual fund. True or False? (2) Suppose you had \$100 in a savings account and the interest rate was 2% per year. After 5 years, how much do you think you would have in the account if you left the money to grow: more than \$102, exactly \$102, or less than \$102? (3) Imagine that the interest rate on your savings account was 1% per year and inflation was 2% per year. After 1 year, would you be able to buy more than, exactly the same as, or less than today with the money in this account? Similar findings were reported recently in Israel: 82.2% of the Israeli adults couldn’t identify the interest rate that Bank of Israel sets monthly. This despite the increasing attention the media has been paying to it with the rate cut to 0.25%, the lowest level ever. Source: www.ynet.co.il/articles/0.7340.L-4568826.00.html (in Hebrew), accessed September 11, 2014.

² See Bernheim et al. (2001), Boisclair et al. (2014), Gerardi et al. (2013), Brown et al. (2014), Grohmann et al. (2015), Lusardi and Mitchell (2014), and Wiedrich et al. (2014).

and on the way it operates. Specifically, following the findings of psychologists and neuroscientists, we study the economic principles that Harry Potter books teach.

Studying what we term *Potterian economics* is interesting for several reasons. First, as Blinder and Krueger (2004) and Crujisen et al. (2010) note, the public acquires much of its knowledge about economics through popular intermediaries (books/newspapers, etc.) but the role of these intermediaries in shaping the public's views and opinions about economics has received little attention.

Second, among all such intermediaries, Harry Potter books are of particular importance because they are the most popular books in recent times. The books are popular among children and adults, men and women, irrespective of income and education.³ Rowling (2005) sold almost 7 million copies in the US and over two million copies in the UK just on the first weekend of its release.⁴ In total, over 450 million copies were sold in over 200 countries in 67 languages, including Afrikaans, Albanian, and Arabic, all the way to Vietnamese, Welsh, and Zulu.⁵ Thus, more than 7.3 percent of the world's population of 6.08 billion has read the books.⁶ This underscores the importance of the messages they convey.

In that context, compare the Harry Potter books to the best-selling economics textbooks that were authored by Samuelson (selling over four million copies in 40 languages) and Mankiw (selling over one million copies in 17 languages).⁷ These figures, although impressive, are dwarfed by the sales figures of Harry Potter.⁸ Comparing a popular fantasy book to academic textbooks, no matter how successful the latter are, is not fair. The point, however, is that to the extent that Harry Potter books teach millions of people of all ages principles of economics, identifying Potterian principles is informative.

Third, Potterian economics can teach us about the formation and dissemination of folk economics (Rubin 2003)—the intuitive notions of naive individuals who care about distribution, but fail to understand incentives and efficiency. Cowen (2008), for example, argues that literary works can help us understand what people think about economic issues.

³ In sales, Harry Potter books rank 3rd after *The Bible* and *The Thoughts of Chairman Mao* (Brown and Patterson, 2006a).

⁴ Source: news.bbc.co.uk/2/hi/entertainment/4692093.stm, accessed September 28, 2014.

⁵ The books have even been translated into two dead languages, Latin ("Harrius Potter") and Ancient Greek ("Ἀρείος Ποττηρ"), the latter translation being the longest work in the language since the novels of Heliodorus of Emesa in the 3rd century AD. Source: www.abebooks.com/docs/harry-potter/harry-potter-translations.shtml, accessed September 28, 2014. In some countries the books have been translated into several local languages. There are also pirate and unofficial translations as well as counterfeit versions. For example, according to the July 13, 2007 NPR's Morning Edition, "Faking Harry Potter books has become a cottage industry in China." Examples include "Harry Potter and the Golden Vase," "Rich Dad, Poor Dad and Harry Potter, etc....Don't worry if you've never heard of these books. They're totally made up with no resemblance to the real thing." Source: www.npr.org/templates/story/story.php?storyId=11945354, accessed September 28, 2014.

⁶ The actual proportion likely exceeds 7.3 percent because (1) the sales' figure doesn't include unauthorized translations and sales, and (2) the actual number of readers likely exceeds the number of copies sold because a single copy is often read by many, e.g., by an entire family. Population figures' source: www.infoplease.com/ipa/A0762181.html, accessed Oct. 19, 2014.

⁷ Source: en.wikipedia.org/wiki/Paul_Samuelson, and en.wikipedia.org/wiki/Greg_Mankiw, accessed September 28, 2014.

⁸ For comparison, Tolkien's *The Hobbit* was in print for more than 60 years and sold over 40 million copies, while Tolkien's *The Lord of the Rings* was in print for almost 50 years and sold over 50 million copies (Shippey 2002, p. xxiv).

Following these arguments, our thesis is that Potterian economics may reveal some of the ideas of folk economics.⁹ Further, if fiction's influence is particularly strong on adolescents and if a significant proportion of the Harry Potter's readers are children and teenagers, then understanding Potterian economics may also shed light on the sources of illiteracy that studies have documented amongst young adults (Tang et al. 2015).¹⁰

Although the books belong to fantasy genre, Harry lives not only in a social world, but also in an economic one. Indeed, the Potterian world is rich with economic institutions and ideas, including monopolies, corrupt and inefficient government, limited social mobility, trade restrictions and other regulations, insufficient social capital, commodity money, etc.¹¹

Harry Potter books have been studied in other disciplines.¹² However, economic studies of Harry Potter are scarce.¹³ Exceptions include Gouvin (2010) and Schooner (2010), who study the role of the Potterians' only bank, the Gringotts, and Snir and Levy (2010), who focus on the lack of growth in the Potterian economy.

We investigate the Potterian economy by analyzing its full structure. We find that it combines ingredients from various economic models but is not fully consistent with any particular model. Some features of the Potterian economy are in line with Marxist views, while others fit the public choice perspective. Prices in the Potterian economy are rigid in the Keynesian spirit, yet Potterians enjoy full employment as in the Classical model.

We conclude that the Potterian model reflects folk economics. As such, although it is sometimes consistent with economists' views, many of its aspects are distorted and there are numerous biases and inaccuracies, which can influence the public, particularly young readers, who figure prominently among Harry Potter readers.

In section 2, we review the economic literacy literature. In section 3, we discuss fiction's influence. In section 4, we describe the setting. In section 5, we study money and banking. In section 6, we look at the government. In section 7, we discuss the law and order. In section 8,

⁹ Also, J.K. Rowling is not an economist and therefore Potterian economic model may be viewed as a layman's model and thus it might explain how popular literature shapes the economic understanding of the general public.

¹⁰ Lunt and Furnham (1996) contain essays on children's and adolescents' knowledge of economics and economic matters.

¹¹ These are unnoticed by most readers, sometimes even by economists. Indeed, when we offered a colleague a list of the economic ideas found in the books, his (paraphrased) response was: "Well, you are right, I completely missed that."

¹² For example, they have been used to assess completeness of tort theories (Hershovitz 2010), to shed light on the Anglo-American interpretation of rule of law (Liston 2009), etc. (Thomas and Snyder 2010). Barton (2006) studies governments' legitimacy. Sheftell et al. (2007) identify the headache episodes found in the books as symptomatic to migraine. Woeste (2010) revisits the debate over free will and determinism. As of November 22, 2015, Amazon listed 408,019 items with "Harry Potter" in the title, 18,741 of them books, such as: *The Psychology of Harry Potter*, *Harry Potter and History*, *Harry Potter and International Relations*, *Harry Potter and Philosophy*, *Ethics in the Bible and the World of Harry Potter*, and *The Sociology of Harry Potter*. SSRN lists 52 Harry Potter studies in law, administrative science, political science, philosophy, history, marketing, etc. *SciVerse-Scopus* lists 46 items in engineering, neuroscience, psychology, etc. (Source: estrip.org/articles/read/tinypliny/45318/Harry_Potter_in_Scientific_Literature.html, accessed October 2, 2014). We also found 44 articles in the *PubMed*. Many academic conferences were devoted to these studies, such as the UCSD's 2012 joint conference with the National Institute of Health on "Harry Potter's World: Renaissance Science, Magic, and Medicine."

¹³ Economic analysis of literary works include Watts (2002, 2003), Rockoff (1990), and Bookman and Bookman (2008).

we focus on monopolies. In section 9, we study income distribution. In section 10, we study international trade. In section 11, we analyze the war economy. In section 12, we study technological progress. In section 13, we discuss human capital. Section 14 concludes.

2. Economic literacy

The topic of economic literacy is not new. Newcomb (1893, p. 395) wrote 120 years ago about the need to educate the public because of the gap between “well-established economic conclusions on the one hand and the ideas of the public on the other.”

In 1948, at the First Workshop on Economic Education, Ernest Melby stated that economic education was a key to the survival of democracies: “Democracy will live if it works and...die if it does not...if it fails in the economic front it will...go down to defeat...[for] survival of our way of life, there is no kind of education more important than that which seeks to make the average American intelligent about our economic system” (Troelstrup 1954, p. 238).

The importance of economic education was also emphasized by the US Fed. For example, Bernanke (2006) stated: “The Federal Reserve’s mission of conducting monetary policy and maintaining a stable financial system depends upon the participation and support of an educated public.”¹⁴ Bernanke (2011) further emphasizes the individual benefits of economic literacy: “Well-informed consumers...are one of the best lines of defense against the proliferation of financial products...that are unsuitable, unnecessarily costly, or abusive.”

The American Economic Association (AEA) has been involved in economic education since 1885. Hinshaw and Siegfried (1991) describe the AEA’s efforts “...to educate public...about economic questions and economic literature” (p. 373). The AEA’s Committee on Economic Education has been active since the mid-1940s. The AEA routinely holds panels about teaching economics at its annual meetings. The establishment of the *Journal of Economic Education* in 1969 is also noteworthy.

The public, nevertheless, rarely interprets economic ideas the same way as economists.¹⁵ Caplan (2007) argues that the public has various biases, which Rubin (2003, pp. 157–158) calls folk economics,¹⁶ and which “...can explain the beliefs of naïve individuals regarding [economic] matters...[Folk economics] is the economics of wealth allocation, not production. Naïve people...think of prices as allocating wealth but not...resources...The world of folk economics is zero-sum...if one person gets a job someone else must lose a job...Economists

¹⁴ Indeed, the US Fed has been engaged in economic education for decades. For example, it offers teaching resources for K–12 grades on finance, banking, monetary policy, etc. OECD is also involved in these efforts (Atkinson and Messy 2011). Gleason and Van Scyoc (1995) offer evidence on economic literacy in the US. Jappelli (2010) offers international evidence. See Nelson and Sheffrin (1991) and the studies cited therein. Lusardi and Mitchell (2014) offer the most recent survey.

¹⁵ See, for example, Alston et al. (1992) and Blendon et al. (1997).

¹⁶ Many biases of today’s public are remarkably similar to the biases noted more than a century ago by Newcomb (1893).

would do a better job of persuading others...if we paid explicit attention to folk economics.”¹⁷

Blinder and Krueger (2004) and Caplan (2001) find that educated people tend to think like economists. Jappelli (2010) also documents a positive correlation between education and economic literacy, but the overall literacy level is low.¹⁸

To learn economics, one could take college economics courses. However, “only about 10% of adults ever take college economics.” It would be better to increase “...the quality and quantity of discussion of economics in the mass media. When a TV show like ‘West Wing’ considers the benefits and costs of free trade, it probably has more impact on the economic literacy...than all freshmen economic courses combined” (Krueger 2002, pp. 475–476).

Confirming Krueger’s (2002) assertions, Blinder and Krueger (2004) find that for US adults, print/electronic mass media serve as the primary source of information about economic issues. Similarly, Crujisen et al. (2010) find that the Dutch public learns about ECB’s monetary policy through the media.¹⁹

3. How fiction reflects and affects popular views and perceptions

Literary works serve as a mirror of the society. According to Bloch (1961, p. 102), for example, “In every literature, a society contemplates its own image.” Similarly, Tiemensma (2010, p. 3) states that “Stories are the structural coding of social values, beliefs, and goals that underlie human interaction.” Literature, even fictional, reflects the life, the views, the norms, and the beliefs of the society. Indeed, texts are often used in social sciences to learn how people of different societies and times view the world (Dickstein 2005).

What is perhaps more surprising is that literature can have powerful influence on the society because it can shape people’s beliefs and attitudes.²⁰ Studies by psychologists offer

¹⁷ Krugman (1996) lists some popular books, and notes two features they share: “They all offer a view...of international trade as...‘win-lose’ competition...And they all contain little or nothing of what economists think...about international trade” (p. viii). Referring to Lunt and Furnham (1996), Rubin (2003, p. 158) notes that...“the index to the book contains no entry for efficiency or productivity.” Paldam and Nannestad (2000) find that Danish voters are myopic, and have prediction biases.

¹⁸ See Blinder et al. (2008) and Crujisen et al. (2010). Education by itself, however, does not guarantee economic literacy. For example, “A high share of...Congressional staff (never mind their bosses) do not understand basic economic principles...in most meetings my main role...was to lean forward and convincingly apply one of the following three concepts to the problem at hand: supply and demand, opportunity cost, or scarcity” (Blank 2002, p. 476).

¹⁹ Caplan (2007) suggests that people are gullible and might believe what they read. A good analogy is offered by Gottschall (2012) in analyzing the stubborn persistence of superstitions, which it turns out, are not limited to the uneducated. Indeed, according to Park (2008) and Aaronovitch (2010), conspiracy theories originate and circulate among the educated. Many superstitions have survived long periods of time, and an incredible number of people seem to believe them. According to Gottschall (2012, p. 106), “Many conspiracy theories would be funny except for the fact that stories...have consequences. For example, in Africa many believe that AIDS is a racist hoax designed to...perpetrate a bloodless genocide. Believing this gets a lot of Africans killed.” On July 21, 2014, Christiane Amanpour ended her CNN show with a discussion of a denial of moon-landing: “One of man’s greatest achievements [is] still...denied. 45 years ago...Armstrong and Aldrin walked on the moon...But almost from the start, there were those who said...that the whole thing had been staged...the deniers persist.” Source: edition.cnn.com/TRANSCRIPTS/1407/21/ampr.01.html, accessed July 22, 2014.

²⁰ In other words, we have endogeneity here because the relationship between literature and beliefs goes both ways. Our focus in the paper is on the influence of literature on people’s beliefs.

systematic evidence of fictional stories' effects on the human mind and attitudes,²¹ and conclude that when we read fiction, "...we allow ourselves to be invaded by the teller. The story maker penetrates our skulls and seizes control of our brains... fiction subtly shapes our beliefs, behaviors, ethics..." (Gottschall 2012, pp. xvi–xvii).²² Hakemulder (2000) reviews dozens of studies in psychology that demonstrate that fiction can have a profound effect on the readers' thinking.²³ Vezzali et al. (2012) report that after reading books where characters with different cultural backgrounds had positive interactions with one another, Italian teenagers displayed more positive and less stereotypical attitudes toward immigrants.

Mar (2004, p. 1414), based on evidence from neuroimaging, argues that "...reader attitudes shift to become more congruent with the ideas expressed in a narrative after exposure to fiction." Appel and Richter (2007) and Appel (2008) find that fiction shapes readers' views on fairness and justice.²⁴ Green et al. (2004) find that fictional worlds alter the way we process information, and that the deeper we are immersed in a story, the more influential the story is.²⁵

Our focus on the Harry Potter books is beneficial because of the evidence that *these particular books* affect popular views. Indeed, studies suggest that the behavior of the books' readers is influenced by the messages the books convey. Hallett (2005) notes that Harry Potter books influence culture. Brown and Patterson (2009) study brand assessment by focusing on "Pottermania." Brown and Patterson (2010) study consumers' treatment of the Harry Potter brand. See also the opening quote from Barton (2006).

Some studies offer more direct evidence on the effect of Harry Potter books on the readers. Gierzynski and Seger (2011) find that the books influence the readers' acceptance of difference, tolerance, equality, and opposition to violence and corruption.²⁶ Vezzali et al.

²¹ The term "attitude" is used in social psychology as a general term to describe such concepts and ideas as personal and social norms, prejudices, and stereotypes. We use the term here in a similar manner to describe the way people perceive and think about the world in which they live, operate and make decisions.

²² According to Gottschall (2012), Tolstoy believed that an artist's job is to "infect" his audience with his own ideas and emotions—"the stronger the infection, the better is the art as art" (p. 134). Similarly, "In his book 'The Act of Reading,' Wolfgang Iser writes that ideally a book should transform a reader by 'disconfirming' his habitual notions and perceptions and thus forcing him or her to a new understanding of them" (Tuck 2015). Fictional works with long-lasting impact on popular opinion include *Uncle Tom's Cabin*, *The Birth of a Nation*, *Jaws*, *1984*, *Darkness at Noon*, *Roots*, etc.

²³ Gottschall (2012, p. 133–134) argues that "Fiction *does* mold our minds...influences our moral logic...alters our behavior...shaping our minds without our knowledge...Most of us believe that we know how to separate fantasy and reality...this is not always the case. In the same mental bin, we mix information gleaned from both fiction and nonfiction."

²⁴ The July 29, 2014 edition of "Room for Debate" of the *NY Times* asked, "Will Fiction Influence How We React to Climate Change?" Vezzali et al. (2015) survey psychology literature which shows that novels can have positive social impact.

²⁵ "Fiction readers who reported a high level of absorption tended to have their beliefs changed in a more "story-consistent" way...[and] detected significantly fewer "false notes" in stories—inaccuracies, infelicities...When we read nonfiction, we read with our shields up. We are critical and skeptical. But when we are absorbed in a story, we drop our intellectual guard. We are moved emotionally, and this seems to leave us defenseless" Gottschall (2012, p. 135). See also Sklar (2009).

²⁶ Some studies have even documented that the Harry Potter books had an effect on the readers' health. Gwilym et al. (2005), for example, find a drop in the number of children visiting the hospital emergency departments on the weekends that Harry Potter books are released, whereas Bennett (2003) reports that some of the young readers of the Harry Potter series have suffered from headaches as a result of their insistence to read the books cover-to-cover without taking a break.

(2015), report that Harry Potter books make the readers' attitudes toward stigmatized groups (immigrants, homosexuals, refugees, etc.) more positive and sympathetic.

More recently, in a series of neuroimaging studies on the influence of Harry Potter books on their readers, Hsu et al. (2014, 2015a, 2015b) provide fMRI evidence for the fiction feeling hypothesis, which states that narratives with emotional content, in contrast to stories with neutral content, cause readers to empathize to a stronger degree with the protagonists, thus engaging the affective empathy network of the brain. See also Wehbe et al. (2014) and Lehne et al. (2015).²⁷

In sum, the existing evidence in psychology, sociology, and neuroscience suggests that fictional literature in general and Harry Potter books in particular can have a strong influence on the readers' views, opinions and attitudes. Similar to these influences, and consistent with Krueger (2002) and Cowen (2008), we propose that the readers of the Harry Potter books, consciously and/or sub-consciously, absorb the *economic* ideas the books implicitly or explicitly convey. These ideas, we argue, can potentially shape the public's opinion on economics and economic issues.²⁸

The success of Harry Potter suggests that in addition to telling a story that appeals to a broad and diverse audience, the author may have also been able to capture the readers' popular beliefs. Given the books' universal appeal, therefore, studying the Potterian economy and comparing it to standard economic models can shed light on the beliefs and views of millions of people with diverse cultures/norms about the economy and economic matters.²⁹

A comparison between economic models and literary texts such as novels is possible because they share some key characteristics (Cowen 2008, McCloskey 1998, 2000, Thomson,

²⁷ Further evidence is offered by statements by religious authorities. For example, Cardinal Joseph Ratzinger, who later became Pope Benedict 16, in 2003 wrote a letter to the author of the book, *Harry Potter: Good or Evil*: "It is good that you enlighten us on the Harry Potter matter, for these are subtle seductions...barely noticeable, and precisely because of that have a deep effect and corrupt the Christian faith in souls even before it could properly grow." Perhaps ironically, however, Amazon-UK "...revealed it had received advance orders for *Harry Potter and the Half Blood Prince* from...the Vatican." Source: "Pope Criticises Harry Potter," R. Blakely, *The Times*, July 13, 2005. Peter Smith of the UK Teachers Association warns against the supernatural: "Children who had enjoyed the magic and wizardry of the stories should be careful about extending their interest in the occult." Source: news.bbc.co.uk/2/hi/uk_news/education/1638887.stm, accessed July 24, 2014. Some schools have banned the books because "... they go against the Bible's teaching." Source: news.bbc.co.uk/2/hi/uk_news/education/693779.stm, accessed July 24, 2014. Some British toy shops have even refused to stock Potterian merchandise fearing it will attract children to occult. Source: news.bbc.co.uk/2/hi/entertainment/1560335.stm, accessed July 24, 2014. According to the American Library Association, in 2005 "...there were 26 challenges to remove the *Harry Potter* books from bookshelves in 16 states." Source: www.educationworld.com/a_admin/admin/admin157.shtml, accessed September 28, 2014.

²⁸ Cowen (2008) describes this as a "knowledge-generation process." Novels and models, he argues, both are mechanisms for learning that complement each other. "We should recognize the power of stories. Many models, especially the most relevant models, are embedded in stories, further illustrating the complementarities between novels and models....Both novelists and model builders have tacit knowledge about how the real world works, and they try to articulate that knowledge in the form of either a story or equations" (pp. 333–334).

²⁹ Thomas and Snyder (2010, p. vii) note: "Part of the appeal of [Harry Potter] is that the depictions resonate with readers ... This may suggest that the depictions are consistent with readers' and viewers' values or opinions. Alternatively, if the depictions are not reflective, they may influence the development of values or opinions...any influence would be... subtle."

2001).³⁰ Both offer imaginary tales that are abstractions of reality. Both are composed of a set of actors—characters in stories, decision makers in models, and a set of assumptions—rules in stories, constraints and assumptions in models. In addition, the characters in a story are linked by initial relationships like agents and variables in a model are linked by initial conditions. In both stories and models, the initial relationships evolve. In models, these follow the assumptions and optimal decisions/strategies. In stories, they follow the characters’ attributes and the actions they can and cannot take. Eventually, both economic models and stories conclude in a final state (Rockoff 1990, Watts 2002).^{31, 32}

4. General background (Spoiler warning: skip this section if you have not read the series, but plan to read it sometime soon)

The Harry Potter story, an imaginary tale of a boy with extraordinary wizardry powers, is a series of 7 books.³³ Most of Harry’s adventures take place in and around Hogwarts, a boarding school of witchcraft and wizardry located in northern England, where Harry spends 7 years. The books follow Harry and his friends, as they grow up and mature, and the 7 volumes describe correspondingly the 7 years Harry spends at Hogwarts.

The story begins in 1991 with *Harry Potter and the Philosopher’s Stone*, where Harry is a shy orphan living with his aunt in a suburb of London. At age 11, Harry learns that his parents were wizards and that they were killed by the most powerful wizard of the era, *Lord Voldemort*, whose reputation is so fearsome that his name is not mentioned and instead is referred to as “You-Know-Who” or “He Who Must Not Be Named.” Harry also learns that although he grew up among non-wizards (“*muggles*”), he has the power to become a wizard.³⁴

³⁰ According to McCloskey (1998, p. xiv): “Economists are poets, but don’t know it. Economists are storytellers.” Similarly, Cowen (2008, p. 15) states that “Novels are more like models than is commonly believed” and recommends studying them to better understand how people think about economics and economic matters.

³¹ According to Cowen (2008, pp. 325–326), “...science fiction stories...embody model-like thinking. The author writes down a description of some new technologies...The author then traces through the effects of these technologies and outlines how things would work, or outlines an equilibrium in economic terminology. That equilibrium is then “disturbed” by some new change, such as alien invasion or a new technology. The bulk of the novel then traces through the effects of the change, performing a kind of comparative statics exercise...these novels...use a stylized setting to show how one set of causes lead to particular effects, working through a mechanism of some generality. The mechanism is not always spelt out explicitly... They are like the models from earlier in the history of economics. Before the mathematization of the economics profession... models without explicit mathematical forms... It is no accident that contemporary model builders sometimes refer to earlier, non-formal economists as ‘telling stories’”.

³² Another parallel between models and stories is that stories have to maintain face validity the same way as models need to maintain internal validity. Well-defined rules of math and logic ensure models’ internal validity. Maintaining face validity in literary texts depends on the genre, on adhering to the readers’ norms/expectations, and on preserving the story’s internal logic (Derrida 1993). For example, if magic can solve all problems, then the resulting story, even fictional, will unlikely to be interesting. The Harry Potter books’ success and near-universal popularity suggest that they satisfy this condition, and therefore, we believe that Potterian economics can offer lessons about the economic principles the books teach and convey.

³³ See Rowling (1998, 1999a, 1999b, 2000, 2003, 2005, and 2007), as well as Rowling (2001a) published under the pseudonym Newt Scamander, and Rowling (2001b) published under the pseudonym Kennilworthy Whisp. The discussion in this section is based on Anandane’s (2011) descriptive summary of the seven volumes.

³⁴ According to the Oxford dictionary, *muggle* is now an official word, and it means “a person who is not conversant with a particular activity or skill.”

Furthermore, he discovers that Lord Voldemort tried to kill him after killing his parents, which left a scar on his forehead. Harry survived the attack, which gives him a special role in the wizards' society. The school headmaster, Dumbledore, who knows about this incident, leaves Harry with his uncle until he is 11, when he is ready to enroll in Hogwarts. Following the Hogwarts' invitation which is delivered by an owl, Harry enters the school, where he and his new friends, Hermione Granger and Ron Weasley, explore the world of magic, and slowly discover the powers of witchcraft and Wizardry. The first year ends when they recover the Philosopher stone which can be used to brew an elixir that can make the drinker immortal.

In the second-year at Hogwarts, *Harry Potter and the Chamber of Secrets*, Ginny (Ron's younger sister) discovers Voldemort's old notebook, in which she reads about a "Chamber of Secrets," which, it turns out, leads to a monster. In this volume, Harry and his friends learn about the history of Hogwarts. Harry also discovers that he has some special skills, such as the ability to communicate with snakes (rather rare dark art). He also discovers some secrets about Voldemort. The book ends with Harry and his friends saving Ginny while fighting the monster. In the process they inadvertently destroy a part of Voldemort's soul ("horcrux").

In the third volume, *Harry Potter and the Prisoner of Azkaban*, Harry learns about Remus Lupin and Sirius Black, who were his father's friends. Lupin is a teacher of defensive measures against dark creatures. Black, it turns out, is a murderer believed to have helped Voldemort in killing Harry's parents. In volume 4, *Harry Potter and the Goblet of Fire*, Harry is pressed by a Voldemort supporter, Barty Crouch (disguised as Professor Alastor Moody), to participate in a dangerous Tri-Wizard Tournament. Harry luckily escapes Crouch's plans, while at the same time he forces Voldemort to reenter the wizarding world as a mortal.

In volume 5, *Harry Potter and the Order of the Phoenix*, Harry learns about a secret society called the *Order of the Phoenix*, which is reactivated to protect Harry and his friends from Voldemort and his supporters. The school's new Headmaster Dolores Umbridge ("the High Inquisitor of Hogwarts") does not permit the students to learn defense against dark magic. Harry, therefore, forms a secret study group called "Dumbledore's Army," where he teaches his friends how to fight and defeat dark arts. Eventually Harry foresees Voldemort's actions, and thus manages to save Hogwarts from Voldemort's supporters, the Death Eaters.

By the sixth year, in *Harry Potter and the Half-Blood Prince*, the 17 year old Harry, who is dating Ginny Weasley, incidentally comes across an old potions textbook filled with annotations signed by an anonymous individual, the Half-Blood Prince. He also discovers that Voldemort's soul is split into a series of horcruxes (evil enchanted items hidden in various locations). Draco Malfoy, Harry's foe, attempts to attack Dumbledore several times.

Eventually, Dumbledore is killed by Professor Snape, another Harry adversary.

In the last volume, *Harry Potter and the Deathly Hallows*, “He Who Must Not Be Named” takes control of the Ministry of Magic. Harry along with his friends quit school and go on a mission of finding and destroying the remaining horcruxes of Voldemort. Harry discovers, however, that he is one of the horcruxes, and thus surrenders to Voldemort. It turns out, however, that the horcrux inside Harry has been destroyed when Voldemort tried to regain his full strength. In the end, the Order of the Phoenix, along with Harry and Harry’s friends defeat Voldemort and his supporters, and thus save the world of Witchcraft and Wizardry.

5. Monetary system

5.1. Money

Wizards use commodity money. They have three types of coins: gold Galleons, silver Sickles and bronze Knuts, where one Galleon equals 17 Sickles, and one Sickle equals 29 Knuts (Rowling 1998, p. 49).³⁵ The wizards’ monetary system is therefore similar to the old English monetary system that existed from medieval times until 1971. In that system, one pound was worth 20 shillings and one shilling was worth 12 pennies.³⁶

However, despite their superficial similarity, the wizards’ monetary system differs greatly from its real world counterpart. First, whereas in the old English system the value of the pound relative to the shilling and to the penny fluctuated freely as a result of changes in the relative prices of gold, silver and copper, the relative values of the Galleons, Sickles and Knuts are fixed. Furthermore, whereas the values of the English money depended on the amount of the precious metal minted in the coin, the value of the Potterian coins is independent of their physical size/weight. For example, when wizards from several countries gather, it seems that the value of all gold coins is the same, even though the foreign Galleons are “the size of hubcaps” (Rowling 2000, p. 50).

Thus, although the wizards’ money is commodity money, it behaves as if it was fiduciary money. Indeed, just like fiduciary money, the values of all types of Potterian coins decrease simultaneously when there is inflation as a result of a war that disrupts supply (Rowling 2005, p. 43). The values of the three types of denominations, however, do not change relative to each other, although we are told explicitly that at the same time as the inflation bout, the demand for silver increases because silver is used for making charms and apparatus that are in

³⁵ Appendix A in the online supplementary appendix offers detailed quotations of the cited texts along with the full references in the order of appearance in the paper. Appendix B offers a list of additional ideas found in the books that are not discussed in the paper because of space limitations.

³⁶ The similarity is also in the types of metals used in minting the coins. The pound (also known as Guinea) was originally made of gold, the Shilling (originally Scilling) was made of silver and the penny (after 1796) was made of copper.

demand (Rowling 2005, p. 73).

Thus, in the Potterian economy commodity value is distinct from the value of money. This is counter to the models of commodity money where the value of the money is pegged to the value of the commodity it is made of (Sargent and Wallace 1983, Rockoff 1990).³⁷

Furthermore, the Potterian economic model has a trivial but important flaw, which under normal Muggle economic conditions would lead to the system's bankruptcy. The weight of a gold Galleon is 5.5grams. The actual price of gold in that period was \$12.4/gram, which makes the commodity-value of a gold Galleon equal to \$68.³⁸ However, the official Galleon-Dollar exchange rate is only about \$7.5/Galleon.³⁹ Thus, the wizards could melt the Galleons, sell the gold in muggle-markets, and "re-purchase" wizard money, thus making huge profits.

We, however, see no attempts to exploit this arbitrage opportunity. Not even the bankers, including the greediest ones, seem to notice it. Nor do rich businessmen who have interest in undermining the Potterians' political stability. Clearly, in any commodity money model, at least some of those who stand to make a profit would have exploited such profitable arbitrage opportunities leading to their eventual disappearance.⁴⁰

³⁷ In *The Lord of the Rings*, for example, the value of gold as a medium of exchange is determined by weighing it. Thus, Tolkien seems to have understood better the difference between commodity money and fiduciary money.

³⁸ Source: www.kitco.com/charts/historicalgold.html, accessed July 21, 2014.

³⁹The Galleon-Dollar exchange rate is not mentioned explicitly in the original 7-volume Harry Potter books. We draw this information from three sources. First source is two additional Harry Potter books authored by J.K. Rowling as a charity for the UK Comic Relief: *Fantastic Beasts & Where to Find Them* and *Quidditch through the Ages*. The former is included in the list of the things the first year students are required to have at the Hogwarts School of Witchcraft and Wizardry (Rowling 1998, p. 43). The latter is mentioned in Rowling (1998, p. 93), where we are told that Hermione Granger borrows the book from the Hogwarts library, and then later we are told that she lends the book to Harry to help him better prepare for Quidditch practice (Rowling 1998, p. 117). The foreword to both books is "written" by Albus Dumbledore himself. In the foreword to *Fantastic Beasts & Where to Find Them*, Dumbledore writes that "Comic Relief U.K. has raised over 250 million dollars since 1985 (that's also 174 million pounds, or thirty-four million, eight hundred and seventy-two Galleons, fourteen Sickles, and seven Knuts)" (Rowling 2001a, pp. vii–viii). In the foreword to *Quidditch through the Ages*, Dumbledore writes that "Comic Relief U. K. uses laughter to fight poverty, injustice, and disaster. Widespread amusement is converted into large quantities of money (over 250 million dollars since they started in 1985 – which is the equivalent of over 174 million pounds or thirty-four million Galleons)" (Rowling 2001b, p. vii). These figures imply that one Galleon is equivalent to £4.95 or \$7.30, and one Sickle is equivalent to £0.30 or \$0.45. Second, in an interview on March 12, 2001, when asked by Rebecca Boswell - "What is the approximate value of a galleon?" J.K. Rowling's reply was "About five pounds, though the exchange rate varies!" (Source: web.archive.org/web/20091023035038/http://www.accio-quote.org/articles/2001/0301-comicrelief-staff.htm, accessed April 21, 2015). Third, we compare the prices of the products consumed by wizards to the prices of similar products consumed by ordinary muggles in the same period, using the above exchange rate, i.e., one Galleon equals £4.95 or \$7.30. For example, Hermione, Ron and Harry pay six Sickles for three butter-beers (Rowling 2003, p. 251), i.e., two Sickles per butter-beer. We can reasonably assume that butter-beer is not a real beer with significant alcoholic content, as otherwise it would imply that Harry Potter and his friends, all of them underage wizards, are consuming alcoholic beverages, which is unlikely. In other words, we assume that butter-beer is more like Muggles' root-beer or cream-soda. In that case, the price of a single bottle of butter beer, two Sickles, which is equivalent to about £0.60 or \$0.90, seems reasonable for a price paid by school kids for a soft drink. Hot chocolate on a night bus also costs two Sickles (Rowling 1999b, p. 22), i.e., £0.60 or \$0.90, also reasonable. As another example, Lucius Malfoy, the Head of the Misuse of Muggle Artifacts Office, is fined 50 Galleons for bewitching a Muggle car (Rowling 1999a, p. 142), which is equivalent to about \$375.00. This is comparable to the monetary fines assessed for various types of traffic violations in the real Muggle world, such as in California. See catrafficticket.com/ca-traffic-ticket-fines/, accessed on May 17, 2015. Other examples include the cost of traveling on a night-bus to London, 11 Sickles or about \$4.95 (Rowling 1999b, p. 22), birthday present of 10 Galleons which is equivalent to about \$73 (Rowling 1999b, p. 36), etc. All these prices seem reasonable. Using the above exchange rate, CNN has even published the Wizard Calculator, offering conversion services to/from the US dollars to/from the Potterian currency units. See: money.cnn.com/2001/10/23/saving/wizard_calc/index.htm, accessed on May 18, 2015. See also Generalov (2006).

⁴⁰ As a caveat, we should note possible answers to this arbitrage opportunity puzzle. First, it could be that gold Galleons are not made of real gold but rather they are only gold-colored, although there is nothing in the books that indicates this. We do

Another shortcoming of the Potterian monetary system is that, unlike monetary economy models, Potterian money lacks some key features that would facilitate trade. One advantage the old English system had over the modern decimal system is in the large number of ways a pound could be divided into combinations of shillings and pennies. This divisibility allowed minting of many coins that were combinations of pennies, shillings and pounds. For example, common English coins included 2 shillings, 2 shillings 6 pence, 5 shillings, and many more.

In the case of Potterian money, however, the exchange rate between the Galleons and the Sickles and between the Sickles and the Knuts, are both prime numbers. It is therefore less useful to mint coins that are multiples of these basic coins.

In sum, the Potterian money lacks some of the basic properties economists believe money should have for it to serve its functions efficiently: portability, divisibility, and storability (Levy and Bergen 1993). The Potterian money is not easy to transport, it is not easily divisible and it is difficult to store. In any efficient economy, the Potterian money would have therefore been replaced by money that is more divisible and less cumbersome.⁴¹ Another important shortcoming of the Potterian monetary system is the lack of paper checks that could be used to transfer funds without the need to carry cumbersome coins. Medieval merchants and bankers took advantage of this benefit of paper checks (Quinn and Roberds 2008), yet it

know, however, that there are fake Galleons, made of Leprechaun gold, which look like the real gold Galleons, but they vanish within hours (Rowling 2000, p. 350). The mere existence of “fake” Galleons, however, may be interpreted as indicating that the “real” Galleons are “real,” i.e., they are made of real gold, unlike the “fake” ones. Moreover, the Goblins can easily distinguish between the fake and real Galleons (Rowling 2007, p. 351), which is essential for the stability of the Potterian currency as otherwise the Potterian economy would be flooded by fake gold coins, which would quickly make the Potterian money worthless. Gold duplicated using the Germino curse is also worthless (Rowling 2007, p. 356), which is also essential for protecting the currency value. Second, it could be that Galleons are made of real gold, but there are some limitations on the wizards’ ability to take advantage of it for arbitrage purpose. For example, there may be some spell, prohibition, or some other kind of restriction that prevents the wizards, even the greediest ones, from engaging in such arbitrage. We, however, don’t find any explicit mention of such restrictions in the books. Third, gold is likely to be one of the Five Principal Exemptions to Gamp’s Law of Elemental Transfiguration. The books identify only food as one of the exemptions, which means that no magic can create food out of nothing (Rowling 2007, p. 193). The other four exemptions are not identified explicitly. We can speculate, however, that gold (along with other precious metals) is likely to be one of them. If it was not, then all wizards would be rich. For example, there would be no reason for the Weasley family to remain poor. Similarly, Voldemort, the most powerful wizard of all, who “never had gold there [at Gringotts] when he was younger, because nobody left him anything” (Rowling 2007, p. 325), would be able to easily enrich himself. The fact that Leprechaun’s gold is fake and useless, is consistent with this interpretation. Using the Sorcerer’s/Philosopher’s Stone is the only method of transforming “any metal into pure gold...” but the only Stone that was in existence was destroyed by Dumbledore (Rowling 1998, p. 239). Fourth, it could be that gold Galleon is not made of pure, i.e., 100 percent gold. Indeed, gold is a soft substance and therefore 24k gold is almost never used for making coins or jewelry. Historically, actual gold coins in circulation in the UK were made from 22k (91.6 percent, known as “Crown Gold”) or 23k (95.83 percent) gold. For example, the gold coin of Pound Sterling that was issued in 1489 under King Henry VII was made of 23k gold. In 1526, under King Henry VIII, and in 1549, under King Edward VI, lower grade gold, 22k, was used to make the coins. The Crown, 22k gold, became the standard for making the English gold coins from 1526 onward. In the US, 21.6k (90 percent gold) became the standard for making American coins for circulation from 1837 onward. The actual gold content of the Galleon is never mentioned in the Harry Potter books. However, assuming that it is made of 21k–23k gold like the real Muggle gold coins, then the puzzle remains unresolved because the price difference between 21k gold and 24k gold is not that significant and thus the Galleon’s commodity value as gold is still high. Sources: Generalov (2006), gilletts.com.au/jewellery-metal-information-i-39.html, www.goldpriceoz.com/gold-karat.html, taxfreegold.co.uk/goldcoinsbriefhistory.html, en.wikipedia.org/wiki/Gold_coin, and www.anjolee.com/educational/gold.html, all accessed on April 26, 2015.

⁴¹ It is possible that the Potterians use precious metals as money because it is harder to counterfeit money that is minted of precious metals than of other materials. It is also possible that the Potterians use commodity money because they believe that pegging the value of money to commodities might be an effective way of controlling inflation (Woodford, 2003).

seems that Potterians are unaware of this technology.

5.2. Prices

Whatever the reason for using commodity money, its use has real effects beyond the opportunity cost of using the precious metals for making jewelry or silver daggers (Rowling 1998, p. 8, Rowling 2000, p. 413, Rowling 2003, p. 45). Carrying too many coins is cumbersome and risky. Wizards therefore store most of their money in bank vaults. Withdrawals and deposits, however, are time-consuming as they require a lengthy bureaucratic procedure, implying a high transaction cost (Rowling 1998, pp. 47–49). Consequently, wizards make infrequent withdrawals (Rowling 2000, pp. 61, 352). The prices of basic goods and services, therefore, are low because otherwise wizards facing a cash (i.e., Clower) constraint might be caught cashless (Rowling 1998, p. 41).

Many prices are set in round numbers, 5 Knuts, 10 Sickles, 30 Galleons, etc., or they can be paid with one type of coin, e.g., 1 Galleon, 2 Sickles, 7 Knuts, etc.⁴² In addition, there is no price dispersion even across highly heterogeneous goods, suggesting that the prices are not set in perfectly competitive markets. For example, the Omniculars (Rowling 2000, p. 60), Metamorph-Medals for changing ones appearance, one week's work of a house-elf (Rowling 2005, p. 58), Slytherin's Locket (Rowling 2005, p. 171), and Unicorn hair (Rowling 2005, p. 320), all cost 10 Galleons.⁴³ Also, many wizards find it difficult to calculate the value of goods denominated in foreign currency (Rowling 1998, p. 43, Rowling 2000, p. 50), similar to the difficulties reported in the EU during the transition to the Euro (Ehrmann 2006).⁴⁴

Further, prices in the Potterian economy are quite rigid, which may be related to the use of convenient prices. For example, the price of *Daily Prophet*, the Potterians' main newspaper, remains 1 Knut for 7 years, despite changes in the demand for news and despite an inflationary bout (Rowling 2003, p. 167). The price of Floo-powder is even stickier: it has

⁴² Examples include Goblin-made armor for 500 Galleons (Rowling 2005, p. 286), Acromantula venom for 100 Galleons/pint (Rowling 2005, p. 316), Deflagration Deluxe for 20 Galleons (Rowling 2003, p. 472), Omniculars for 10 Galleons (Rowling 2000, p. 60), weekly pay of 10 Galleons to house-elf (Rowling 2000, p. 244), Metamorph-Medals for changing your appearance for 10 Galleons (Rowling 2005, p. 58), Basic Blaze box for 5 Galleons (Rowling 2003, p. 472), Glittery-Black Beetle Eyes for 5 Knuts/scoop (Rowling 1998, p. 52), etc. See Appendix C in the on-line supplementary appendix for a complete list. Examples of convenient prices include a new copy of *Advanced Potion-Making* for 9 Galleons (Rowling 2005, p. 144), night bus to London for 11 Sickles (Rowling 1999b, p. 22), hot chocolate on a night bus for 2 Sickles (Rowling 1999b, p. 22), a membership in the Society for the Promotion of Elfish Welfare for 2 Sickles (Rowling 2000, pp. 144–145), etc. For a complete list, see Appendix D in the on-line supplementary appendix.

⁴³ For other examples, see Appendix C and D in the on-line supplementary appendix.

⁴⁴ Unlike modern retail markets where 9-ending prices are dominant (Levy et al. 2011), the Potterian retailers never seem to use 9-ending prices. The only product with a 9-ending price we were able to find is a new copy of *Advanced Potion-Making* from Flourish and Blotts, with a price tag of exactly 9 Galleons (Rowling 2005, p. 144). Since the Potterian currency system is not decimal, it could be argued that their parallel of 9-ending prices are prices that end with either 16 Sickles or 28 Knuts (i.e., "just below prices"), which would be equivalent to prices like 11 pennies or 19 shillings that were documented by Gabor and Granger (1966) in the UK. However, we again find only one such good, dragon liver, with a price of 16 Sickles per ounce (Rowling 1998, p. 55). Thus, unlike modern marketing practitioners and scholars, the Potterian retailers don't seem to believe in psychological price-ending effects.

remained the same for over 100 years, two Sickles a scoop.⁴⁵ For comparison, the average price spell for US and Canadian newspapers is 2–7 years (Knotek 2008, Fisher and Konieczny 2006). Thus, the Potterian prices are at least as rigid as comparable US and Canadian prices, in line with New Keynesian models.

One reason for the rigidity might be, as in modern markets, that retailers set prices to maximize transaction convenience and they are therefore reluctant to change prices because changing the price might increase the number of coins used in the transaction. Thus, many prices are set at convenient, round numbers, like in the old-fashioned Nickel-and-Dime stores.⁴⁶ In modern markets, however, round prices are usually limited to particular types of goods and settings (Snir et al. 2014). Thus, the Potterians' currency structure and the resulting pricing practices lead to prices that are set at a few convenient price-points, which hinder price changes.

Moreover, the Potterian economy is not growing, implying that there is no upward trend in the aggregate demand (Snir and Levy 2010). Nor do the Potterian retailers experience major changes in their cost structure. These factors, along with the currency structure decrease the need and the willingness of the Potterian sellers to adjust prices. Simply, there are not sufficient changes in the market conditions that would warrant such price adjustments, except when a war breaks out (see section 10).

5.3. Banks, interest, and credit

Potterians have only one bank, *Gringotts*, which operates only one branch. Thus Gringotts bank is an example of a textbook version of a perfect monopoly. The bank serves mostly wizards, although the bank's owners and employees are Goblins (Rowling 1998, p. 41)—greedy, gold-loving, selfish, and unfriendly humanoids (Rowling 2000, p. 81).

Gringotts offers several services. First, it is in charge of minting money and preventing its counterfeiting. There are, however, several ways to counterfeit money, and even school boys can do it (Rowling 2003, p. 297).⁴⁷ The amount of counterfeit money in circulation is low, nevertheless. Second, wizards take advantage of the Gringotts money storage and safe-keeping services for storing their gold and other valuables (Rowling 1998, pp. 48–49). Third, the bank offers currency exchange services, which include exchanging wizard money for

⁴⁵ Source: pottermorehead.tumblr.com/post/102175802190/floo-powder, accessed on May 31, 2015.

⁴⁶ The rigidity can't be explained by menu cost (Levy et al., 1997, Dutta et al. 1999, Zbaracki et al. 2004) because most prices in the Potterian economy are not posted. If round prices are used for their convenience, then they will be adjusted only if the round endings can be preserved. Given the low price level, however, this means a large price change. Coca-Cola faced a similar constraint in 1950s, unable to adjust the price because increasing it while people would still use a single coin to buy it meant doubling the price from 5¢ (nickel) to 10¢ (dime). See Levy and Young (2004) and Young and Levy (2014, 2015).

⁴⁷ When Leprechauns (a type of dwarves from the Irish mythology) introduce counterfeit gold Galleons in the marketplace, people become extra cautious when handling gold Galleons (Rowling 2003, p. 298).

precious stones, pieces of art, and also for muggle-money (Rowling 1998, p. 47, Rowling 1999a, p. 37). The amount of money exchanged, however, is limited. Wizards use muggle-money only when they run errands in the non-wizard parts of England. This happens rarely, however, because they face significant difficulties when using muggle-banknotes (Rowling 1998, p. 43, Rowling 2000, p. 50). Muggles also have limited opportunities to exchange muggle-money for wizards-money because most muggles are not even aware of the wizards' existence (Rowling 1998, p. 42, Rowling 1999b, p. 80, Rowling 2000, p. 50).

Gringotts, however, is not an ordinary bank as it does not offer lending/borrowing services. In fact, Potterians do not have any financial institution that offers such services. For example, we do not find a single case of someone borrowing money from Gringotts, which suggests that Gringotts is not offering loans.⁴⁸ Wizards that want to borrow must therefore borrow from a friend or from illegal usurers (Rowling 2005, p. 78, Rowling 2000, p. 471).

Indeed, we find numerous episodes where wizards borrow money from friends, private usurers or some other wealthy individuals, but not from Gringotts. For example, to open their joke shop ("Weasleys' Wizard Wheezes"), Fred and George Weasley borrow the necessary start-up money from Harry Potter (Rowling 2003, p. 79, Rowling 2005, p. 78). As another example, Ludo Bagman, a senior public official who is in debt after running a failing private enterprise, borrows "loads of gold" from Goblins (Rowling 2000, p. 471).

Moreover, we find cases where wizards in need of money resort to gambling with the hope of winning the necessary funds. For example, the Weasley twins, before discovering that they can borrow money from Harry, consider gambling as a means of obtaining the funds needed to open their joke-shop (Rowling 2000, p. 57, Rowling 2005, p. 78). Because there are no financial markets, the government also cannot issue debt and, therefore, it often depends on donations from wealthy individuals for funding public goods (Rowling 2000, p. 66).

It appears that it is not because of a lack of willingness that Gringotts does not lend money. Indeed, Gringotts' employees sometimes offer private usury services (Rowling 2000, p. 471). There is no shortage of demand for loans either. To the contrary, the lack of borrowing options is a significant constraint. For example, wizards that make windfall gains spend them immediately and entrepreneurs without capital cannot open businesses, suggesting that both consumers and businessmen face credit constraints (Rowling 1999b, p. 5).

The books do not explain the reasons for the lack of financial intermediaries. However, it

⁴⁸ This is the interpretation of other Harry Potter scholars as well. For example, consider Schooner's (2010, p. 265) interpretation: "Most important, however, is the question of lending. If Gringotts is a true bank, then it not only takes deposits, but it also lends out a portion of those deposits to other customers. The image of Harry and his vault full of money suggests that all of Harry's money remains in the vault at all times. This would mean that Gringotts does not operate on the basis of fractional reserves, i.e., it does not lend out a percentage of the money deposited by its customers."

seems that the Potterians view financial service providers as immoral.⁴⁹ The negative image is so strong that wizards shy away from such jobs, and consequently the jobs of bankers are taken by Goblins, an inferior social group.

Thus in the Potterian economy, economic incentives are overridden by the power of socially stigmatizing financial service providers. In Europe, such processes led to prosecution and stigmatization of minority groups, such as Italians and Jews (Carlton 1995, Hillman 2013a).⁵⁰ Similarly, in the Potterian economy, the stigmatization of financial intermediation leads to a tension between wizards and Goblins, with Goblins being treated as inferiors even though they provide cheap, efficient and economically beneficial services.⁵¹ It also inhibits most forms of interaction between wizards and Goblins (Rowling 2007, pp. 323, 342).

These observations are striking given that the books are often interpreted as opposing all types of stereotypical biases (Gierzynski and Seger 2011, Vezzali et al 2015). The Potterians' "ban" on lending leads to financial transactions being handled by goblins, which further strengthen their stereotypical image as greedy. Thus, the ban on lending leads to an outcome that is opposite to the values that the books are believed to promote. Further, these credit constraints reduce welfare, increase corruption because it limits the ability of would-be-entrepreneurs to open new businesses, and increase the influence of wealthy wizards (Paldam 2002, Fudenberg and Levine 2006).

Yet the negative image of financial intermediation persists. Thus, in the Potterian economy the role of financial intermediation is completely orthogonal to its role in economic models. Economists view financial intermediation as a key mechanism for promoting investment through efficient channeling of funds from savers to investors. The Potterians whose bank enjoys a monopoly power, in contrast, view financial intermediation as means to impoverish

⁴⁹ See Rowling (1998, p. 41), Rowling (2000, pp. 81, 287, 471), Carlton (1995), and Hillman (2010). Similar sentiments against financial intermediaries were reported by Radford (1945) in a POW camp, where prisoners were suspicious of those who offered financial services. Portraying bankers in fictional works as evil is common throughout history. Examples include Shylock in *Merchant of Venice*, Harpagon in *Miser*, Danglars in *The Count of Monte Christo*, Mr. Merdle in *Little Dorrit*, Mr. Banks in *Mary Poppins*, the hero in *American Psycho*, and Le Chiffre in *Casino Royale*.

⁵⁰ Some have noted that in the movie adaptation of the Harry Potter books the goblin-bankers are depicted with aquiline noses and greedy looking faces, similar to the cartoons used to depict stereotypical bankers and financiers in Europe in the late 19th century. Source: momentmagazine.wordpress.com/2011/07/14/debunking-the-harry-potter-anti-semitism-myth/, accessed October 2, 2014. A reader has suggested that the goblins are merely a joke on the theme of *Gnomes of Zurich*. That, however, does not explain why they are depicted in the movies with aquiline noses. A eugenics view could be suggested. See Peart and Levy (2005) on eugenics in post-classical 19th century economics.

⁵¹ Such negative attitudes still prevail. For example, in a 2005 Roper poll in the US, "...only 9 percent... had full trust in financial services institutions, down from 14 percent last year" (Source: "New Surveys Show that Big Business Has a P.R. Problem," by Claudia H. Deutsch, *NY Times*, December 9, 2005, Late Edition-Final, Section C, Column 2). The events that rocked the financial service industry since 2008 have likely deepened the distrust between the public and bankers even further. Most recently, in July 2015, Argentines' President, Cristina Fernández de Kirchner, according to the *Wall Street Journal*, told Buenos Aires school children that they should "...read 'The Merchant of Venice' to understand the vulture funds...usury and bloodsuckers have been immortalized in the greatest literature for centuries." As the author notes, "The persistence of anti-Semitism over time and across cultures is one of mankind's darkest puzzles. So is the hatred of capitalism, property rights and freedom." Source: "The Bigot Defense: The Oldest Prejudice Reappears in Attacks on American Capitalists," *the Wall Street Journal*, July 10, 2015, available at: www.wsj.com/articles/the-bigot-defense-1436569461, accessed on November 11, 2015.

the borrowers and enrich the lenders.

6. Government

The Potterian government is corrupt and inefficient. The government controls and regulates the production of every major good and service produced in the economy, including health, law, education, etc. The public, however, knows very little about the government's decision making process because of its lack of transparency, which makes it easier for corrupt public officials and interest groups to engage in rent-seeking activities (Tullock 1967, 1989).

The lack of transparency is partly because in the Potterian economy there is a monopoly on information. The only important information source is a daily newspaper, the *Daily Prophet*, and its editors are in good terms with senior public officials and wealthy individuals. The latter often fund public goods and thus have significant influence on the officials and their policy (Rowling 2003, p. 116). The newspaper's reporters therefore publish information that favors the officials, who reciprocate by making decisions favoring the reporters and wealthy wizards (Rowling 2003, p. 423, Strömberg 2004, Gentzkow and Shapiro 2006).

Power concentration and lack of transparency help senior officials to seek rents and other benefits such as bribes (Rowling 2007, pp. 172, 144). Wealthy wizards that fund their office expenditures are reciprocated by access to the officials and influencing their decisions (Rowling 1999a, pp. 33–34, Rowling 2003, p. 116).⁵² Although not identical, this process resembles the political benefits obtained through campaign contributions (Ursprung 1990).

Nepotism is common and family members and associates of senior officials receive perks not offered to others. For example, Arthur Weasley and two of his sons are all employed by the Ministry of Magic.⁵³

Junior public officials engage in rent seeking (Hillman 2013b) by putting effort into pleasing their superiors rather than doing their job, thereby increasing their prospects for promotion and for gaining higher status (Kahana and Liu 2010). This however, further deepens the inefficiency and corruption (Rowling 2000, pp. 56, 58–59, 273). The tenure

⁵² Consider the following exchange which reads like a textbook case of rent-seeking, as surveyed for example, in Hillman (2013b): “What are you doing here, anyway?” Harry asked Lucius Malfoy. “I don’t think private matters between myself and the Minister [of Magic, a position that parallels the position of Prime Minister in the muggle-world] are any concern of yours, Potter,” said Malfoy...Harry distinctly heard the gentle clinking of what sounded like a full pocket of gold. “...shall we go up to your office, then, Minister?” “Certainly” said Fudge...“This way, Lucius”...“What private business have they got together, anyway?” “Gold, I expect,” said Mr. [Arthur] Weasley angrily. “Malfoy’s been giving generously to all sorts of things for years...gets him in with the right people...then he can ask favors...delay laws he doesn’t want passed...oh, he’s very well-connected, Lucius Malfoy” (Rowling 2003, pp. 115–116).

⁵³ Arthur Weasley works as the head of the Office for the Detection and Confiscation of Counterfeit Defensive Spells and Protective Objects (Rowling 2005, p. 56), after promotion from his former position as the Head of the Office for the Misuse of Muggle Artifacts. Percy Weasley works in the Department of International Magical Cooperation under Barty Crouch, Sr., and then is promoted to become a Junior Assistant to the Minister of Magic (Rowling 2000, p. 268, Rowling 2003, p. 229). Ron Weasley is about to become an Auror in the Ministry of Magic (Rowling 2003, p. 170, Rowling 2000, p. 392).

system makes it impossible to fire even the most inefficient workers, leading to hidden unemployment. In addition, undeserving promotions create underemployment. As a result, many offices are overstaffed with low productivity workers. For example, Bertha Jorkins' disappearance from her office is unnoticed for several weeks (Rowling 2000, p. 40). These inefficiencies persist because the budget of each department depends primarily on the influence its head has in the Ministry or with the media. The resulting contest for contacts with powerful politicians and for influence on their policy decisions over budgetary allocations leads to wasteful social welfare loss (Katz and Rosenberg 1989).

Despite these inefficiencies, the government has considerable public support, perhaps because of its size. The public sector is the largest employer, and wizards depend on it for both work and services. Furthermore, the size of the government allows for full employment, with even the most unproductive workers finding a job in the public sector. Indeed, it seems that for most wizards, a job in the public sector is the default, and many of them do not even consider a job in the private sector. Therefore, further rent seeking may be taking place through benefits of a majority from government (Paldam 2015)

The Potterian economy is planned. The government determines which products will be produced or imported and which will not. The government policies also ensure economic stability, as in the Marxian model, in the sense that there are no business cycle fluctuations and, consequently, all workers are employed at all times. Thus, the Potterians have both stable prices and stable output in an economy that is not growing. Yet there is a private bank and there is some private enterprise.

The regulations, however, restrict competition in the private sector (Shughart and Thomas 2015). Firms in the private sector do not have to fire workers or to reorganize. Consequently, the public has strong incentives to hold beliefs in favor of the government (Alesina and Fuchs-Schuendeln 2007).

Furthermore, junior public employees seem to be doing their best at carrying out their jobs, which contradicts the internal bureaucratic rent seeking noted above. Even extremely inefficient workers like Bertha Jorkins seem to be doing their best, and it is only their lack of talent that makes them inefficient, not their lack of effort (Rowling 2000, p. 40). Thus, as in the Marxian model, the workers contribute according to ability and it is their work efforts, more than the pecuniary compensation that gives them satisfaction.

However, unlike the workers, those high in the social hierarchy behave as predicted by public choice theory. Senior public officials use their powers and the lack of transparency to advance their own goals, by taking advantage of the rent-seeking opportunities the Potterian

government offers, from promoting their associates to releasing their relatives from jail. They also reciprocate by benefiting wealthy land-owners, granting special benefits to those who donate for causes of their interest.

Senior officials also do not hesitate to use fear and violence, if needed, to achieve their goals or to hide their mistakes (Levin and Satarov 2015). When Harry and his colleagues express doubts about the threat of war, the press is used to silence them, and some of those that raise the doubts like the headmaster of the school, lose their jobs. Others, including Harry Potter, are threatened (Rowling 2005, pp. 341–348). At least on one occasion, a senior public official orders a “neutralization” of a man to silence him (Rowling 2000, pp. 453–454).

Thus, consistent with public choice theory, when public officials amass power over the entire economy and transparency is low, they use their power to advance their private goals and procure more power. The officials that comprise the upper layers of the public sector share similar values because only those with similar backgrounds are promoted.

Furthermore, it seems that one of the incentives to climb the ranks of the civil service is ego rents provided by status and power (Olson 1965). The school headmaster, Dumbledore, for example, does not want to become a minister of magic because he is not as power-hungry as those who apply for the job (Rowling 2003, p. 89). The urge to satisfy his ego rent ambition for power, even drives the Minister of Magic Pius Thicknesse to fight on the side of the evil Voldemort (Rowling 2007, p. 636).⁵⁴

The public supports the large government despite its inefficiency and the wanton use of the power by its senior officials. This seems to be partly because the public is unaware of much of the inefficiencies, and partly because those that are aware of them ignore it to protect their private benefits such as job security.

7. Law and order

Consider the following: “What would you think of a government that engaged in this list of tyrannical activities: tortured children for lying; designed its prison specifically to suck all life and hope out of the inmates; placed citizens in that prison without a hearing; ordered the death penalty without a trial; allowed the powerful, rich or famous to control policy; selectively prosecuted crimes (the powerful go unpunished and the unpopular face trumped-up charges); conducted criminal trials without defense counsel; used truth serum to force confessions; maintained constant surveillance over all citizens; offered no elections and no democratic law

⁵⁴ Hayek (2006) predicts that the ones to get to the top are those that are the most power- and status-hungry, not the most competent or the most benevolent. Indeed, most of the characters that hold high positions in the Potterian economy fit this characterization.

making process; and controlled the press? You might assume that the above list is the work of some despotic central African nation, but it is actually the product of the Ministry of Magic.” Barton (2006, pp. 1523–1524).

The Potterians’ legal institutions are rather limited in breadth and scope. There are no lawyers, no independent court system, or other muggle-type judicial entities and institutions. The Ministry of Magic seems to have all the regulatory, the legislative, and the judicial powers, implying that the notion of separation of powers is non-existent. For example, the Ministry of Magic is not subject to any practical limits on its powers since there are no laws or regulations that impose any restriction on what it can or cannot do. The Ministry operates the court and the Minister of Magic himself serves as one of the “inquisitors” (Potterian equivalent of a fact-finding judge).

Even the laws that are in place cannot be trusted because according to the Minister of Magic, there is no prohibition on retroactive revision of the laws. To the contrary, the Ministry changes the laws at will depending on its interests and circumstances. For example, the Ministry decides to change the time of Harry’s court-hearing but informs him on this change at the last minute, causing Harry to be late to the hearing (Rowling 2003, p. 103). Moreover, the presiding judge (the “Chief Inquisitor”) in the hearing, the Minister of Magic himself, states during the court proceedings that “laws can be changed.”⁵⁵

There are not even rules that govern the process of elections. In fact, there is no evidence of elections taking place for any key public office position. For example, we are told that Rufus Scrimgeour is appointed (not elected) as a Minister of Magic, but we don’t know by who (Rowling 2005, p. 27). Some Ministry officials often take advantage of their powers by drafting laws and regulations that promote theirs and/or their friends’ personal interests. Further, the implementation and enforcement of the laws are often done selectively.⁵⁶ There are even cases where wizards are accused and sentenced without any trial or court-hearing.⁵⁷

⁵⁵ During Harry’s trial for using underage magic which the Ministry’s laws prohibit, Dumbledore (who attends the court hearing as a witness) debates the Minister of Magic Cornelius Fudge about the applicability of the relevant laws (Rowling 2003, p. 112): “The Ministry does not have the power to expel Hogwarts students, Cornelius, as I reminded you on the night of the second of August,” said Dumbledore. “Nor does it have the right to confiscate wands until charges have been successfully proven...In your admirable haste to ensure that the law is upheld, you appear, inadvertently I am sure, to have overlooked a few laws yourself.” “Laws can be changed,” said Fudge savagely. “Of course they can,” said Dumbledore, inclining his head. “And you certainly seem to be making many changes, Cornelius. Why, in the few short weeks since I was asked to leave the Wizengamot [the court of the Ministry of Magic], it has already become the practice to hold a full criminal trial to deal with a simple matter of underage magic!”

⁵⁶ For example, Harry has committed in the past a worse crime, blowing up Ms. Marjorie Dursley, but no charges were filed against him because in that period, Harry was still the darling of the Minister of Magic (Rowling 1999b, p. 28).

⁵⁷ Day-to-Day policing is done by the wizards and witches that work at the Ministry. Some of them are aurors—wizards whose job is to locate and apprehend “dark wizards”—wizards that practice various types of “dark arts” and are known for their dislike of muggles. There are also divisions in the Ministry that handle specific types of offences and crimes. Examples include the Office of the Improper Use of Magic, the Office of the Regulation and Control of Magical Creatures, the Office of the Magical Law Enforcement, etc. Some of the offences they deal with include buying/selling stolen caldrons (Rowling 2003, pp. 18, 80), car-theft (Rowling 2003, p. 377), sale of fake amulets that supposedly protect against werewolves

Since there is no constitution, the authoritarian Ministry can arbitrarily manipulate the existing laws and regulations to fit its needs.⁵⁸

In the Potterian legal system, we see very little of what might resemble private laws such as tort laws or contract laws. For example, although the Hogwarts' students are often injured (e.g., during the Quidditch games), there is no mention of any kind of lawsuit in this context.⁵⁹ The word "contract" is mentioned only three times in the 7-volume set.⁶⁰

"Private property" is mentioned in the story only once, when Mr. Gaunt tells a ministry official that he cannot just show up unannounced on his private property (Rowling 2005, p. 132, Demsetz 1967). But there is indirect evidence that Potterian wizards respect private property, at least in the context of inheritance, which seems to be a rather common in their economy. For example, Harry inherits a large amount of money from his parents (Rowling 1998, p. 48, Rowling 1999a, p. 30). He also inherits Sirius Black's house along with everything in the house, including the house-elf Kreacher (Rowling 2005, pp. 33–34). There are numerous other cases of inheritance transfer from generation to generation.

The Potterian government, however, does not seem to be committed to respecting people's inheritance wills. *The Decree for Justifiable Confiscation* gives the Ministry the power to confiscate "within 31 days" anything that is inherited. This particular law is actually designed to prevent wizards from passing on Dark Artifacts and it can be applied only if there is "powerful evidence that the deceased's possessions are illegal" (Rowling 2007, p. 80). However, the Ministry of Magic applies to the law its own interpretation by arbitrarily and selectively using it to confiscate valuable artifacts from wizards it does not like.⁶¹

The Potterian government also interferes at will in the operation of private businesses. Goblins, for example, complain at one point that the Ministry interferes with Gringotts'

(Rowling 2005, p. 73) and various kinds of fake protections that supposedly guard against You-Know-Who and Death Eaters (Rowling 2005, p. 56), etc. Thus, Potterians seem to have their share of thieves, crooks, and other common criminals.

⁵⁸ For example, at a certain point the Ministry decides that all half-blood and mud-blood wizards must be questioned to make sure that they did not "steal" magic powers (Rowling 2007, p. 136). The wizards that fail the test are imprisoned.

⁵⁹ The Hogwarts' Healer Madam Pomfrey seems to be able to cure them all (Rowling 2005, p. 263).

⁶⁰ First time it is mentioned when Dumbledore explains the Triwizard Tournament rules, and warns the students: "Once a champion has been selected by the Goblet of Fire, he or she is obliged to see the tournament through to the end. The placing of your name in the goblet constitutes a binding, magical contract" (Rowling 2000, pp. 166, 179). However, we are not told how this contract is enforced. Second time it is mentioned when Hermione Granger organizes a study-group of students that take lessons (without school's permission) from Harry how to defend against Voldemort's Death Eaters. At the meeting where they decide on the formation of the group, they agree (verbally) to keep the group's existence secret (Rowling 2003, p. 259). Third time it is mentioned when we are told that the house-elf Hokey's contract prohibits her from saying what she really thinks about her mistress Hepzibah Smith's looks (Rowling 2005, 285–286). As Gava and Paterson (2010) note however, this third type of contact does not really constitute a contract in a legal sense because it is not voluntary: house-elves are enslaved by their masters and thus they must follow their orders. Finally, there is a mention of an "unbreakable vow" that Snape made with Draco Malfoy's mom that he would protect Draco (Rowling 2005, p. 214).

⁶¹ For example, the Minister of Magic Rufus Scrimgeour relies on this law to harass and interrogate Harry and his friends when he informs them about the inheritance Dumbledore has left for them (Rowling 2007, pp. 80–85). Moreover, the Minister refuses to hand the sword of Godric Gryffindor to Harry, against the will that Dumbledore has left, arguing that "the sword of Godric Gryffindor is an important historical artifact" (Rowling 2007, p. 85). As another example, the High Inquisitor and Head mistress of Hogwarts, Ms. Dolores Umbridge uses her absolute powers and authority to arbitrarily confiscate Harry Potter's and Ron Weasley's broomsticks without any hearing or other due process (Rowling 2003, p. 311).

affairs, making it unsafe for its employees (Rowling 2007, p. 296).

According to Hayek (2006), rule of law “...means that government in all its actions is bound by rules fixed and announced beforehand—rules which make it possible to foresee with fair certainty how the authority will use its coercive powers in given circumstances...the essential point, that the discretion left to the executive organs wielding coercive power should be reduced as much as possible, is clear enough...under the Rule of Law the government is prevented from stultifying individual efforts by ad hoc action...It is the Rule of Law, in the sense of the rule of formal law, the absence of legal privileges of particular people designated by authority, which safeguards that equality before the law which is the opposite of arbitrary government” (pp. 75–76, 82).

Clearly, Potterians’ legal system is far from a rule of law, as characterized by Hayek (2006). Rather, it seems closer to a rule of government in Nietzschean spirit (Nietzsche 1997, Hillman 2004, 2009). Since there are no lawyers and no independent judiciary/court system, rule of law is doubtful. Moreover, given the low ethical and moral standards of many of the Ministry’s officials, the Potterians’ fate, freedom, and welfare seem to depend entirely on the government’s corrupt and crooked officials. The Potterian wizards are not equal before the law. The Ministry of Magic has no regard for the rule of law, has no ethical restraints, uses its monopoly power selectively by applying its own interpretation to the laws, and by denying the rights of the wizards that it dislikes. Since the government does not treat or views them equally, the wizards cannot trust their government or its intentions. They are terrified by the government’s powerful bureaucrats and officials, and by the ease at which they selectively interpret, manipulate, or even retroactively change the laws and regulations to harass citizens they dislike, and protect/help their (usually wealthy and well-connected) friends.

8. Monopolies, oligarchies and other pathologies

The number of consumers in the Potterian economy is relatively small. Moreover, the population size has not changed for generations. Hogwarts was founded around 990 A.D. but its size has not changed since, suggesting that the number of wizard children remained stable for at least that long. In addition, most wizards live in London or near Hogsmeade, a village in northern England. Consequently, two shopping centers, one in Hogsmeade and the other in Diagon Alley in London, satisfy the shopping needs of the English wizards.

Most businesses operating at these shopping centers have been around for a long period. The low business turnover is caused by government regulations which give few existing well-connected businesses monopoly power. Public officials often apply regulations selectively to

block competition. Consequently, new businesses open rarely.

For example, at one point an entrepreneur wants to import flying carpets that would substitute for flying brooms. The proposal is supported by a senior official, Mr. Barty Crouch, who has personal interest in the importation of the carpets. However, his initiative is blocked because the Ministry defines carpets as objects that are *too similar to objects used by muggles* (Rowling 2000, p. 59). Although the argument is weak, the regulations cannot be changed due to technicalities that mask the true motives of public officials with vested interests. In another instance, a public official, Percy Weasley, is asked to formulate and pass a law that will prohibit the importation of caldrons (Rowling 2000, pp. 36–37). This is designed to protect the interests of a local producer, but the public ends up paying a higher price.

The lack of financial markets further reduces business turnover. Most wizards do not have the capital needed to open a business and are forced to solicit the help of wealthy wizards. That's how Borgin and Burkes opened a shop in the 19th century, and that is how the Weasley twins managed to open a shop about 100 years afterwards. There is no mention in the books of any other shop opening in Diagon Alley during that period.

Another factor contributing to the low business turnover is the monopoly on information. The *Daily Prophet* has a monopoly, and it is biased toward content that pleases wealthy wizards (Rowling 2000, p. 213, Rowling 2003, pp. 72, 423).⁶² Also, it selectively prevents information about new products from reaching the public. When the Weasley twins shop opens, the paper does not publish their advertisements, nor gives the public information about the shop despite its success.⁶³

These barriers lead to high entry costs, limit the number of sellers, and give the existing firms market power. For example, the UK wizards have only one wand-maker, the Ollivanders (Rowling 1998, p. 53). While it is hard to assess the effect of the market concentration on markups, the extent of price rigidity and the frequent use of convenient prices suggest that the Potterian retailers have substantial profit margins that would fall if for example the market for magic caldrons were to open to imports (Rowling 2000, pp. 36–37).

The low business turnover limits product variety/innovations. For example, the same textbooks are used for over 20 years. Similarly, children eat the same candies and collect the same cards as their parents (Rowling 2005, p. 31). Thus, the lack of competition limits the choice of the Potterians although there is demand for new products. For example, after Zonko's Joke Shop goes bankrupt, the Weasleys' Wizard Wheezes has no competition,

⁶² There is another publication, *The Squibbler*, which is as reliable as the modern-day tabloids that publish articles such as "I Was Kidnapped by Aliens!" "I Saw Bigfoot in My Back Yard!" etc. (Rowling 2003, p. 144).

⁶³ This is not stated explicitly in the books. It is based on the observation that the Wizards that read the *Daily Prophet*, including Harry Potter – a devoted reader of the newspaper, know nothing about the twins' joke shop (Rowling 2000, p. 36).

although there is a demand for the new jokes and tricks that the Weasleys sell.⁶⁴

Thus, the Potterian economy is a small, monopoly-dominated economy with a large corrupt public sector and an inefficient credit market. Potterian markets lack competition because of the government's selective use of its regulatory powers in many spheres of life. This leads to low business turnover, to limited variety of goods and services, and thus to limited choice, welfare loss, and inefficient outcomes. The monopoly on information worsens the state of affairs further because the wizards have no access to useful information that could help them improve their private lives.

The inefficient and selective regulatory interventions of the Potterian public officials suggest that the world view the books promote is in line with the economic models of public choice. At the same time, however, the actions of these officials and their outcomes for the Potterian economy clearly resemble the communist model. The *Daily Prophet* reminds us of the Soviet *Pravda*, which had a monopoly on information in the former Soviet Union, and served as a propaganda machine for the government. More generally, the limited choice the Potterians have very much resembles the limited choice in the former USSR and other communist countries.

9. Income inequality and social immobility

The wizards' society is composed of a large middle class and small elite. The middle class wizards earn enough to live comfortably but not enough to save. They therefore work almost their entire lives. Wealthy wizards enjoy a luxurious life style, and own almost all the assets and capital (Rowling 1999a, p. 19).

Social mobility is mostly downward and chances of moving up the social ladder are limited. For example, there is just one prominent character that makes it from the bottom to the top, Voldemort.⁶⁵ One reason for the limited social mobility is the insufficient free enterprise due to negative social images of business people in the Potterian society. Weasleys' mother does not encourage her children's business aspirations because she believes that public sector jobs bring a better reputation (Rowling 2000, p. 36, Rowling 2003, p. 79).

Another reason for the low social mobility is that wealthy wizards view themselves as superior, especially to wizards with muggle predecessors (Rowling 2003, pp. 84, 584, Rowling 2005, p. 417), who are considered a threat because of their different culture (Rowling 2000, p. 66). Muggle-born wizards are subject to constant harassment, ridicule,

⁶⁴ See Rowling (2000, p. 36), Rowling (2003, p. 403), Rowling (2005, pp. 76, 78, 158–159), and Tirole (1988).

⁶⁵ Voldemort comes from a well-established family that was stripped of its assets (Rowling 2005, p. 138).

abuse and discrimination.⁶⁶ Wealthy wizards favor policies that limit the influence of the middle class wizards. Most of the supporters of Voldemort, for example, come from wealthy families, and their goal is to enslave the middle class, especially the mud-bloods.

The middle class wizards are unlikely to move up the social ladder through marriage as they rarely socialize with wealthy wizards. If wealthy wizards associate with middle class wizards, they are often disinherited by their families (Rowling 1999a, p. 96, Rowling 2003, p. 103), which along with intermarriages further block upward mobility (Rowling 2003, p. 85). Thus, the biases of the elite against lower class wizards minimize the opportunities for upward social mobility. Consequently, social mobility is mostly downward (Dearden et al. 1997) and is expected to persist (Mulligan 1999).

The social structure of the wizard society therefore leads to a struggle between middle and higher class wizards. The upper class wizards use their influence and even violence, to repress the middle class, while the middle class wizards scorn the upper class wizards. The upper class wizards even try to control the thoughts and beliefs of the middle class wizards by influencing the curriculum used in the school.

Although this seems like a Marxian-style social struggle, it is a struggle that is fought in a society with central planning where the government owns and regulates production. In the Marxian model, free markets are usually considered the cause of social struggles because the owners of the capital (“capitalists”) can collect riches only by robbing the middle class (“proletariat”). Also in Marxian models, central planning is the solution, because it takes the power away from the upper classes and transfers it to the government officials who represent the proletariat, and who make the decisions for all. Yet in the Potterian model, the government is controlled by the elite and the elite use the government to repress the middle class (Murphy et al. 1993).

The outcome is that in the Potterian model the class struggle focuses on controlling the government. Also, in the Potterian model, as in the Marxian model, the middle class enjoys a relatively high standard of living and good education. The income differences between the middle class wizards and the wizards from the very small high class are nevertheless large, as predicted by public choice models.

10. International trade and migration

Wizards can travel long distances easily and cheaply. There are hardly any restrictions on international travel. Nevertheless, there is little international trade, which is partly due to

⁶⁶ Muggle-born wizards are derogatorily called “Mud-bloods” (Rowling 1999a, pp. 72–74, Rowling 2005, p. 74). Wizards with one muggle-parent are called “half-bloods” (Rowling 2003, p. 584).

regulations protecting local producers. Trade and travel are limited also by linguistic barriers as most wizards are monolingual. In addition, there are cultural barriers, as the wizards do not know much about other people's customs, traditions, etc. (Rowling 2000, pp. 163–164, 363).

These barriers reduce the demand for foreign goods, which may explain the absence of foreign/ethnic restaurants in London and Hogsmeade. Wizards also know very little about the quality of foreign goods. For example, when a leading English wand-maker disappears, wizards do not know where to find another wand-maker although there are several quality wand producers in other countries (Rowling 2005, p. 70).

In addition, prejudices against foreigners and non-wizards eliminate interactions with muggles almost completely. Indeed, the main job of the Ministry of Magic is to make sure that muggles are not aware of wizards' existence (Rowling 1998, p. 42). For example, Arthur Weasley's job in The Misuse of Muggle Artifacts Office is to prevent any interaction between muggles and wizards (Rowling 1999a, p. 20). Thus, although trade in muggle-goods could be beneficial, it takes place only under special circumstances and only for specific goods (Rowling 2005, p. 77). Another barrier to trade is the absence of immigrants' networks (Rauch 2001). In the Potterian economy, immigrants are rare. For example, there is only one student at Hogwarts with a name that suggests a foreign background, Cho Chang.

These social norms and prejudices translate into formal trade barriers. For example, there is no protest when a junior official uses quality as a pretext to block importation of considerably cheaper foreign goods, although the official himself admits that they are of almost the same quality as the locally-produced goods (Rowling 2000, pp. 36–37, 59).

However, some types of foreign work are so profitable that they are tolerated. Wizards use *elves*, a special kind of humanoids, to do manual and dirty work, perhaps analogous to foreign workers. Although the elves provide many useful services, they work in terrible conditions for almost no pay. They do not own even their clothing. They are nevertheless diligent, work without a break for many years, accept slavery conditions and are extremely afraid of being sacked, because unemployment is an almost certain death for them. These considerations make the use of elves so profitable, that despite the wizards' prejudices against any type of humanoids, they employ elves in large numbers (Rowling 2000 pp. 64, 80, 89).

In sum, wizards could benefit by trading with muggles. They could also import muggle-produced goods or adopt their designs and thus increase the variety of goods at relatively low cost. However, trade is limited by cultural norms and prejudices that make most wizards view muggle-made goods as inferior (Rowling 1999a, p. 25, Rowling 2005, p. 77). Further, cultural differences prevent most trade between wizards from different countries and between wizards

and other humanoids. Thus, unlike standard economic models of trade, it seems that transaction opportunities are limited by culture. Much of the potential trade in the Potterian economy is blocked by protectionism (Grossman and Helpman 1994) and cultural prejudices (Bala and Long 2005).

Whereas in economic models investments depend on borrowing cost and rate of return, in the Potterian model, they are determined primarily by prejudices and social norms. This is consistent with studies that show that social norms are a barrier to trade, except that in the Potterian economy, the effect of social norms on trade is perhaps an order of magnitude higher in comparison to the effects reported in empirical studies.⁶⁷

11. War economics

In Rowling (2005) the wizards fight a war against *Death Eaters*, a group of wizards that either belong to the upper class or aspire to associate themselves with the upper class. Their goal is to take control over the wizard world, thereby enslaving the middle class and driving out those wizards whose ancestors were not wizards. They are extremely committed and are willing to use any form of violence, including suicide attacks, to achieve their goal.

The signs of danger appear two years before the first acts of open violence but the government ignores them (Rowling 2000, Tuchman 1990).⁶⁸ When violence breaks out, however, the government has a sudden need to obtain military equipment. As more resources are spent on supplying military needs, common people find it hard to obtain goods they need for daily life. Indeed, one of Harry Potter's teachers, Professor Slughorn complains that due to the war, prices are sky-high and that it is difficult to obtain even the most elementary products (Rowling 2005, p. 43).

The government also fails to prepare adequately and, consequently, it has to buy costly equipment that would be unnecessary if it had provided its staff with proper training. Additional cost born by the public as a result of the government inefficiency is the price paid for goods sold by swindlers that offer a false sense of security (Rowling 2005, pp. 73, 78).⁶⁹

In addition, Terror generates fear, which influences people's moods by making everything

⁶⁷ See McCallum (1995), Nunn and Wantchekon (2011), and Clerides (2015).

⁶⁸ Compare this to the recent criticisms of the US government concerning its slow and delayed responses to ISIS terror (www.nytimes.com/2014/09/29/world/middleeast/president-obama.html, accessed October 5, 2014), flood water (www.msnbc.msn.com/id/9614737/, accessed October 5, 2014), bird flu (www.msnbc.msn.com/id/9661312/, accessed October 5, 2014), and Ebola outbreak (www.nytimes.com/2014/09/26/world/africa/obama-warns-of-slow-response-to-ebola-crisis.html?_r=0, accessed October 5, 2014).

⁶⁹ Similar security needs lead some modern governments to spend millions of dollars on useless bomb detectors sold by swindlers. Source: www.guardian.co.uk/uk/2013/apr/23/somerset-business-guilty-fake-bombs, accessed July 21, 2014. After the crash of the Russian Metrojet flight 9268 in Egypt on October 31, 2015, it was reported that many Sharm el-Sheikh hotels use fake bomb detectors. A November 10, 2015 report of CNN described them as "magic wand" detectors. Source: <http://edition.cnn.com/2015/11/10/middleeast/egypt-sharm-fake-bomb-detectors/>, accessed November 15, 2015.

less enjoyable.⁷⁰ Indeed, the usually crowded “Leaky Cauldron” bar is empty because even the most loyal consumers seem to have lost their appetite (Rowling 2005, p. 72). In Rowling (2005, p. 72), the bar owner notices Hagrid, who is well-known for his fondness for alcohol. From the barman’s reaction, it is clear that Hagrid is one of his last loyal customers.⁷¹

These events demonstrate that influential events such wars, can have long-term effects on people’s preferences. For example, as predicted by recent studies, the war brings about a significant drop in the demand for dining at restaurants and bars (Becker and Rubinstein 2011, Gould and Klor 2010).

When the Potterians see the inability of their government to respond, they form the “Order of the Phoenix,” whose goal is to fight the terrorists. Their efforts, however, do not fully compensate for the lack of government action because of the high private costs of fighting terrorists. Indeed, those who fight the terrorists become primary targets.

The members of the Order of the Phoenix are therefore isolated and gain little public support. Without public support, their efforts can at best only slow down the progress of the terrorists, but they cannot prevent them from gaining almost full control over most of the institutions of the Potterian economy (Rowling 2003, p. 88).

The Potterian model is therefore consistent with the economists’ insight that governments should provide basic public goods such as security because the private sector cannot provide them efficiently (Samuelson 1954). In the Potterian model, however, the government also controls the production of many goods that are not public, suggesting public-choice type distributive outcomes (Tullock 1959).

The implied model is not Marxian whereby in the absence of private property workers are efficient because everything they produce belongs to the proletariat. The war underscores the Potterian government’s inefficiency in responding in a timely fashion to the signs of danger. Furthermore, although the war might seem like a class struggle, its outcome contradicts the Marxian interpretation of a class struggle. In the Potterian model, as in the Marxian model, the upper class struggles to secure its status. In the Marxian model, however, once the middle class becomes aware of the struggle, it fights back and ultimately all classes are eliminated and a new economic order is established.

The Potterians’ war ends when more middle class wizards join their comrades in the fight (Rowling 2007, p. 511). The outcome, however, is not a new social order. Although the

⁷⁰ The effects of fear might be long-lasting. Indeed, many wizards remember and react irrationally when they hear the name Voldemort even after many years that he was thought to be dead (Huddy et al. 2002).

⁷¹ In Israel, during the 2nd Intifada in 2000–2002, there were Palestinian terror attacks in public places. The consumers responded by eating more at home/office. Restaurants responded by offering delivery services. The share of restaurants offering delivery services, however, did not decrease after the cessation of violence, suggesting that the taste for deliveries still remains.

middle class wins, the high-class wizards still preserve their high class status (Rowling 2007, p. 605).

12. Technological progress

The Potterian economy is not growing because there is no growth in the labor force, there is no accumulation of physical or human capital, and there is no evidence of any kind of technological progress, with the exception of the broomstick industry. Careful reading of the Harry Potter books suggests that the Potterian broomstick industry has been experiencing significant technological progress over time. For example, we are told that there are several makes and models of broomsticks.⁷² These include Cleansweep-5 (Rowling 1999a, p. 71), Cleansweep-6 (Rowling 2003, p. 143), Cleansweep-7 (Rowling 1998, p. 98), and Cleansweep-11 (Rowling 2003, p. 202), Nimbus-2000 (Rowling 1998, p. 108) and Nimbus-2001 (Rowling 1999a, p. 71), Comet-260 (Rowling 1998, p. 107) and Comet-290 (Rowling 2003, p. 128), the Shooting Star (Rowling 1999a, p. 30), the Bluebottle (Rowling 2000, pp. 62–63), the Silver Arrow (Rowling 1999b, p. 162), and the top-of-the-line Firebolt (Rowling 1999b, p. 32).

There is also evidence that over time there were non-trivial improvements in the broomsticks' production, especially in their quality. For example, some of the early models were simple and basic, but more recent ones are more advanced. For example, the Shooting Star, the model owned by the Hogwarts School, is a basic broomstick, relatively cheap, “very slow and jerky” (Rowling 1999a, p. 30, Rowling 1999b, p. 121), similar to the Bluebottle family series with anti-burglar buzzer (Rowling 2000, pp. 62–63). Nimbus-2000, on the other hand, is top-of-the-line broomstick at the time of its release (Rowling 1999a, p. 30), until Nimbus-2001 is released. The Firebolt, which is the latest addition, is perhaps “the Ferrari” of the broomsticks. It is the best, the fastest and most aerodynamically efficient model, offering a smooth action and fine control. It is a dream broomstick. Indeed, Harry repeatedly visits *Quality Quidditch Supplies* to look at and admire the prototype Firebolt model that the store displays, and is considering spending all of his savings to buy it (Rowling 1999b, p. 32).

The way the Potterian broomstick industry functions and develops is comparable to modern auto industry, particularly in light of the fact that new broomstick models are released almost every year. The newer model broomsticks use better materials (e.g., type of wood such as Spanish Oak), have better precision, offer better balance, are faster, etc. The Firebolt, for example, can accelerate from 0 to 150 mph in 10 seconds, which is at least twice as fast as the

⁷² For a detailed list of the broomstick makes and models, see Appendix E in the on-line supplementary appendix.

Cleansweep. Comet-260 looks "...like a joke next to the Firebolt" (Rowling 1999b, p. 162). Thus, each model is of a better quality than the older one, which is indicative of technological improvements in broomstick industry, a process resembling a Schumpeterian mechanism of creative destruction.

An interesting question that follows from these observations is how much of the broomstick technological innovations translate into economy-wide innovations. Our reading of the books suggests that broomsticks are primarily used for leisure-related activities, especially for the Quidditch games. For day-to-day purposes, Potterians use other means of transportation including apparition—a spell that allows the caster to move from one spot to another instantaneously (Rowling 2000, pp. 43–44), magic-propelled boats (Rowling 1998, p. 42), flying horseless carriages (Rowling 2000, p. 109), the Floo-network which allows immediate transportation to any place in the network (Rowling 2000, p. 29), Knight-Bus (Rowling 1999b, p. 21), a magical train, the Hogwarts Express (Rowling 1998, p. 60), the Ministry of Magic cars (Rowling 1999b, p. 45), and Portkeys—objects that transport to a pre-determined location when touched (Rowling 2000, p. 46).

In other words, the technological progress in the production of broomsticks contributes to the Potterians' leisure-related activities, the game of Quidditch being the primary example. This conclusion is also consistent with the observation that most stores in Diagon Alley sell the same old stuff over centuries, with the exception of the Weasley twins Joke Shop, which sells some new models of games and toys, which are also an example of leisure-goods.

Thus, in general, we do not see any evidence of the innovations in the broomstick industry spreading to the general economy. This is consistent with the finding that the Potterian economy is stagnating, there is hardly any growth in the labor force, there is no accumulation of knowledge (human capital), and we see no evidence of large-scale capital investments. Consequently, we conclude that very little (if any) of the broomstick technology innovations spread to other industries, or more generally, to the wider economy.

The lack of progress is also consistent with the common image of centrally planned economies. In the Potterian economy, with the government either producing many goods or regulating their production, government officials do not benefit from the introduction of new products and therefore they have little or no incentive to introduce them. To the contrary, they might have incentives to erect barriers to such innovations if they see the technological progress as a threat to their employment, which is a common view among labor unions. Perhaps it is not surprising therefore, that the only industry in which technology is progressing is not a part of the public sector.

13. Investment in human capital

Harry Potter books revolve around the life at Hogwarts School of Magic. It is fitting therefore, to end with a short discussion of the Potterian education system.⁷³ The wizards' education system is publicly financed. It gives the students basic training and ensures that all wizards graduate with knowledge that allows them to find a job. The schools are also one of the only institutions where the rules treat all members of the society equally. It is also the only institution where middle and high class wizards interact.

The wizards value education highly, and thus the public image of teachers is positive, so much so that they are even willing to sacrifice future income opportunities just to become teachers. For example, Gilderoy Lockhart, the author of 7 books (Rowling 1999a, pp. 28–29, 38), becomes a professor at Hogwarts (Rowling 1999a, p. 64). The value of education is further underscored by the high status of the school headmaster. The current headmaster, for example, is considered by many to be the greatest wizard of his time (Rowling 1998, p. 66).⁷⁴

The Potterian education system is not problem-free, however. Hogwarts is under the supervision of the Ministry of Magic and, thus, subject to the influence of politicians. The government can interfere with the school curriculum at will (Rowling 2003, p. 229). Another weakness of Hogwarts is that its curriculum has not been revised for hundreds of years. Consequently, the graduates do not know more than their predecessors. The subjects and classes they take are those that were taken by the previous students (Rowling 1999a, p. 161). Similarly, the textbooks they use were also used by their parents and even grandparents.⁷⁵ The old-fashioned curriculum does not encourage innovative and creative thinking (Snir and Levy, 2010). The Potterian students focus primarily on practical skills, but learn very little theory, literature, arts, or philosophy. Most lack creative skills and cannot think originally or independently (Rowling 2000, p. 437).

Potterians do not have elementary schools or institutes of higher education like universities. Upon graduating from Hogwarts, wizards choose a profession and usually stick to it (Rowling 1999a, pp. 161–162). Since there is no incentive to study further, Potterians' stock of knowledge do not increase beyond what is acquired in the school. Their education system therefore resembles the Marxian system. Education is compulsory and all students receive the same education. Yet even in this seemingly perfectly equal education system,

⁷³ See Snir and Levy (2010) for a discussion of the Potterian education system in the context of Solow growth model.

⁷⁴ See the number of Hogwarts' former head-masters that are included in the list of the most famous wizards: www.hp-lexicon.org/wizards/card_wizards.html, accessed October 5, 2015.

⁷⁵ For example, the used copy of *Advanced Potion-Making* that Harry Potter borrowed from Professor Slughorn (Rowling 2005, pp. 123, 125), was also used by Snape's mom, Eileen Prince (Rowling 2005, p. 417), and by the Half Blood Prince - Professor Snape (Rowling 2005, p. 126), who was a classmate of Harry's parents (Rowling 2005, p. 360).

there are inequalities. Upon arrival to Hogwarts, the students are divided into four "houses" based on their ancestral history. Most high class wizards end up in one particular house, whereas the middle class wizards are scattered between the other three houses.

The students' school experience depends to a great extent on the house to which they belong. They, therefore, graduate with a strong association to the students from their own house, and thus the high class wizards leave the school with different ideology, norms and associates than the wizards that belonged to other houses. Thus, the system that should have fostered equality of values ends up instead fomenting social, division, tension and struggle.

Given the central role of education in the Potterian economy, we could consider the role of the Hogwarts School as a mechanism that contributes to the Potterians' economic growth via endogenous accumulation of human capital (Uzawa 1965, Lucas 1988). In Lucas' model, human capital accumulation is modeled in the same way as physical capital accumulation is modeled in the Solow model. However, there is no knowledge accumulation in the Potterian economy. Thus, the stock human capital is essentially fixed. Moreover, the contribution of the education to the wizards' productivity after they graduate and start working (most of them for the Potterian government) is unclear. Since there is no evidence of significant physical capital investment in the Potterian economy, the contribution of the wizards' schooling to the productivity of physical capital is also doubtful. Along with the evidence that the Potterian economy is not growing (Snir and Levy 2010), this suggests that endogenous human capital accumulation mechanism does not play a role in the Potterian economy.⁷⁶

14. Conclusion

Many elements of the Potterian model are mutually inconsistent and contradictory. For example, it is critical of market-based systems, yet it belittles government. The government is corrupt, yet it has public support. Many mutually beneficial transactions do not take place and there are no credit markets because of prejudices, yet the books reject stereotypical images. Money is made of precious metals, yet its purchasing power has no relation to its commodity value. The wizards value education, yet they do not have universities or colleges. Moreover, the Potterian model misses many deep and fundamental aspects of economic analysis. For example, the bank does not serve as an intermediary between savers and investors, money lacks some key attributes, arbitrage opportunities are not exploited, efficiency-improving transactions go unnoticed, international trade is restricted by protectionism, there is hardly any migration, the economy is in permanent stagnation, the stock of human capital is not

⁷⁶ As Long (2005) notes, "If only 'He Who Must Not Be Named' understood neo-classical endogenous growth theory, it might have been a different story."

increasing, investments are non-existent, and taxes of any kind are absent.⁷⁷

Thus, a naïve reader gets a distorted view of economics, and shallow and uninformed characterizations of markets and market institutions, which surely influence and shape the general public's understanding of economic issues. Further, they likely contribute to public's biases, misconceptions, and more generally to their economic illiteracy. For example, public exposed to such views and sentiments might be persuaded easily by populist arguments against foreigners, against international trade, against businessmen, against bankers and other financial service providers, against authorities (e.g., the central bank), etc. Folk economic interpretation of the Potterian model suggests that popular intermediaries play an important role in spreading biases and ignorance on important economic issues. Thus, rather than dismissing the “mishmash” of ideas found in the Harry Potter books, we suggest taking them seriously in order to try and understand their sources and persistence.⁷⁸

Some of the biases we have identified have been around for centuries.⁷⁹ This suggests that in addition to directly influencing the public views, Harry Potter books have likely reinforced existing beliefs, which might be playing a role in transmitting the biases across through cultural transmission of values (Bisin and Verdier 2000, Necker and Voskort 2014). Moreover, the formation and propagation of these biases may be taking place from the period of early childhood/youth because this is the age group on which fiction's influence is likely to be particularly strong and long-lasting.⁸⁰

⁷⁷ It could be that taxes in the Potterian economy come in the form of constraints and limitations, for example limitations on what the Potterian wizards can and cannot do. Such limitations could be interpreted as a tax. That, however, still leaves unanswered the question: why do Potterians choose this kind of “limitation-tax” over more standard, say, income tax? The puzzle is particularly interesting given that the Potterian government, i.e. the Ministry of Magic, is quite powerful, it is the main employer in the Potterian economy, and thus it would have no difficulty collecting such taxes. Another theme that is absent from the world of Harry Potter is religion, consistent with fantasy genre. There are only two occasions where religion-related acts take place. One is the Christmas dinner party that is held at the Hogwarts annually (e.g., Rowling 1998, pp. 131–132). The second is the inscription Harry finds on his parents gravestone: “The last enemy that shall be destroyed is death” (Rowling 2007, pp. 216–217), which comes from the New Testament, 1 Corinthians 15:26, King James Version.

⁷⁸ Most fiction writers recognize their influence. Therefore, as Francis (2012) notes, “Just because you're writing fiction, it doesn't give you license to make everything up... Even...fantasy and science fiction need research.” For example, according to Freedman (2005, p. xiii), Isaac Asimov was the best physicist among non-physicists, and best zoologist among non-zoologists, hinting at the seriousness in which Asimov did his research before writing. Similarly, it took J.R.R. Tolkien 17 years to complete *The Lord of the Rings*. (Source: middle-earth.xenite.org/2011/09/16/how-long-did-it-take-j-r-r-tolkien-to-write-the-lord-of-the-rings/, accessed November 19, 2015.) According to Rowling's official biography, her major was French and Classics, and thus we suspect that she has not taken Price Theory, and perhaps not even Econ 101. (Source: www.jkrowling.com/en_GB/#/about-jk-rowling, accessed October 5, 2014.) Moreover, it could be that she did not put much effort into learning general economics, and thus much of her economics is unfortunately inaccurate.

⁷⁹ See Harap (2003). For example, the negative portrayal of bankers has been a recurring theme in the popular literature for a long time. Similarly, the views on governments, class-struggle, and social ills and institutions are not new.

⁸⁰ We note two caveats. First, one could argue that the inconsistency of the Potterian model with economists' models should not be surprising since the books are primarily written for children. Simplicity is needed to make the books children-friendly. Other elements (wizards and dragons, untrustworthy goblins, commodity money, etc.) are present due to the fantasy genre of the story set in medieval times. Economic stagnation is needed to make the story credible, since it takes place during the medieval period, in which much of the real world was stagnating. The corrupt government is a literary device: it is necessary in order to have a need for a hero. Second, it might be that Potterian economics merely captures the author's subjective opinions, which reflect her personal views and biases, and the financial consequences of her life-experience as a divorced, unemployed, and welfare-dependent single-parent, followed by a phenomenal success. (Source: <http://news.investors.com/management-leaders-in-success/080700-351797-childrens-author-jk-rowling-determination->

Future studies should analyze the economic content of other literary texts to better understand how popular opinions about the economy are influenced by fiction and media, and how they form and change over time (Miller and Watts 2011). For example, the Potterian model points at a change in the image of the government as reflected in fiction. Tolkien's *Lord of the Rings* and Asimov's *Foundation*, both published in the 1950s, depict the government as efficient and benevolent. In contrast to their idealistic and perhaps naïve view, the Harry Potter books portray the government officials as corrupt, dishonest, incompetent and unkind, implying that today's public is perhaps more realistic.⁸¹ Similarly, Adhia (2013) provides evidence on ideological change in India. Since the 1980s, he notes, the popular sentiments in Indian has evolved from condemning profits as anti-social, to accepting—and even applauding—business success. Applying the method of content analysis to Hindi films since 1955, he finds that rich merchant characters have changed from being depicted as villains to being depicted as heroes.⁸² These developments point to changes that modern societies experience and suggest fruitful avenues for future research.

[pushed-jobless-single-mom-from-poverty-to-best-seller-list.htm](#), accessed October 26, 2014.) However, the books' universal success suggests that the author may have been able to capture popular beliefs and sentiments of hundreds of millions of people across the globe. Therefore, Potterian economics is informative, even if it merely reflects the author's personal views, or even if the entire project was intended just for children's bed-time reading. The value of studying Potterian economics is not diminished also even if the author is "expressive" in revealing her own identity in terms of her beliefs (Hillman 2010).

⁸¹ Interestingly, this change occurred during the period when economists moved away from studying normative models of the government to studying models that emphasize the role of private and group-specific incentives (Hillman, 2009).

⁸² The methodology we have employed in this paper is similar in spirit to content analysis, a widely used empirical methodology employed in other social sciences and in humanities. See Levy et al. (2002) for an example and a brief survey.

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Supplementary Online Appendix**Potterian Economics**

Last Revision: January 20, 2017

The tables below list the economic ideas, principles, concepts, observations, and events that we identify in the Potterian economic model and the corresponding quotes from the Harry Potter books. Many of the economic ideas appear in the Harry Potter books more than once. For example, various make and model broomsticks which are listed in Appendix E, and which we discuss in the paper in section 12 in the context of technological innovations, are mentioned in the books numerous times. For the purpose of constructing these tables, we tried to identify the episodes and the locations in the story where these ideas appear on the first time. We shall note that the list is not exhaustive and there are many more economic ideas in the world of Harry Potter.

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Appendix A. Economic Ideas⁸³

Economic Idea	Quote	Reference
Commodity money denominations	“The gold ones are Galleons,” he explained. “Seventeen silver Sickles to a Galleon and twenty-nine Knuts to a Sickle, it’s easy enough.”	Rowling, 1998, p. 49
Foreign currency	“You’re not the first one who’s had trouble with money,” said Mr. Roberts, scrutinizing Mr. Weasley closely.”	Rowling, 2000, p. 50
Coin values are independent of their values as a commodity	“I had two try and pay me with great gold coins the size of hubcaps ten minutes ago.”	Rowling, 2000, p. 50
Commodity money - heavy and cumbersome	“Ron purchased a dancing shamrock hat and a large green rosette, he also bought a small figure of Viktor Krum, the Bulgarian Seeker...“Wow, look at these!” said Harry...“Omnioculars,” said the saleswizard eagerly...“Bargain - ten Galleons each.”...“Three pairs,” said Harry firmly to the wizard...Their money bags considerably lighter, they went back to the tents.	Rowling, 2000, pp. 60–61
Counterfeit money	“Well, let’s check how yeh’ve done!” said Hagrid. “Count yer coins! An’ there’s no point tryin’ ter steal any, Goyle,” he added, his beetle-black eyes narrowed. “It’s leprechaun gold. Vanishes after a few hours.”	Rowling, 2000, p. 350
	“I know that, Harry, but if she wakes up and the locket’s gone – I need to duplicate it – <i>Geminio!</i> There...That should fool her...”	Rowling, 2007, p. 173
	“They have added Germino...Curse!” said Griphook. “Everything you touch will...multiply, but the copies are worthless – and if you continue to handle the treasure, you will eventually be crushed to death by the weight of expanding gold!”	Rowling, 2007, p. 356
Constraints on Converting metals into gold	“Sorcerer’s Stone...will transform any metal into pure gold...but the only Stone currently in existence belongs to Mr. Nicolas Flamel...who celebrated his six hundred and sixty-fifth birthday last year.”	Rowling, 1998, p. 143
Opportunity cost of using precious metals for making coins	“And now Wormtail was whimpering. He pulled a long, thin, shining silver dagger from inside his cloak.”	Rowling, 2000, p. 413
	“Harry walked up the worn stone steps, staring at the newly materialized door. Its black paint was shabby and scratched. The silver doorknocker was in the form of a twisted serpent. There was no keyhole or letterbox.”	Rowling, 2003, p. 45
	“Dumbledore gave a great sniff as he took a golden watch	Rowling,

⁸³ This appendix contains a list of the ideas found in Potterian economics which are discussed in the body of the paper.

	from his pocket and examined it.”	1998, p. 8
Transaction cost of withdrawing money from the bank	“An’ I’ve also got a letter here from Professor Dumbledore,”... “Very well,” he said... “I will have someone take you down...” Griphook whistled and a small cart came...hurtled through a maze of twisting passages...left, right, right, left, middle fork, right, left,...The rattling cart seemed to know its own way... they plunged even deeper “...I think I’m gonna be sick.”...Hagrid...had to lean against the wall to stop his knees from trembling...Inside were mounds of gold coins...silver...bronze Knuts...He turned to Griphook. “...can we go more slowly?” “One speed only,” said Griphook. They were going even deeper now and gathering speed. The air became colder and colder...One wild cart ride later they stood...outside Gringotts.”	Rowling, 1998, pp. 47–49
The amount of money that Harry withdraws from the bank completely fills his bag	Once Harry had refilled his money bag with gold Galleons, silver Sickles, and bronze Knuts from his vault at Gringotts, he had to exercise a lot of self-control not to spend the whole lot at once.	Rowling, 1999b, p. 31
Cash (Clower) constraint	“I haven’t got any money — and you heard Uncle Vernon last night...he won’t pay for me to go and learn magic.”	Rowling, 1998, p. 41
Wizards’ difficulties in handling foreign currency	<p>“They had reached the station. There was a train to London in five minutes’ time. Hagrid, who didn’t understand “Muggle money,” as he called it, gave the bills to Harry so he could buy their tickets.”</p> <p>“Help me, Harry,” he muttered, pulling a roll of Muggle money... “This one’s a - a - a ten? Ah yes, I see the little number on it now...So this is a five?” “A twenty,” Harry corrected him... “Ah yes, so it is...I don’t know, these little bits of paper...” “You foreign?” said Mr. Roberts as Mr. Weasley returned with the correct notes. “Foreign?” repeated Mr. Weasley, puzzled. “You’re not the first one who’s had trouble with money”</p> <p>“Stored in an underground vault at Gringotts in London was a small fortune that his parents had left him. Of course, it was only in the Wizarding world that he had money; you couldn’t use Galleons, Sickles, and Knuts in Muggle shops.”</p>	<p>Rowling, 1998, p. 43</p> <p>Rowling, 2000, p. 50</p> <p>Rowling, 1999a, p. 30</p>
Just-below (or psychological) prices	“A plump woman outside an Apothecary was shaking her head as they passed, saying, “Dragon liver, sixteen Sickles an ounce, they’re mad...”	Rowling, 1998, p. 46
Sticky prices I – Daily Prophet costs 1 Knut for 7	“Hermione, however, had to move her orange juice aside quickly to make way for a large damp barn owl bearing a sodden <i>Daily Prophet</i> in its beak. “What are you still getting that for?” said Harry irritably, thinking of Seamus	Rowling, 2003, p. 167

years	as Hermione placed a Knut in the leather pouch on the owl's leg and it took off again."	
Sticky prices II – Floo Powder's price is the same for over 100 years	"No shortage of Floo powder has ever been reported, nor does anybody know anyone who makes it. Its price has remained constant for one hundred years: two Sickles a scoop. Every wizard household carries a stock of Floo powder, usually conveniently located in a box or vase on the mantelpiece."	pottermorehead.tumblr.com/post/102175802190/floo-powder , accessed on May, 31, 2015
Gringotts bank – a monopoly run by goblins	"They didn' keep their gold in the house, boy! Nah, first stop fer us is Gringotts. Wizards' bank." "Wizards have banks?" "Just the one. Gringotts. Run by goblins."	Rowling, 1998, p. 41
Goblins – greedy bankers	"They passed a group of goblins who were cackling over a sack of gold that they had undoubtedly won betting on the match, and who seemed quite unperturbed by the trouble at the campsite."	Rowling, 2000, p. 81
Counterfeit money – even school boys can do that	"Hermione soon devised a very clever method of communicating the time and date of the next meeting... She gave each of the members of the D.A. a fake Galleon ... "You see the numerals around the edge of the coins? ... On real Galleons that's just a serial number referring to the goblin who cast the coin. On these fake coins, though, the numbers will change to reflect the time and date of the next meeting. The coins will grow hot when the date changes."	Rowling, 2003, p. 297
Introduction of counterfeit gold Galleons – makes people extra cautious	"Yeah...I prefer your way," said Harry, grinning, as he slipped his Galleon into his pocket. "I suppose the only danger with these is that we might accidentally spend them." "Fat chance," said Ron, who was examining his own fake Galleon with a slightly mournful air, "I haven't got any real Galleons to confuse it with."	Rowling, 2003, p. 298
Withdrawing money from the bank – the Gringotts	"Morning," said Hagrid to a free goblin. "We've come ter take some money outta Mr. Harry Potter's safe." "You have his key, sir?" ... "Got it," said Hagrid at last, holding up a tiny golden key. The goblin looked at it closely. "That seems to be in order."	Rowling, 1998, p. 47
Services offered at Gringotts - safe keeping	"When the cart stopped...Griphook unlocked the door... Inside were mounds of gold coins. Columns of silver. Heaps of little bronze Knuts. "All yours," smiled Hagrid ... "The gold ones are Galleons," he explained. "Seventeen silver Sickles to a Galleon and twentynine Knuts to a Sickle, it's easy enough. Right, that should be enough fer a couple o' terms, we'll keep the rest safe for yeh." "Harry. Gringotts is the safest place in the world fer anything yeh want ter keep safe."	Rowling, 1998, pp. 48–49 Rowling, 1998, p. 41
Services offered at	"A pair of goblins bowed them through the silver doors and they were in a vast marble hall. About a hundred more	Rowling 1998, p.

Gringotts – exchange of wizard money for precious stones	goblins were sitting on high stools behind a long counter... examining precious stones through eyeglasses.”	47
Services offered at Gringotts – exchange of wizard money for Muggle-money	“You be careful, Arthur,” said Mrs. Weasley sharply as they were bowed into the bank by a goblin at the door. “...Hermione’s parents...were standing nervously at the counter that ran all along the great marble hall...“But you’re <i>Muggles!</i> ” said Mr. Weasley delightedly...“What’s that you’ve got there? Oh, you’re changing Muggle money. Molly, look!” He pointed excitedly at the ten-pound notes in Mr. Granger’s hand.”	Rowling, 1999a, p. 37
Wizards face difficulties in using Muggle money	<p>“There was a train to London in five minutes’ time. Hagrid, who didn’t understand “Muggle money,” as he called it, gave the bills to Harry so he could buy their tickets.”</p> <p>“Help me, Harry,” he muttered, pulling a roll of Muggle money... “This one’s a - a - a ten? Ah yes, I see the little number on it now...So this is a five?” “A twenty,” Harry corrected him... “Ah yes, so it is...I don’t know, these little bits of paper...”</p>	<p>Rowling, 1998, p. 43</p> <p>Rowling, 2000, p. 50</p>
Wizards’ and Muggles’ lack of interaction	<p>“But what does a Ministry of Magic <i>do?</i>” “Well, their main job is to keep it from the Muggles that there’s still witches an’ wizards up an’ down the country.”</p> <p>“Hey, Harry,”...“have you heard?...Sirius Black’s been sighted.” “Where?” said Harry and Ron quickly. “Not too far from here,” said Seamus...“It was a Muggle who saw him... ‘Course, she didn’t really understand. The Muggles think he’s just an ordinary criminal, don’t they?”</p> <p>“You foreign?” said Mr. Roberts as Mr. Weasley returned with the correct notes. “Foreign?” repeated Mr. Weasley, puzzled. “You’re not the first one who’s had trouble with money”</p>	<p>Rowling, 1998, p. 42</p> <p>Rowling, 1999b, p. 80</p> <p>Rowling, 2000, p. 50</p>
Wizards need to borrow from illegal usurers or friends	<p>“Turns out he’s [Ludo Bagman] in big trouble with the goblins. Borrowed loads of gold off them. A gang of them cornered him in the woods after the World Cup and took all the gold he had, and it still wasn’t enough to cover all his debts. They followed him all the way to Hogwarts to keep an eye on him.”</p> <p>“Harry, you help yourself to anything you want...No charge.” “I can’t do that!” said Harry, who had already pulled out his money bag to pay...“You don’t pay here,” said Fred firmly, waving away Harry’s gold...“You gave us our start-up loan, we haven’t forgotten,” said George sternly.”</p>	<p>Rowling, 2000, p. 471</p> <p>Rowling, 2005, p. 78</p>
Fred and	“Harry...had forced forced the Weasley twins to take the	Rowling,

George Weasley borrow from Harry Potter	thousand Galleons prize money he had won in the Triwizard Tournament to help them realize their ambition to open a joke shop.”	2003, p. 79
Wizards borrow from Goblins	“Turns out he’s [Ludo Bagman] in big trouble with the goblins. Borrowed loads of gold off them. A gang of them cornered him in the woods after the World Cup and took all the gold he had, and it still wasn’t enough to cover all his debts. They followed him all the way to Hogwarts to keep an eye on him.”	Rowling, 2000, p. 471
Weasley twins consider gambling to obtain funds needed for opening their Joke-Shop	“We’ll bet thirty-seven Galleons, fifteen Sickles, three Knuts,” said Fred as he and George quickly pooled all their money, “that Ireland wins - but Viktor Krum gets the Snitch. Oh and we’ll throw in a fake wand.”...“Boys,” said Mr. Weasley under his breath, “I don’t want you betting...That’s all your savings”	Rowling, 2000, p. 57
Government depends on donations from wealthy individuals	“Mr. Weasley and Mr. Malfoy looked at each other... Malfoy’s cold gray eyes swept over Mr. Weasley, and then up and down the row. “Good lord, Arthur,” he said softly. “What did you have to sell to get seats in the Top Box? Surely your house wouldn’t have fetched this much?” Fudge, who wasn’t listening, said, “Lucius has just given a very generous contribution to St. Mungo’s Hospital for Magical Maladies and Injuries, Arthur. He’s here as my guest.”	Rowling, 2000, p. 66
Gringotts’ employees offer private usury services	“Turns out he’s [Ludo Bagman] in big trouble with the goblins. Borrowed loads of gold off them. A gang of them cornered him in the woods after the World Cup and took all the gold he had, and it still wasn’t enough to cover all his debts. They followed him all the way to Hogwarts to keep an eye on him.”	Rowling, 2000, p. 471
Wizards that make windfall gains spend them immediately	“The clipping had clearly come out of the wizarding newspaper, the <i>Daily Prophet</i> ...Harry picked up the clipping...and read:...Arthur Weasley...has won the annual <i>Daily Prophet Grand Prize Galleon Draw</i> . A delighted Mr. Weasley told the <i>Daily Prophet</i> , “We will be spending the gold on a summer holiday in Egypt.”	Rowling, 1999b, p. 5
Wizards view financial service providers as immoral	<p>“Wizards have banks?” “Just the one. Gringotts. Run by goblins.” Harry dropped the bit of sausage he was holding. “Goblins?” “Yeah — so yeh’d be mad ter try an’ rob it, I’ll tell yeh that. Never mess with goblins, Harry.</p> <p>“They passed a group of goblins who were cackling over a sack of gold that they had undoubtedly won betting on the match, and who seemed quite unperturbed by the trouble at the campsite.”</p> <p>“Absolute nightmare,” said Bagman to Harry in an undertone, noticing Harry watching the goblins too. “Their English isn’t too good...it’s like being back with</p>	<p>Rowling, 1998, p. 41</p> <p>Rowling, 2000, p. 81</p> <p>Rowling, 2000, p. 287</p>

	<p>all the Bulgarians at the Quidditch World Cup...but at least they used sign language another human could recognize.”</p> <p>“The goblins play as dirty as him. They say you drew with Diggory, and Bagman was betting you’d win outright. So Bagman had to run for it. He did run for it right after the third task.”</p>	Rowling, 2000, p. 471
Goblins’ inferior image inhibits most forms of interaction between wizards and Goblins	<p>“If there was a wizard of whom I would believe that they did not seek personal gain,” said Griphook finally, “it would be you, Harry Potter. Goblins ... are not used to... the respect that you have shown this night. Not from wand-carriers.”</p> <p>“Then I have to say this,” Bill went on. “If you have struck any kind of bargain with Griphook, and most particularly if that bargain involves treasure, you must be exceptionally careful. Goblin notions of ownership, payment, and repayment are not the same as human ones.” ...However, there is a belief among some goblins, and those at Gringotts are perhaps most prone to it, that wizards cannot be trusted in matters of gold and treasure, that they have no respect for goblin ownership.”</p>	Rowling, 2007, p. 323 Rowling, 2007, p. 342
Rent-seeking - Wealthy individuals often fund public goods and thus exert influence on public officials and public policy	<p>“I’ll leave a note for Dumbledore when I drop you off, he ought to know Malfoys been talking to Fudge again.”</p> <p>“What private business have they got together, anyway?”</p> <p>“Gold, I expect,” said Mr. Weasley angrily. “Malfoy’s been giving generously to all sorts of things for years... gets him in with the right people...then he can ask favors ...delay laws he doesn’t want passed...oh, he’s very well-connected, Lucius Malfoy.”</p>	Rowling, 2003, p. 116
Newspaper reports portray the officials positively, who reciprocate by making decisions favoring the reporters and wealthy wizards	<p>“Rita...said...“All right, Fudge is leaning on the <i>Prophet</i>, but it comes to the same thing. They won’t print a story that shows Harry in a good light. Nobody wants to read it. It’s against the public mood.”</p>	Rowling 2003, p. 423
The Minister of Magic is appointed, not elected	<p>“Newly appointed Minister of Magic, Rufus Scrimgeour, spoke today of the tough new measures taken by his Ministry to ensure the safety of students returning to Hogwarts School of Witchcraft and Wizardry this autumn.”</p>	Rowling 2005, p. 27
Government – Ministry of	<p>“Hagrid read his newspaper, the <i>Daily Prophet</i>. “Ministry o’ Magic messin’ things up as usual,” Hagrid muttered,</p>	Rowling, 1998, p.

Magic	turning the page. “There’s a Ministry of Magic?” Harry asked...“Course,” said Hagrid. “They wanted Dumbledore fer Minister, o’ course, but he’d never leave Hogwarts, so old Cornelius Fudge got the job. Bungler if ever there was one. So he pelts Dumbledore with owls every morning, askin’ fer advice.”	42
Inept public employees	“You wouldn’t believe how many people, even people who work at the Ministry, can’t do a decent Shield Charm”	Rowling, 2005, p. 78
Bribery	<p>“It was Umbridge’s lie that brought the blood surging into Harry’s brain and obliterated his sense of caution – that the locket she had taken as a bribe from a petty criminal was being used to bolster her own pure-blood credentials.”</p> <p>“When you stripped this house of all the valuables you could find,” Harry began again, “you took a bunch of stuff from the kitchen cupboard. There was a locket there.” Harry’s mouth was suddenly dry: He could sense Ron and Hermione’s tension and excitement too. “What did you do with it?” “Why?” asked Mundungus. “Is it valuable?” “You’ve still got it!” cried Hermione. “No, he hasn’t,” said Ron shrewdly. “He’s wondering whether he should have asked more money for it.” “More?” said Mundungus. “That wouldn’t have been effing difficult...bleedin’ gave it away, di’n’ I? No choice.” “What do you mean?” “I was selling in Diagon Alley and she come up to me and asks if I’ve got a license for trading in magical artifacts. Bleedin’ snoop. She was gonna fine me, but she took a fancy to the locket an’ told me she’d take it and let me off that time, and to fink meself lucky.” “Who was this woman?” asked Harry. “I dunno, some Ministry hag.”</p>	<p>Rowling, 2007, p. 172</p> <p>Rowling, 2007, p. 144</p>
Nepotism is common	<p>“What does your dad do at the Ministry of Magic, anyway?” “He works in the most boring department,” said Ron. “The Misuse of Muggle Artifacts Office.” “The <i>what</i>?” “It’s all to do with bewitching things that are Muggle-made, you know, in case they end up back in a Muggle shop or house. Like, last year, some old witch died and her tea set was sold to an antiques shop. This Muggle woman bought it, took it home, and tried to serve her friends tea in it. It was a nightmare — Dad was working overtime for weeks.”</p> <p>“You are sweet,” beamed Mrs. Weasley...“Yes, Rufus Scrimgeour has set up several new offices in response to the present situation, and Arthur’s heading the Office for the Detection and Confiscation of Counterfeit Defensive Spells and Protective Objects.”</p> <p>“I’ve been promoted,” Percy said before Harry could even ask, and from his tone, he might have been announcing his</p>	<p>Rowling, 1999a, p. 20</p> <p>Rowling, 2005, p. 56</p> <p>Rowling, 2000, p.</p>

	<p>election as supreme ruler of the universe. “I’m now Mr. Crouch’s personal assistant, and I’m here representing him.”</p> <p>“In a surprise move last night the Ministry of Magic passed new legislation... “The Minister has been growing uneasy about goings-on at Hogwarts for some time,’ said junior Assistant to the Minister, Percy Weasley.”</p> <p>“D’you know what you want to do after Hogwarts?” Harry asked the other two... “Not really,” said Ron slowly. “Except...well...” He looked slightly sheepish. “What?” Harry urged him. “Well, it’d be cool to be an Auror [at the Ministry of Magic],’ “ said Ron in an off-hand voice. “Yeah, it would,” said Harry fervently. “But they’re, like, the elite,” said Ron.”</p> <p>“Good training for when we’re all Aurors,” said Ron excitedly, attempting the Impediment Curse on a wasp that had buzzed into the room and making it stop dead in midair.”</p>	<p>268</p> <p>Rowling, 2003, p. 229</p> <p>Rowling, 2003, p. 170</p> <p>Rowling, 2000, p. 392</p>
<p>Rent-seeking: Wealthy wizards that fund public officials’ office expenditures have access to the officials and influence their decisions</p>	<p>“Malfoy’s been giving generously to all sorts of things for years... gets him in with the right people...then he can ask favors ...delay laws he doesn’t want passed...oh, he’s very well-connected, Lucius Malfoy.”</p>	<p>Rowling, 2003, p. 116</p>
<p>Mr. Malfoy knows in advance about the Ministry’s planned raid</p>	<p>“Mr. Malfoy, what a pleasure to see you again,” said Mr. Borgin in a voice as oily as his hair. “Delighted — and young Master Malfoy, too — charmed. How may I be of assistance? I must show you, just in today, and very reasonably priced —” “I’m not buying today, Mr. Borgin, but selling,” said Mr. Malfoy. “Selling?” The smile faded slightly from Mr. Borgin’s face. “You have heard, of course, that the Ministry is conducting more raids,” said Mr. Malfoy, taking a roll of parchment from his inside pocket and unraveling it for Mr. Borgin to read. “I have a few — ah — items at home that might embarrass me, if the Ministry were to call...” Mr. Borgin fixed a pair of pince-nez to his nose and looked down the list. “The Ministry wouldn’t presume to trouble you, sir, surely?” Mr. Malfoy’s lip curled. “I have not been visited yet. The name Malfoy still commands a certain respect, yet the Ministry grows ever more meddlesome. There are rumors about a new Muggle Protection Act — no doubt that flea-bitten, Muggle-loving fool Arthur Weasley is behind it —</p>	<p>Rowling, 1999a, pp. 33–34</p>

	<p>” Harry felt a hot surge of anger. “— and as you see, certain of these poisons might make it appear —” “I understand, sir, of course,” said Mr. Borgin. “Let me see...“I am in something of a hurry, Borgin, I have important business elsewhere today —” ...They started to haggle. “Done,” said Mr. Malfoy at the counter. “Come, Draco —”... “Good day to you, Mr. Borgin. I’ll expect you at the manor tomorrow to pick up the goods.”</p>	
Junior public officials make efforts to please their superiors	<p>“Percy hurried forward with his hand outstretched. Apparently his disapproval of the way Ludo Bagman ran his department did not prevent him from wanting to make a good impression.”</p> <p>“Mr. Crouch!” said Percy breathlessly, sunk into a kind of halfbow that made him look like a hunchback. “Would you like a cup of tea?” “Oh,” said Mr. Crouch, looking over at Percy in mild surprise. “Yes - thank you, Weatherby.” Fred and George choked into their own cups. Percy, very pink around the ears, busied himself with the kettle.”</p> <p>“I just can’t justify taking more time off at the moment,” he told them. “Mr. Crouch is really starting to rely on me.” “Yeah, you know what, Percy?” said George seriously. “I reckon he’ll know your name soon.”</p> <p>“Are you sure you wouldn’t like to stay at Hogwarts tonight, Barty?” “No, Dumbledore, I must get back to the Ministry,” said Mr. Crouch. “It is a very busy, very difficult time at the moment...I’ve left young Weatherby in charge... Very enthusiastic...a little overenthusiastic, if truth be told...”</p> <p>“What do they think they’re doing, annoying senior Ministry members?” Percy hissed, watching Fred and George suspiciously. “No respect...” Ludo Bagman shook off Fred and George fairly quickly, however, and, spotting Harry, waved and came over to their table. “I hope my brothers weren’t bothering you, Mr. Bagman?” said Percy at once.”</p>	<p>Rowling, 2000, p. 56</p> <p>Rowling, 2000, pp. 58–59</p> <p>Rowling, 2000, p. 104</p> <p>Rowling, 2000, p. 182</p> <p>Rowling, 2000, p. 273.</p>
Many offices are overstaffed with low productivity workers	<p>“You realize Bertha Jorkins has been missing for over a month now? Went on holiday to Albania and never came back?”</p>	<p>Rowling, 2000, p. 40</p>
Hogwarts’ Healer, Madam Pomfrey cures them all	<p>“How exactly did it happen, Harry?” Harry retold the story “...and then I got the bezoar down his throat and his breathing eased up a bit, Slughorn ran for help, McGonagall and Madam Pomfrey turned up, and they brought Ron up here. They reckon he’ll be all right.</p>	<p>Rowling, 2005, p. 263</p>

	Madam Pomfrey says he'll have to stay here a week or so...keep taking essence of rue..."	
Private Property and inheritance	<p>"Ministry, is it?" said the older man, looking down at Ogden. "Correct!" said Ogden angrily, dabbing his face. "And you, I take it, are Mr. Gaunt?" "S'right," said Gaunt. "Got you in the face, did he?" "Yes, he did!" snapped Ogden. "Should've made your presence known, shouldn't you?" said Gaunt aggressively. "This is private property. Can't just walk in here and not expect my son to defend himself."</p> <p>"When the cart stopped at last beside a small door in the passage wall, Hagrid got out and had to lean against the wall to stop his knees from trembling. Griphook unlocked the door. A lot of green smoke came billowing out, and as it cleared, Harry gasped. Inside were mounds of gold coins. Columns of silver. Heaps of little bronze Knuts. "All yours," smiled Hagrid. All Harry's — it was incredible. The Dursleys couldn't have known about this or they'd have had it from him faster than blinking. How often had they complained how much Harry cost them to keep? And all the time there had been a small fortune belonging to him, buried deep under London."</p> <p>"Stored in an underground vault at Gringotts in London was a small fortune that his parents had left him. Of course, it was only in the Wizarding world that he had money; you couldn't use Galleons, Sickles, and Knuts in Muggle shops."</p> <p>"You see," Dumbledore said, turning back to Harry and again speaking as though Uncle Vernon had not uttered, "if you have indeed inherited the house, you have also inherited —"... "As you can see, Harry," said Dumbledore loudly, over Kreacher's continued croaks of "wont, won't, won't," "Kreacher is showing a certain reluctance to pass into your ownership."... "Give him an order," said Dumbledore. "If he has passed into your ownership, he will have to obey."... "Well, that simplifies matters," said Dumbledore cheerfully. "It means that Sirius knew what he was doing. You are the rightful owner of number twelve, Grimmauld Place and of Kreacher."</p> <p>"Can't the Order control Mundungus?" Harry demanded of the other two in a furious whisper. "Can't they at least stop him stealing everything that's not fixed down when he's at headquarters?" "Shh!" said Hermione desperately, looking around to make sure nobody was listening; there were a couple of warlocks sitting close by who were staring at Harry with great interest, and Zabini was lolling against a pillar not far away. "Harry, I'd be annoyed too, I</p>	<p>Rowling, 2005, p. 132</p> <p>Rowling, 1998, p. 48</p> <p>Rowling, 1999a, p. 30</p> <p>Rowling, 2005, pp. 33–34</p> <p>Rowling, 2005, p. 161</p>

	<p>know it's your things he's stealing—" "Harry gagged on his butterbeer; he had momentarily forgotten that he owned number twelve, Grimmauld Place. "Yeah, it's my stuff!" he said. "No wonder he wasn't pleased to see me! Well, I'm going to tell Dumbledore what's going on, he's the only one who scares Mundungus."</p>	
<p>Inheritance confiscation attempts by the government</p>	<p>"I have some questions for the three of you, and I think it will be best if we do it individually..." "We're not going anywhere," said Harry, while Hermione nodded vigorously. "You can speak to us together, or not at all..." "I am here, as I'm sure you know, because of Albus Dumbledore's will." Harry, Ron, and Hermione looked at one another. "A surprise, apparently! You were not aware then that Dumbledore had left you anything?" "A-all of us?" said Ron, "Me and Hermione too?" "Yes, all of—" But Harry interrupted. "Dumbledore died over a month ago. Why has it taken this long to give us what he left us?" "Isn't it obvious?" said Hermione, before Scrimgeour could answer. "They wanted to examine whatever he's left us. You had no right to do that!" she said, and her voice trembled slightly. "I had every right," said Scrimgeour dismissively. "The Decree for Justifiable Confiscation gives the Ministry the power to confiscate the contents of a will—" "That law was created to stop wizards passing on Dark artifacts," said Hermione, "and the Ministry is supposed to have powerful evidence that the deceased's possessions are illegal before seizing them! ...Harry spoke: "So why have you decided to let us have our things now? Can't think of a pretext to keep them?" "No, it'll be because thirty-one days are up," said Hermione at once. "They can't keep the objects longer than that unless they can prove they're dangerous. Right?" "... how do you account for the fact that he remembered you in his will? He made exceptionally few personal bequests. ... Why do you think you were singled out?" "I...dunno," said Ron...Scrimgeour... removed a scroll of parchment which he unrolled and read aloud. "<i>The Last Will and Testament of Albus Percival Wulfric Brian Dumbledore</i>"...Yes, here we are... '<i>To Ronald Bilius Weasley, I leave my Deluminator, in the hope that he will remember me when he uses it.</i>'" Scrimgeour took from the bag an object ... leaned forward and passed the Deluminator to Ron, who took it and turned it over in the fingers looking stunned. "That is a valuable object," said Scrimgeour, watching Ron. ... To what use did he think you would put to the Deluminator, Mr. Weasley?" "Put out lights, I s'pose," mumbled Ron. "What else could I do with it?" Evidently Scrimgeour had no suggestions. After squinting at Ron for a moment or two, he turned back to Dumbledore's will. "<i>To Miss Hermione Jean Granger, I leave my copy of The Tales of Beedle the Bard, in the</i></p>	<p>Rowling, 2007, pp. 80-85</p>

hope that she will find it entertaining and instructive.”

Scrimgeour now pulled out of the bag a small book ... Harry saw that the title was in runes; he had never learned to read them. As he looked, a tear splashed onto the embossed symbols. “Why do you think Dumbledore left you that book, Miss Granger?” asked Scrimgeour.

“He...he knew I liked books,” said Hermione in a thick voice, mopping her eyes with her sleeve. “But why that particular book?” “I don’t know. He must have thought I’d enjoy it.” “Did you ever discuss codes, or any means of passing secret messages, with Dumbledore?” “No, I didn’t,” said Hermione,...Scrimgeour turned back to the will. “*“To Harry James Potter,”*” he read, and Harry’s insides contracted with a sudden excitement, “*“I leave the Snitch he caught in his first Quidditch match at Hogwarts, as a reminder of the rewards of perseverance and skill.”*”

As Scrimgeour pulled out the tiny, walnut-sized golden ball, ... “Why did Dumbledore leave you this Snitch?” asked Scrimgeour. “No idea,” said Harry... “What ...could it be?” “I’m asking the questions,” said Scrimgeour, “I notice that your birthday cake is in the shape of a Snitch,” Scrimgeour said to Harry... “I don’t think there’s anything hidden in the icing,” said Scrimgeour, “but a Snitch would be a very good hiding place for a small object... “Because Snitches have flesh memories,” she said... “Correct,” said Scrimgeour... “It occurs to me that Dumbledore, who had prodigious magical skill, whatever his other faults, might have enchanted this Snitch so that it will open only for you.”... “Take it,” said Scrimgeour quietly... “That’s all, then, is it?” asked Hermione, making to raise herself off the sofa. “Not quite,” said Scrimgeour, who looked bad tempered now. “Dumbledore left you a second bequest, Potter.” “What is it?” asked Harry... “The sword of Godric Gryffindor,” he said... “So where is it?” Harry asked suspiciously. “Unfortunately,” said Scrimgeour, “that sword was not Dumbledore’s to give away. The sword of Godric Gryffindor is an important historical artifact, and as such, belongs –” “It belongs to Harry!” said Hermione hotly. “It chose him, he was the one who found it, it came to him out of the Sorting Hat –” “According to reliable historical sources, the sword may present itself to any worthy Gryffindor,” said Scrimgeour. “That does not make it the exclusive property of Mr. Potter, whatever Dumbledore may have decided.” ... “You go too far!” shouted Scrimgeour, standing up: Harry jumped to his feet too. ... “No! D’you want to give him an excuse to arrest us?” “Remembered you’re not at school, have you?” said Scrimgeour breathing hard into Harry’s face.

“Remembered that I am not Dumbledore, who forgave your insolence and insubordination? You may wear that scar like a crown, Potter, but it is not up to a seventeen-

	<p>year-old boy to tell me how to do my job! It's time you learned some respect!"... "I don't like your methods, Minister," said Harry.</p>	
Contract	<p>"Finally, I wish to impress upon any of you wishing to compete that this tournament is not to be entered into lightly. Once a champion has been selected by the Goblet of Fire, he or she is obliged to see the tournament through to the end. The placing of your name in the goblet constitutes a binding, magical contract. There can be no change of heart once you have become a champion. Please be very sure, therefore, that you are wholeheartedly prepared to play before you drop your name into the goblet. Now, I think it is time for bed. Good night to you all."</p> <p>"Empty threat, Karkaroff," growled a voice from near the door. "You can't leave your champion now. He's got to compete. They've all got to compete. Binding magical contract, like Dumbledore said. Convenient, eh?"</p> <p>"I – I think everybody should write their name down, just so we know who was here. But I also think," she took a deep breath, "that we all ought to agree not to shout about what we're doing. So if you sign, you're agreeing not to tell Umbridge or anybody else what we're up to."... When the last person – Zacharias – had signed, Hermione took the parchment back and slipped it carefully into her bag. There was an odd feeling in the group now. It was as though they had just signed some kind of contract."</p> <p>"How do I look?" said Hepzibah, turning her head to admire the various angles of her face in the mirror. "Lovely, madam," squeaked Hokey. Harry could only assume that it was down in Hokey's contract that she must lie through her teeth when asked this question, because Hepzibah Smith looked a long way from lovely in his opinion.</p>	<p>Rowling, 2000, p. 166</p> <p>Rowling, 2000, p. 179</p> <p>Rowling, 2003, p. 259</p> <p>Rowling, 2005, pp. 285–286</p>
Unbreakable Vow	<p>"So Snape was offering to help him?"... "Yes, Snape was offering to help him!" said Harry. "He said he'd promised Malfoy's mother to protect him, that he'd made an Unbreakable Oath or something —" "An Unbreakable Vow?" said Ron, looking stunned. "Nah, he can't have... Are you sure?" "Yes, I'm sure," said Harry. "Why, what does it mean?" "Well, you can't break an Unbreakable Vow..." "I'd worked that much out for myself, funnily enough. What happens if you break it, then?" "You die," said Ron simply. "Fred and George tried to get me to make one when I was about five. I nearly did too, I was holding hands with Fred and everything when Dad found us. He went mental," said</p>	<p>Rowling, 2005, p. 214</p>

	Ron.	
The Ministry decides to change the time of Harry's court hearing but informs him on this change at the last minute	A cold male voice rang across the courtroom. "You're late." "Sorry," said Harry nervously "I — I didn't know the time had been changed." "That is not the Wizengamot's [the court of the Ministry of Magic] fault," said the voice. "An owl was sent to you this morning. Take your seat."	Rowling, 2003, p. 103
According to the Minister of Magic, laws can be changed	"The Ministry does not have the power to expel Hogwarts students, Cornelius, as I reminded you on the night of the second of August," said Dumbledore. "Nor does it have the right to confiscate wands until charges have been successfully proven...In your admirable haste to ensure that the law is upheld, you appear, inadvertently I am sure, to have overlooked a few laws yourself." "Laws can be changed," said Fudge savagely. "Of course they can," said Dumbledore, inclining his head. "And you certainly seem to be making many changes, Cornelius. Why, in the few short weeks since I was asked to leave the Wizengamot [the court of the Ministry of Magic], it has already become the practice to hold a full criminal trial to deal with a simple matter of underage magic!"	Rowling, 2003, p. 112
Hogwarts' Head Mistress and High Inquisitor amasses absolute power and authority	I contacted the Minister at once, and he quite agreed with me that the High Inquisitor has to have the power to strip pupils of privileges, or she – that is to say, I – would have less authority than common teachers!...I was reading out our amendment...hem, hem... 'High Inquisitor will henceforth have supreme authority over all punishments, sanctions and removal of privileges pertaining to the students of Hogwarts, and the power to alter such punishments, sanctions and removals of privileges as may have been ordered by other staff members. Signed, Cornelius Fudge, Minister of Magic, Order of Merlin First Class, etc., etc.'" She rolled up the parchment and put it back into her handbag, still smiling. "So...I really think I will have to ban these two from playing Quidditch ever again," she said, looking from Harry to George and back again. Harry felt the Snitch fluttering madly in his hand. "Ban us?" he said, and his voice sounded strangely distant. "From playing ...ever again?" "Yes, Mr. Potter, I think a lifelong ban ought to do the trick," said Umbridge, her smile widening still further as she watched him struggle to comprehend what she had said. "You and Mr. Weasley here. And I think, to be safe, this young man's twin ought to be stopped, too – if his teammates had not restrained him, I feel sure he would have attacked young Mr. Malfoy as well. I will want their broomsticks confiscated, of course; I shall keep them safely in my office, to make sure there is no infringement of my ban.	Rowling, 2003, pp. 310–311.

<p>Selective enforcement of the laws by the Ministry of Magic</p>	<p>“So all that remains,” said Fudge, now buttering himself a second crumpet, “is to decide where you’re going to spend the last two weeks of your vacation. I suggest you take a room here at the Leaky Cauldron and...” “Hang on,” blurted Harry. “What about my punishment?” Fudge blinked. “Punishment?” “I broke the law!” Harry said. “The Decree for the Restriction of Underage Wizardry!” “Oh, my dear boy, we’re not going to punish you for a little thing like that!” cried Fudge, waving his crumpet impatiently. “It was an accident! We don’t send people to Azkaban just for blowing up their aunts!”</p>	<p>Rowling, 1999b, p. 28</p>
<p>Half-blood and mud-blood wizards must be questioned to make sure that they did not “steal” magic powers</p>	<p>“<i>Muggle-born Register!</i>” she read aloud. “<i>“The Ministry of Magic is undertaking a survey of so-called ‘Muggle-borns’ to better understand how they came to possess magical secrets. ‘Recent research undertaken by the Department of Mysteries reveals that magic can only be passed from person to person when Wizards reproduce. Where no proven Wizarding ancestry exists, therefore, the so-called Muggle-born is likely to have obtained magical power by theft or force. ‘The Ministry is determined to root out such usurpers of magical power, and to this end has issued an invitation to every so-called Muggle-born to present themselves for interview by the newly appointed Muggle-born Registration Commission.’”</i> “People won’t let this happen,” said Ron. “It is happening, Ron,” said Lupin. “Muggle-borns are being rounded up as we speak.” “But how are they supposed to have ‘stolen’ magic?” said Ron. “It’s mental, if you could steal magic there wouldn’t be any Squibs, would there?” “I know,” said Lupin. “Nevertheless, unless you can prove that you have at least one close Wizarding relative, you are now deemed to have obtained your magical power illegally and must suffer the punishment.”</p>	<p>Rowling, 2007, p. 136</p>
<p>Criminal activities</p>	<p>“And you off buying stolen cauldrons! Didn’t I tell you not to go? Didn’t I!” “I – well, I –” Mundungus looked deeply uncomfortable. “It — it was a very good business opportunity, see –”</p> <p>“Mundungus!” said Hermione. “What’s he brought all those cauldrons for?” “Probably looking for a safe place to keep them,” said Harry. “Isn’t that what he was doing the night he was supposed to be tailing me? Picking up dodgy cauldrons?” “Yeah, you’re right!” said Fred, as the front door opened; Mundungus heaved his cauldrons through it and disappeared from view. “Blimey, Mum won’t like that...”</p> <p>Once they had eaten their Christmas lunch, the Weasleys, Harry and Hermione were planning to pay Mr. Weasley another visit, escorted by Mad-Eye and Lupin. Mundungus turned up in time for Christmas pudding and</p>	<p>Rowling, 2003, p. 18</p> <p>Rowling, 2003, p. 80</p> <p>Rowling, 2003, p. 377</p>

	<p>trifle, having managed to ‘borrow’ a car for the occasion, as the Underground did not run on Christmas Day. The car, which Harry doubted very much had been taken with the knowledge or consent of it's owner, had had a similar Enlarging Spell put upon it as the Weasley's old Ford Anglia;</p> <p>On the other hand, a number of shabby-looking stalls had sprung up along the street. The nearest one, which had been erected outside Flourish and Blotts, under a striped, stained awning, had a cardboard sign pinned to its front: AMULETS - Effective Against Werewolves, Dementors, and Inferi! A seedy-looking little wizard was rattling armfuls of silver symbols on chains at passersby. “One for your little girl, madam?” he called at Mrs. Weasley as they passed, leering at Ginny. “Protect her pretty neck?” “If I were on duty...” said Mr. Weasley, glaring angrily at the amulet seller. “Yes, but don’t go arresting anyone now, dear, we’re in a hurry,” said Mrs. Weasley, nervously consulting a list.</p> <p>“Well, you see, in all the panic about You-Know-Who, odd things have been cropping up for sale everywhere, things that are supposed to guard against You-Know-Who and the Death Eaters. You can imagine the kind of thing...so-called protective potions that are really gravy with a bit of bubotuber pus added, or instructions for defensive jinxes that actually make your ears fall off...Well, in the main the perpetrators are just people like Mundungus Fletcher, who’ve never done an honest day’s work in their lives and are taking advantage of how frightened everybody is.”</p>	<p>Rowling, 2005, p. 73</p> <p>Rowling, 2005, p. 56</p>
New businesses open rarely	<p>“It’s this joke shop idea they’ve got,” said Ron. “I thought they were only saying it to annoy Mum, but they really mean it, they want to start one. They’ve only got a year left at Hogwarts, they keep going on about how it’s time to think about their future, and Dad can’t help them, and they need gold to get started.”</p>	<p>Rowling, 2000, pp. 366–367</p>
Attempts by an entrepreneur to import flying carpets are blocked	<p>“He wants a word with you about your embargo on flying carpets.” Mr. Weasley heaved a deep sigh...“Carpets are defined as a Muggle Artifact by the Registry of Proscribed Charmable Objects”...“Well, they’ll never replace brooms in Britain, will they?” said Bagman. “Ali thinks there’s a niche in the market for a family vehicle,” said Mr. Crouch. “I remember my grandfather had an Axminster that could seat twelve - but that was before carpets were banned, of course.”</p>	<p>Rowling, 2000, p. 59</p>
<i>The Squibbler</i> – unreliable tabloids	<p>“Of course not,” said Hermione scathingly, before Harry could answer. “<i>The Quibbler</i>’s rubbish, everyone knows that.”</p>	<p>Rowling, 2003, p. 144</p>
<i>Daily Prophet</i>	<p>“Harry...was talking more than he’d talked in days -</p>	<p>Rowling,</p>

publishes biased information	<p>about how no one believed he hadn't entered the tournament of his own free will, how Rita Skeeter had lied about him in the <i>Daily Prophet</i>"</p> <p>"They're trying to discredit him," said Lupin. "Didn't you see the <i>Daily Prophet</i> last week? They reported that he'd been voted out of the Chairmanship of the International Confederation of Wizards because he's getting old and losing his grip, but it's not true"</p>	<p>2000, p. 213</p> <p>Rowling 2003, p. 72</p>
Harry Potter knows nothing about the Weasleys' Wizard Wheezes – the Weasley twins' joke shop	<p>"What are Weasleys' Wizard Wheezes?" Harry asked... Ron and Ginny both laughed, although Hermione didn't. "Mum found this stack of order forms when she was cleaning Fred and George's room," said Ron quietly. "Great long price lists for stuff they've invented. Joke stuff, you know. Fake wands and trick sweets,...I never knew they'd been inventing all that"... "and, you know, they were planning to sell it at Hogwarts to make some money"</p>	Rowling 2000, p. 36
The wizards have only one wand-maker	<p>"Don' mention it," said Hagrid gruffly. "Don' expect you've had a lotta presents from them Dursleys. Just Ollivanders left now — only place fer wands, Ollivanders, and yeh gotta have the best wand."</p>	Rowling, 1998, p. 53
Opening the market to caldron imports is expected to drive the prices down	<p>"What are you working on?" said Harry. "A report for the Department of International Magical Cooperation," said Percy smugly. "We're trying to standardize cauldron thickness. Some of these foreign imports are just a shade too thin - leakages have been increasing at a rate of almost three percent a year"... "unless some sort of international law is imposed we might well find the market flooded with flimsy, shallow bottomed products that seriously endanger -"</p>	Rowling, 2000, pp. 36–37
Kids eat the same candies and collect the same cards as their parents	<p>"Madam Rosmertas finest oak-matured mead," said Dumbledore, raising his glass to Harry, who caught hold of his own and sipped. He had never tasted anything like it before, but enjoyed it immensely...Harry could not suppress a suspicion that Dumbledore was rather enjoying himself.</p>	Rowling, 2005, p. 31
Zonko's Joke Shop goes out of business	<p>"The walk into Hogsmeade was not enjoyable...More than once Harry wondered whether they might not have had a better time in the warm common room, and when they finally reached Hogsmeade and saw that Zonko's Joke Shop had been boarded up, Harry took it as confirmation that this trip was not destined to be fun."</p>	Rowling, 2005, pp. 158–159
Lack of competition limits the Potterians' choice although there's demand for new	<p>"Mum found this stack of order forms when she was cleaning Fred and George's room," said Ron quietly. "Great long price lists for stuff they've invented. Joke stuff, you know. Fake wands and trick sweets, loads of stuff. It was brilliant, I never knew they'd been inventing all that..."</p> <p>"But the common room was packed and full of shrieks of</p>	<p>Rowling, 2000, p. 36</p> <p>Rowling,</p>

products	<p>laughter and excitement; Fred and George were demonstrating their latest bit of joke shop merchandise.”</p> <p>“...they headed farther along the street in search of Weasleys’ Wizard Wheezes, the joke shop run by Fred and George.”...“And he and Harry led the way into the shop. It was packed with customers; Harry could not get near the shelves.”</p> <p>“We’ve just developed this more serious line,” said Fred...“Well, we thought Shield Hats were a bit of a laugh, you know, challenge your mate to jinx you while wearing it and watch his face when the jinx just bounces off. But the Ministry bought five hundred for all its support staff! And we’re still getting massive orders!” “So we’ve expanded into a range of Shield Cloaks, Shield Gloves...” “And then we thought we’d get into the whole area of Defense Against the Dark Arts, because it’s such a money spinner,” continued George enthusiastically. “This is cool. Look, Instant Darkness Powder... Handy if you want to make a quick escape.” “And our Decoy Detonators...”</p>	<p>2003, p. 403</p> <p>Rowling, 2005, p. 76</p> <p>Rowling, 2005, p. 78</p>
Wizards view muggle-made goods as inferior	<p>“Why would anyone bother making door keys shrink?” said George. “Just Muggle-baiting,” sighed Mr. Weasley. “Sell them a key that keeps shrinking to nothing so they can never find it when they need it. Of course, it’s very hard to convict anyone because no Muggle would admit their key keeps shrinking — they’ll insist they just keep losing it.”</p> <p>“Harry left Hermione dabbing her black eye with paste and followed Fred toward the back of the shop, where he saw a stand of card and rope tricks. “Muggle magic tricks!” said Fred happily, pointing them out. “For freaks like Dad, you know, who love Muggle stuff. It’s not a big earner...”</p>	<p>Rowling 1999a, p. 25</p> <p>Rowling, 2005, p. 77</p>
Wealthy wizards enjoy a luxurious life style, and own almost all the assets and capital	<p>“Judging by the fact that Draco Malfoy usually had the best of everything, his family was rolling in wizard gold; he could just see Malfoy strutting around a large manor house.”</p>	<p>Rowling, 1999a, p. 19</p>
Voldemort comes from a well-established family that was stripped of its assets	<p>“That old man was —?” “Voldemort’s grandfather, yes,” said Dumbledore. “Marvolo, his son, Morfin, and his daughter, Merope, were the last of the Gaunts, a very ancient Wizarding family noted for a vein of instability and violence that flourished through the generations due to their habit of marrying their own cousins. Lack of sense coupled with a great liking for grandeur meant that the family gold was squandered several generations before</p>	<p>Rowling, 2005, pp. 138</p>

	Marvolo was born. He, as you saw, was left in squalor and Poverty.”	
Businessmen’s negative image	<p>“Mum wants them to go into the Ministry of Magic like Dad, and they told her all they want to do is open a joke shop.”</p> <p>“Mrs. Weasley...did not think running a joke shop was a suitable career for two of her sons.”</p>	<p>Rowling, 2000, p. 36</p> <p>Rowling, 2003, p. 79</p>
Wizards with muggle predecessors, are considered by wealthy wizards a threat because of their different culture	“Harry knew exactly what was making Mr. Malfoy’s lip curl like that. The Malfoys prided themselves on being purebloods; in other words, they considered anyone of Muggle descent, like Hermione, second-class. However, under the gaze of the Minister of Magic, Mr. Malfoy didn’t dare say anything.”	Rowling, 2000, p. 66
Wealthy pure-blood wizards consider themselves superior to <i>mud-blood</i> wizards	<p>“I would have thought you’d be ashamed that a girl of no wizard family beat you in every exam,” snapped Mr. Malfoy.”</p> <p>“Malfoy called her ‘Mudblood,’ Hagrid”...Hagrid looked outraged...“But I don’t know what it means. I could tell it was really rude, of course.” “It’s about the most insulting thing he could think of,” gasped Ron...“Mudblood’s a really foul name for someone who is Muggle-born — you know, non-magic parents. There are some wizards — like Malfoy’s family — who think they’re better than everyone else because they’re what people call pure-blood.”</p> <p>“If you’re wondering what the smell is, Mother, a Mudblood just walked in,” said Draco Malfoy.”</p> <p>“You’re lying, filthy Mudblood, and I know it! You have been inside my vault at Gringotts! Tell the truth, <i>tell the truth!</i>”</p>	<p>Rowling, 1999a, p. 34</p> <p>Rowling, 1999a, pp. 72–74</p> <p>Rowling, 2005, p. 74</p> <p>Rowling, 2007, p. 308</p>
Wealthy pure-blood wizards consider themselves superior to <i>half-blood</i> wizards	<p>“Shut your mouth!” Bellatrix shrieked. “You dare speak his name with your unworthy lips, you dare besmirch it with your half-blood’s tongue, you dare”</p> <p>“...they thought Voldemort had the right idea, they were all for the purification of the wizarding race, getting rid of Muggle-borns and having pure-bloods in charge. They weren’t alone, either, there were quite a few people, before Voldemort showed his true colors, who thought he had the right idea about things”</p>	<p>Rowling, 2003, p. 584</p> <p>Rowling, 2003, p. 84</p>

	<p>“He’d play up the pure-blood side so he could get in with Lucius Malfoy and the rest of them...he’s just like Voldemort. Pure-blood mother, Muggle father...ashamed of his parentage”</p>	<p>Rowling, 2005, p. 417</p>
<p>Wealthy wizards associated with middle class wizards are often disinherited by their families</p>	<p>“The tapestry looked immensely old...the golden thread with which it was embroidered still glistened brightly enough to show them a sprawling family tree dating back (as far as Harry could tell) to the Middle Ages. Large words at the very top of the tapestry read: “The Noble and Most Ancient House of Black Toujours pur.” “You’re not on here!” said Harry, after scanning the bottom of the tree closely. “I used to be there,” said Sirius, pointing at a small, round, charred hole in the tapestry, rather like a cigarette burn. “My sweet old mother blasted me off after ...I’d had enough.” “Where did you go?” asked Harry, staring at him. “Your dad’s place,” said Sirius...“when I was seventeen I got a place of my own. My Uncle Alphard had left me a decent bit of gold – he’s been wiped off here, too, that’s probably why”</p>	<p>Rowling, 2003, pp. 83–84</p>
<p>Intermarriages further block upward mobility</p>	<p>“The pure-blood families are all interrelated,” said Sirius. “If you’re only going to let your sons and daughters marry pure-bloods your choice is very limited; there are hardly any of us left. Molly and I are cousins by marriage and Arthur’s something like my second cousin once removed.”</p>	<p>Rowling, 2003, p. 85</p>
<p>Cultural barriers – wizards lack basic knowledge about other people’s customs and traditions</p>	<p>“There was a greater variety of dishes in front of them than Harry had ever seen, including several that were definitely foreign. “What’s that?” said Ron, pointing at a large dish...“Bouillabaisse,” said Hermione...“It’s French,” said Hermione, “I had it on holiday summer before last. It’s very nice.” “I’ll take your word for it,” said Ron, helping himself to black pudding.”</p> <p>“Excuse me, are you wanting ze bouillabaisse?” It was the girl from Beauxbatons...Ron...stared up at her, opened his mouth to reply, but nothing came out except a faint gurgling noise. “Yeah, have it,” said Harry, pushing the dish toward the girl. “You ‘ave finished wiz it?” “Yeah,” Ron said breathlessly. “Yeah, it was excellent.”...Ron was still goggling at the girl as though he had never seen one before.”</p> <p>“When the second course arrived they noticed a number of unfamiliar desserts too. Ron examined an odd sort of pale blancmange closely, then moved it carefully a few inches to his right, so that it would be clearly visible from the Ravenclaw table.”</p> <p>“I’ll be havin’ a few words with her, an’ all,” said Hagrid grimly, stomping up the stairs. “The less you lot ‘ave ter</p>	<p>Rowling, 2000, pp. 162–163</p> <p>Rowling, 2000, p. 163</p> <p>Rowling, 2000, p. 164</p> <p>Rowling, 2000, p.</p>

	do with these foreigners, the happier yeh'll be. Yeh can trust any of 'em."	363
When a leading English wand-maker disappears, wizards can't find another wand-maker	"Talking of Diagon Alley," said Mr. Weasley, "looks like Ollivander's gone too." "The wandmaker?" said Ginny, looking startled. "That's the one. Shop's empty. No sign of a struggle. No one knows whether he left voluntarily or was kidnapped." "But what'll people do for wands?"	Rowling, 2005, p. 70
Trade in Muggle goods takes place only under very special circumstances and only for very specific goods	<p>"But what does a Ministry of Magic <i>do</i>?" "Well, their main job is to keep it from the Muggles that there's still witches an' wizards up an' down the country."</p> <p>"What does your dad do at the Ministry of Magic, anyway?" "He works in the most boring department," said Ron. "The Misuse of Muggle Artifacts Office." "The <i>what</i>?" "It's all to do with bewitching things that are Muggle-made, you know, in case they end up back in a Muggle shop or house. Like, last year, some old witch died and her tea set was sold to an antiques shop. This Muggle woman bought it, took it home, and tried to serve her friends tea in it. It was a nightmare — Dad was working overtime for weeks."</p> <p>"Harry...followed Fred toward the back of the shop, where he saw a stand of card and rope tricks. "Muggle magic tricks!" said Fred happily, pointing them out. "For freaks like Dad, you know, who love Muggle stuff. It's not a big earner..."</p>	<p>Rowling, 1998, p. 42</p> <p>Rowling, 1999a, p. 20</p> <p>Rowling, 2005, p. 77</p>
A junior official uses quality as a pretext to block an importation of considerably cheaper foreign goods	<p>"What are you working on?" said Harry. "A report for the Department of International Magical Cooperation," said Percy smugly. "We're trying to standardize cauldron thickness. Some of these foreign imports are just a shade too thin - leakages have been increasing at a rate of almost three percent a year"... "unless some sort of international law is imposed we might well find the market flooded with flimsy, shallow bottomed products that seriously endanger -"</p> <p>"He wants a word with you about your embargo on flying carpets." Mr. Weasley heaved a deep sigh..."Carpets are defined as a Muggle Artifact by the Registry of Proscribed Charmable Objects"... "Well, they'll never replace brooms in Britain, will they?" said Bagman. "Ali thinks there's a niche in the market for a family vehicle," said Mr. Crouch. "I remember my grandfather had an Axminster that could seat twelve - but that was before carpets were banned, of course."</p>	<p>Rowling, 2000, pp. 36-37</p> <p>Rowling, 2000, p. 59</p>
Senior wizard officials are	"Fudge... [the current minister of magic] is frightened of Dumbledore?" said Harry incredulously. "Frightened of	Rowling, 2003, p.

but the government ignores them	lunatic! From what Minerva and Severus have told me, he seems to have thought he was doing it all on You Know-Who's instructions!" "Lord Voldemort was giving him instructions, Cornelius," Dumbledore said. "Those peoples deaths were mere by-products of a plan to restore Voldemort to full strength again. The plan succeeded. Voldemort has been restored to his body." Fudge...began to sputter, still goggling at Dumbledore. "You-Know-Who ...returned? Preposterous. Come now, Dumbledore ..." "As Minerva and Severus have doubtless told you," said Dumbledore, "we heard Barty Crouch confess. Under the influence of Veritaserum, he told us how he was smuggled out of Azkaban, and how Voldemort...went to free him from his father and used him to capture Harry. The plan worked, I tell you. Crouch has helped Voldemort to return." "See here, Dumbledore...you - you can't seriously believe that You-Know-Who's back? Come now, come now...certainly, Crouch may have believed himself to be acting upon You-Know-Who's orders - but to take the word of a lunatic like that, Dumbledore..."	
Professor Slughorn complains that due to the war prices are sky-high	"There was a final plunk from the piano,...My last bottle, and prices are sky-high at the moment."	Rowling, 2005, p. 43
Cost born by the public for the government inefficiency - the price paid for goods sold by swindlers that offer a false sense of security	<p>"...a number of shabby-looking stalls had sprung up along the street. The nearest one...had a cardboard sign pinned to its front: <i>AMULETS, Effective Against Werewolves, Dementors, and Inferi!</i> A seedy-looking little wizard was rattling armfuls of silver symbols on chains at passersby. "One for your little girl, madam?" he called at Mrs. Weasley as they passed, leering at Ginny. "Protect her pretty neck?" "If I were on duty..." said Mr. Weasley, glaring angrily at the amulet seller. "Yes, but don't go arresting anyone now, dear, we're in a hurry," said Mrs. Weasley..."</p> <p>"You wouldn't believe how many people, even people who work at the Ministry, can't do a decent Shield Charm," said George. "Course, they didn't have you teaching them, Harry." "...the Ministry bought five hundred for all its support staff! And we're still getting massive orders!" "So we've expanded into a range of Shield Cloaks, Shield Gloves..." "...And then we thought we'd get into the whole area of Defense Against the Dark Arts, because it's such a money spinner," continued George... "This is cool. Look, Instant Darkness Powder, we're importing it from Peru. Handy if you want to make a quick escape."</p>	<p>Rowling, 2005, p. 73</p> <p>Rowling, 2005, p. 78</p>
The usually	"The Leaky Cauldron was, for the first time in Harry's	Rowling,

	<p>“They had reached Lockhart’s classroom...When the whole class was seated, Lockhart cleared his throat loudly and silence fell. He reached forward, picked up Neville Longbottom’s copy of <i>Travels with Trolls</i>, and held it up to show his own, winking portrait on the front. “Me,” he said, pointing at it and winking as well. “Gilderoy Lockhart... “I see you’ve all bought a complete set of my books — well done.”</p>	Rowling, 1999a, p. 64
The current headmaster is considered by many to be the greatest wizard of his time	<p>Harry unwrapped his Chocolate Frog and picked up the card...Harry turned over his card and read: ALBUS DUMBLEDORE CURRENTLY HEADMASTER OF HOGWARTS <i>Considered by many the greatest wizard of modern times, Dumbledore is particularly famous for his defeat of the dark wizard Grindelwald in 1945, for the discovery of the twelve uses of dragon’s blood, and his work on alchemy with his partner, Nicolas Flamel. Professor Dumbledore enjoys chamber music and tenpin bowling.</i></p>	Rowling, 1998, p. 66
The government can interfere with the school curriculum and governance	<p><i>Daily Prophet</i>: “In a surprise move last night the Ministry of Magic passed new legislation giving itself an unprecedented level of control at Hogwarts School “ “...the passing of Educational Decree Number Twenty-three...creates the new position of Hogwarts High Inquisitor... ‘The Inquisitor will have powers to inspect her fellow educators and make sure that they are coming up to scratch.”</p>	Rowling, 2003, p. 229
The Hogwarts’ graduates don’t know more than their predecessors	<p>“The time had come to choose their subjects for the third year... “I just want to give up Potions,” said Harry. “We can’t,” said Ron gloomily. “We keep all our old subjects, or I’d’ve ditched Defense Against the Dark Arts.”</p> <p>“Harry bent swiftly over the tattered book Slughorn had lent him. To his annoyance he saw that the previous owner had scribbled all over the pages, so that the margins were as black as the printed portions. Bending low to decipher the ingredients (even here, the previous owner had made annotations and crossed things out)...”</p> <p>“I just tried a few of the tips written in the margins, honestly, Ginny, there’s nothing funny-”</p> <p>“Harry bent low to retrieve the book, and as he did so, he saw...scribbled along the bottom of the back cover in the same small, cramped handwriting...<i>This book is the property of the Half Blood Prince.</i>”</p> <p>“It’s just that I was right about Eileen Prince once owning the book. You see...she was Snape’s mother!”... “I was going through the rest of the old <i>Prophets</i> and there was a</p>	<p>Rowling, 1999a, p. 161</p> <p>Rowling, 2005, p. 123</p> <p>Rowling, 2005, p. 125</p> <p>Rowling, 2005, p. 126</p> <p>Rowling, 2005, p. 417</p>

	<p>tiny announcement about Eileen Prince marrying a man called Tobias Snape, and then later an announcement saying that she'd given birth...“Snape must have been proud of being ‘half a Prince’, you see? Tobias Snape was a Muggle from what it said in the <i>Prophet</i>” “Yeah, that fits,” said Harry. “He’d play up the pure-blood side so he could get in with Lucius Malfoy and the rest of hem... Pure-blood mother, Muggle father...ashamed of his parentage, trying to make himself feared using the Dark Arts, gave himself an impressive new name...the Half-Blood Prince - how could Dumbledore have missed —?”</p> <p>“...that the parents he would destroy in his murderous quest were people that Professor Snape knew, that they were your mother and father —”</p>	Rowling, 2005, p. 360
Potterian students lack creative skills and cannot think originally, which diminishes entrepreneurial spirit	<p>“It hasn’t been easy, Harry, guiding you through these tasks without arousing suspicion. I have had to use every ounce of cunning I possess, so that my hand would not be detectable in your success. Dumbledore would have been very suspicious if you had managed everything too easily. As long as you got into that maze, preferably with a decent head start - then, I knew, I would have a chance of getting rid of the other champions and leaving your way clear. But I also had to contend with your stupidity. The second task...that was when I was most afraid we would fail. I was keeping watch on you, Potter. I knew you hadn’t worked out the egg’s clue, so I had to give you another hint”</p>	Rowling, 2000, p. 434
After Graduation from Hogwarts, wizards choose a profession	<p>The time had come to choose their subjects for the third year...Percy Weasley was eager to share his experience. “Depends where you want to go, Harry,” he said. “It’s never too early to think about the future, so I’d recommend Divination. People say Muggle Studies is a soft option, but I personally think wizards should have a thorough understanding of the non-magical community, particularly if they’re thinking of working in close contact with them — look at my father, he has to deal with Muggle business all the time. My brother Charlie was always more of an outdoor type, so he went for Care of Magical Creatures. Play to your strengths, Harry.”</p>	Rowling, 1999a, pp. 161–162
Goblins can easily distinguish between the fake and real Galleons	<p>“The long counter was manned by goblins sitting on high stools serving the first customers of the day. Hermione, Ron, and Travers headed toward an old goblin who was examining a thick gold coin through an eyeglass...The goblin tossed the coin he was holding aside, said to nobody in particular, “Leprechaun,” and then greeted Travers.”</p>	Rowling, 2007, p. 351

Appendix B. Additional Economic Ideas⁸⁴

Additional Economic Ideas	Quote	Reference
Rational ignorance-inattention	“Haven’t...you been getting the <i>Daily Prophet!</i> ” Hermione asked nervously. “Yeah, I have!” said Harry. “Have you – er – been reading it thoroughly?” Hermione asked...“Not cover to cover,” said Harry defensively.	Rowling, 2003, p. 55
Barter exchange	“Ron had taken out a lumpy package and unwrapped it. There were four sandwiches inside. He pulled one of them apart and said, “She always forgets I don’t like corned beef.” “Swap you for one of these,” said Harry, holding up a pasty.” “Though the goblins of Gringotts will consider it base treachery, I have decided to help you – for payment.” ...“I want the sword. The sword of Godric Gryffindor.”... The sword is the price of my hire, take it or leave it!” “A large sign had been affixed to the Gryffindor noticeboard; so large it covered everything else on it – the lists of secondhand spellbooks for sale...the offers to barter certain Chocolate Frog Cards for others”	Rowling, 1998, p. 66 Rowling, 2007, pp. 334–335 Rowling, 2003, p. 262
Barter exchange – a lack of double coincidence of wants	“I have decided to help you – for payment.” ...“How much do you want? I’ve got gold.” “Not gold,” said Griphook. “I have gold.”	Rowling, 2007, pp. 334
Implicit contract – a hand shake	“I have your word, Harry Potter, that you will give me the sword of Gryffindor if I help you?” “Yes,” said Harry. “Then shake,” said the goblin, holding out his hand.”	Rowling, 2007, p. 337
Secondhand, used goods’ market	“Mrs. Weasley and Ginny were going to a secondhand robe shop.” “I thought they’d bring out the color of your eyes, dear,” said Mrs. Weasley fondly. “Well, they’re okay!” said Ron angrily, looking at Harry’s robes. “Why couldn’t I have some like that?” “Because...well, I had to get yours secondhand, and there wasn’t a lot of choice!” said Mrs. Weasley”	Rowling, 1999a, p. 37 Rowling, 2000, p. 101
Diminishing marginal utility	“The leprechaun gold I gave you... Why didn’t you tell me it disappeared?” ...“I dunno... I never noticed it had gone...“Must be nice,” Ron said...“To have so much money you don’t notice if a pocketful of Galleons goes missing.”	Rowling, 2000, p. 351
Budget	“I haven’t got any money — and you heard Uncle Vernon	Rowling,

⁸⁴ The list in this appendix cites additional ideas found in Potterian economics but are not discussed explicitly in the paper because of space limitations.

constraint	last night...he won't pay for me to go and learn magic."	1998, p. 41
Non-tradable goods	"We need them for the Skiving Snackboxes but they're a Class C Non-Tradable Substance so we've been having a bit of trouble getting hold of them."	Rowling, 2003, p. 128
Price adjustment - Haggling and negotiating over price	"In that case, perhaps we can return to my list," said Mr. Malfoy shortly. "I am in something of a hurry, Borgin, I have important business elsewhere today —" They started to haggle." "Look what Dung's got us," said George..."Venomous Tentacula seeds," said George. "Ten Galleons the lot, then Dung?" said Fred. "Wiv all the trouble I went to to get 'em?" said Mundungus, his saggy, bloodshot eyes stretching even wider. "I'm sorry, lads, but I'm not taking a Knut under twenty..."Mundungus looked nervously over his shoulder...he grunted. "All right, lads, ten it is, if you'll take 'em quick."	Rowling, 1999a, p. 34 Rowling, 2003, pp. 128–129
Fund raising, donations	"All proceeds from the Fountain of Magical Brethren will be given to St. Mungo's Hospital for magical maladies and injuries."	Rowling, 2003, p. 95
Consumption smoothing	"Once Harry had refilled his money bag with gold Galleons, silver Sickles, and bronze Knuts from his vault at Gringotts, he had to exercise a lot of self-control not to spend the whole lot at once."	Rowling, 1999b, p. 31
Black market	"Meanwhile, a flourishing black-market trade in aids to concentration, mental agility and wakefulness had sprung up among the fifth- and seventh-years. Harry and Ron were much tempted by the bottle of Baruffio's Brain Elixir offered to them by Ravenclaw sixth-year Eddie Carmichael, who swore it was solely responsible for the nine 'Outstanding' OWLs he had gained the previous summer and was offering a whole pint for a mere twelve Galleons."	Rowling, 2003, p. 527
Marketing and market research	"We're going to use it to do a bit of market research, find out exactly what the average Hogwarts student requires from a joke shop, carefully evaluate the results of our research, then produce products to fit the demand."	Rowling, 2003, p. 169
Minimum wage	"Our short-term aims," said Hermione..."are to secure house-elves fair wages and working conditions."	Rowling, 2000, p. 145
Representative government	"Our long-term aims include...trying to get an elf into the Department for the Regulation and Control of Magical Creatures, because they're shockingly underrepresented."	Rowling, 2000, p. 145
Opening the market to caldron imports is expected to drive the prices down	"What are you working on?" said Harry. "A report for the Department of International Magical Cooperation," said Percy smugly. "We're trying to standardize cauldron thickness. Some of these foreign imports are just a shade too thin - leakages have been increasing at a rate of almost three percent a year"... "unless some sort of international law is imposed we might well find the market flooded	Rowling, 2000, pp. 36–37

	with flimsy, shallow bottomed products that seriously endanger -”	
Fine for traffic violation	“ <i>Daily Prophet</i> ...said: Inquiry at the Ministry of Magic - Arthur Weasley, Head of the Misuse of Muggle Artifacts Office, was today fined fifty Galleons for bewitching a Muggle car.”	Rowling, 1999a, p. 142
Import restrictions-regulations	“He wants a word with you about your embargo on flying carpets.” Mr. Weasley heaved a deep sigh...“Carpets are defined as a Muggle Artifact by the Registry of Proscribed Charmable Objects”...“Well, they’ll never replace brooms in Britain, will they?” said Bagman. “Ali thinks there’s a niche in the market for a family vehicle,” said Mr. Crouch. “I remember my grandfather had an Axminster that could seat twelve - but that was before carpets were banned, of course.”	Rowling, 2000, p. 59
Product Standardization	“We’re trying to standardize cauldron thickness. Some of these foreign imports are just a shade too thin - leakages have been increasing at a rate of almost three percent a year”	Rowling, 2000, p. 36
Gambling market	“Now, now, Penny, no sabotage!” said Percy heartily as she examined the Firebolt closely. “Penelope and I have got a bet on,” he told the team. “Ten Galleons on the outcome of the match!”	Rowling, 1999b, p. 164

Appendix C. Round Prices⁸⁵

Round Prices	Quote	Reference
1,500 Galleons – cursed opal necklace at Borgin and Burkes	“Is this necklace for sale?” she asked, pausing beside a glass-fronted case. “If you’ve got one and a half thousand Galleons,” said Mr. Borgin coldly.”	Rowling, 2005, p. 83
1,000 Galleons – prize for winning the Triwizard tournament	“An impartial judge will decide which students are most worthy to compete for the Triwizard Cup, the glory of their school, and a thousand Galleons personal prize money.”	Rowling, 2000, pp. 121–122
1,000 Galleons – A bounty on the head of escaped Death Eaters	“A large poster had been stuck up in the window... and Harry found himself staring once more at the pictures of the ten escaped Death Eaters. The poster, <i>By Order of the Ministry of Magic</i> , offered a thousand-Galleon reward to any witch or wizard with information leading to the recapture of any of the convicts pictured”	Rowling, 2003, p. 416
700 Galleons – Prize from <i>Daily Prophet</i> drawing	“I couldn’t believe it when Dad won the Daily Prophet Draw. Seven hundred galleons! Most of it’s gone on this trip, but they’re going to buy me a new wand for next year.”	Rowling, 1999b, p. 6
500 Galleons – Goblin-made armor at Borgin and Burkes	“Mr. Burke would like to make an improved offer for the goblin-made armor,” said Voldemort. “Five hundred Galleons, he feels it is a more than fair.”	Rowling, 2005, p. 286
100 Galleons – Acromantula Venom, per pint	“I mean, it’s almost impossible to get venom from an acromantula while it’s alive...” “Slughorn seemed to be talking more to himself than Harry now. “...seems an awful waste not to collect it...might get a hundred Galleons a pint”	Rowling, 2005, p. 316
20 Galleons – Deflagration Deluxe	“Hermione, it’s...twenty [Galleons] for the Deflagration Deluxe...”	Rowling, 2003, p. 472
10 Galleons – Hermione’s birthday present	“I’ve still got ten Galleons,” she said, checking her purse. “It’s my birthday in September, and Mum and Dad gave me some money to get myself an early birthday present.”	Rowling, 1999b, p. 36
10 Galleons – Omnioculars	“Omnioculars,” said the saleswizard eagerly. “You can replay action... slow everything down...and they flash up a play-by- play breakdown if you need it. Bargain - ten Galleons each.”	Rowling, 2000, p. 60
10 Galleons – Weekly pay to house-elf	“Professor Dumbledore offered Dobby ten Galleons a week, and weekends off,” said Dobby”	Rowling, 2000, p. 244
10 Galleons –	“Some idiot’s started selling Metamorph-Medals. Just	Rowling,

⁸⁵ This appendix offers a list of the goods and services with round prices, as discussed in the paper, in section 5.2.

Metamorph-Medals for changing your appearance, 100,000 disguises	slung them around your neck and you'll be able to change your appearance at will. A hundred thousand disguises, all for ten Galleons!"	2005, p. 58
10 Galleons – Bet on the outcome of a Quidditch match	"Now, now, Penny, no sabotage!" said Percy heartily as she examined the Firebolt closely. "Penelope and I have got a bet on," he told the team. "Ten Galleons on the outcome of the match!"	Rowling, 1999b, p. 164
10 Galleons – Slytherin's Locket	"She didn't seem to have any idea how much it was worth. Happy to get ten Galleons for it. Best bargain we ever made!"	Rowling, 2005, p. 171
10 Galleons – Unicorn hair	"Not long after this, Hagrid became tearful again and pressed the whole unicorn tail upon Slughorn, who pocketed it with cries of, "To friendship! To generosity! To ten Galleons a hair!"	Rowling, 2005, p. 320
5 Galleons – Basic Blaze box	"Hermione, it's five Galleons for your Basic Blaze box"	Rowling, 2003, p. 472
5 Galleons – Rubber chicken wand	"Bagman didn't seem to think the wand was rubbish at all...his boyish face shone with excitement as...the wand gave a loud squawk and turned into a rubber chicken... "Excellent! I haven't seen one that convincing in years! I'd pay five Galleons for that!"	Rowling, 2000, p. 57
5 Knuts per scoop – Glittery-Black Beetle Eyes	"Harry himself examined...glittery-black beetle eyes (five Knuts a scoop)."	Rowling, 1998, p. 52

Appendix D. Convenient Prices⁸⁶

Convenient Prices	Quote	Reference
21 Galleons – Silver Unicorn Horn	“Harry himself examined silver unicorn horns at twenty-one Galleons each”	Rowling, 1998, p. 52
16 Galleons – Human skull at Borgin and Burkes	“And...what about this lovely...um...skull?” “Sixteen Galleons.”	Rowling, 2005, p. 83
12 Galleons – 12-week course of Apparition lessons	“Apparition Lessons: If you are seventeen years of age...you are eligible for a twelve-week course of Apparition Lessons from a Ministry of Magic Apparition instructor...Cost: 12 Galleons.”	Rowling, 2005, p. 233
9 Galleons – New copy of <i>Advanced Potion-Making</i>	“He pulled the old copy of <i>Advanced Potion-Making</i> ... There sat the Prince’s copy, disguised as a new book, and there sat the fresh copy from Flourish and Blotts, looking thoroughly secondhand. “I’ll give Slughorn back the new one, he can’t complain, it cost nine Galleons.”	Rowling, 2005, p. 144
7 Galleons – New wand from Ollivanders	“Harry shivered. He wasn’t sure he liked Mr. Ollivander too much. He paid seven gold Galleons for his wand, and Mr. Ollivander bowed them from his shop.”	Rowling, 1998, p. 55
2 Galleons – Headless hat	Fred and George were demonstrating their latest bit of joke shop merchandise. “Headless Hats!” shouted George, as Fred waved a pointed hat decorated with a fluffy pink feather at the watching students. “Two Galleons each”	Rowling, 2003, p. 403
16 Sickles – Dragon Liver, per ounce	“A plump woman outside an Apothecary was shaking her head as they passed, saying, “Dragon liver, sixteen Sickles an ounce, they’re mad...”	Rowling, 1998, p. 46
11 Sickles – Night bus to London	“Listen, how much would it be to get to London?” “Eleven Sickles,” said Stan.”	Rowling, 1999b, p. 22
7 Sickles – Canary Cream	“Canary Creams!” Fred shouted to the excitable crowd. “George and I invented them – seven Sickles each, a bargain!”	Rowling, 2000, p. 236
4 Sickles – Hot water and toothbrush in the color of your choice	“Listen, how much would it be to get to London?” “Eleven Sickles,” said Stan, “but...for fifteen you get an ’ot-water bottle an’ a toofbrush in the color of your choice.”	Rowling, 1999b, p. 22
2 Sickles – Hot chocolate on the night bus	“Listen, how much would it be to get to London?” “Eleven Sickles,” said Stan, “...but for firteen you get ’ot chocolate”	Rowling, 1999b, p. 22
2 Sickles –	“It’s S-P-E-W. Stands for the Society for the Promotion of	Rowling,

⁸⁶ This appendix offers a list of the goods and services with convenient prices, as discussed in the paper, in section 5.2.

Membership in S.P.E.W	Elfish Welfare.”...“We start by recruiting members,” said Hermione happily. “I thought two Sickles to join”	2000, pp. 144–145
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Appendix E. Broomstick Makes and Models – Technological Innovations in the Potterian Economy⁸⁷

Broomstick makes and models	Quote	Reference
Cleansweep-5	“As for the old Cleansweeps” — he smiled nastily at Fred and George, who were both clutching Cleansweep Fives —“sweeps the board with them.”	Rowling, 1999a, p. 71
Cleansweep-6	“Pausing every few pages [of <i>The Quibbler</i> magazine:], he read...“an interview with a wizard who claimed to have flown to the moon on a Cleansweep Six and brought back a bag of moon frogs to prove it.”	Rowling, 2003, p. 143
Cleansweep-7	“He’s just the build for a Seeker, too,” said Wood... “Light —speedy—we’ll have to get him a decent broom, Professor — a Nimbus Two Thousand or a Cleansweep Seven, I’d say.”	Rowling, 1998, p. 98
Cleansweep-11	“He...almost walked into Ron, who was...clutching his broomstick. He gave a great leap of surprise when he saw Harry and attempted to hide his new Cleansweep Eleven behind his back.”	Rowling, 2003, p. 202
Nimbus-2000	“Even Harry, who knew nothing about the different brooms, thought it looked wonderful. Sleek and shiny, with a mahogany handle, it had a long tail of neat, straight twigs and Nimbus Two Thousand written in gold near the top.” “They took turns riding Harry’s Numbus-2000, which was easily the best broom”	Rowling, 1998, p. 108 Rowling, 1999a, p. 30
Nimbus-2001	“Let me show you the generous gift he’s made to the Slytherin team.” All seven of them held out their broomsticks. Seven highly polished, brand-new handles and seven sets of fine gold lettering spelling the words <i>Nimbus Two Thousand and One</i> ... “Very latest model. Only came out last month,” said Flint...“I believe it outstrips the old Two Thousand series by a considerable amount.”	Rowling, 1999a, p. 71
Comet-260	“What did you say you’ve got at home, Malfoy, a Comet Two Sixty?” Ron grinned at Harry. “Comets look flashy, but they’re not in the same league as the Nimbus.”	Rowling, 1998, p. 107
Comet-290	“Ron was rhapsodizing about his new broom...“...nought to seventy in ten seconds, not bad, is it? When you think the Comet Two Ninety’s only nought to sixty and that’s with a decent tailwind according to Which Broomstick?”	Rowling, 2003, p. 128
Shooting Star	“They took turns riding Harry’s Nimbus Two Thousand, which was easily the best broom; Ron’s old Shooting Star was often outstripped by passing butterflies.”	Rowling, 1999a, p. 30

⁸⁷ Broomstick models and makes are discussed in the paper in the context of technological progress, in section 12.

	“Harry borrowed a copy of <i>Which Broomstick</i> from Wood, and decided to spend the day reading up on the different makes. He had been riding one of the school brooms at team practice, an ancient Shooting Star, which was very slow and jerky.”	Rowling, 1999b, p. 121
Bluebottle	“At...the field...was a gigantic blackboard...watching it, Harry saw that it was flashing advertisements across the field. <i>The Bluebottle: A Broom for All the Family - safe, reliable, and with Built-in Anti-Burglar Buzzer.</i> ”	Rowling, 2000, pp. 62–63
Silver Arrow	“Look at the balance on it! If the Nimbus series has a fault, it’s a slight list to the tail end — you often find they develop a drag after a few years. They’ve updated the handle too, a bit slimmer than the Cleansweeps, reminds me of the old Silver Arrows — a pity they’ve stopped making them. I learned to fly on one, and a very fine old broom it was too...”	Rowling, 1999b, p. 162
Firebolt	<p>“Harry...was able to read the sign next to the broom: “THE FIREBOLT: This state-of-the-art racing broom sports a stream-lined, superfine handle of ash, treated with a diamond-hard polish and hand-numbered with its own registration number. Each individually selected birch twig in the broomtail has been honed to aerodynamic perfection, giving the Firebolt unsurpassable balance and pinpoint precision. The Firebolt has an acceleration of 150 miles an hour in ten seconds and incorporates an unbreakable braking charm. Price on request.” Harry didn’t like to think how much gold the Firebolt would cost.”</p> <p>“He had never wanted anything as much in his whole life — but he had never lost a Quidditch match on his Nimbus Two Thousand, and what was the point in emptying his Gringotts vault for the Firebolt, when he had a very good broom already? Harry didn’t ask for the price, but he returned, almost every day after that, just to look at the Firebolt.”</p> <p>“On the other hand, she rides a Comet-260, which is going to look like a joke next to the Firebolt.”</p>	<p>Rowling, 1999b, p. 32</p> <p>Rowling, 1999b, p. 32</p> <p>Rowling, 1999b, p. 162</p>

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