

# Determinants of becoming a zombie firm: A Pitch

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**Abstract:** This letter uses Faff's (2015) pitching research template to present a potential topic for research focused on "zombie firms" which consistently report negative equity or are unable to meet their interest payments, yet are still alive. The main research question is "What are the determinants of becoming a zombie firm?" The use of pitching research template was inspired by prof. Faff's lecture presented at the University of Economics, Prague in 2016. Besides developing the research idea, the paper presents the author's reflections on the process of preparing a research project with the help of the pitching template.

**Keywords:** Pitching research, zombie firms, negative equity

**JEL codes:** M10, L22

## 1. Introduction

When preparing a research project or a Ph.D. dissertation, it is essential to identify gaps in the current academic literature, to have a good idea about the methodology and data that will be used, and to clearly articulate the contribution of the research. Faff (2015; 2017) presented a tool which can greatly facilitate this process. The pitching template is a "simple and systematic approach", which can be used for organizing research ideas (Faff, 2015). As such, it is very suitable for presentation of research projects, but at the same time, it can help a researcher sort his thoughts. Other possible applications include learning and development of research skills, or research collaboration, among others (see Faff, 2017 for a complete list of possible applications).

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This letter presents the author's personal experience in using the pitching template to prepare a framework for a research project on zombie firms. The pitch can be considered to be "real" since the author, together with the colleagues from his university department, plans to carry out a research project focused on zombie firms. "Zombie firms" is a term which describes firms that should go out of the market or be forced to restructure radically, but they are still alive and operate normally. Other popular definitions define zombie firms as "firms which only generate enough cash to pay off the interest on their debt and not the debt itself" (Bridge, 2013). OECD describes zombie firms as "old firms that have persistent problems meeting their interest payments" (McGowan *et al.*, 2017). These firms receive various subsidies and loans from governments and somehow manage to survive.

Zombie firms received some academic attention (Caballero *et al.*, 2008; McGowan *et al.*, 2017; Storz *et al.*, 2017) as well as popular (Bridge, 2013; Stepek, 2008; Stothard & Giles, 2012) attention. Most papers focused on zombie firms in Asian countries (such as Caballero *et al.*, 2008), leaving European economies somehow apart, with only a few exceptions (for instance, the working paper of Storz *et al.* 2017). At the same time, zombie firms in Europe are a topic that certainly deserves attention. For instance, Stathard and Giles (2012) estimate that one in 10 British businesses are zombie firms, and Bridge (2013) claims that there are more than 100,000 zombie firms in the UK that are dragging the economy down.

Inspired by the literature focused on financial distress prediction, we are particularly interested in the factors that determine whether a firm becomes a "living death" or not.

The rest of the letter is organized as follows. First, we present a brief commentary on the application of the pitching template. The subsequent section describes personal reflections on the pitch exercise. Finally, concluding remarks are presented.

## **2. Brief commentary on the application of the Pitching Template**

Table 1 displays the pitching template. The main research question reads: "What are the determinants of becoming a zombie firm?" The most recent key paper was published in 2017, the other two key papers were published before 2010. This is due to the fact that although there are several relevant and recent papers focusing on zombie firms, they have either not been published in top-tier journals (such as Urionabarrenetxea *et al.*, 2016) or they have been published as working papers (Storz *et al.*, 2017).

As the academic literature on zombie firms is still emerging, there are no ex-ante assumptions on the research results; hence, instead of hypotheses, the goal here is to use longitudinal data that precede “becoming a zombie” state and identify the most important financial predictors of this state. Two main approaches are considered: logistic or probit regression, and discriminant analysis. Similar to Storz *et al.* (2017), we noticed that the literature on zombie companies had been particularly silent in European countries, so the analysis will focus on diverse European countries, such as Germany, Spain, Poland and the Czech Republic, to account for possible legal and cultural differences across countries.

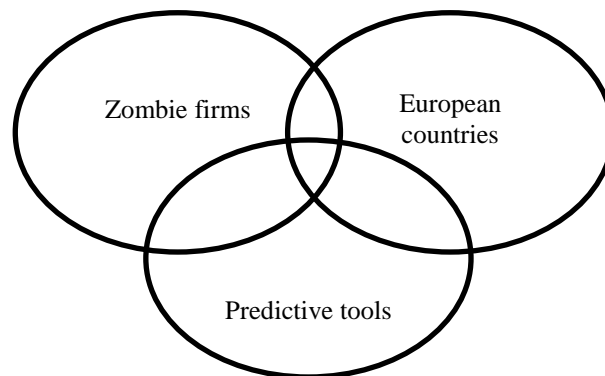
Table 1. Completed 2-page pitch template on Determinants of Becoming a Zombie Firm

Pitcher's Name	Ondřej Máček	For category	Corporate Finance	Date Completed	20/04/2018
(A) Working Title	Determinants of Becoming a Zombie Firm				
(B) Basic Research Question	What are the determinants of becoming a zombie firm?				
(C) Key paper(s)	<p>Caballero, R. J., Hoshi, T., &amp; Kashyap, A. (2008). Zombie lending and depressed restructuring in Japan. <i>American Economic Review</i>, 98(5), 1943–1977. doi: 10.1257/aer.98.5.1943.</p> <p>Hoshi, T. (2006). Economics of the living dead. <i>Japanese Economic Review</i>, 57(1), 30–49. doi: 10.1111/j.1468-5876.2006.00354.x.</p> <p>Ufionabaretsexa, S., Garcia-Merino, J. D., San-Jose, L., &amp; Retolaza, J. L. (2017). Living with zombie companies: do we know where the threat lies? <i>European Management Journal</i>. Article in press. doi: 10.1016/j.emj.2017.05.005.</p>				
(D) Motivation/Puzzle	<p>Firms which remain active in long-term, although they consistently report negative equity, are called zombie firms. Often, they are in a constant need for government subsidies and loans, which results in great opportunity costs and negatively affects productivity and growth potential of other firms. As such, “zombies” can be seen as a negative phenomenon and hence should be well understood. The goal of this research is to explore the financial predictors of becoming a zombie firm. The results could be used to predict and prevent the establishment of zombie firms and hence could be useful for government bodies as well as managers of firms.</p>				
<b>THREE</b>	<b>Three core aspects of any empirical research project i.e. the “DIOIs” guide</b>				
(E) Idea?	<p>As the predictors are still unknown, there are no hypotheses and the research is of an exploratory nature. We will need to use longitudinal data that precede “becoming a zombie” and test the effect on possible predictors.</p> <p>The explained variable will be a 0-1 variable: zombie or non-zombie company. As to explanatory variables, the analysis has to take into account industry affiliation (dummies), year dummies, country dummies, firm age (since date of incorporation), firm size (natural logarithm of total assets), and the most important financial indicators of profitability (ROE, ROA, ROS), liquidity (current ratio, cash ratio), financial leverage (debt ratio, gearing), asset management (asset turnover, inventory turnover). We will consider lagged values in order to test causality.</p>				
(F) Data?	<p>Since evidence from European countries is missing, we will focus on firms operating in diverse European countries, such as Germany, Spain, Poland and Czech Republic. We expect to sample several tens of thousands of firms. The data source will be the Bureau van Dijk’s Amadeus database (a commercially available database). The analysis will focus on a longer time frame, for instance, from 2012 to 2017, depending on data availability. Yearly financial data will be used. The data will have to be checked for non-disclosed values (typically “n.a.” or “u.s.” values) and possible outliers/leverages.</p>				
(G) Tools?	<p>We will primarily use <code>logit/probit</code> regression as the dependent variable is binary (zombie vs. non-zombie company), accompanied by a Student’s t-test to compare group means. Discriminant analysis can also be used to predict the state of “living death”. Standard assumptions of this kind of analysis will be tested. We will use Stata 14 (commercially available statistical software).</p>				

Pitcher's Name	Ondřej Machek	FoR category	Corporate Finance	Date Completed	20/04/2018
<b>TWO</b>	<b>Two key questions</b>				
<b>(H) What's New?</b>	We consider the methodological approach to be novel since as far as we know no authors have tested the drivers that lead to the establishment of a "zombie firm".				
<b>(I) So What?</b>	Since zombie firms present a burden to the society, understanding the predictors of "living death" state can be useful for private as well as public sphere. The results could propose actions for governments as well as decision-makers in the management of firms.				
<b>ONE</b>	<b>One bottom line</b>				
<b>(J) Contribution?</b>	The main theoretical contribution derives from the fact that zombie firms are often removed from research samples, yet they exist and live. As far as we know, this question has not been researched in the European countries and has been primarily addressed in Asian countries.				
<b>(K) Other Considerations</b>	The essential prerequisite is the availability of long-term data. The target journal will be selected from Journal of Business Economics and Management, Entrepreneurship Research Journal, Journal of Economic Issues, International Entrepreneurship and Management Journal, based on the fit between the findings and aims and scope of the relevant journal. There is a specific "no result" risk stemming from the fact that early financial data can simply not prove to be significant predictors of the "zombie state" and there could be other, non-financial reasons. However, such a finding would also be worthy of publishing. Obsolescence risk is low unless similar research is carried out by another research team. There are no ethical considerations.				

Zombie companies present a burden to the society. They require long-term funding from governments, which results in great opportunity costs and negatively affects productivity and growth potential of other firms. Indeed, Caballero *et al.* (2008) found that “zombie-dominated industries exhibit more depressed job creation and destruction, and lower productivity”.

However, zombie firms are often removed from research samples, yet they exist and live, and they are a rather sad part of the economic reality. Hoshi (2006) compared zombie firms with other firms and found out that zombies were less profitable, more indebted and more present in non-manufacturing industries. Hence, there is some evidence about the financial characteristics of zombie firms, but it is unknown whether it is possible to recognize this state early enough and possibly prevent it. Understanding the predictors of “living death” state can be useful for governments as well as decision-makers in the management of firms.



**Figure 1. Mickey Mouse diagram characterizing novelty of research idea**

The above discussion allows us to outline the Mickey Mouse diagram characterizing novelty of research idea (see Fig. 1) consisting of three circles: zombie firms (the main focus of the project), European countries (no evidence so far), and prediction (not addressed in the existing literature). The intersection of these three circles present, in our view, a research area worthy of further investigation.

### **3. Personal Reflections on the Pitch Exercise**

We have first been made familiar with the pitching template during prof. Faff’s lecture held on March 30, 2016, at the Faculty of Business Administration, University of Economics, Prague. Since then, it has been recommended to our Ph.D. students when presenting the plans for their doctoral dissertation projects. The template is also used by our academic staff (see e.g. Dvouletý, 2017).

The initial pitch was completed within three days, and after further discussion with our colleagues from the Faculty of Business Administration, it took about one week to complete the pitching template. This relatively short time was due to an already existing idea about “what to do,” the importance of the topic was clear to us, but the research plan was not well articulated.

The exercise has been quite useful in several ways. First, it allowed the author to elaborate a research plan for an initially rather superficial research idea. The pitching template forces the pitcher to proceed in a very systematic way from realizing the very basics to specifying the real contribution of the research idea. With a simple structure, the pitching template also allows for finding new ideas and then making modifications and gradually improving the research plan in a back-and-forth way.

#### **4. Conclusion**

In this letter, we present the application of the Faff's (2015, 2017) pitching template for developing a research plan focused on the determinant of becoming a zombie form. The personal reflections on the pitch exercise will surely lead to our further recommendation of the pitching template to other research-involved colleagues at our home university, but also to Ph.D. students (for clarification and presentation of their research ideas) and even for Ph.D. applicants. Moreover, the template can also be used by the students of the Master's degree course “Research Methods” taught at the Faculty of Business Administration, University of Economics, Prague when elaborating and presenting their mandatory research projects.

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