Purpose – to investigate reasons and conditions impacting payment preferences.

Design/Method/Approach. In this exploratory study, we apply the Implicit Association Test in order to investigate whether the prejudice of the population of some countries such as Germany preferring cash holds.

Findings. Cash payments still play a major role in a number of countries although other payment options, namely card payments, are promoted heavily. We discover that the type of payment and the level of control are implicitly associated. We manipulate the emotions of fear and joy. The relationship changes when participants experience fear, whereas emotion of joy does not produce statistically significant effects.

Practical implications. The results have major implications for the design of payment processes.

Originality/Value. Our study helps explain preferences with regard to payment types as well as predict preferences as a response to scary or joyful events.

Research limitations/Future research. Generalizability is limited. Future research can focus on other emotions and types of payment (e.g., NFC – based payments).

Paper type – empirical.

Keywords: card payment; cash payment; payment process; implicit association test; emotions.
Готівка означає контроль: емоції і розробка процесу оплати

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Мета роботи – визначити причини та умови, що впливають на надання переваг певному способу оплати.

Дизайн/Метод/План дослідження. Застросовано тест підсвідомих асоціацій, щоб з’ясувати, чи надає перевагу населення деяких країн, наприклад Німеччина, готівці.

Результати дослідження. Платежі готівкою, як і раніше, відіграють важливу роль в ряді країн, хоча інші способи оплати, такі як карткові платежі, також активно просуваються. Виявлено, що тип оплати та рівень контролю підсвідомо пов’язані. Проведено маніпуляцію емоцій страху і радості та виявлено, що підсвідомі зв’язки змінилися, коли учасники відчували страх, тоді як емоція радості не принесла статистично значущих ефектів.

Практичне значення дослідження. Результати мають велике значення для розробки процесу оплати.

Оригінальність/Цінність/Наукова новизна дослідження. Це дослідження допомагає пояснити надання переваг певним типам платежів, а також передбачити їх як реакцію на радісні події або ті, що лякають.

Обмеження дослідження/Перспективи подальших досліджень. Узагальненість результатів обмежена. Майбутні дослідження можуть зосередитися на інших емоціях та типах оплати (наприклад, NFC).

Тип статті – емпіричний.

Ключові слова: оплата картою; готівковий розрахунок; процес оплати; тест підсвідомої (невної) асоціації; емоції.

Наличні означають контроль: емоції і разробка процеса оплати

Євгеній Богодистов‡, Юрген Моорманн‡

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Цель работы – определить причины и условия, влияющие на предпочтения касательно способа оплаты.

Дизайн/Метод/План исследования. Применён тест подсознательных асоциаций, чтобы выяснить, предпочитает ли население некоторых стран, например, Германии, наличные деньги.

Результаты исследования. Платежи наличными по-прежнему играют важную роль в ряде стран, хотя другие способы оплаты, такие как карточные платежи, также активно пропагандируются. Обнаружено, что тип оплаты и уровень контроля подсознательно связаны. Проведено манипулирование эмоций страха и радости и выяснено, что подсознательные связи изменились, когда участники испытывали страх, тогда как эмоция радости не принесла статистически значимых эффектов.

Практическое значение исследования. Результаты имеют большое значение для разработки процессов оплаты.

Оригинальность/Ценность/Научная новизна исследования. Это исследование помогает объяснить предпочтения в отношении типов платежей, а также предсказать их как реакцию на пугающие или радостные события.

Ограничения исследования/Перспективы дальнейших исследований. Обобщённость результатов ограничена. Будущие исследования могут сосредоточиться на других эмоциях и типах оплаты (например, NFC).

Тип статьи – эмпирический.

Ключевые слова: оплата картой; наличный расчет; процесс оплаты; тест подсознательной (невной) асоциации; эмоции.
1. Introduction

People in some countries use card payments less often than people in other countries and often prefer cash (Yohannes, 2015). The first proposed explanation for using cash instead of card for payment is control over money (Kalckreuth et al., 2014). One can assume that people in these countries – such as Japan, Germany and Spain – implicitly associate card payments with less control. In order to examine this assumption we decided to run the Implicit Association Test (IAT) (Greenwald et al., 1998; Greenwald et al., 2002), which is a reliable method for uncovering implicit associations between concepts on a deep psychological level.

A recent study by Dasgupta and colleagues (2009) shows that the implicit association can be influenced by the affective state participants are currently in. Consequently, we wanted to investigate whether the implicit association of cash and card payments with high or low control is altered in the specific affective state. In this manuscript, we try to provide an answer to the research questions “Do Germans implicitly associate the type of payment with different degrees of control?” and “Is the association influenced by the experienced affective state?”

We chose to perform our analysis in Germany. With this study, we contribute, first, to literature on human behaviour and IT-driven systems interaction. We investigate how implicit associations might shift human preferences concerning the type of payment. Second, we show that the German participants differ in their associations from other participants of the study. This is an interesting insight for cross-cultural research as well as for research on the use of cash payment. Our study uses an innovative method and opens avenues for researchers who seek to understand the effects of implicit association, prejudices, and perceptual biases on human-technology interaction.

2. Theoretical background

2.1. Relevance of payment processes

Payments are needed for all kinds of economic activity. Hence, companies as well as all other organizations have to implement payment processes. Currently, the payments industry is in a state of huge upheaval triggered by regulatory as well as political initiatives. These include the creation of the Single Euro Payments Area (SEPA), the establishment of instant payments, which is already on the way, the revised Payment Services Directive (PSD2), which became fully effective in 2019 in all EU member states, and the regulation on interchange fees (EU 2015/751). Most of the current projects serve the goal to harmonize the euro payments market in Europe, as well as to encourage more competition and open the market to new entrants.

Payments represent a major source of revenue for financial institutions. In fact, payments are not only a source of revenues, but they are the anchor product for various other services. In addition, payment information is a source of knowledge about data on customers, and an opportunity to generate points of reference into the processes of bank’ customers – whether private, business, or institutional. Thus, losing stakes in payment transactions to other players would have disastrous consequences for banks.

Payment processes are provided mainly by banks and credit card organizations. However, the emergence of smartphones has allowed new players, such as large Internet and telecommunication enterprises, entering the market (PayPal, Apple, Facebook, Tencent, Alibaba to name a few). Furthermore, numerous companies from the fintech sphere (start-up companies in the financial services sector relying heavily on IT) have appeared on the payments market. The new players aim to integrate their payment services into the customers’ processes, thereby capturing customer data, and tying the customers to the company.

2.2. Cash versus card payments

Why do people in countries such as Japan, Germany and Spain prefer cash over card payments? Often the explanation is control over money (Kalckreuth et al., 2014). Indeed, cash as well as debit cards are often seen as a monitoring and budgeting tool, especially in times of crises (Hernandez et al., 2017). The scholars argue that a substitution of cash by cards may slow down due to environmental turbulences. Therefore, electronic means of payment seem to be far from achieving the expected benefits of cash with regard to perceived control over own budget.

The appetite for cash seems to remain constant since people see cash not only as a mean of payment but mainly as a mean of value storage (Bech et al., 2018). Nevertheless, than type of payment has impact on the way consumers behave (Runemark et al., 2015). For instance, Falk and colleagues (2016) found that the willingness-to-pay increases if consumers switch from cash to card or mobile payments. “Cash payments, which are more transparent than debit card transactions, make it easier to control spending and this effect is not solely due to cash-on-hand constraints” (Runemark et al., 2015, p. 286). Therefore, it is necessary to understand the depth of the association between means of payment and the degree of control by an individual.

3. Methodology

3.1. Implicit Association Test

In an IAT, the participants are confronted with a series of stimuli which they have to sort. The sorting tasks are changing during the test. The regular IAT runs five trials during which the participants (1) have to sort words or pictures from one category (initial target concept discrimination, e.g., payment type: cash versus card), and (2) from the second category (associated attribute discrimination, e.g., control level: low versus high). Afterwards (3), the participants receive a task to reverse the combined association and orientation of sorting: if they see a picture with a cash payment or a word associated with high control, they have to sort it to the left; and if they see a picture with a card payment or a word associated with low control, then to the right (initial combined task, congruent condition). In the fourth trial (4), the participants have to perform a simple sorting of pictures associated with card or cash payment but the direction of sorting changes (reversed target concept discrimination, erasing of habits developed in the first trial). Finally (5), the participants have to sort words and pictures associated with cash payment and low control to the left and card payment and high control to the right (reversed combined task, incongruent condition).

In order to know the implicit association, the researcher has to calculate the mean time difference between trial five and trial three. A positive number would indicate that the congruent condition holds, i.e., the participants need less time to associate cash payment with high control and card payment with low control vice versa. A negative number indicates that the incongruent condition holds. Put differently, if a participant needs less time for sorting certain categories, we can assume that s/he implicitly associates these categories.

To conduct the test, our research team had to develop a set of stimuli for each category. If in the event of cash payment the pictures obviously belong to the specific category (Fig. 1), respective words needed to be found and pretested. We followed the procedure suggested by Bogodistov and Dost (2017).
3.2. Stimuli for high and low control

In order to prepare a set of words we used the word “controlled” as our starting point. Then, using the Thesaurus.com online dictionary we looked for synonyms and antonyms. We picked words most often used as a synonym/antonym and repeated the procedure. Finally, we came up with a list of 15 synonyms and 15 antonyms which we proposed to our students to evaluate. The students were not familiar with the intent of our study. They were given the task to rank the words according to their association with “high control” or “low control”.

In our study, a number of 25 students helped us with the development of the stimuli set. Six students were female. The mean age was 22.5 years (SD = 2.30), whereby the majority came from Germany (18 participants). None of the participants was a native English speaker. This is important because all further tests were also performed within English speaking courses without native English speakers.

We ran the Friedman ranking test for high control ($\chi^2 = 19.839$, df = 15, $p = .178$) and low control words ($\chi^2 = 40.278$, df = 15, $p < .001$) and selected words with the lowest rank, i.e. closest to the target concept (e.g., “high control”) (Table 1).

Table 1

<table>
<thead>
<tr>
<th>Word</th>
<th>Friedman's rank</th>
<th>Word</th>
<th>Friedman's rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>certain</td>
<td>7,27</td>
<td>volatile</td>
<td>5,12</td>
</tr>
<tr>
<td>safe</td>
<td>7,46</td>
<td>vulnerable</td>
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</tr>
<tr>
<td>sure</td>
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<td>fragile</td>
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<tr>
<td>reliable</td>
<td>8,08</td>
<td>obscure</td>
<td>7,76</td>
</tr>
</tbody>
</table>

*Source: compiled based on Authors' calculations.

3.3. Manipulation of emotions

Following the common practice of emotion elicitation using short videos (e.g., Baillon et al., 2014; Gino & Schweitzer, 2008; Lerner et al., 2003; Lerner et al., 2004), we decided to develop video clips of approximately 2 minutes length to elicit states of fear, joy, and a neutral state. Usually, researchers use a boredom video in order to “disable” emotions. We decided to add a video with a meditative theme to control for an appropriate “disabling” state.

For the Fear video we used one of the winners of the horror short film challenge “Who’s there” named “Lights Out” (Sandberg, 2013). As Joy video, we used the “Thai life insurance commercial” with English subtitles with more than 1.3m views (Thai Life Insurance, 2014). For the Calmness video (disabling emotions), we took the “two minute meditation” video by “The School of Life” (2016).

When pre-testing these videos, we asked our research team members to post the link to the test in social networks, using their accounts (as a rule, lecturers do not add their students to their networks, thus, reducing the probability that future participants of the experiment would see the videos in advance).

A number of 63 persons participated in the treatment test, among them 35 males, 16 females; the rest did not indicate their gender. The majority (39 participants) were Germans; Austria, China, Denmark, France, Peru, Portugal and Thailand had one representative each. Sixteen participants did not indicate their country of origin.

The mean age of participants was 27.1 years (SD = 7.48).

We ran two tests in order to legitimate the used videos in this experiment. First, we asked the participants which of the discrete emotions (fear, calmness, and joy) they experienced while watching the video (7-point Likert scale, ranging from “not at all” to “absolutely”). In order to be sure that the videos manipulated the emotions in the intended way, we ran the MANOVA test for the scales of Pleasantness and Arousal which we tested using a 9-point Self-Assessment Manikin scale (Bradley & Lang, 1994).

We ran the MANOVA test with control variables for gender and age. We obtained significant MANOVA results: for the video clip Pillai’s trace produced a value of 0.772, $p < 0.001$; for age the Pillai’s trace was 0.255, $p = 0.041$, while gender did not show significant multivariate effects. Since the Levene’s test did not produce significant results (the lowest $p$-value was 0.020 which was interpreted as not significant based on Huberty and Petoskey’s (2000) cut-off value of 0.005), we ran a series of ANOVA and parameter estimate tests.

The $p$-values and their significance levels can be found in Table 2. All videos induced the expected effects and were used for emotion manipulation in the further study.
3.4. Sample

We invited 104 students from the Strategy and Organization class of our university to participate in the study. The class is international and all lessons are hold in English. Nevertheless, Germans dominate in this group (75 students), whereas the second largest group were Chinese students (5 participants). 37 female (38 male) students participated in the experiment. The mean age of participants was 20.7 years (SD = 1.27).

All students had to take their seat in a cubicle, turn off and put aside all devices which could distract them from the experiment. After an introduction with explanations of the procedure, the instructor announced that “We would like the participants to not be distracted by thoughts about previous events, such as lecture, conversations during the break, and so forth. For this reason, we developed a 2-minute video which was shown when the student pressed the start button on their screen. We reprogrammed the FreeIAT test (Meade, 2009) to randomly select one of the three pretested videos before starting the IAT sorting procedure. The experiment took on average about 8 minutes including introduction and manipulation. In the following lecture, the experiment was explained as it was fitting to the topic of the lecture. Thus, all participants were debriefed.

The IAT entails blocks of categorization trials (Greenwald et al., 2002; Greenwald et al., 1998). Block 1 (initial target concept discrimination) included the ten picture pairs (10 trials in total); Block 2 (associated attribute discrimination) included the ten control word pairs (10 trials total); Block 3 (initial combined task) was the first data collection block, with 30 picture and word trials in total; Block 4 (reversed target concept discrimination) repeated Block 2 with reversed label position; and Block 5 (reversed combined task) was the second data collection block, repeating block 3 but with a reversed position of the pictures with payment type.

4. Results

4.1. IAT Score

First, we looked at the baseline results of those participants who were in the control group, i.e. who saw the Calmness video. We found that the assumption holds for German participants ($t = 2.275$, $p = 0.03$) and is not significant when other nationalities were included in the test ($t = 1.559$, $p = 0.126$). The difference between these groups was on the edge of significance ($F(1, 41) = 3.991$, $b = 234.124$, $p = 0.052$). We concluded that Germans indeed have a different association of the type of payment and the degree of control. In order to remain rigorous, we added control variables of age and gender but none of them was significant. Interestingly, the implicit association score by Germans is positive and by non-Germans negative, showing a completely different direction of the association. The control variable “duration of stay in Germany” did not produce significant results.

Second, we looked at the influence of affective states induced by our videos. We ran an ANOVA analysis with all German participants

<table>
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<th>Dependent variable</th>
<th>Independent variable</th>
<th>b</th>
<th>SE</th>
<th>t</th>
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*Source: compiled based on Authors' calculations.

**Note: “a” stands for a reference category, SE stands for Standard Error.
and control variables of age and gender. None of the control variables was significant. The affective state, on the contrary, produced significant results. The ANOVA test showed a weakly significant effect ($F(2, 61) = 3.015, p = 0.056$), whereas the two states of Fear (used as reference group) and Calmness ($t = 284.070, p = 0.021$) were significant and Joy produced a non-significant effect ($p = 0.349$). We concluded that fear alters the perception of the payment type drastically. Indeed, German participants in the Calmness group had a positive implicit association score, indicating that participants associate cash payment with a high degree of control and card payment with a low degree of control. The Fear group had a negative implicit association score which indicates that these participants started associating card payment with a higher degree of control (Fig. 2).

### Fig. 2. Difference of reaction time, milliseconds (ms)

*Source: compiled based on Authors' calculations.*

### 4.2. Interpretation and robustness check

Our study indicates that Germans have a different perception of cash and card payment than representatives of other countries. Of course, this result should be interpreted with care since, first, other countries were underrepresented in the sample, and, second, certain countries might also differ in their perception of money. For instance, China (5 participants) shows a strong trend towards mobile payment dissemination (Lu et al., 2011) which might cause the respective association by the Chinese participants. On the contrary, Russian electronic payments market (1 representative) is in an early stage (Eistrutov & Berezhnova, 2013) and fragile (Krivoshey & Korolev, 2018). These aspects could have biased the results of the study.

While assuming these influences, we included the variable “Duration of stay in Germany” in the study. As a robustness check, we tested for the effects of stay but it did not produce significant results. This makes us believe that psychological roots go deeper than regular habits. Theoretically, several months or years spent in Germany should have caused a new routine, e.g. cash payments (the mean stay was 61.2 months, SD = 85.67). However, since this variable was far from the level of significance ($p = 0.392$), we assume a deeper cultural anchoring of the issue.

As expected, the association “cash → high control” can be altered by affective states. Interestingly, emotions of Joy did not produce significant results, whereas both Calmness and Fear differed significantly. If we assume a situation where no constant routine or habit is present, such as paying at a new shop, the conclusion of our study would be that Germans experiencing fear might tend to use their so-called “Girocard” (a widely used national debit card system) or their credit card, whereas in a state of calmness they would tend to pay in cash.

### 5. Discussion and limitations

Our study provided us with a new understanding of the perception of payments. In addition, the results open avenues for changing this perception. Indeed, Germans seem to be different in their perception of payment types (cash vs. card) with regard to their feeling of control. Under normal conditions, when the German participants in our experiments were calm, they tend to associate cash payments with more control. However, when afraid, the implicit association changes: card payments become associated with a higher level of control.

This finding might be of interest both for practitioners and theorists. For instance, different payment mechanisms might be adequate in certain situations. When a person is afraid due to negative news or due to an unfavourable location (small night store in a socially unstable district), cash payment might not be the best option. Offering card payments might increase the willingness to buy a product under these circumstances. One could even extrapolate to times of big turbulences such as economic crises — people might tend to prefer cards over cash payments. Further empirical studies should help reveal whether our proposition holds.

The consequences for offering different payment types could be that it is better to introduce electronic payments in turbulent times (e.g., political, social or economic crises) because the acceptance rate would grow. One should have in mind that in an implicit Association Test the speed of reaction does not assume a conscious information processing. This means that the “payment type – control” association is implicit and might appear uncontrollably. Conscious information processing, as well as a habit, might eliminate this bias (Dewey, 1950). For instance, if a person has a routine of paying by card (or cash) in a certain store, s/he might automatically repeat the routine even when experiencing fear. Firefighters develop a routine under normal condition because they need to repeat it without being biased by states of fear in real life incidents (Bliss et al., 1997). Conscious processing might also reduce the bias. A set of good arguments from a partner might influence a person’s preference concerning the payment type. For instance, the information processing model of anxiety by Beck and Clark (1997) assumes two steps of coping with anxiety. In the second elaboration step individuals have to be put into a reflective mode of thinking in order to cope with anxiety. Verbal arguments from a partner or cashier are a good way to help overcome fear (Beck & Clark, 1997).

Interestingly, affective states of individuals have an indirect influence on decision making concerning their preferred payment.
It is also important to replicate our study with a larger sample of Germans. It may be the case that the effects found were not very strong due to the sample of young students. Older generations, as well as a sample of young non-student persons, could help understand the strength of association in different social and age groups. For instance, the students grew up with card payments whereas older people grew up with cash payments. The next generation grows up with new types of payments, such as paying using the NFC (near field communication) function of smartphones. Smartphones represent also a digital payment but users might associate smartphones with a higher degree of control since they are already PIN or fingerprint protected. Consequently, the effects might become stronger if researchers introduce different age groups to the sample.

Of course our study has limitations with regard to the generalizability of our findings since we performed the experiments in Germany. We admit that a “Germans versus others” comparison is debatable. First, we do not know why Germans differ from other participants and we do not know why this relationship changes in the state of fear. Further studies are needed to replicate this result, e.g. in Japan or Spain. Second, as mentioned in the Results section, a comparison with a few selected cultures would make it easier to interpret the results. For instance, the notion of cultural distance (Tadesse & White, 2010; Bogodistov et al., 2019) could help select cultures which are located on the opposite poles of the dimensions of cultural distance. In their paper, Tadesse and White (2010) propose a table of cultural distance coefficients. Bogodistov and colleagues (2019), by contrast, propose to analyze not differences in cultures but the individual perception of cultural values. Using their method, scholars can reveal groups of individuals based not on their cultural background but on their values with regard to preferences concerning payment methods. A set of studies with larger groups from different countries could shed light on the role of cultural and individual backgrounds. If the relationship is not confirmed, then one should look for answers in political and economic factors rather than in cultural and individual ones.

References


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Уявлення про професійне вигорання медичних працівників та дослідження його феноменології

О. В. Громцева

Мета роботи – позначити концептуальні моделі професійного вигорання та розкрити їх прикладний характер для медичних працівників. Результати дослідження. У дослідженні охарактеризована проблема професійного вигорання. Сформульовано концептуальну модель професійного вигорання, що поєднує його структурні та динамічні властивості. На підставі семантичного аналізу обґрунтовано зміст професійного вигорання. Практичне значення дослідження. Результати дослідження можуть бути використані для опанування концептуальних моделей професійного вигорання, формування інструментів оцінювання професійних ризиків на ринку медичних послуг. Оригінальність / цінність / наукова новизна дослідження – концептуалізація моделей професійного вигорання, їх структурування та дослідження змісту. Перспективи подальших досліджень – розробка комплексного прикладного механізму виміру впливу професійного вигорання на діяльність медичних працівників, призначенням якого має стати розробка, проектування та здійснення заходів для покращення якості життя медичних працівників, умови їх праці та якості надання медичної допомоги. Тип статті – теоретичний. Ключові слова: професійне вигорання; систематизація моделей; концептуалізація.

Reference to this paper should be made as follows:

UDC classification: 159.91
JEL Classification: D91, I12, M5.
Notion of professional burnout of medical workers and research of its phenomenology

Olena Vitaliivna Hromtseva

Purpose – Identify conceptual models of burnout and reveal their application to health professionals.

Results. The study describes the problem of burnout. A conceptual model of professional burnout is formulated, which combines its structural and dynamic properties. The content of professional burnout is substantiated on the basis of semantic analysis.

Practical importance of the research. The results of the study can be used to master the conceptual models of burnout, the formation of tools for assessing occupational risks in the market of medical services.

Originality/Value/Scientific novelty of the research – conceptualization of burnout models, their structuring and content research.

Research limitations / Future research – the development of a comprehensive application mechanism for measuring the impact of burnout on the activities of health professionals, the purpose of which should be the development, design and implementation of measures to improve the quality of life of health workers, their working conditions and quality of care.

Paper type – theoretical.

Keywords: professional burnout; systematization of models; conceptualization.

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Представление о профессиональном выгорании медицинских работников и исследование его феноменологии

Елена Витальевна Громцева

Цель исследования – обозначить концептуальные модели профессионального выгорания и раскрыть их прикладной характер для медицинских работников.

Результаты исследования. В исследовании описана проблема профессионального выгорания. Сформулировано концептуальную модель профессионального выгорания, что объединяет его структурные и динамические свойства. На основании семантического анализа обосновано содержание профессионального выгорания.

Практическое значение исследования. Результаты исследования могут быть использованы для освоения концептуальных моделей профессионального выгорания, формирования инструментов оценки профессиональных рисков на рынке медицинских услуг.

Оригинальность/Ценность/Научная новизна исследования – концептуализация моделей профессионального выгорания, их структурирование и исследование содержания.

Перспективы дальнейших исследований – разработка комплексного прикладного механизма измерения влияния профессионального выгорания на деятельность медицинских работников, назначением которого должна стать разработка, проектирование и осуществление мер по улучшению качества жизни медицинских работников, условия их труда и качества оказания медицинской помощи.

Тип статьи – теоретический.

Ключевые слова: профессиональное выгорание; систематизация моделей; концептуализация.
1. Вступ

рофесійна діяльність займає особливе місце в житті кожного людини, вона є сенсом життя, в ній фокусуються його помисли та цілі (Roseland, 2000). В процесі виконання професійної діяльності формуються особистісні якості, необхідні для тієї чи іншої спеціальністі, тобто людина стає фахівцем (Miksinek, 2010).

Формування професійних якостей людини відбувається протягом усього її професійного життя – від моменту вибору професії і її формування до припинення виконання людиною своїх професійних обов’язків (Hilton, & Slotnick, 2005). Цей процес залежить від міцності професії, появи нових методів, технологій, вимог суспільства до неї. Тому будь-яка професійна діяльність накладає психологічний відбиток на особистість людини, видозмінюючи її. Така видозміна має подвійний вплив: з одного боку, позитивно впливає на формування професіонала високого класу, а з іншого боку – сприяє розвитку професійних деструкцій. Професійні деструкції – це зміни структурі діяльності й особистості, що поступово накопичуються і негативно позначаються на продуктивності праці та взаємолюзі з іншими учасниками цього процесу, а також на розвитку самої особистості.

Подолання професійних деструкцій супроводжується психічною напруженою, психологічним дискомфортом, кризовими явищами. Одним з проявів професійні деструкції особистості є феномен професійного вигорання (Campagne, 2012; Vinra, 2016).


Але, незважаючи на величезну значущість проведених досліджень, сьогодні ще не сформовано єдиної теоретичної основи, яка б охоплювала весь комплекс питань унікальності особистості, що поступово накопичуються і звільнення які пов’язана з інтенсивним розвитком явищ (Lloyd, Wakefield, Boughton, & Dwyer, 1989), ознаками синдрому хронічної втоми, верифікація визначень яких пов’язана з інтенсивним спілкуванням, постійною емоційною напруження. Починаючи від моменту появи нового погляду на дистрес, пов’язаного з професійною діяльністю, до теперішнього часу, було здійснено велику кількість досліджень і накопичено досвід як у діагностиці, так і в профілактиці та лікуванні синдрому емоційного вигорання працівників різних спеціальностей та професій. Так, перші дослідження були присвячені професіям «суб’єкт-суб’єктного» типу, оскільки вони були найбільш вразливі для розвитку синдрому емоційного вигорання працівників. Згодом у середині 70-х років минулого століття проблема професійного вигорання стала предметом дослідження для професій «несоціального» типу (військовослужбовців, офісних працівників, програмістів, учителів тощо). Цей процес виявляється у навіть мінорних відмінностей у ступені інтенсивності прояву емоційного вигорання серед працівників «суб’єкт-суб’єктних» і «суб’єкт-об’єктних» професій.


Виходячи з описаних вище визначень синдрому хронічної втоми, зазначимо, що синдром хронічного вигорання, яким незважаючи на багато галузей розподілу, поки що не може бути штучно лікувано. Спостереження над професійним вигоранням медичних працівників показують, що синдром хронічного вигорання розвивається через тривалі перебування в емоційно перевантажених ситуаціях.

На відміну від Г. Фрейденберга (Freudenberger, 1974), який зазначає О. Полякову (Polyakova, 2014), автори своєї праці використовують поняття «професійна діяльність при вигоранні персоналу» або «вигорання спільноти». Але згідно з цим, термінологічна позиція визначена, а та, в якому вони були найбільш вразливі для розвитку синдрому емоційного вигорання працівників.
Виснаження є головною причиною (фактором), а інші прояви дисгармонії переживань і поведінки є наслідком. Так, фізичне виснаження характеризується низьким енергетичним рівнем, слабкістю, хроначним безсонням і широким рядом фізичних і психосоматичних скарг. У свою чергу, емоційне виснаження пов’язане з початтям безпорадності, безнадійності та обману, яке в екстримальному випадку може привести до емоційного вибуху, а когнітивне виснаження — з розвитком негативних установок по відношенню до себе, своєї роботи та життя в цілому.

Дослідники особливо уважно приділяли зв’язку між мотивацією та емоційним вигоранням. Зокрема, такі мотиви трудової діяльності, як задоволеність заробітною платою, відчуття значущості та необхідності на робочому місці, кар’єрне зростання і просування по службі, особистісний розвиток, самостійність і рівень контролю з боку керівництва та ін. Як вони відзначають, прямого зв’язку синдрому «вигорання» з рівнем заробітної плати не було виявлено. Однак незадоволеність кар’єрним ростом і установка на підтримку з боку керівництва виявилися більш пов’язаними з розвитком синдрому «вигорання». Також було відзначено, що робота в силових структурах може бути віднесена до професій, які вимагають значного емоційного навантаження, відповідальності та мають досить невизначені критерії успіху. Тому представники цих професій найбільш складно до синдрому вигорання.

А тому, на думку авторів однофакторної моделі, емоційне вигорання може зустрічатися як в межах професій, так і за межами професійної діяльності.

"Джерело: складено автором."
У 1994 р. гольландські дослідники Д. Дірендонк, В. Шауфелі, Х. Кіндбо (Van Dierendonck, Waugh, Schaufeli, & Sixma, 1994) сформували двофакторну модель емоційного вигорання на основі досліджень Серед місцевих. Відповідно до даної моделі в основі синдрому емоційного вигорання лежить двохмірна конструкція, яка поєднує емоційне виснаження та деперсоналізацію. У даній моделі емоційне виснаження, що отримало назву «афективного» компоненту, відноситься до сфери свого здоров'я, фізичне самопочуття, неревневе напруження, емоційне виснаження. Другий компонент — деперсоналізація, що отримало назву «установочного» — пов'язаний з негативними ставленнями в різній мірі як до рецепіентів, так і до себе.

Іншим різновидом двофакторної моделі є модель Е. Махер (Maher, 1983 і К. Кондо (Kondo, 1991). В рамках цієї моделі питання професійного характеру майже відразу почали розглядати як значущі поряд з психологічною конструкцією, яка виражає через енергійність, гнучкість і емоційність. Синдром «емоційного вигорання» — форма дезадаптації до робочого місця через надмірне робоче навантаження та порушення міжособистісних відносин. Цю визначення відповідає припущенням, висунуте К. Кондо (Kondo, 1991), в якому він стверджує, що «трудоголі» — це ті, хто альтруїстично і надмірно інтенсивно працюють з людьми, «зірають» дуети, але не мають робочої енергії, пропонує до психосоматичної втоми та емоційного виснаження. Це може призводити до занепокоєння (тривоги), подразнення, зниження самооцінки на тлі прискореного серцебиття, задишки, шлунково-кишкових розладів, головного болю, зниженого тиску, порушення сну.

Вплив стресових факторів, що викликають явище «емоційного вигорання», охоплює значне коло професій, і, проводячи дослідження, Е. Махер (Maher, 1983) і К. Кондо (Kondo, 1991) приймають особливу увагу міжособистісним взаємодіям співробітників з клієнтами. Ними було виділено дві групи ризику, що сприяють емоційному виснаженню. К. Кондо (Kondo, 1991) виділяє як особливо значущу групу, яка впливає на емоційне виснаження, клієнтів соціальних служб, робота яких полягає у постійній взаємодії зі співробітниками цих служб — конкурентного та агресивного. Другою з груп Е. Махер називав працівників, які поєднують емоційне виснаження та персональні досягнення.

У 1976 р. К. Маслач (Maslach, 1976), розглядаючи проблему емоційного вигорання, опублікувала статтю у журналі «Human Behavior» і запропонувала термін «burnout» як перший в історії, а ще через рік — інструменту MBI (The Maslach Burnout Inventory), який було розроблено у 1981 р. К. Маслач із колегами (Maslach, Jackson, Leiter, Schaufeli, & Schwab, 1986; Maslach, Jackson, Leiter, 1997).

У загальному виснаження, необхідно відзначити, що, описуючи проблему вигоряння, К. Маслач розуміє під емоційним виснаженням порушення «балансу» як у професійному житті, так і в особистому. Відчуваючи хронічне емоційне напруження та намагаючисься якимось чином впоратися з ним, зменшити його, людина фізічно і психологічно дистанціюється від своїх партнерів по спілкуванню. Фізичне дистанціювання полягає в скороченні робочого часу, збільшенні робочих перерв або їх кількості, зниженні емоційної або професійного спілкування. Західні дослідники встановлюють синдром «емоційного вигорання» на основі двофакторної моделі, яка виражається через енергійність, гнучкість і емоційність, спалахи роздратування та конфліктні ситуації. Для всіх характеристик деперсоналізації важливо відбачати емоційного компоненту психологічних процесів, від початків до близьких людей, зниження емпатії — чуйності, співучасті.

Дана модель була покладена в основу психологічного інструменту MBI (The Maslach Burnout Inventory), який був розроблений в 1981 р. К. Маслач і колегами (Maslach, Jackson, Leiter, Schaufeli, & Schwab, 1986; Maslach, Jackson, Leiter, 1997).}


Концепція вигоряння, що базується на засобах діагностики Широм–Мельніця (Lundgren-Nilsson, Jonsdotter, Pullant, & Ahlberg, 2012), так само вказує на полікомпонентну структуру синдрому професійного вигорання, що представляє собою поєднання фізічної втоми, емоційного виснаження та когнітивної втоми.

При дослідженні феномену професійного вигорання та її причин її наслідків у сфері здравоохороння, соціального господарства, освіти, використовуються різні методики, дослідники, які проводять дослідження у значних культурних контекстах, що відрізняються як на рівні працівника, так і на рівні працівника, так і на рівні організації. Орел (Orel, & Bolkshova, 2005) підкреслюють, що цім симптоми вигоряння — це явище, що має соціальний характер та впливає на соціальну систему. Вони можуть бути викликані не тільки соціально-психологічними факторами, але й фізіологічними. Тому важливо врахувати, що вигоряння не є простою відповідною реакцією на стресові ситуації, але є результатом їхнього неправильного використання.}

всіх рівнів: емоційних, когнітивних, мотиваційних, поведінкових і соматичних проявів. Зазначені фактори відіграють різну роль у формуванні професійного вигорання і мають різний ступінь мінливості. Наприклад, ключовим фактором у синдромі професійного вигорання є емоційна складова — емоційне виснаження, яке має більшу структурну вагу, але менший ступінь мінливості. Воно в меншій мірі підлягає як впливам чинників професійного середовища, так і індивідуально-психологічних якостей, колишніх-стратегій і колиш-ресурсів.

Найбільш гнучким і схильним до трансформації компонентом професійного вигорання є ціннісні, специфіка проявів якого багато в чому залежить не тільки від змісту професії, а й від умов життєдіяльності суб'єкта, його індивідуально-психологічних якостей.

Необхідно відзначити, що у науковій літературі феномен професійного вигорання, крім факторних моделей, розглядається через призму динамічних моделей. Так, дослідники або акцентують увагу на результативні сторони професійного вигорання, або ж підкреслюють його процесуальний характер. В рамках першого підходу під професійним вигоранням розуміється певний комплекс змін, пов’язаних з певною особистістю.

Процесуальні моделі емоційного вигорання розглядають вигорання як динамічний процес, що розвивається в часі і має певні фази або стадії. Тобто вони розглядають динаміку розвитку вигорання як процес зростання емоційного виснаження, внаслідок якого виникають негативні установки по відношенню до суб’єктів професійної діяльності. Факт, що на якого впливає професійне вигорання, намагається створити емоційну дистанцію як спосіб подолати виснаження. Тобто за першої моделі Професійного вигорання, внаслідок якої виникає стресовий стадій, відповідно до що є негативним наслідком психологічного стресу.

Отже, в рамках процесуального підходу професійного вигорання — це процес професійного розвитку людини, якому властивий стадіальний характер.

Процесуальна модель професійного вигорання Б. Перлмана і Е. Хартмана (Перлман & Hartman, 1982) була описана ними у 1982 р. Ю. Хартмана і Е. Хартмана (Perlman & Hartman, 1982) вони у 1982 р. є процес, що проходить у часі з наростаючою інтенсивністю. Відповідно до цієї моделі на першій стадії умови адаптації впливають на результативні сторони професійного вигорання. Тобто синдром професійного вигорання — це процес, що проходить в часі з наростаючою інтенсивністю. Відповідно до цієї моделі на першій стадії умови адаптації впливають на результативні сторони професійного вигорання.

Четверта стадія являє собою емоційне вигорання, яке має багатогранне переживання хронічного психологічного стресу. Четверту стадію супроводжують реакції основних трьох класів (фізіологічні, афективно-когнітивні, поведінкові) в індивідуальних варіаціях і відповідних соматичних проявах. Четверта стадія являє собою емоційне вигорання як як фізичне та емоційне виснаження (рис. 2).

Рис. 2. Модель розвитку професійного стресу та професійного вигорання за Б. Перлманом та Е. Хартманом'
Отже, професійне вигорання виникає на фоні хронічного професійного стресу середньої інтенсивності в результаті неефективного його подолання, а тому супроводжується змінами:

- фізіологічних функцій (фізичне виснаження, зменшення психофізіологічних ресурсів тощо);
- афективно-когнітивних функцій (фокусування на ірраціональних або асоціальних установках і почуттях: дезадаптивні колін-стратегії, емоційне виснаження, деморалізація, деформація особистості професіонала тощо);
- поведінкових реакцій (акцентування типів поведінки, деперсоналізація, дезадаптація, зниження мотивації та продуктивності праці тощо).

Крім того, автори даної процесуальної моделі встановили зв’язок між адміністративно-управлінськими особливостями організації і статусно-рольовими та індивідуальними характеристиками їх персоналу.

В свою чергу, Дж. Гінберг (Greenberg, 2002) розглядає професійне вигорання як прогресуючий процес з п’яти стадій.

На першій стадії людина, як правило, задоволена роботою і виявляє ентузіазм. Однак у міру продовження робочих стресів професійна діяльність починає приносити все менше задоволення, працівник стає менш енергійним.

На другій стадії — «недолік палива» — з’являються втома, апатія, проблеми з сном. Якщо відсутнє додаткове стимулювання, працівник швидко втрачає інтерес до роботи або до роботи в даній організації, продуктивність її діяння знижується. Можливі порушення трудової дисципліни та інших професійних зобов'язань. В даній стадії можна зазначити епізоліативну тенденцію працівника, зменшення продуктивності.

На третій стадії, яка відома як «прибивання стіни», формується інтенсивне виснаження, що призводить до дезадаптивних реакцій. Цей період характеризується зниженням енергії, особистої витратності.

На четвертій стадії, яка відома як «загнаності в кут», виникає переживання постійної нестачі часу.

На п’ятій стадії — «вигорання» викликане непереважним хронічним стресом, особливістю діяльності. Людина прагне до усамітнення, отупіння, відчуття постійної відсутності сили. Ознаки та прояви вигорання можуть бути виявлені у будь-якому окремому працівнику, особистісних особливостей, які виникають всі інші симптоми. Стан виснаження має своїх постійних характеризуються зниженням енергії, особистої витратності.
Рис. 3. Модель розвитку професійного вигорання за М. Бурішом

*Джерело: розроблено автором на основі (Burish, 1994).*
Вивчення емоційного вигорання – сутно індивідуальний і має відмінності в емоційно-мотивативійній сфері, а також в умовах, де протикає професійна діяльність людини. Описані моделі вигорання, при наявності в своїй структурі однакових компонентів, вказують на відсутність єдиної точки зору як на визначення емоційного вигорання, так і на механізми його розвитку. Немає однозначної думки і в питанні наслідків досліджуваному синдрому: одні діяльнінюють про те, що, впливаючи на всі підструктури, вигорання являє собою пошкоджений регрес професійної діяльності. У той час ряд дослідників має більш оптимістичний погляд на питання розвитку професійного вигорання.

На нашу думку, існує необхідність у диференційованій або інтегрованій синдрому вигорання з такими психологічними категоріями, як стрес, адаптаційний синдром, професійна трансформація, депресія, хронічна втома, "синдром менеджера" та інші.

5. Висновки

а підставі опрацювання наукових фахових публікацій і здійснення власних досліджень необхідно відзначити, що синдром професійного вигорання як предмет соціально-економічних досліджень займає ключові позиції. Узагальнення досліджень з цього питання дозволяє розглядати професійне вигорання як особливий стан людини, який є наслідком професійних стресів. А тому професійне вигорання доцільно визначити як схвалений психофізіологічний феномен, який поєднує емоційну, розумову та фізичне виснаження через тривале емоційне навантаження, що виражається в депресивному стані, почутті втоми і спустошеності, недостатку енергії та ентузіазму, втраті здатності бачити перспективи його розвитку. У той же час, ряд дослідників має більш оптимістичний погляд на питання розвитку професійного вигорання.

Отже, професійне вигорання – це сукупність великої кількості професій, в тому числі і медичних працівників, що асоціюється з різними зовнішніми та внутрішніми факторами, а також з частотою професійних помилок. У зв'язку з цим проблема професійного вигорання має прямі відношення не тільки до якості життя медичних працівників, а й, як наслідок, безпосередньо впливає на якість медичної допомоги.

Наукова новизна отриманих результатів – це концептуалізація моделей професійного вигорання, їх структурування та дослідження змісту.

Застосування результатів дослідження можливо імплементувати у медичну галузь для подальшого дослідження професійних ризиків на ринку медичних послуг. Перспективами подальших досліджень є розробка комплексного прикладного механізму виміру впливу професійного вигорання на діяльність медичних працівників. Його призначенням має стати розробка, проектування та здійснення заходів, які дозволять покращити якість життя медичних працівників, покращити умови їх праці та якості надання медичної допомоги шляхом зменшення частоти помилок.

References


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Assessing the effect of corporate social responsibility on financial performance of a company: statistics from Nigerian quoted banks

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Purpose – to research the effect of the corporate social responsibility (CSR) on the corporate financial performance (CFP) of quoted banks in Nigeria.

Design/Method/Research approach. Using data of corporate social responsibility expenditure as a proxy for CSR and the trio of return on assets (ROA), return on equity (ROE), and bank earnings per share (EPS) as a proxy for CFP, regression analysis was conducted. ROA, ROE, and EPS data were collected from the banks’ financial statements for the period 2012 – 2016.

Findings. In particular, our analysis and findings suggest that CSR expenditure had no significant effect on all the three proxies of CFP of quoted banks in Nigeria. It supports the arguments in the literature that financial performance alone does not justify expenditure on CSR activities by the quoted Nigerian banks.

Practical implications. Our results show that there is a need for banks to consider other factors to see if the case for CSR activities exists. If they do not, the banks should stop engaging in these activities to increase the banks’ profitability.

Paper type – empirical.

Keywords: Return on assets (ROA); return on equity (ROE); earnings per share (EPS); Corporate Social Responsibility.

Reference to this paper should be made as follows:
Оценка влияния корпоративной социальной ответственности на финансовые показатели компании: статистика банков, котируемых в Нигерии

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Мета работы – исследовать влияние корпоративной социальной ответственности (CSR) на корпоративные финансовые результаты (CFP) банков, котируемых в Нигерии.

Дизайн/Метод/Исследовательский подход. Используя данные о расходах на корпоративную социальную ответственность в качестве прокси для CSR и данные о трех показателях, характеризующих доходность банка: рентабельности активов (ROA), рентабельности капитала (ROE) и прибыли на акцию (EPS) в качестве прокси для CFP, проведен регрессионный анализ. Данные относительно ROA, ROE и EPS получены из финансовой отчетности банков за период 2012-2016 гг.

Результаты исследования. Результаты анализа указывают на то, что расходы на CSR не оказали существенного влияния на все три показателя CFP банков, котируемых в Нигерии. Эти выводы поддерживаются аргументами в литературе о том, что сами по себе финансовые результаты не оправдывают расходы на деятельность по корпоративной социальной ответственности со стороны нигерийских банков.

Практическое значение исследования. Результаты исследования показывают, что банкам необходимо учитывать другие факторы, чтобы понять, существует ли обоснование деятельности по CSR. Если этого не сделать, банкам необходимо прекратить участвовать в CSR для увеличения своей прибыльности.

Тип статьи – эмпирический.

Ключевые слова: рентабельность активов (ROA); рентабельность капитала (ROE); прибыль на акцию (EPS); корпоративная социальная ответственность.
1. Introduction

It is common to see companies engage in various forms of corporate social responsibility (CSR) in the hope of getting excellent corporate financial performance (CFP) in return. For decades, researchers have studied the link between CSR and CFP, with varying results, findings, and conclusions. However, even with the extensive study of the subject, gaps still exist in the literature. This study seeks to plug one of these gaps.

The CSR occurs when a company voluntarily undertakes some activities over its legal obligations to stakeholders and society. According to Wang, Tong, Takeuchi, & George (2016), the CSR is a business bearing responsibility not just to own shareholders but, to broader society and a group of stakeholders. Thus, it is treating all stakeholders responsibly and ethically, that makes the CSR activities go beyond legal requirements (Hopkins, 2003) and the company’s interests to promote social good (McWilliams & Siegel, 2001). These social good include donating public buildings such as schools, hospitals, libraries, and recreational facilities. It also includes awarding scholarships and sponsoring social events. Some companies maintain public facilities like roads, gardens, and sports arenas. For instance, in Nigeria, some companies have sponsored long-standing school mathematics and science competitions as part of their CSR efforts (Adedipe & Bubolola, 2014). Other like oil companies operating in Nigeria’s Niger Delta are expected to provide power, clinics, water, and other social amenities to the host communities. The country’s most significant and longest-standing scholarships are those awarded by these companies each year to thousands of Nigerians. It is not unusual to see rounds-about, kerbs, and gardens in the country are maintained by banks (Obi, 2011).

Aside from maintaining public infrastructure, the commercial banks in Nigeria have been known to sponsoring fashion and beauty fairs and culinary fairs, attracting top chefs from around the world for a few days annually (GbBank, 2019).

Profit-making companies are in business to increase the wealth of shareholders, and the CFP is concerned with a business achieving its set financial goals. These goals could be set by using measures of profitability or liquidity, and/or solvency, or other measures of shareholder wealth. Scholars have studied that. According to (Chernev & Blair, 2015), in working towards financial goals, companies act in specific ways; one of them is to engage in the CSR.

As Oh and Park (2015) pointed out, the CSR is one of the ways the companies around the world have tried to achieve better financial performance. Freeman (1984) stated that the company’s CSR decisions involve a trade-off between enhancing shareholder value and creating benefits for other stakeholders.

Concerning the influence of the CSR on the CFP, scholars have made a wide range of findings. Rodriguez-Fernandez (2016), Chernev and Blair (2015), Oh, and Park (2015), and Saeidi, Sofian, Saeidi, Saeidi, & Saeidi (2015) found a definite link between the CSR and the CFP. It is against the position of other studies, which discovered no significant relationship between the CSR and the CFP (Chetty, Naidoo, and Seetharam, 2015; Lim, 2017). However, other researchers, such as Flammer (2015), stated that the CSR initiatives led to lower profits and reduced shareholder value, while others like Bognoli and Watts (2003) pointed out that the CSR activities led to the improvement in corporate financial performance.

These mixed results found by many scholars may be confusing and raise serious doubts about the existence of a link between the CSR and the CFP. Explaining these results provides ample opportunity for further research. The results may differ as the countries and industries that were subject of these studies had different economic characteristics and cultures, or any other reason(s). It shows the usefulness of studying the CSR-CFP link in specific industries and countries, without generalizing results.

Although there are some studies conducted in this area, there are quite a few related to Nigerian businesses. Adedipe & Bubolola (2014) did a descriptive analysis of the CSR performed by the banking industry in Nigeria. The study used Smart Art to show how these banks did the CSR and how the CSR activity may have contributed to their growth. It did not do any quantitative analysis of the CSR effect on any proxy of corporate growth. Another study of the CSR-CFP link in Nigeria was by Obi (2011), yet the study was conducted without quantitative analysis to show what effect the CSR may have on corporate performance. Also, it did not directly address the banking industry.

In studying the CSR-CFP link in Nigeria, there is a need to study it in industries that, according to Obi (2011), are engaged in many CSR activities – the banking and oil & gas industries. This study aims to establish if the CSR leads to better corporate financial performance in the banking industry. It, therefore, primarily sets out to: examine the effect of the CSR expenditure on the ROE, the ROA, and the EPS of quoted commercial banks in Nigeria. However, the study is limited to the bank CSR activities within a period of 5 years (2011 to 2016).

This country- and industry-specific study is important given the different results that have emanated from several scholars who have studied the effect of corporate social responsibility on the company’s performance in more other countries.

1.1. Concept of Corporate Social Responsibility

The concept of corporate social responsibility is the idea of a company looking beyond its primary purpose of increasing shareholder wealth and taking action to provide further value to other stakeholders even though the law does not require such an action. According to Bowen (1953), the CSR is ‘the businessmen obligations to pursue those policies, to make those decisions, or to follow those action lines desirable for objectives and values of our society.’ The CSR concept is, therefore, noble, but the question remains whether it benefits the business. Some scholars have disagreed with the notion that businesses should get engaged in the CSR. For them, the company’s only concern should be the maximization of shareholder wealth. Such a school of thought posits that shareholders may use their wealth to better society, but the company’s job is to provide that wealth to the shareholders (Prior, Surroca, & Tribo, 2008).

The school of thought that believes the CSR is beneficial has many studies in its support. In their work, Saeidi, Sofian, Saeidi, Saeidi, & Saeidi (2015) suggested that the CSR plays a role, indirectly promoting company’s performance through enhancing reputation and competitive advantage while improving the level of customer satisfaction. Documenting that social goodwill can benefit consumer perceptions of product and service performance, Chernev & Blair (2015) found that doing good can translate into doing well financially for a company. Rodriguez-Fernandez (2016) opined that the social is profitable, and the profitable is social and that the CSR generates a positive feedback virtuous circle, which ends up making the company that is engaged in the CSR outperform those that do not. Researches of the CSR-CFP link in South Korea, Oh & Park (2015) revealed that the CSR had a positive effect on the CFP, especially in industries such as food and beverages, metals, etc. Wang, Chen, Yu, & Hsiao (2015) discovered that the CSR helped increase brand equity, which in turn translated into excellent corporate financial performance. In their study of small and medium enterprises in Spain, Maduendo, Jorge, Conesa, & Martinez-Martinez (2016), found that the development of the CSR practices, directly and indirectly, contributed to improved competitive performance through the companies’ ability to manage their stakeholders better. Adedipe & Bubolola (2014) also agreed that the CSR had a positive effect on the CFP. In their research on corporate social responsibility in US companies, Kang, Germann, & Grewal (2016) came upon that the CSR and corporate social irresponsibility (CSI) were relatively highly correlated, indicating that omitting the CSI from the CSR–company performance link might yield misleading findings. They
also uncovered that the CSI had a significant adverse effect on the company’s performance. These results seem to be the reason that many companies around the world keep on spending resources on the CSR.

On the opposite debate, many studies suggest no effect of the CSR on the CFP. Some even suggest that there is a negative effect. Lim (2017) came across a significant relationship between some social variables and financial performance but found that this relationship was not always in a positive direction. It supports the thinking that there may be a cultural angle to the effect of the CSR on the CFP, as different populations and jurisdictions respond to different forms of the CSR in different ways. Chetty, Naidoo, & Seetharam (2015) contributed to the debate, stating that in the research of South African companies, various industries provided mixed results between CSR and CFP for companies over the long term, showing that the CSR activities led to non-significant differences in financial performance. Petrenko, Aime, Ridge, & Hill (2016) wondered the motive behind the CSR — whether for altruistic reasons or just the CEO narcissism. They concluded that the CEO narcissism had positive effects on levels and profile of organizational CSR; and that the CSR driven by the CEO narcissism reduces the effect on corporate financial performance.

Several dimensions of the CSR could be applied to study its effect on the CFP. These include corporate governance, community, diversity, employee relations, environment, human rights, and product quality. These dimensions are used to construct indices like the KLD and JSE SRI. However, nowadays, there are no such CSR indices in Nigeria. Therefore, to measure the CSR, this research utilizes content analysis of the CSR disclosures in annual banks’ reports. There applied actual CSR expenditures in Nigerian Naira of the quoted banks as the dimension that allows investigation of the CSR effect on the CFP. Actual CSR expenditures represent the real funds committed to the CSR activities by the banks. This research compares banks of different sizes by applying the CSR expenditure as a proportion of the particular bank’s total assets.

1.2. Concept of Corporate Financial Performance

The concept of corporate financial performance can be brought down to its measures — profit margins, return on assets, return on equity, and earnings per share. Scholars have used some or all of these to study the subject. However, each of them looks at financial performance from a different perspective. The ROA views how much financial return a company has, given its assets to make that return. The ROE considers the return on the amount of equity invested. The EPS estimates the earnings produced per share, while profit margin compares earnings to the number of sales made to produce such earnings. Scholars like Chetty, Naidoo, & Seetharam (2015) and Rodriguez-Fernandez (2016) applied the ROA and the ROE as a proxy for financial performance, while others like Wang, Chen, Yu, & Hsiao (2015) and Qiu, Shoakut, & Tharyan (2016) applied another profitability measure like sales margins. The research uses two of these proxies for financial performance (ROA and ROE), and controls with another (EPS).

This way, various perspectives of financial performance are covered. Although both the ROA and the ROE are the most commonly used metric to measure financial performance according to the previous CSR-CFP studies (Barnett & Salomon, 2006) and (Hagel III, Brown, & Davison, 2010), other studies have also applied market-based financial metrics such as the EPS and Tobin’s Q to measure the CFP. The EPS is used as control of the others due to its ability to offer a different kind of financial performance measure. It provides the absolute monetary figures, unlike the ROA and the ROE, that give returns figures — in percent. Using it controls for biases that may occur since income is divided by total assets and equity to get the ROA and the ROE, respectively.

1.3. Theoretical Framework

Researchers worked on the relationship between the CSR and the CFP have underpinned their work on many different theories. Those theories include the neoclassical trade theory, the economic model theory, agency theory, and the stakeholder theory. The economic environment and objectives set to achieve, we apply the Stakeholder Theory developed by Freeman (1984) to underscore the research. The stakeholder theory is at the heart of the CSR, and any company that does not rely on its basic principles may be reluctant to get engaged in any form of the CSR. Studies on the CSR-CFP link by Ioannou & Serafeim (2018), Lim (2017), Oh & Park (2015), and Orlitzky, Schmidt, & Rynes (2005) used stakeholder theory as their basic framework. Introductions in 1984 (Freeman & Reed, 1983), stakeholder theory is a conceptual framework with the perspective on the ethical and moral values of organizations. According to Freeman (1984), stakeholder groups are the groups, aside from the shareholders, without which the company would cease to exist.

1.4. Empirical Studies

Previous empirical studies on the CSR and its relationship with the CFP using different methodologies, populations, and samples, have come up with mixed results. Environment, community, human rights, diversity, employee relations, product quality, and corporate governance as proxies for the CSR and the ROA as proxy for the CFP, Lim (2017) discovered that, for the S&P 500, the relationship between the CSR and the CFP was significant in certain industries (two out of the eight studied) but not in others. The relationship was not always in a positive direction. Modeling the four relationship’s mechanisms between the CSR and the CFP, Kang, Germain, and Grewal (2016) applied structural panel vector autoregression (SPVAR) to KLD ratings of the CSR and Tobin’s Q (CFP) finding that the CSR and corporate social irresponsibility (the CSI) are fairly highly correlated. It indicates that omitting the CSI from the CSR-CFP link might yield misleading findings. They also found that CSI had a significant negative effect on company performance. Using the Johannesburg Stock Exchange Socially Responsible Investing Index as a proxy for the CSR and the ROE, the ROA, and the EPS as proxies for the CFP, and applying regression techniques, Chetty, Naidoo, & Seetharam (2015) came across that various industries provided mixed results for the CSR-CFP link. Some researches on the subject considered the role of corporate governance on the CSR and, by extension, the CFP. Rao and Tilt (2016) examined the effect of board diversity on the CSR, revealing that examining boards’ decision-making processes concerning the CSR provided more insight into the link between board diversity and the CSR, and therefore the CFP. In her investigation of the good corporate governance role on the CSR-CFP link using regression analysis, Rodriguez-Fernandez (2016) uncovered that the social is profitable and the profitable is social, thereby originating a positive feedback virtuous circle.

Qiu, Shoakut, and Tharyan (2016) examined the link between a company’s environmental and social disclosures and its profitability and market value. Using regression analysis, they found that there was a definite link between lagged profitability and current social disclosures. It appeared that companies with some profitability track record had the ability and willingness to invest in stakeholder engagement practices, as evidenced by higher and objective social disclosures. Madueño, Jorge, Conesa, & Martínez-Martínez (2016), while studying the relationship between the CSR and competitive performance in Spanish SMEs, considered empirical evidence from a stakeholders’ perspective. He used partial least squares analysis and found that the adverse impact of the CSR practices contributed to the increase of competitive performance both directly and indirectly through the ability of such organizations to manage their stakeholders better. In their work on the relationship between the CSR and the CFP in Korea, Oh and Park (2015) tried to show that companies needed an active and strategic view of the CSR nestling as a
sustainable factor of a company, since the company’s value may be influenced by it. The study found that the CSR had a positive effect on the CFP in Korea, which reflects that the stakeholder theory seems valid. Wang, Chen, Yu, and Hsiao (2015) estimated the CSR effects on brand equity and company performance using quantile regression and structural equation modeling and found that the economic dimension of the CSR and the prestige driver of brand equity were positive and significant for all the quantiles.

Some studies questioned the methodology and data applied in studies on the CSR-CFP link. McWilliams and Siegal (2000), for instance, tried to find out if there really was a correlation between the CSR and the CFP, or just results brought about by miss-specified models. This work found that studies gave conflicting results about the relationship between the CSP and the CFP because they omitted certain essential variables such as the intensity of research and development (R&D). Performing a meta-analysis of fifty-two studies on the subject, Oritzky, Schmidt, and Rynes (2003) located that corporate virtue as the social responsibility and, to a lesser extent, environmental responsibility was likely to pay off. However, the operationalization of corporate social performance (the CSP) and the CFP moderated the positive relationship.

2. Research question

The central research question is as follows:

- Does the CSR expenditure have any effect on the financial performance of the quoted banks in Nigeria?

The Financial Performance, in this case, is represented by the ROA, the ROE, and the EPS, leading to the following research questions:

A) Does the CSR expenditure have any significant effect on return on assets (the ROA) of quoted banks in Nigeria?
B) Does the CSR expenditure have any significant effect on return on equity (the ROE) of quoted banks in Nigeria?
C) Does the CSR expenditure have any significant effect on earnings per share (the EPS) of quoted banks in Nigeria?

3. Methodology and data

The research examines the effect of the CSR on the CFP for a five-year period – 2012–2016. The design is the ex-post facto research design. It applies the data collected from all the thirteen quoted commercial banks in Nigeria and adopts a quantitative approach based on a philosophical world view of positivism. Regression analysis is conducted to examine the data gathered on the CSR, which proxy is the CSR expenditure, and the two proxies of the CFP – the ROA and the ROE. As a test control, the regression analysis is also conducted on a third proxy of the CFP – the EPS.

The approach supported by Mkansi and Acheampong (2012) stated that quantitative research is the most appropriate method for analyzing empirical data of multiple constructs. Such researchers used this approach as Ioannou & Serafeim (2018), Lim (2017), Wang, Tong, Takeuchi, and George (2016), Madueño, Jorge, Conesa, and Martínez-Martínez (2016), and Luo, Wang, Raithel, and Zheng (2014).

There are 20 commercial banks in Nigeria. Thirteen of which were quoted on the Nigerian Stock Exchange as of 15th May 2019. These include Access Bank, Ecobank, First Bank of Nigeria Holdings, Fidelity Bank, First City Monument Bank, Guaranty Trust Bank, Stanbic IBTC, Sterling Bank, Union Bank, United Bank for Africa, Unity Bank, Wema Bank, and Zenith Bank. This research was conducted to consider the CSR-CFP link in the thirteen quoted commercial banks that made the base the research. The study is based on the CSR expenditure of the listed banks sourced from the banks’ published annual financial statements collected from the banks’ websites. The same data was also collected from the database of the Securities & Exchange Commission and the two sets of data compared for accuracy. Data for the proxies of the CFP, the ROE, and the ROA, was obtained from the published financial statements. The research collected the EPS data of the companies to use as a control. The absence of the processed CSR data in Nigeria meant that raw CSR expenditure data were collected and processed to yield results. The ROA and the ROE values were computed from the financial statements’ data, and the computed means and all those were put into the regression model.

Model Specification

The regression models:

\[ Y_{ROA} = b_0 + b_1 \text{CSREXP}_{ROA} + e \] (1),

\[ Y_{ROE} = b_0 + b_2 \text{CSREXP}_{ROE} + e \] (2),

\[ Y_{EPS} = b_0 + b_3 \text{CSREXP}_{EPS} + e \] (3),

wherein:

- \(	ext{CSREXP}_{ROA}\) – bank CSR expenditure;
- \(Y_{ROA}\) – dependent variable ROA;
- \(Y_{ROE}\) – dependent variable ROE;
- \(Y_{EPS}\) – dependent variable EPS;
- \(e\) – error term;
- \(b_0\) – intercept;
- \(b_1, b_2, b_3\) – slope coefficients.

3.1. Data Analysis

Data on the ROA, the ROE, and the EPS of the thirteen banks were collected from their audited annual reports over the five years – from 2012 to 2016. The CSR expenditure amounts were also obtained from the banks’ annual reports, save for that of Ecobank reported its CSR expenditure differently in different countries of its operation. Its total CSR expenditures were not clear and were, therefore, excluded from the analyzed data. To make the CSR expenditure data comparable across the quoted banks, the total assets of the specific bank and the resulting figure used for the regression divided each bank’s CSR expenditure. The below tables (Table 1, Table 2, Table 3, Table 4) present descriptive statistics of the CSR expenditures, the ROA, the ROE, and the EPS of the banks.

3.2. Test of the Hypotheses

The regression was performed at the 5% level of significance. The results were as follows:

The first hypothesis stated that:

\[ H_0: \text{the CSR expenditure has no significant effect on the ROA of the quoted commercial banks in Nigeria.} \]

\[ Y_{ROA} = b_0 + b_1 \text{CSREXP}_{ROA} \] (4)

The result of the analysis demonstrated that the CSR had no significant effect on the ROA of the quoted banks in Nigeria. The regression results illustrated a p-value of 0.197, meaning that the null hypothesis cannot be rejected, as shown in Table 5 below.

The regression of the CSR expenditure on the ROA depicted R² of 0.54, which means that the model could explain 54 % of the variability in the ROA. It negates the result showing an insignificant relationship between the CSR expenditure and the ROA.
# Descriptive Statistics of the CSR Expenditures of the Quoted Banks in Nigeria (over the total assets)*

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*Source: compiled by Authors.

# Descriptive Statistics of the Returns on Assets of the Quoted Banks in Nigeria*  

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*Source: compiled by Authors.

# Descriptive statistics of the returns on equity of quoted banks in Nigeria*  

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<td>20.5</td>
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<td>0.72</td>
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<td>9.13</td>
<td>7.27</td>
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<td>16.83</td>
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<td>Median</td>
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<td>15.21</td>
<td>16.70</td>
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<td>7.15</td>
</tr>
<tr>
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<td>6.43</td>
<td>7.79</td>
<td>8.59</td>
</tr>
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</table>

*Source: compiled by Authors.
4. Results and discussion

The results of the study showed that the CSR expenditure had no significant effect on the financial performance of the quoted banks in Nigeria. These results were as follows:

A) No significant effect was found of the CSR expenditure on the ROA of the quoted banks in Nigeria. The model, however, explained 54% of the variability in the ROA of these banks.

B) No significant effect was found of the CSR expenditure on the ROE of the quoted banks in Nigeria. The regression model explained only 14% of the variability in the ROE of the banks.

C) No significant effect was found of the CSR expenditure on the EPS of the quoted banks in Nigeria. The regression model explained only 9% of the variability in the EPS.

The second hypothesis stated the following:

\( H_2: \) the CSR expenditure has no significant effect on the ROE of the quoted commercial banks in Nigeria:

\[
Y_{ROE} = b_0 + b_{CSREXP_{ROE}} \quad (5).
\]

The regression analysis returned a p-value of 0.53, which is much greater than the level of significance of 0.05, implying that the research cannot reject the null hypothesis.

\( R^2 \) was 0.14, meaning that the model explained only 14% of the ROE variability. Table 6 shows those results.

The third hypothesis was specified as a control on the first two and stated that:

\( H_3: \) the CSR expenditure has no significant effect on the EPS of the quoted commercial banks in Nigeria:

\[
Y_{EPS} = b_0 + b_{CSREXP_{EPS}} \quad (6).
\]

The regression result here was in line with the first two. It had a p-value of 0.60, again much greater than 0.05, meaning that the null cannot be rejected. Therefore, CSR showed no significant effect on EPS of quoted banks in Nigeria. The model had \( R^2 \) of 0.09, indicating that the model could only explain 9% of the variability in the EPS of the banks. It is shown in Table 7.

Table 4

<table>
<thead>
<tr>
<th></th>
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<td>Unity Bank</td>
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<tr>
<td>Zenith Bank</td>
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<td>Max</td>
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<td>Standard deviation</td>
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Source: compiled based on Author’s calculations.

Table 5

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficients</th>
<th>Standard Error</th>
<th>t Stat</th>
<th>P-value</th>
<th>Lower 95%</th>
<th>Upper 95%</th>
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Source: compiled based on Author’s calculations.

Table 6

<table>
<thead>
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<th>Variable</th>
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<th>t Stat</th>
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</table>

Source: compiled based on Author’s calculations.

Table 7

<table>
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<tr>
<th>Variable</th>
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<th>t Stat</th>
<th>P-value</th>
<th>Lower 95%</th>
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These results indicate that social responsibility activities do not influence financial performance in the quoted banks in Nigeria. The outcomes’ consistency across the three proxies of corporate financial performance used in the study indicates reliable results. These reliable results specifying a no-effect relationship between the CSR and the CFP are at variance with the reports of several researchers on the subject who indicated positive and negative relationships between the CSR and the CFP. It signifies that while it may be true that the CSR affects the CFP, it may be localized to specific industries in specific markets. It may also be cultural. In the Nigerian banking system, as represented by the banks quoted on the Nigerian Stock Exchange, the CSR does not affect the CFP.

5. Conclusions

The research sought to investigate the effect of the CSR on the corporate financial performance of the quoted commercial banks in Nigeria. The dimension of the CSR used was the CSR expenditure adjusted to eliminate size bias by dividing by bank’s total assets. By regression of this CSR expenditure on the ROA and the ROE of the banks made the analysis possible. The regression of the CSR expenditure on the EPS of the banks was used as a test control. On conducting a regression analysis of mean CSR expenditure of the quoted banks on the banks’ ROA, the research revealed that the CSR expenditure had no significant effect on the average ROA, the ROE, and the EPS of the banks. The determination coefficients ($R^2$) were in line with the results, showing that the models had very little explanatory power on corporate financial performance. The research also discovered that the banks spent only an average of 0.018% of their total assets on the CSR over the five years. This amount is relatively small and may explain the reason why the banks may continue to spend on the CSR activities even without evidence of any effect on their financial performance. Perhaps it may have been a more serious consideration for the banks if the CSR engagements were more financially tasking. This result means that banks in the Nigerian banking system may be wasting their CSR budgets if their purpose of engaging in the CSR is to achieve better financial performance. If there are other reasons for engaging in the CSR such as being a good corporate citizen, maintaining good relationships with communities, boosting the banks’ ego and that of the chief executive officer, gaining recognition of the public and authorities, or just being a shaper of society, then the banks may continue engaging in the CSR. Otherwise, expenditure on the CSR may be an act in futility that the banks should consider stopping.

Given the result of this study, it is recommended that the quoted banks in Nigeria re-evaluate their CSR activities and the objectives of their engagement. If the sole objective is financial performance, then a re-think may be necessary, and they should decide to stop expending resources on the CSR activities. The companies must spend shareholder’s assets only on worthwhile activities. The banks must, therefore, carefully consider if their CSR activities bring value more significant than the money spent on them. It is essential to note that the benefits of the CSR to a company may not only be in the financial form but also in other merits, some of which may eventually lead to financial performance. However, it is essential that in deciding whether to continue with the CSR activities, the banks consider the public perception of the CSR activities of large corporations like themselves.

The public now tends to expect the CSR activities from these companies. A reason for not influencing financial performance could include those that the CSR activities are taken as expected threshold activities, and therefore which do not give any competitive advantages. It may be that getting engaged in the CSR activities provides no extra boost to corporate performance, and not their engagement could lead to poor financial performance. Although this is a specific view, none of the studied banks had zero expenditure on the CSR, which does not allow us to study this effect.

References


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Job security and labor productivity: An inverse U-shaped relationship

M. Machek

Purpose – to investigate the relationship between job security and labor productivity among 45,506 companies from the Czech Republic, Slovakia, Croatia, Slovenia, and Latvia.

Design/Method/Approach. This article uses linear regression analysis based on data from the period of 2013-2017.

Findings. The study indicates an inverse U-shaped relationship between employment volatility, as measured by the coefficient of variation, and labor productivity. Labor productivity increases along with employment fluctuation up to a certain point; however, when employees feel insecure, their labor productivity deteriorates. Surprisingly, for most companies, the relationship between employment fluctuation and labor productivity remains positive. Labor productivity gets affected positively by the security feeling rather than by guaranteeing the job position.

Originality/Value. The results are consistent within the subsamples of the five individual countries in the sample and robust to two alternative measures of fluctuation, the mean absolute deviation, and the studentized range.

Paper type – empirical.

Keywords: employment volatility; job security; inverse U-shaped relationship.

Reference to this paper should be made as follows:
Безпека роботи та продуктивність праці: зворотна U-образна залежність

Мартін Мачек‡
‡ Університет економіки, Прага, Чехія


Результати дослідження. Дослідження вказує на зворотну U-подібну залежність між мінливістю зайнятості, виміряною коефіцієнтом коливання та продуктивністю праці. Виявлено, що продуктивність праці збільшується разом із коливаннями зайнятості до певного моменту; однак, коли працівники відчувають себе невпевнено, продуктивність їх праці знижується. Дивно, але для більшості компаній зв’язок між коливаннями зайнятості та продуктивністю праці залишається позитивним. На продуктивність праці впливає позитивно почування безпеки, а не гарантія робочого місця.

Оригінальність/цінність/наукова новизна дослідження. Отримані результати відрізняються в підвібрках п’яти окремих країн у відбір та надійних до двох альтернативних мір коливань, середнього абсолютного відхилення та ступінчастого діапазону.

Тип статті – емперичний.

Ключові слова: мінливість зайнятості; безпека роботи; обернене U-подібне відношення.

Безпосередність роботи і продуктивність труда: обратная U-образная зависимость

Мартин Мачек†
† Экономический университет, Прага, Чехия

Факультет делового администрирования, Прага, Чехия

Цель работы – исследовать взаимосвязь между гарантией занятости и производительностью труда среди 45 506 компаний из Чешской Республики, Словакии, Хорватии, Словении и Латвии.

Дизайн/Метод/План исследования. Использован линейный регрессионный анализ на основе данных за период 2013-2017 гг.

Результаты. Исследование указывает на обратную U-образную связь между волатильностью занятости, измеряемой коэффициентом вариации, и производительностью труда. Выведено, что производительность труда увеличивается вместе с колебаниями занятости до определенной точки; однако, когда работники чувствуют себя неуверенно, их производительность труда ухудшается. Удивительно, но для большинства компаний связь между колебаниями занятости и производительностью труда остается положительной. На производительность труда положительно влияет чувство безопасности, а не гарантия рабочего места.

Оригинальность/Ценность/Научная новизна исследования. Результаты согласуются в подвборках пяти отдельных стран в выборке и устойчивы к двум альтернативным мерам флуктуаций, среднему абсолютному отклонению и изучаемому дипазону.

Тип статьи – эмпирический.

Ключевые слова: волатильность занятости; безопасность труда; обратные U-образные отношения.
1. Introduction

Job security is frequently mentioned among basic methods for improving employee satisfaction at work and their performance. Job security belongs to the “hygiene” of efficient systems which aim is to increase productivity (Katzell, Yankelovich, Fein, Omann, & Nash, 1975). On the other hand, under poor economic conditions, executives often seek to increase labor productivity by downsizing. Even though the aim of downsizing could include the increase of productivity, job changes that threaten job security are perceived employees negatively, and often are likely to fail in their intent (Katzell et al., 1975). Therefore, business professionals have long been preoccupied with the question of how to simultaneously ensure job security and productivity, which are sometimes viewed as contradictory, but in fact, they are not antithetical (Gutches, 1985).

Companies can affect job security directly by hiring or discharging employees. The probability of not being fired is sometimes referred to as “microeconomic job security”, which should be distinguished from “macroeconomic job security”, meaning the probability of finding a job on the job market (Lindbeck & Snower, 1988). Regarding the microeconomic job security, other possible definitions of job security include “the extent to which companies offer long-term employment to their employees” (De Meuleneere, Boone, & Buyd, 2016). Alternatively, “positive actions taken by companies and/or unions to assure that the people associated with them have an opportunity to have a productive job as long as they want” (Gutchess, 1985), or “the perceived stability and continuance of one’s job as one knows it” (Probst, 2003). This paper focuses on the microeconomic meaning of employment security.

There is evidence in the management literature that job insecurity deteriorates productivity. Huselid (1995) found evidence of a strong negative correlation between labor productivity and turnover among US companies. In a sample of 2001 Australian companies, Frenkel and Orlitzy (2005) considered job stability to be a component of supportive employment practice (SEP), finding a strong relationship between SEP and the two-year changes in labor productivity. Likewise, using an analysis of 204 ethnographic cases, Hodson (2004) revealed that the supportive employment practices are essential for the highest levels of citizenship behavior, i.e., productive behaviors of employees being beyond organizational requirements. Sun, Aryee, and Law (2007) discovered that in China, high-performance HR practices, including job security, positively affected organizational citizenship behavior, which, in turn, increased labor productivity.

On the other hand, some studies reveal that job security reduces employee performance (Ichino & Riphahn, 2005; Leung, 2009; Olsson, 2009), which may negatively affect labor productivity.

The research question in this paper is: is the relationship between job security and labor productivity linear, or there are non-linear components of this relationship? To address the gap, we use a large multinational sample to test whether the volatility of employment affects the labor productivity of companies. It provides an empirical contribution and complements previous studies, which mostly employed smaller samples or focused on single countries.

The rest of this paper has the following structure. First, we present the relevant theoretical background. Subsequently, we describe the data and methodology. Then, we present results and discussion. Finally, we provide concluding remarks.

2. Theoretical background

Generally, two approaches explain why job security affects labor productivity can be found in the literature: the microeconomic and psychological foundations.

From the microeconomic point of view, investment in human capital, including the promotion of job security, will be justified when they are offset by future returns in the form of increased productivity (Guthrie, 2001). While job security may be interpreted as a nonfinancial form of compensation (Noble, 2008) associated with costs to the company, according to Ghoshal, Moran, and Bartlett (1996), secure employment relationships help reduce the uncertainty related to economic transactions. Lindbeck and Snower (1988) argue that the fall of the rate at which a company replaces its workers by new ones has a substitution and income effect. The substitution effect is positive; when a worker can expect the reward for the performance, he/she is likely to work more productively. The income effect is negative, as it has a lower risk of being fired; his/her expected income increases, which reduces the work performance. The two effects act in the opposite direction; should the substitution effect prevail, job security will have positive effects on productivity; when the income effect prevails, there will be a negative relationship between job security and productivity.

Another factor in the job security-productivity relationship is based on the social exchange theory (Blau, 1964). Unlike organizations that consider employee relationship as a short-term monetary exchange, organizations which adopt a social exchange approach establish a mutual psychological contract with employees. Hence, the employment relationship may be viewed as a relational contract (Galunic & Anderson, 2000), where inducements to employees are reciprocated by commitment and motivation of employees (Iervson & Zatzick, 2001). Job security can also be considered as a component of this social exchange relationship (Frenkel & Orlitzy, 2005; Tsui, Pearce, Porter, & Tripoli, 1997).

By promoting relationships among organization members, the organization is building its social capital; however, the social capital may easily be broken by violating the contract terms and conditions. Under such circumstances, employees are not able to form meaningful relationships at work (Leana & Van Buren, 1999), and they invest their time in the knowledge valued by the external labor market rather than in the company-specific knowledge (Ghoshal et al., 1996). Hence, job insecurity negatively affects the internal knowledge market of the company (Chadwick, Hunter, & Walston, 2004).

It can also be expected that job security positively affects commitment, motivation, and mutual trust (Frenkel & Orlitzy, 2005). Generally, the job security can be seen as a factor that contributes to the organizational trustworthiness, a concept which has been reported to be positively associated with labor productivity (Hodson, 2004; Frenkel & Orlitzy, 2005). The feeling of security is a necessary prerequisite if employees need to take risks on the organization’s behalf (Leana & Van Buren, 1999), and mutual trust enhances co-worker support and information sharing (Frenkel & Orlitzy, 2005). As a result, according to the social exchange theory, employees will exchange job security for commitment and loyalty (even beyond their secured wages), which will further increase individual performance, cooperation, and teamwork (Galunic & Anderson, 2000).

However, there are also studies suggesting that job security reduces the performance of employees. Using a large sample of white-collar workers from the banking sector, Ichino and Riphahn (2005) uncovered that employment protection caused an increase in absenteeism.


The conflicting results may occur due to non-linear effects in the job security-labor productivity relationship. Based on the literature review, we assume that when job security is low, labor productivity deteriorates.

On the other hand, with the ensured job security the employee performance gets reduced, which will also negatively affect labor productivity. Hence, our expectation is that:

H1: There is an inverse U-shaped relationship between job security and labor productivity.
3. Methods and data

or our empirical investigation, we used the Bureau van Dijk’s Amadeus database. We selected five Central and Eastern European countries: the Czech Republic, Slovakia, Croatia, Slovenia, and Latvia. Subsequently, we extracted all limited liability companies with available financial data throughout 2013-2017. To exclude foreign subsidiaries from the sample, we limit our analysis to companies owned by one or more individuals or families originating in the individual countries. The companies in our sample with a change in the number of employees occurred throughout the 2013-2017 encounters to 45,506.

To investigate the non-monotonic relationship between employment fluctuation and labor productivity, we use linear regression analysis. Following the approach used by most management-related papers (Haans, Pieters, & He, 2016), we test the significance of both the quadratic and linear terms and find the turning point; if the quadratic term is statistically significant and the turning point lies within the data range, we consider that a quadratic relationship exists between the dependent and the independent variables. To test whether the turning point lies within the data range, we applied the delta method presented by Rao (1973) to estimate the 95% confidence interval for the turning point (see also Lind & Mehlum, 2010).

The dependent variable is labor productivity, which is measured as the natural sales’ logarithm per employee (Guthrie, 2001; Sun et al., 2007). Following multiple authors (e.g., Cappelli & Keller, 2013; Lee, 2006), we quantify employment volatility by the standard deviations of the number of employees throughout 2013-2017, which are standardized by the absolute value of the mean (hence, we apply the variation coefficient to measure the employment fluctuation).

The meta-analysis of Hancock, Allen, Bosco, McDaniel, and Pierce (2013) provide evidence that the employee turnover-performance relationship is moderated by context factors, such as geographical location or industry. Hence, in our analysis, we control both country-level effects and industry effects by including five-country dummies and thirteen industry dummies. It can also be expected that labor productivity is affected by the company’s size and age since more substantial and older companies may enjoy learning curve advantages in productivity owing to the adoption of high-performance HR practices (Guthrie, 2001). In larger companies, better and more sophisticated HR practices can be expected (Jackson & Schuler, 1995). Hence, we also control the company’s size (natural logarithm of total assets) and age.

4. Results

Table 1 presents the descriptive statistics for the model variables. Due to robustness checks performed after the analysis, we also include the descriptive statistics for two alternative measures of employment volatility.

Table 2 displays the correlation matrix for the model variables. All Pearson correlation coefficients are statistically significant at the 0.001 level. Labor productivity is strongly and negatively correlated with the company’s age and size and positively correlated with measures of job volatility. As expected, the company’s size is significantly correlated with its age, and larger and older companies tend to have lower levels of employment volatility (i.e., they offer more stable employment). Moreover, the three measures of job volatility are strongly correlated with each other.

Fig. 1 depicts the scatter plot of labor productivity and employment volatility, together with the histogram of employment volatility values.

A graphical inspection reveals that the relationship between labor productivity and job insecurity is not linear and negative, as predicted by some earlier studies; instead, it resembles a concave function. Furthermore, the graph suggests that for most companies, the rate of change (derivative) of the function remains positive; in other words, increasing employment volatility positively affects labor productivity.

### Table 1

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
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<th>Maximum</th>
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<tr>
<td>Labor productivity</td>
<td>2.280</td>
<td>1.780</td>
<td>0.003</td>
<td>11.400</td>
</tr>
<tr>
<td>Var(employment)**</td>
<td>0.282</td>
<td>0.248</td>
<td>0.003</td>
<td>2.160</td>
</tr>
<tr>
<td>Mean absolute deviation</td>
<td>0.218</td>
<td>0.191</td>
<td>0.002</td>
<td>1.550</td>
</tr>
<tr>
<td>Studentized range</td>
<td>0.608</td>
<td>0.556</td>
<td>0.007</td>
<td>4.850</td>
</tr>
<tr>
<td>Age</td>
<td>17.600</td>
<td>17.000</td>
<td>5.000</td>
<td>115.000</td>
</tr>
<tr>
<td>Size</td>
<td>3.860</td>
<td>3.860</td>
<td>0.711</td>
<td>7.010</td>
</tr>
</tbody>
</table>

*Source: compiled based on Authors’ calculations.

**Note: Var(….) denotes the coefficient of variation.

### Table 2

<table>
<thead>
<tr>
<th>Variable</th>
<th>LP**</th>
<th>VAR</th>
<th>MAD</th>
<th>SR</th>
<th>Age</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>LP</td>
<td>1.000</td>
<td>0.428</td>
<td>0.440</td>
<td>0.351</td>
<td>−0.255</td>
<td>−0.478</td>
</tr>
<tr>
<td>VAR</td>
<td>1.000</td>
<td>0.988</td>
<td>0.977</td>
<td>0.941</td>
<td>−0.273</td>
<td>−0.203</td>
</tr>
<tr>
<td>MAD</td>
<td>1.000</td>
<td>0.961</td>
<td>0.977</td>
<td>0.941</td>
<td>−0.273</td>
<td>−0.206</td>
</tr>
<tr>
<td>SR</td>
<td>1.000</td>
<td>0.277</td>
<td>0.277</td>
<td>0.277</td>
<td>−0.277</td>
<td>−0.168</td>
</tr>
<tr>
<td>Age</td>
<td>1.000</td>
<td>0.355</td>
<td>0.355</td>
<td>0.355</td>
<td>0.355</td>
<td>0.355</td>
</tr>
<tr>
<td>Size</td>
<td>1.000</td>
<td>0.355</td>
<td>0.355</td>
<td>0.355</td>
<td>0.355</td>
<td>0.355</td>
</tr>
</tbody>
</table>

*Source: compiled based on Authors’ calculations.

**Note: LP = Labor productivity; VAR = coefficient of variation; MAD = mean absolute deviation; SR = studentized range. All coefficients are significant at 0.001.

1 Industries are classified by four-digit NACE codes (sections A-N).
The regression results are illustrated in Table 3. We verified the severity of multicollinearity using variance inflation factors (VIF). The maximum VIF was 6.17 due to the inclusion of the quadratic term in the regression. The mean VIF is 1.80. When using the cutoff of 10 (Kutner, Nachtsheim, & Neter, 2004), we conclude that multicollinearity is not an issue in the analysis. To deal with heteroskedasticity, we used robust standard errors in Stata 14. Both the quadratic and linear terms are significant at the 0.001 level. First, the sign of the quadratic term is negative. The turning point occurs at employment volatility of 0.913, while the lower bound of the 95% confidence interval is 0.907, and the upper bound is 0.921 (by the delta method). Thus, the turning point lies within the data range (0.003-2.160).

Based on the above, we conclude that evidence of an inverse U-shaped relationship between labor productivity and employment volatility was found.

Table 3 demonstrates that when employment volatility is low, job security is high, which negatively affects labor productivity. However, when employment volatility is very high, labor productivity is also likely to remain low.

To perform robustness checks, we first employed two alternative measures of employment volatility: the mean absolute deviation (i.e., the mean of the absolute values of the differences between the number of employees and the mean throughout 2013-2017), and the studentized range (i.e., the difference between the maximum and the minimum number of employees throughout 2013-2017, divided by the standard deviation). Both measures of employment volatility provide the same findings (Table 4): there is a curvilinear relationship between employment volatility and labor productivity. As suggested by the 95% confidence intervals, the turning points lie within the data range (see Table 1 and Table 4).

To show that the results are also valid at the national levels, we performed regressions in the subsamples of the five countries. Table 5 illustrates the results. We arrive at the same conclusion: we find evidence of an inverse U-shaped relationship between employment volatility and labor productivity.
5. Discussion

In our research, we discovered the inverse U-shaped relationship between employment volatility and labor productivity. When job security is very high, the employment is too secure, and employees may lose incentives to work productively. This phenomenon may be typical for government bodies, but also academic institutions, as suggested by Leung (2009). However, the results of Ichino and Riphahn (2005) and Olsson (2009) suggest that the phenomenon may also occur in the private sector. From the microeconomics point of view, this situation occurs when the income effect of employee turnover prevails. When the probability of being fired is low or close to zero, the expected income of employees increases, which enables employees to work less productively; job security is negatively related to work performance. When employment becomes less secure, labor productivity is likely to be increasing, since workers need to exert themselves in their job to maintain their expected wealth.

However, at a certain point, job insecurity will stop improving labor productivity; the adverse effects of job insecurity shall prevail. Based on the management literature, we may argue that the job insecurity negatively affects the internal knowledge market of a company (Chadwick et al., 2004), trust (Frenkel & Orlitzky, 2005), and teamwork (Galunic & Anderson, 2000). Employees will no longer be motivated to invest their time and performances to the company, and they will lose their commitment. As a result, their labor productivity will get decreased with employment fluctuation.

While the turning point lies within the data range, the vast majority of the companies (98%) in the sample had a lower employment fluctuation. In other words, for most companies, the relationship between labor productivity and employment fluctuation will be concave and positive. Only for a small fraction of companies, the adverse effects of employee fluctuation shall prevail.

These findings seemingly contradict multiple past studies (e.g., Chadwick et al., 2004; Frenkel & Orlitzky, 2005; Galunic & Anderson, 2000). In this context, we argue the need for clarifying the meaning of “job stability” in the management literature. It seems that unilaterally “guaranteeing” a job is rarely beneficial to labor productivity. Instead, companies may invest in employee’s skill and management training, which enhances the security feeling as well as employees’ marketability (Chadwick et al., 2004), and simultaneously, provides the potential for productivity improvements. Hence, when using job security as a form of employee compensation, executives should carefully consider how to enhance it without threatening the performance of employees. Productivity effects and the costs should be taken into account.

### Table 4

**Robustness checks: two other measures of employment volatility**

<table>
<thead>
<tr>
<th>Variable</th>
<th>θ</th>
<th>SE</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>4.641</td>
<td>0.047</td>
<td>98.98</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Mean absolute deviation</td>
<td>8.540</td>
<td>0.134</td>
<td>63.610</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>(Mean absolute deviation)</td>
<td>–6.210</td>
<td>0.210</td>
<td>–29.570</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Company’s age</td>
<td>–0.006</td>
<td>0.001</td>
<td>–5.840</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Company’s size</td>
<td>–0.883</td>
<td>0.010</td>
<td>–87.370</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.409</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>45,506</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

95% CI for the turning point: (1.682, 0.693)

*Source: compiled based on Author's calculations.*

### Table 5

**Robustness checks: regressions in the individual countries' subsamples**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Czech Republic</th>
<th>Slovakia</th>
<th>Croatia</th>
<th>Slovenia</th>
<th>Latvia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>5.003 (0.049)</td>
<td>7.573 (0.165)</td>
<td>4.285 (0.154)</td>
<td>6.445 (0.199)</td>
<td>2.866 (0.075)</td>
</tr>
<tr>
<td>Var(employment)</td>
<td>1.298 (0.082)</td>
<td>6.661 (0.349)</td>
<td>6.983 (0.287)</td>
<td>8.361 (0.451)</td>
<td>6.877 (0.331)</td>
</tr>
<tr>
<td>(Studentized range)</td>
<td>–0.779 (0.091)</td>
<td>–3.311 (0.316)</td>
<td>–3.978 (0.337)</td>
<td>–4.679 (0.619)</td>
<td>–4.039 (0.273)</td>
</tr>
<tr>
<td>Company’s age</td>
<td>–0.15 (0.001)</td>
<td>–0.028 (0.004)</td>
<td>0.008 (0.001)</td>
<td>0.014 (0.002)</td>
<td>–0.023 (0.001)</td>
</tr>
<tr>
<td>Company’s size</td>
<td>–0.904 (0.011)</td>
<td>–1.450 (0.037)</td>
<td>–1.006 (0.024)</td>
<td>–1.444 (0.002)</td>
<td>–0.635 (0.017)</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.449</td>
<td>0.314</td>
<td>0.522</td>
<td>0.532</td>
<td>0.460</td>
</tr>
<tr>
<td>N</td>
<td>11,546</td>
<td>8,013</td>
<td>5,509</td>
<td>6,780</td>
<td>11,658</td>
</tr>
</tbody>
</table>

*Source: compiled based on Authors’ calculations.*

*Note: Robust standard errors are reported in Stata 14. All coefficients are significant at 0.001.*
Despite our best performances, this research also has limitations. Data issues cause the first limitation. Our research sample does not contain all companies operating in the individual countries; especially for small companies, the data on the number of employees are not always available. Thus, we had to rely on the credibility of Bureau van Dijk’s Amadeus database. However, the database has been used by previous authors as well (e.g., Obeng, 2019; Tepperová & Helman, 2019). Second, our analysis does not differentiate between dismissal rates and “voluntary turnover.” When the employees get fired, the effects on labor productivity will undoubtedly be different rather than when they leave the company voluntarily. Third, we restricted our analysis to a limited timeframe of five years period.

6. Conclusions

This paper investigates the relationship between job security and labor productivity among 45,506 Central and Eastern European companies. We discovered an inverse U-shaped relationship between employment volatility and labor productivity while controlling the company-level, country-level, and industry effect. However, for most companies, the relationship between employment volatility and labor productivity will be increasing. The results are consistent when using alternative measures of employment volatility and within the subsamples of the five individual countries.

The results present managerial implications. When employees have a very low probability of being dismissed for any reason, they perform deficient work. Conversely, when the threat of being fired is imminent, employee motivation will also remain low. Improving organizational trustworthiness by increasing job security, or at least its feeling, might have positive effects on work performance. However, it seems that it will only be beneficial to increase the “feeling” of job security rather than guaranteeing a job, which might be the source of rigidity and harm productivity. Experts could use this finding when formulating the strategies of human resources management and carefully evaluate the fluctuation of employment and observe how labor productivity gets changed over time.

Future research could be oriented in multiple directions. The dynamics and long-term effects on job security on labor productivity are scarcely highlighted in the literature. A longitudinal study testing the lagged effects of employee turnover on productivity would allow obtaining a more accurate insight. Future studies should also distinguish the voluntary turnover from the involuntary one, since their effect on employee performance may vary.

Finally, future studies may also deal with the issue of reverse causality. Low labor productivity may be one of the potential predictors of a company’s distress, which may then lead to downsizing.

References


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Resource efficiency strategies based on the circular economy

A. Nikolaienko†

Purpose – to describe resource efficiency strategies based on the circular economy.
Design/Method/Approach. Logical and critical, abstract-logical methods are used for the theoretical generalization of crucial approaches to the formation of resource-efficiency strategies based on the circular economy.
Research results. There were considered the scientific and theoretical approaches to the formulation of resource-efficiency strategies based on the circular economy. The circularity strategies within the production chain has been formed in the order of priority. The idea of classifying circular strategies has been expanded.
Practical implications. The results of the research allow establishing a target system of the circular economy structure, to show the possible effect of the circular economy.
Originality/Value. The theoretical bases for the development of the circular economy in terms of identification of the essential tools for the resource-efficiency strategies implementation based on the principles of the circular economy at micro-, macro-, meso-, and mega-levels.
Research limitations/Future research. The research serve as the basis for further evaluation and forecasting of the operation efficiency, costs optimization of the production resources and entity’s commercial activity, making the mechanism for the sustainable economic development of the enterprise.

Paper type – theoretical.

Keywords: resource-efficiency; circular economics; level of economics; business model; development; strategy.

Reference to this paper should be made as follows:
Стратегії ресурсоєфективності на засадах циркулярної економіки

Артем Сергіїович Ніколаенко

ГОО «НПО Енергія», Дніпро, Україна

Мета роботи – надати характеристику стратегій ресурсоєфективності на засадах циркулярної економіки.

Дизайн/Метод/План дослідження. Логіко-критичний та абстрактно-логічний методи застосовано для теоретичного узагальнення ключових підходів до формування стратегій ресурсоєфективності на засадах циркулярної економіки.

Результати дослідження. Розглянуто науково-теоретичні підходи стосовно формування стратегій ресурсоєфективності на засадах циркулярної економіки. Сформовано стратегії циркулярності в межах виробничого ланцюга в порядку пріоритету. Розширено уяву щодо класифікації стратегій циркулярності.

Практичне значення роботи. Результати дослідницької праці обґрунтовані для теоретичного узагальнення ключових підходів до формування стратегій ресурсоєфективності на засадах циркулярної економіки. Сформовані стратегії циркулярності в межах виробничого ланцюга в порядку пріоритету. Розширена ідея класифікації циркулярних стратегій.

Оригінальність/Цінність/Наукова новизна дослідження. Цим дослідженням розширено теоретичні знання стосовно впливу циркулярної економіки на мікро-, макро-, мезо- і мегауровні.

Обмеження дослідження/Перспективи подальших досліджень. Це дослідження – основа для подальшого розвитку циркулярної економіки в рамках ідентифікації основного інструментарію для реалізації стратегій ресурсоєфективності на засадах циркулярності.

Тип статті – теоретичний.

Ключові слова: ресурсосбереження; кругова економіка; рівень економіки; бізнес-модель; розвиток; стратегія.

Стратегії ресурсоєфективності на основі циркулярної економіки

Артем Сергієвич Ніколаенко

ГОО «НПО Енергія», Дніпро, Україна

Цель работы – описать стратегии ресурсоэффективности, основанные на циркулярной экономике.

Дизайн/Метод/План исследования. Логико-критический, абстрактно-логический методы использованы для теоретического обобщения критических подходов к формированию ресурсоэффективных стратегий на основе циркулярной экономики.

Результаты исследований. Рассмотрены научно-теоретические подходы к разработке ресурсосберегающих стратегий на основе циркулярной экономики. Циркулярные стратегии внутри производственной цепочки сформированы в порядке приоритета. Расширена идея классификации циркулярных стратегий.

Практические последствия. Результаты исследования позволяют сформировать целевую систему структуры круговой экономики, чтобы показать возможный её эффект.

Оригинальность/Ценность/Научная новизна исследования. Этим исследованием расширены теоретические знания о развитии циркулярной экономики с точки зрения выявления основных инструментов реализации стратегий ресурсоэффективности, основанных на принципах круговой экономики на макро-, микро-, мезо- и мегауровнях.

Ограничения исследования/Перспективы дальнейших исследований. Это исследование служит основой для дальнейшей оценки и прогнозирования эффективности деятельности, оптимизации затрат ресурсов в производственно-коммерческой деятельности хозяйствующего субъекта на принципах циркулярности.

Тип статьи – теоретический.

Ключевые слова: ресурсосбережение; круговая экономика; уровень экономики; бизнес-модель; развитие; стратегия.
1. Introduction

Due to the exacerbation of global environmental problems caused by the resource-consuming economy model, the global community is increasingly focusing on the change in crucial principles of production and consumption. The need for the public to become aware of the necessary introduction of the circular chains of creation, consumption, and recycling of the product has emerged, discarding the waste disposal and disposal phase and replacing it with the reproduction or application phase as raw material for other industries. Such a concept formation of economic development has led to the identification of the new problems, in particular, how to make such transformations profitable for significant manufacturing companies; how to organize the process of investment flows redistribution towards increase of the resource efficiency; what new competencies and knowledge are needed now for successful circular projects and so on.

The research’s problem of the main drivers of the circular economy development is revealed more in the scientific papers of such researchers. However, in recent years the problem of reforming the economy, taking into account the principles of circularity, has been actively discussed in the domestic scientific literature, in particular in the works. The authors substantiated main conceptual categories and methodological approaches to determine crucial components of modern models of circular economy and ways of their implementation, including the micro-level.

The circular economy concept was introduced in 1990 with a view to a sustainable development strategy and proposed to address urgent problems of environmental degradation and resource scarcity.

The circular economy is the common name for activities aimed at energy saving, regenerative green production, and consumption (Murray, Skeen, & Haynes, 2015). Unlike the traditional model of economic development, the circular model is the most successful way to save resources and materials, and thus to continuous economic growth.

The circular economy concept is gaining popularity among scholars and practitioners alike; which is evidenced by the rapid growth of peer-reviewed papers on circular economics: more than 100 articles were published on this topic in 2016, compared to only about 30 articles in 2014 (Geissdoerfer, Savaget, Bocken, & Hultink, 2017).

On the other hand, many consulting reports have recently been published on this topic (consultants are trying to show clients expert knowledge on the trends through such reports. For example, the largest consulting companies (eg. Accenture, Deloitte, E.Y., and McKinsey & Company) have published a large number of reports on economics in the past two years.

Exploring the new term "circular economy", one should mention the papers of Kirchherr, Reik, and Hackert, who have collected 114 definitions of circular economy and its 17 dimensions. Their results (Kirchherr, Reike, & Heikkert, 2017) suggest that the circular (round) economies are most often depicted as a combination of reduction, reuse and recycling measures, while often underscored that the circular economy needs systemic change.

In their researches, Murray, Scene and Hines (2015) suggest that the circular economy is the latest attempt to conceptualize the integration of economic activity with environmental and resource issues in a sustainable way. In other words, the concept of the circular economy combines old and well-formed notions of resource efficiency, making a bright economic aspect of saving the resources and the potential profits it accumulates.
**Table 1**

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Name</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smarter use and production of a product</td>
<td>R(0) - Refuse</td>
<td>Make a product redundant by abandoning its function, or by offering the same function with a radically different product</td>
</tr>
<tr>
<td></td>
<td>R(1) - Rethink</td>
<td>Making product use more intensively (e.g., by sharing products or by placing multifunctional products on the market)</td>
</tr>
<tr>
<td></td>
<td>R(2) - Reduce</td>
<td>Improving production or use efficiency by consuming less natural resources and materials</td>
</tr>
<tr>
<td>Extend the life of the product and its parts</td>
<td>R(3) - Re-use</td>
<td>Reusing by another consumer of the product that is not needed for a previous user but is still in good condition and performs its original function</td>
</tr>
<tr>
<td></td>
<td>R(4) - Repair</td>
<td>Repairing and maintaining a defective product to be used for its original function</td>
</tr>
<tr>
<td></td>
<td>R(5) - Refurbish</td>
<td>Recovering an old product and upgrade consumption</td>
</tr>
<tr>
<td></td>
<td>R(6) - Remanufacture</td>
<td>Using parts of a discarded product in a new product with the same function</td>
</tr>
<tr>
<td></td>
<td>R(7) - Repurpose</td>
<td>Using a discarded product or its parts in a new product with another function</td>
</tr>
</tbody>
</table>

Materials’ useful application | R(8) - Recycle | Recycling materials to obtain the same (high grade) or lower (low grade) quality |
| R(9) - Recover | Burning materials by energy application |

*Source: Compiled according to Potting, et al. (2017).*

**Table 2**

<table>
<thead>
<tr>
<th>Levels</th>
<th>Design</th>
<th>Production</th>
<th>Consumption</th>
<th>Waste management</th>
<th>Development support</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micro-</td>
<td>Ecodesign</td>
<td>Environmentally-friendly production</td>
<td>Green purchase and consumption</td>
<td>Product re-circulation system</td>
<td>Policies and laws, Information platform, Capacity building; application at all levels</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Packaging and Logistics</td>
<td>Shared economy (Sharing)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Macro-</td>
<td>Ecological industrial park</td>
<td>Ecological industrial park</td>
<td>Ecological park</td>
<td>Waste trading, industrial parks</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Agriculture ecosystem</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meso-</td>
<td>Regional eco-industrial network</td>
<td>Regional eco-industrial network</td>
<td>Rent, service</td>
<td>Symbiosis of urbanization</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mega-</td>
<td></td>
<td></td>
<td></td>
<td>Global circular value chains (including global recycling chains)</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Compiled by the Author based on Zvarych (2017).*

As for the meso-level, this is usually associated with regional industrial networks as well as cross-sectoral cooperation.

Researchers Saidani, Cluzel, Leroy, & Auclair (2016), Balanay, & Halog (2016), and Banet (2016) focused on the selection of only three of these levels. However, Zvarych (2017) highlights the mega-level that includes global circular value chains (including global recyclables).

Huamao and Fengqi (2007) investigated circular economics in terms of systems theory, paying close attention to its levels. Thus, according to them, all levels of the circular economy are "interdependent, interactive and mutually limited". As emphasized by Huamao and Fengqi, "the levels of the circular economy must influence and interact with each other, and the higher levels take as base the low levels and control the development of the latter".

However, according to Lieder and Rashid (2016), the discussion level of the circular economy is very granular and rarely touches on the operational component. At the same time, Ghisellini, Cialani, & Uglianti (2016) confirmed that the current indicators are hardly oriented to circularity at the scale of individual products. Besides, there is a lack of connection between the three levels of realization of the circular economy.

It should be noted that, in our view, it is crucial to have an awareness of the tools available to make the changes that would contribute to the development of the circular economy at different levels. See the pyramid with a micro-level at the bottom - the level of a consumer or a company (see Fig. 1 below), which is the most challenging level since it means transforming the "molecular" basis of the economy into fundamentally new content. After all, the circular economy is a system where raw material flows are effectively managed, processed, and performed entirely based on renewable energy sources. Any actions do not adversely affect human lives and ecosystems within the formation and functioning of the global circular value chains.

One of the significant challenges facing management in implementing the principles of the circular economy is the unanticipated results and consequences (Lawrence, & Lorsch, 1967; Donaldson, 2001), and this leads to the need of conceptualization of change and structural adaptation of resource redistribution in the environment. Therefore, the replacement of business models is the basis of new approaches to manage a company. From this perspective, companies should create or add value by configuring or reconfiguring new or available resources (Mentink, 2014). According to some scientists, structural changes are inherent in most companies. They recognize that companies regularly rethink how they combine resources and the production process and, as a consequence, continuously redistribute internal resources to compete in increasing environmental demands (Galbraith, 1977; Drazin, & de Ven, 1985). All that usually requires a shift to the circular business model, with high upfront investment and longer time horizons to generate revenue. These requirements may entail additional business challenges for entrepreneurs as they may need vast capital reserves to "wait for the money". Also, it may be challenging to obtain shareholder approval for such business models as this approach does not meet the short-term shareholder expectations for dividends.
Studies have shown that as the high cost and risky implementation of the circular economy constraints the introduction of new business decisions, managers are not clear about growth potential (Baird, & Thomas, 1985; Eisenhardt, 1989; Helfat, Finkelstein, Mitchell, Peteraf, Singh, Teece, & Winter, 2007; Lozano, Suzuki, Carpenter, & Tymin, 2017) through the adaptation of the circular business models.

The slow start of implementing the circular business model is inherent in established companies through organizational inertia and resistance to radical change. Companies' managers that continue to work with the linear model can plan and forecast their futures based on historical data, but there is limited value for company managers moving to the circular business model to rely on historical data to predict the future. So, managers are trying to imagine what business in the circular economy will be.

The limits of resource and energy use and the importance of revising value creation in terms of closing cycles (i.e., systems that minimize waste) lay the groundwork for justifying the circular economy. The implications of this argument are significant: many companies may need to change their entire value chain. In this context, one of the most challenging problems is to create and organize a reverse value chain activity that encompasses all types of company activity from the return to the potential recovery of the maximum value through recycling. Thus, the production cycle is extended, so managers hesitate to make innovative changes (Chuang, Wang, & Zhao, 2014; Govindan, Soleimani, & Kannan, 2015).

On the other hand, the transition to the circular model can offer great opportunities, including cost savings via waste reduction, better supply chain management, less sensitivity to price volatility for resources, and more extended, better customer relationships. The transition to the circular economy also boosts incentives for innovation, creates jobs, and fosters environmental development (Kok, Wurpel, & Ten Wolde, 2013). Accordingly, as decisions about structural business change are taken by senior management, the creativity, potential, and commitment of top executives are significant factors for research examining the transition to the circular business models.

Uncertainty about the effectiveness of the new circular economy business models means that companies run their risk of contracting high unforeseen costs. There is a specific risk that managers are not competent to form contracts that are sufficiently detailed to support their interests or to enter into contracts with too much complexity as they cannot even imagine the problems they may face during the transition to the circular economy.

However, based on the theory of transaction costs in the partnership's management allows making mutually beneficial conditions in the formation of new contracts (Williamson, 1991). This theory allows understanding how companies can successfully close the problem of resource use and develop close collaboration. The “B to B” collaboration enables companies to work together with their partner companies in the value chain and adapt to market pressures arising from the challenges of sustainable development and increased environmental responsibility. Therefore, the accounts accuracy degree that companies can provide in certain external transactions (Argyres, & Mayer, 2007) potentially reduces the high contract costs (Leiblein, & Miller, 2003; Mayer, & Argyres, 2004). Thus, the competence to develop contracts that are sufficiently specific to the circular economy can be a decisive competitive advantage determining how successful they are in creating value under new economic conditions (Domingues, Lozano, Ceulemans, & Ramos, 2017). When implementing the principles of the circular economy for management and business practice, it is essential to understand the entire potential supply chain, in particular, such conditions as the utilization and extension of the stability of services, as well as its structure (i.e., individual companies and their relationships).

The transition from a linear to the circular business model, with the increased efficiency, utilization, and sustainability, may require additional investment for all parties to the economic relationship involved in the joint venture of a particular company. For example, the Danish Carlsberg brewery has created a collaborative network by engaging its suppliers and partners to make the circular alliance for the development of sustainable, recyclable packaging material and to convert existing material to a higher value by removing chemicals and additives (Hower, 2018). Carlsberg is the initiator of the transition to the circular model, and its staff has the specialized knowledge and resources they bring to the alliance. As a consequence, functional responsibilities in the business model are shared among all network members on a mutually beneficial basis: Ball corporation has experience in canning, Arekema in a glass bottle, O.I. in glass packaging, RKW in heat shrink film, WestRock...
in cardboard multilayer packaging Petainer in polyethylene terephthalate (PET) legs. As all parties coordinate their efforts to achieve concrete investment outcomes, which value depends on successful cooperation (Granovetter, 1973), this mutual obligation should reduce the risk of selfish behavior of the parties to the alliance and facilitate the protection of their interests. In this way, circular networks can reduce transaction costs resulting from contracting and control mechanisms.

For manufacturing companies, the first step in moving to the circular economy may be to redesign products so that they become suitable for recovery (Linder, & Willander, 2015). There may even be several products that can be started, which are adapted for partial restoration via optimization (e.g., products are designed to be assembled as quickly as possible without disassembly) (Sundin, & Bras, 2005). Products must be designed from environmentally friendly raw materials, with parts and components that are acceptable for further transformation, and product design should facilitate reuse and recycling (Eisenhardt, 1989). The importance of design relates not only to product features but also to the minimization of energy and resource consumption during production (Mitra, & Datta, 2014; MacArthur, 2013).

According to the recommendations of the Ellen MacArthur (2015) Foundation, the basic principle of the circular economy is that products must be designed in such a way that there was no waste, which means that products must be designed and optimized for disassembly and reuse cycle.

The new business model's development depends on the investor companies, but the success of their implementation based on the circular economy is that all participants in the process are ready for change. Therefore, the company employees must participate in the analysis of the product life cycle, which provides an assessment of the product's environmental impact during different stages of their life cycle. In order for changes to be successful and new contracts to be defined, it is vital that employees' interests are aligned and that employees are motivated to overcome their resistance to change.

It is vital for a manufacturer seeking to move to the circular economy to convince and demonstrate to all involved companies that these changes will benefit. For an investor, a project related to direct investment, such as the creation of factories and businesses, carries considerable risk (Mutha, & Pokhrel, 2009). Because significant investments are needed to rebuild products, large companies with access to more resources are more likely to meet the criteria of the circular economy. Besides, effectively addressing the challenges that may arise following the introduction of the new circular business model is likely to be difficult due to the contractual uncertainty. Parties that are unable to determine all the details of the contract may need to include penalties or fees to account for violations that may occur to avoid the conclusion of comprehensive contracts.

Thus, big companies can have the benefits of installing a contract program and can be involved in the essential parts of the transition to the circular business model. Compared to small companies, they are better able to organize the activities needed to achieve system-wide change, adequate R&D investment, and influence policymakers to support the transition to the circular ecosystem through financial support and regulatory action (MacArthur, 2014).

Although small and medium-sized enterprises (SMEs) can enter into (often global) value chains and realize the benefits of the circular economy, they must meet the requirements that bigger companies define in contracts (Ríos, Behrens, Kafyke, Hirschritz-Garbers, & Ioannou, 2015; Ríos, Behrens, Van Der Gaast, Hofman, Ioannou, Kafyke, Flamos, Rinaldi, Papadelis, & Hirschritz-Garbers, 2016). However, because of the contract adaptation limitation, the uncertainty surrounding the circular economy and the complexity of developing profitable circular business models beforehand, a joint steering committee consisting of companies with joint authority over a limited number of activities may offer an alternative when not dominant companies are involved in creation of new collaboration systems for the new business model implementation.

In order to determine the companies' ability to move to the circular business models, it is crucial to consider partner characteristics, contracting options, and ways to adapt companies to uncertainty and prevent potential disputes through contracts and contractual means. It should be noted that the circular conversions for business are significant investments. Therefore, it is vital to have state support and favorable macro-environment conditions and macro-level infrastructure.

As already mentioned, quite a lot of works of local and international scientists, especially Chinese, are devoted to the role of the state in the development of the circular economy. However, in this context, we would like to pay particular attention to the work of the Council on the Environment and Infrastructure of the Netherlands (Rli, 2015), "The circular economy. From intent to implementation" (Rli, 2015). To achieve the transition to the circular economy, the Council formulated several recommendations for the state. At the same time, the Council warns that this does not mean that it favors a top-down approach to the development of the circular economy.

On the contrary, it has repeatedly called on the parties to cooperate, which should be not only top-down but also bottom-up and horizontal. The more people at the state level know what is happening at the regional level, and the more they study the situation, the more they will be motivated to exert influence. This principle formed the basis for recommendations to the state, which can be briefly formulated (Table 3).

As one can see, the leading countries are drawing the attention of governments to the need for comprehensive business support on the path to the circular resource efficiency.

Concerning the implementation of the circular economy development strategy, the most versatile and comprehensive example, in our view, is the European Commission's activity on this issue, which during 2011-2015, presented several important resource efficiency initiatives, culminating in the Circular Economy Package (Wiikman, & Skonberg, 2016), adopted in December 2015. In addition to the fundamental one - changing the minds of the producer and the consumer - it is equally essential for the circular economy to establish close cooperation between industry, researchers, and government.

Scientific research is intended to create new business models and product samples that will, from the beginning, include the need for easy maintenance, reuse, and further processing.

In recent decades, the European Union has introduced extensive legislation on waste management, which has led to dramatic reductions in air, water and soil pollution in E.U. countries, while boosting economic growth and creating jobs in waste collection and treatment.

Strategies for the circular economy development are actively implemented at the mega-scale, in particular, by the initiatives of international organizations (Table 4). First, the Ellen MacArthur (2013) Foundation, an organization that conducts research and publishes essential reports on the state of transition to the resource efficiency on a circular economy basis, should be noted. The Fund emphasizes interdisciplinary approaches based on projects and participation of both formal education and non-formal education. Focusing on online platforms, the Foundation provides the understanding and resources to support training in circular economies and the systems thinking necessary to accelerate the transition to circular economies.
Since its inception, the Foundation has partnered with its global partners (Danone, DS Smith, Google, H&M Group, Intesa Sanpaolo, Philips, Renault, SC Johnson, Solvay, and Unilever) to develop large-scale circular business initiatives and address their implementation challenges. The Fund also cooperates with governments and municipal and international institutions to inform policy-makers and support mechanisms for public-private cooperation. Circularity is already part of many areas of UNCTAD’s work, such as fossil fuel and fishing subsidies. UNCTAD is working on the circular economy, encouraging discussions and activities to

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<tr>
<td>1</td>
<td>Make the transition to the circular economy is one of the essential pillars of the government policy and develops a standard nationwide &quot;circular economy&quot; program.</td>
<td>State</td>
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<tr>
<td>2</td>
<td>Develop a shared vision and include it into the annual national budget memorandum</td>
<td>State</td>
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<td>3</td>
<td>Formulate common goals based on a shared vision and considering the country strengths</td>
<td>State</td>
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<td>4</td>
<td>Using common goals as a starting point, develop an approach for each ministry, based on its inherent strengths and the strengths of the Netherlands.</td>
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<td>4a</td>
<td>Promotion of investments in sectors and prospective chains that can serve as a chair for the Dutch circular economy.</td>
<td>Minister for Economic Affairs</td>
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<td>4b</td>
<td>Development cooperation: Developing the circular economy-oriented trade policy by implementing the so-called raw material package and exporting knowledge related to circularity in the Netherlands</td>
<td>Foreign Minister for Foreign Trade</td>
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<td>4c</td>
<td>Providing the right environment for the circular economy in terms of infrastructure, logistics, health, and the environment</td>
<td>Minister and Secretary of State for Infrastructure and Environment</td>
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<td>4d</td>
<td>Make an excellent example of the implementation of the circular procurement and sourcing policies, as well as the monitoring of the circularity of buildings (public and government buildings); use the circular economy theme for further work (&quot;Urban Program&quot;)</td>
<td>Minister for the Interior and the Minister for Housing and Communal Services and the Central Government</td>
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<td>4e</td>
<td>Include circular economy in the annual National Budget Memorandum, encourage the financial sector to finance the transition, prevent blockages that impede the greening of the tax system</td>
<td>Minister and Secretary of the State</td>
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<td>4f</td>
<td>Ensure continued attention to the circular economy in the various curricula and educational curriculum</td>
<td>Minister and Secretary of State for Education, Culture and Science</td>
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<td>5</td>
<td>Study the social consequences of eliminating companies as a result of their disappearance in the circularity and, if possible, include them in the Transition Agent</td>
<td>State</td>
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<td>6</td>
<td>a. Make the transition to the circular economy as a political pillar and formulate a shared vision as the first step towards this goal; b. Drawing on a shared vision, formulate several common goals; c. Using common strategic goals as a starting point, develop an approach for each government.</td>
<td>Provinces, regions and (cooperating) municipalities</td>
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<td>7</td>
<td>a. Choose the circular strategy based on the inherent qualities of the region for the surrounding territories. To this end, develop an understanding of the qualities, circumstances, and characteristics of the region and record the flow of raw materials; b. Next, develop a complex based on four main circular strategies: &quot;Zero Waste Area,&quot; &quot;Sharing Area,&quot; &quot;Regeneration Area&quot; and &quot;Industrial Symbiosis&quot;; c. Determine what elements need to be organized at the local or regional level: local or supra-regional.</td>
<td>Provinces, regions and (cooperating) municipalities</td>
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*Source: Generalized Author based on RII (2015).

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<th>Organization</th>
<th>Activities in the circular economy development</th>
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<td>The Ellen MacArthur Foundation</td>
<td>The Ellen MacArthur Foundation was launched in 2010 to accelerate the transition to the circular economy. Since its inception, the charity has become a world leader in thought, setting the circular economy on the agenda of decision-makers in business, government and academia. With the support of its core charitable partners SUN, MAVA, the Postal Lottery and the Eric and Wendy Schmidt Foundation for Strategic Innovation and Knowledge from Arup, Dragon Rouge Ltd, IDEO and SYSTEMIQ partners, the Foundation focuses on six interrelated areas: 1) Training, 2) Business, 3) Institutions, Governments, and Cities, 4) Insight and Analysis, 5) System Initiatives, 6) Connection and Communication</td>
</tr>
<tr>
<td>U.N. Trade and Development Conference (UNCTAD, UNCTAD)</td>
<td>UNCTAD’s work on the circular economics began in 2015 with collaboration with the Ellen MacArthur Foundation on the potential for resource circulation in large economies such as India and China. This work is the result of UNCTAD’s lasting-standing results in the trade aspects of resource-intensive sectors such as biofuels, biodiversity, and fisheries.</td>
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<td>World Economic Forum (WEF)</td>
<td>For several years, the World Economic Forum has partnered with the Ellen MacArthur Foundation to accelerate the transition of the circular economy through Mainstream Project - an initiative led by the CEO to help drive innovation in the circular economy. Building on this work, the PACE Circular Economy Accelerator Platform was launched in 2017 as a public-private collaboration, teasing its CEO, Philips, UN Global Ecological and Environmental Managers, Ellen MacArthur Foundation, International Resource Panel, Economics Panel and an emphasis strategy as a knowledge partner. The World Economic Forum accepts and promotes the Platform.</td>
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<tr>
<td>Organization for Economic Co-operation and Development (OECD)</td>
<td>The OECD RE-CIRCLE project provides policy guidance on resource efficiency and the transition to the circular economy. It aims to identify and quantify impact policies to guide a range of stakeholders in OECD member countries and emerging market economies through quantitative and qualitative analysis.</td>
</tr>
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*Source: Compiled by the Author.
derive value from waste streams, encouraging discussions around emerging economic sectors, exploring innovative business models, and promoting consumer awareness and behavior change. In partnership with other international organizations, UNCTAD’s work on the circular economy at the national and multilateral levels brings this critical topic to the service of the international community.

Concerning the World Economic Forum, its PACE platform focuses on changing systems at speed and scale, enabling partners to:
- develop mixed models for financing circular economy projects, in particular in developed and the developing countries;
- create and establish conditional policy frameworks to overcome specific barriers to the circular economy advancement;
- involve private and public sectors in public-private cooperation to scale the impact around the circular economy initiatives.

Currently, the PACE Global Leadership Group is comprised of over 40 leaders, ministers, and heads of international organizations who are required to maintain a portfolio of projects and activities. The main areas of the project are plastic, electronics, food and bio-economy, business model, and market transformation in China, ASEAN, Europe, and Africa.

International value chains cannot facilitate the circulation of resources by merely promoting and enforcing national rules. Although companies have succeeded in improving their social and environmental impact, the privatization of public policy through voluntary standards of sustainable development and corporate social responsibility (CSR) does not meet these objectives. In a world where most of the trade is in parts and components in highly globalized value chains, the promotion of global resource circulation occurs through international rules and cooperation, as well as educated individuals and consumers.

5. Conclusions

The circular economics concept implies direct involvement in the planning and development stages of goods to ensure a long life cycle and a high potential for further reuse, modernization, recovery, and recycling. Therefore, the necessary rethinking of the product life cycle, phases of end of life, and extraction of raw materials may not be present in a truly circular vision.

It is revealed that there are many definitions and features of the circular economy that complicating a single approach to this concept conceptualization. On the one hand, such a discussion speaks volumes about the development of this issue and scientific research. On the other hand, it can lead to fundamental contradictions and bring about the collapse of this concept if the semi-circular, minimum circular, and others are used.

The concept of “resource efficiency management based on the circular economy” has been formed, which envisages that this is the implementation of measures for designing, production, supply and use of economic resources on the principles of maximizing their value and ensuring continuity of their life cycle with minimal impact on the environment. Consequently, only their productions provide for a re-life cycle for their products can be considered as circular.

There are several circular strategies to reduce the consumption of natural resources and materials and minimize waste production: smarter use and production of the product, extending the life of the product and its parts, and the application of the useful materials. For the effective implementation of resource-efficiency strategies on the circular economy basis, the availability of initiatives at micro-, macro-, meso- and mega-levels is a prerequisite. An important aspect is an availability not only of "top-down" but also horizontal, as well as "bottom-down" of communications and joint projects.

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