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The Life Cycle Concept & the Evolution of Villages

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Abstract

This paper tries to provide a theoretical framework for systematizing our understanding of how the rural settlements change. The work presents a structured description of the evolving phenomenon of Counter-Urbanization in the *Moshavim* (villages) in Israel using the 'product life cycle' model. The paper uses the model in order to explain the changes, which have taken place in the "Moshavim"- rural villages in Israel. It is claimed that as part of an ongoing process of change the Moshav is gradually going through the stages of a "product life cycle"- starting at birth, then development, stagnation, decline, death and a possible eventual rejuvenation. Today, it is assumed that many Moshavim in the central part of Israel are to be in the stage of 'rejuvenation' - which means that they are losing some of their unique features, those which formed the basis for their identities as a special type of rural community and are developing a new identity as a distinct type of rural community, or as a suburban or urban community. The research's main contribution is provision of an elaborate framework for systematizing our understanding of how rural settlements change during time. This usage of a framework of the "Product life cycle" model was found to be suitable for interpreting the process that villages are experiencing today.

Keywords

Life Cycle Model; Villages; Counter- Urbanization; Israel

Introduction

The objective of the paper is to develop a systematic framework for analyzing the changes taking place in the Israeli rural settlements.

This paper tries to provide a framework for systematizing our understanding of how the rural

settlements change by presenting a structured description of the evolving phenomenon of Counter-Urbanization in the *Moshavim* using the 'product life cycle' model. It deals with a specific aspect of change in the Moshav, i.e. its changing attractiveness to population (counter-urbanization) and to non-farming businesses, with other aspects (economic, physical etc.). The contribution which this paper attempts to make, is in providing a more elaborate framework for systematizing our understanding of how rural settlements change during time.

The empirical context of the paper is the *Moshav* (village) of Burgata. But the emphasis in this research is rather theoretical and methodological than empirical. The "life cycle" model which will be presented emphasizes the temporal and social effects of migration implications on the landscape.

The article begins by exploring the academic literature relating to counter-urbanization in the world as a whole and in Israel particularly. Then it turns to illustrate the relevance of the "life cycle" model using material collected by the author from observations and interviews with migrants to the rural *Moshavim* and with the local population.

RURAL ENVIRONMENT AND 'COUNTER URBANIZATION'

Thirty years of research has produced a plethora of articles on population dynamics in rural areas [1], [2], [3], [4], [5], [6], [7] and [8]. A tendency to migrate from urban to rural areas has been noted in Western countries from the mid nineteen-seventies. This forms

the basis of the process of 'Counter-Urbanization' which means mobility of population from the city to the village. This has been one of the most influential processes affecting the rural environment over the last century in the Western world. In the literature the term used is 'Turnaround' and 'Counter-urbanization' [2], [9] and [10].

Any study of migration to rural areas is undertaken against the backdrop of an abundant academic literature [2], [3] and [4]. This work will try to look at the process of counter urbanization as a whole whereas most studies of migration to rural areas, like migration studies more generally [11] have legitimized their analysis through reference to categories of migrants and migrant motivations derived from some form of numerical or statistical analysis of census or survey data. Categorization of migration in this way is not a neutral act and one of the consequences of this categorization procedure is that inevitably it separates the migration act from its wider context as explanations are sought for population movements in terms of predefined "causal" categories such as "quality of life or "rural employment". The outcome of conventional quantitative survey methods has been to establish a bewildering list of "explanations of counter urbanization" [2] that might lead one to conclude that "counter-urbanization" as a label is no more than a chaotic conception [12].

This invasion of other than agriculturist employed creates problems for two different reasons: a growth in the population and the different and contrasting nature of the two populations: the newcomers and the local residents. A discrepancy often develops between community growth and development of public services. In most cases the expectations of the local residents do not fit in with the reality. The expansion of population also creates problems of social integration [9].

In Britain and in other countries community polarization was effected as a consequence of the entry of non agricultural population to the rural landscape. This social phenomenon is called 'Encapsulation', which means a community inside another community. The social problems are emphasized especially in places where a rural tradition is rooted, which tradition is different from the modern social systems in the urban landscape [13]. Encapsulation is just one

possible result of the immigration and it is not necessarily universal.

One result of the counter-urbanization process is the transformation in the socio-demographic characteristics of the population. Areas closer to urban centres are encountering a growing in-migration of urban dwellers seeking a better life in the countryside. This trend has been facilitated by improvements in the physical and economic infrastructure and in the quality of life in rural areas such as education, culture etc. [14]. The majority of newcomers are upper middle-class educated young people with families, and there is an element of retirees. The incoming population has an immediate positive effect on the rural communities in terms of both population growth and demographic rejuvenation. It often also contributes to the improvement of local services and to the creation of new employment opportunities for local residents. At the same time, competition may develop between new residents and old-timers in the housing market and in the political arena, and conflicts may arise between the two groups, especially with regard to the future development of the community. The newcomers' impact may therefore reach beyond the immediate changes, by reshaping the rural space according to their conception of the rural image [14], [5] and [6].

The Rural Environment and 'Counter-Urbanization in Israel

The birth of the moshav was at 1921 as an agriculture settlement, but 70 years later from economic, social and cultural reasons the moshav found itself at the beginning of a new way. The moshav was at that time at the end of an earlier cycle, and at a crossroad between stagnation and rejuvenation [15].

In Israel, in the last 20 years there has been a major change in the nature of the Rural environment as a whole and in the nature of the *Moshav in particular* (Rural Village). The Israeli rural space is undergoing a rapid and striking restructuring process, expressed in the decline of agriculture as a major economic sector and its replacement by other sectors of the economy, and in the loss of both tangible and ideological affinity to agriculture by a growing part of the rural population [16] and [17]. The main features of this stage are population growth, improvement of community services and to some extent also visual renewal. Suburbanization is often but not always the

outcome of this process. For example the population change is one of the subjects where the Moshav is going through a change: Rural communities are turning into middle-class suburbs, inhabited by urban migrants who come in search of real or imagined rural lifestyles and new land-use patterns and structures, designed for industrial, commercial and leisure activities proliferate in the rural landscape [16] and [18].

The pace of counter-urbanization in Israel has been considerably accelerated since the mid 1980s due to a dramatic change in government policy which removed some of the institutional restrictions on the allocation of farmland for residential use by non-farmers [16]. It is important to mention that long time limitations on entry into the moshav existed and that entry was never free. Even today it is regulated to some extent by selective procedures, although market forces seem to be more important. This move - accelerated migration into rural areas, and the population of many rural communities doubled within less than a decade. The immigration of town people has changed the villages physically, economically and socially [19].

The reasons for the Israeli counter urbanization process are a bit different from these in other countries. The economic and social crises appeared at the moshavim in the 80th and in 1986 a communal neighborhood near *Kfar Mymon* in the western Negev was approved, even though that only since 1989 the planning authority permitted the expansion of moshavim. The decision permits the expansion of these settlements by building a non-cooperative neighborhood, whose size will not exceed 115 per cent of the number of planned household in the cooperative settlement.

Few researchers [20], [13], [21], [22], [23], [16] and many others have examined this expansion procedure through 1991 to 2005 which brought into the *Moshavim* nearly 10,000 new households, an increase of about 35% in a decade.

Among the first works on the subject looked at the beginning of the process and covered the institutional context and program policy guidelines. It also examined the expansion program in the *moshav* sector as a whole in 1991 by sampling 24 moshavim. It is important to note that a major change was made in public policy concerning the *moshav* sector: for the first time in their history the moshavim were allowed to re-

allocate part of their land to be residential only and for use by a non-farming population [20] and [21]. Many *moshavim* responded quickly to this new and radical ruling and expended.

Based on an analysis of the differences between the moshavim that do engage and those that do not engage in a process of expansion, it is evident that demographics and economics play a central role in the decision. The weaker moshavim view the expansion as a means to self improvement. Well established and secure moshavim are less likely to engage in expansion. Other factors were found to be insignificant [19]. Finally it is important to note that there is a public debate concerning the expansion decision. It is not clear whether it will remain intact in the future, or whether it will be changed. Economic considerations constitute the main objectives for undertaking expansion, while demographic trends and social consideration are of secondary importance. Today- only a few moshavim are not expanding because such expansion stands in direct conflict to their ideal philosophy of a *moshav*. The moshav has experienced major changes. Economic crises that erupted twenty years ago have transferred into major social and cultural changes.

This transformation of the rural space gained momentum in the 1990s, with the drastic change in farmland protection policies [24]. The first step was indeed the release of an official "expansion" programme, which allowed the allocation of agricultural land for limited residential development in the *Moshavim* [20] and [21] but shortly after, when the extensive immigration from the former USSR republics created an unprecedented and immediate demand for housing, the government removed another restriction on farmland, by allowing its re-designation, under specific circumstances, for non-farming uses. The decision permitted the expansion of these settlements by means of non-cooperative neighborhoods. Their size was restricted to 115% of the number of household in existing settlement [16].

The latest available figures, from the 1995 survey of family farms, brought by Sofer and Applebaum 2006 indicate that at that time, only about 60% of the holdings in the *Moshavim* (15,546 from a total of 26,430) were active in agriculture, and about 62% of farm owners worked actively on the farm, but only about a quarter of them were employed full time in

agriculture. About 25% of the farm holdings produced 70% of the total family farming production, indicating the tendency for the concentration of production in a small number of relatively large-scale farms [16].

The Life Cycle Concept

The Product Life Cycle refers to the succession of stages a product goes through. It is a model of a process whereby sales of a product proceed slowly at first, experience a rapid rate of growth, stabilize, and subsequently decline. In other words, a basic asymptotic curve is followed. The term was used by the first time by Levitt in 1965 [28] in his famous article: Exploit the Product Life Cycle (Harvard Business Review). The model analyzes the profitability of a product at different stages of its life cycle and present and future profit from a product can be maximized by deciding where it stands in its Life Cycle [26].

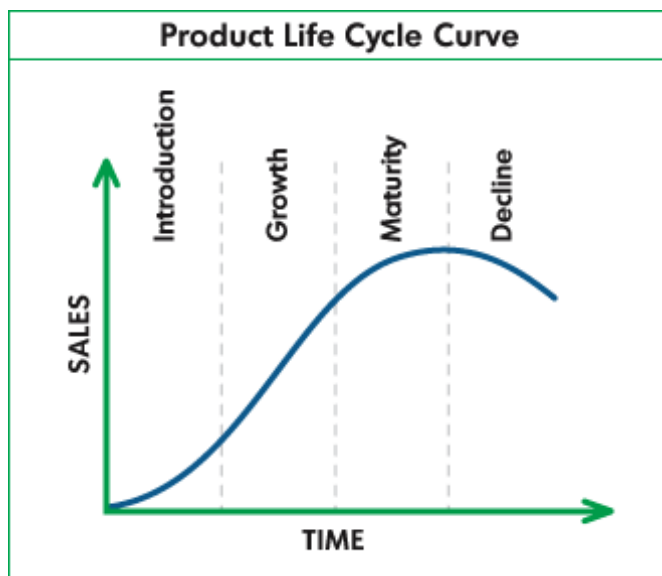


FIG. 1: A HYPOTHETICAL EVOLUTION OF A LIFE CYCLE

The four stages are:

Introduction: The need for immediate profit is not a pressure. The product is promoted to create awareness. If the product has no or few competitors, a skimming price strategy is employed. Limited numbers of product are available in few channels of distribution.

Growth: Competitors are attracted into the market with very similar offerings. Products become more

profitable and companies form alliances, joint ventures and take each other over. Advertising spend is high and focuses upon building brand. Market share tends to stabilize.

Maturity: Those products that survive the earlier stages tend to spend longest in this phase. Sales grow at a decreasing rate and then stabilize. Producers attempt to differentiate products and brands are key to this. Price wars and intense competition occur. At this point the market reaches saturation. Producers begin to leave the market due to poor margins. Promotions become more widespread and use a greater variety of media.

Decline: At this point there is a downturn in the market. For example more innovative products are introduced or consumer tastes have changed. There is intense price-cutting and many more products are withdrawn from the market. Profits can be improved by reducing marketing spend and cost cutting.

The idea of a consistent process through which rural settlements evolve has not been found in the literature even though the general idea of life cycles of products, resort areas and tourism areas has been researched [27]. The rates of growth and change may vary widely but the result will be the same in almost all cases.

The dynamics of villages could be compared to dynamics of organizations. Several researches (add the names) deal with the changes accruing in organizations according to an "organizational evaluation" which is comparable to the biological life cycle. If this analysis of the organization dynamics is true - we could say that every stage is identified by different patterns- behavioral and intuitional- which differ from those which characterize other life stages. Villages like organizations are living and developing entities. Their existence depends on their capacity for change and adaptation. In fact, it could be postulated that all population settlements are involved in an ongoing process of change. This change is part of and a consequence of the environmental influences and of their efforts to adapt themselves to the changes in their surroundings. And all these in order to acquire resources necessary for their existence. Moreover, difficulties could be encountered at every stage and only if they are successfully overcome, the villages may progress to the next stage of development.

The general model is presented below even though that the reality is of course much more complex than the following presentation. In reality very few products follow such a prescriptive cycle. The length of each stage varies enormously. The decisions of marketers can change the stage, for example from maturity to decline by price-cutting. Not all products go through each stage. Some go from introduction to decline. It is not easy to tell which stage the product is in. Remember that PLC is like all other tools. Use it to inform your gut feeling.

The model refers usually to “products” – but there are also works that have been written on other aspects such as tourist sites [9]. In this work, I will try to show that it could be adjusted to villages.

Methodology

The study employs a mixed methodological approach. It is based on an ethnographic work done in a village in the center of Israel- the Sharon area for 11 years between 1995 and 2013. Data was gathered mainly by field observations and by in-depth open-ended interviews with the local population and with decisions makers. The researcher engaged in participant observation and had short-informal and unstructured discussions with the local population. As participant observers, the author has - at different and numerous times since 1995—participated in formal and informal meetings and experienced living in the village.

As the author was a participant observer, the paper includes empirical observations concerning the observed practices of the local population. Additionally, the author has accessed archival materials from a variety of resources. To supplement archival materials, the author report data obtained from discussions or e-mail communications with the locals. In 2005, 10 semi-structured interviews were performed to provide additional data and information.

Finally, the author has left the village in 2005 and for the purposes of establishing positionality he is able to provide both an “insider” and “outsider” perspective. As both an insider and outsider, the author is able to draw his understanding of local dynamics associated with the case study and have experienced the landscape from a variety of disparate perspectives—resident, visitor, researcher, and passerby.

It is hypothesized that as facilities are provided and awareness grows, the local population's numbers will increase rapidly. Eventually, however, the rate of increase in residents' numbers will decline as saturation levels of carrying capacity are reached.

The concept of a recognizable cycle in the evolution of *Moshavim* is presented using a basic curve to illustrate their varying popularity. Specific stages in the evolutionary sequence are described along with a range of possible future trends. The implications of using this model in the planning and management of villages is discussed in the light of a continuing decline in the environmental quality.

There can be little doubt that rural areas are dynamic, that they evolve and change over time. This evolution is brought about by a variety of factors including changes in the preferences and needs of the local population, the gradual deterioration and possible replacement of physical plant and the change or even disappearance of the original natural and cultural – social characteristics which were responsible for the initial image and popularity of the area. In some cases, while these characteristics remain, they may come to be regarded as less significant in comparison with the new features of the *Moshav*.

Findings: The Life Cycle stages of the Moshav

Burgata is a Moshav in central Israel. It is located east of the city of Natanya and about 30 km from the metropolis of Tel Aviv in the heart of the rural area of Hasharon. The moshav was founded in 1949 by immigrants from Turkey. Burgata was established as an agriculture village and most of its residents were occupied by agriculture at the first 30 years. Since its establishment there were 100 households in the *Moshav*.

In the 1980- a major crisis in agriculture had accrued in Israel and a result many household could not relay on agriculture anymore. As a result two process has started, the first one was of people applying to different jobs outside agriculture and especially services. The second one was expansion of the local population as one could live it the Moshav even if he was not working in agriculture. As a result the Moshav was doubled. In 1992 the expansion project in the Moshav was authorized and in 1994 the stage of house occupation commenced. In 2004 there were 112

new house, of those, about 70% are owned by "returning sons" (Second generation) and about 30% are owned by new comers (Ofra, Personal interview). The stages through which BURGATA has gone through were analyzed and categorized according to the life cycle model as follows:

The 'Exploration Stage'

This stage has started in BURGATA in 1992 when the expansion project in the Moshav was authorized and in 1994, the stage of house occupation commenced. This stage was characterized by small numbers of new residents, making individual arrangements. They have been attracted to the area "by its unique or considerably different natural and cultural features and cheap land" (Suzan, Personal interview) or by family ties. At this time there would be few facilities provided for local population. The village and social milieu of the area would be unchanged by newcomers.

As numbers of newcomers increase and assume some stability, some local residents enter the 'service stage' and begin to provide facilities other than agriculture. It seems as if there is interaction between the entry of newcomers and the array of facilities other than agriculture in the *Moshav*. For example, there was development of private services such as a hairdresser that opened a small business in her house. A shop for machinery was opened, a small shop of kids cloth, carpentry and other small entrepreneurs.

At this stage, initially, pressures were put upon government and the local authority to provide or improve transport and other facilities such as health, leisure, and education. For example a strong pressure was on the local municipality, the office of education to open a school for the four Moshavim including BURGATA which will send their children to this nearby school instead to the school- almost half an hour drive on rush hours.

The 'Development Stage'

This stage reflects a well-developed *moshav* and was apparent in BURGATA between the years 1994-1996. As this stage progresses, local involvement, and control of development declined rapidly. Some locally provided facilities will have disappeared, being superseded by larger, more elaborate and more up to date facilities provided by external organizations such as storerooms, sheds and warehouses. For example, the old and tiny grocery store changed into a

supermarket owned by non local residents. Diverse attractions and facilities have been developed such as a shop that sells wood for art work and artifacts. Two kinds of services appear: community services and the businesses which belong to the economic service sector but do not serve the population. Changes in physical appearance of the *Moshav* are noticeable, and not all of them are welcomed or approved by the local population.

This stage has been happening in the mid and latter 1990s' in all of the developed areas of the central Israel. Regional and national involvement in the planning and provision of facilities is becoming necessary and again is not completely in keeping with local preferences. The number of newcomers is becoming equal or exceed the permanent "veteran" population. The "type" of newcomers also have changed as a wider market is drawn upon and it will not be seekers or naturalists but middle class town dwellers, representing the mid centric.

The 'Consolidation Stage'

As this stage is entered, the rate of increase in numbers of newcomers declined, although total numbers still increase and total numbers of the "new" population exceed the number of veterans. A major part of the area's economy as a whole and the Moshav specifically is tied to services rather than agriculture. From a survey held by the author, only ten families were fully involved (2005) in agriculture and another five are partly occupied by it (Shuky, Personal interview). It is important to note that these changes took place not only in BURGATA but in many other villages in the area. At this stage there were more than 200 families at the Moshav and the numbers were growing as more and more houses were built on the land around the main house ("Nahala A").

The large numbers of small service industries can be expected to arouse some opposition and discontent among permanent residents, both new and veteran, particularly those not involved in these industries because of employment in agriculture or working outside of the *Moshav*. This opposition can result in some deprivation and restrictions upon the activities. For example, a small coffee place was opened in the old synagogue of the Moshav. At the beginning, no opposition was heard but as the business has grown, occupied more space such as a big parking lot- more and more antagonism was heard.

Such trends are also evident in areas near the metropolis today especially in the Sharon region in the Moshavim of Kefer Hess, Michmoret, Herut and Kefar Vitkin.

The 'stagnation stage'

Since 2005 the Moshav enters the 'stagnation stage'- as the peak numbers of residents have been attained. Capacity levels for many variables have been attained or exceeded, with attendant environmental, social and economic problems that will be described. The former agricultural residents need employment and are willing to use their land for (almost) any possible purpose. In contrast, the newcomers moved to the village because of its very rural nature and high quality of life. These residents are then not willing to accept changes which would revert them to their former urban surroundings. As a result conflicts arise and become a sensitive issue. In the moshvim around BURGATA one wedding garden was opened, a two coffee place, a shop to sell cheese products, a shop for selling wood artifacts, a B & B and a club that was opened only at late night time. The Moshav has by now a well established image though the social problems infect the local relationships.

The 'decline stage' or 'rejuvenation'?

Currently one may definitely say that the 'decline stage' has not (yet?) reached the Moshav. In this stage – the Moshav will not be able to compete as it used too with other moshvim and so will face a declining market, both spatially and numerically. It will no longer appeal to residents, but will be utilized for industry and services.

Property turnover will be high and some facilities often will be replaced by others, as its character changes. This latter process of course is cumulative. More facilities disappear as the area becomes less attractive to residents and the viability of other facilities becomes more questionable. Local involvement in the industry and in small businesses is likely to increase at this stage. The conversion of many facilities to related activities is likely to happen. For example, store rooms may become 'bed and breakfast' in the first stage and then may become a center for health treatments. Ultimately, the area may turn into a semi industrial area, or lose its residential function completely. It seems as if Moshavim in older areas near the Metropolis are getting close to this phase.

On the other hand 'rejuvenation' is more likely to occur, although it is almost certain that this stage will never be fully reached without a complete change at the decision makers' level, or without predication, concerning the development of rural areas in Israel. The main features of rejuvenation are population growth, improvement of community services and to some extent also visual renewal. Usually, suburbanization is the outcome of this process

Today, many Moshavim in the central part of Israel are in this stage of rejuvenation - which means that they are losing some of their unique features, those which formed the basis for their identities as a special type of rural community such as an agricultural base, small houses, a feeling of community etc. They are developing a new identity as a distinct type of rural community, or as a suburban or urban community.

Discussion, Implication and Limitations

The life cycle process as seen in the Moshav is an outcome of a combination of "natural demand" i.e. a wish to live outside of the city and of national policy decisions. Although a consistent evolution of *Moshavim* can be conceptualized, it must be emphasized again that not all areas experience the stages of the cycle as clearly as others. Public and private agencies alike, rarely if ever, refer to the anticipated life span. Rather, because counter urbanization has shown as yet, an unlimited potential for growth, despite the urbanization phenomena, it is taken for granted that numbers of settlers will continue to increase.

The application of the model to the Moshavim is simplified as it comes to suggest a theoretical framework rather to an empirical research. My hope that other researchers will benefit from this theoretical frame and will carry an empirical work on different villages at different place of the world.

These may be identified in terms of environmental and social factors such as social and environmental conflicts, crowding and overlapping of services. As the attractiveness of the area declines relative to other areas and settlements, because of the conflicts, the number of newcomers may also eventually decline or residents may gradually move away. The fallacy of this assumption can be seen in the experience of very central *Moshavim* such as those near the metropolis of Tel Aviv, over the past few years.

The process illustrated in Fig. 1 has two axes representing numbers of new residents and time. An increase in either direction implies a general reduction in overall quality and attractiveness after capacity levels are reached. In the case of first comers, those who came in the exploration era, the *Moshav* would become unattractive long before capacity levels would be reached, and they will move on to other undeveloped areas or settlements. A few families in Burgata, for example have left or are planning to leave the village for these reasons (Tami, Personal Interview).

It can also be anticipated that reaction to the newcomers by the local population will undergo change through this period: from apathy to antagonism as their numbers grow and their demands increase. More recent research [19] has shown that residents' reaction to the newcomers is not necessarily explained by increasing contact with visitors or increasing numbers of newcomers alone. It is a more complex function related to the characteristics of both populations and the specific arrangement of the area involved.

The direction of the curve after the period of stabilization illustrated in Fig. 1 is open to several interpretations. We could say that most of the *Moshavim* today in Israel's central areas are at this stagnation stage (2005). Successful redevelopment could result in renewed growth and expansion as shown by curve a. Minor modification and adjustment to capacity levels and continued protection of resources could allow continued growth at a much reduced rate (curve b). A readjustment to meet all capacity levels would enable a more stable level of visitation to be maintained after an initial readjustment downwards (curve c). Continued overuse of resources, emerging conflicts and decreasing competitiveness with other areas would result in decline (curve d).

To date, the arguments put forward in this paper are general and are only now being substantiated in terms of quantifiable data. A major problem in testing the basic hypothesis and modeling the curve for specific *Moshavim* is that of obtaining data on newcomers to areas over long periods. These are rarely available and it is particularly unlikely that they will date back to the onset of newcomer's arrivals. However, those data which are available for a few *Moshavim* for periods in

excess of thirty or forty years substantiate the general arguments put forward in this paper.

At the same time the shape of the curve must be expected to vary for different areas and different *Moshavim*, reflecting variations in such factors as rate of development, numbers of newcomers, location, accessibility, government policies and numbers of similar competing villages. It has been shown for example that each improvement in accessibility to an area results in significantly increased counter-urbanization. The developments of *Moshavim* near the new highway (number 6) bears witness to this process. If development of facilities and accessibility is delayed for whatever reason, be it local opposition, lack of interest, lack of capital, the exploration period may be much longer than anticipated.

These observations also suggest that a change of attitude is required on the part of those who are responsible for planning, developing and managing rural areas. Counter-urbanization to *Moshavim* is not infinite and timeless but should be viewed and treated as finite and possibly non renewable resources. They could then be more carefully protected and managed. The development of the village could and should be kept within predetermined capacity limits and its potential competitiveness as a residence area maintained over a longer period. In a few localities already, limits to the growth of the village have been adopted, including the number of residents and services, chiefly because of severe environmental damage to the area.

This theoretical method does seem as a possible base for future analysis as to the development of *Moshavim* and villages in the future, but it also seems that it is more complicated in real life than in the model, especially because of governmental influence.

For example, the 'stagnation stage' is influenced by internal policy, as there is a "planning ceiling" to the number of properties developed. This is usually 115% of the existing ones. There is also an option of a long phase of stability without decline as the decline and the fall of the attraction of the village as a residential area is a result of several processes accruing at the same time. The first one is the growth of population and the development of the village as part of its urbanization process. We could say that many products, tourist sites and settlements are losing their attraction or "charm" as they become more popular

and developed. People who were interested in the Moshav because of its natural and undeveloped nature would subsequently lose interest in them as they develop. Another reason for the loss of appeal is the establishment of business to the village, and its metamorphosis as a commercial area.

Though there is no clear cut connection between the expansions of the *Moshavim* and the establishment of businesses in the *Moshav* - there is definitely an overlapping of the two phenomena. The establishment of business is usually made by the original residents of the *Moshav*. This can cause a decline or in the attractiveness of a house in the village but not necessarily. For example, *Moshav Rishpon* located on the northern edge of Tel Aviv sells plots in one of the highest cost in Israel, though it is going through a commercial and industrial process. Therefore, the model has limitations in its ability to predict future trends.

Conclusion

This paper aims to explain the changes which have taken place in the villages by using the life cycle model. Its main contribution is provision of an elaborate framework for systematizing our understanding of how rural settlements change during time. This usage of a framework of the "Product life cycle" model seems to be suitable for interpreting the process that the villages are experiencing today and raises a major question regarding the future of rural settlements.

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Recommending Ideal Holiday at National Level

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Abstract

The paper underlines the importance of meeting and fulfilling travelers' and tourists' preferences by introducing personalized recommendation system. The proposed web-based software model employs the process of collaborative filtering in order to assist tourists in identification of their ideal holiday. The research outcome is creation of generated personalized list of favorable and tailor-made potential items for all visitors of designed tourism portal. The accuracy testing performed highly satisfactory results thus reporting on positive practical experience at national level.

Keywords: Tourism; Collaborative filtering; Tourists' preferences; Holiday.

Introduction

One may argue the inevitable relationship between tourists, their preferences and information. Moreover, it is a widely-recognized fact that information and decision-making have become the foundation for the world economy [1]. It is more than obvious that whether a potential tourist will be interested in a certain item depends on the preferences. Although may sound fragile, but the vast majority of today's tourists and travelers know exactly what they are looking for. Yet, they are very demanding and have complex, multi-layered desires and needs. Today's so called "postmodern tourists" have specific interests and individual motives which results in tailored made tourist products according to their particular preferences. They are often high experienced in travelling and demand perfect tourist products rather than standardized ones. Consequently, they take much more active role in producing diversified tourist products with shorter life cycles enabled by increased usage of the information technology.

However, attracting a bigger number of tourists and travelers is not a trouble-free process, particularly in times of ever-changing travel preferences. Despite the variety of options regarding tourist destination or attraction, visitors frequently are not capable to cope with such a huge volume of choice. Moreover, they need advice about where to go and what to see. In a tourism domain, recommendations may indicate cities to go to, places to visit, attractions to see, events to participate in, travel plans, road maps, options for hotels, air companies, etc. Such scope of work very often is not a trivial task. In this respect, recommendation systems assist tourists by facilitating personal selection and prevent them from being overwhelmed by a stream of superfluous data that are unrelated to their interest, location, and knowledge of a place. So, it is much easier for tourists to access the information they need thus resulting in shorter lead-time for bookings, making last-minute decisions and generally, tailoring their own packages from a suite of options.

Solution is seen in personalization of the information delivery to each traveler, together with the travel history. Yet, the advanced tourist information systems must offer more than just relatively static information about sights and places. Over the past two decades Internet had an enormous impact on the tourism industry, specifically to the way how tourists search for information. A noteworthy transformation was made from just passive searching and surfing to creating content, collaborating and connecting. In this respect, the Web became the leading source of information particularly important in times of increased number of competitors in tourism market. The way out is detected in application of recommendation system as a promising way to differentiate a site from the competitors. So, user-generated content will gain in significance thus enabling developing more accurate recommender.

This study intends to present and elaborate necessity of introducing recommenders in tourism which may assist tourists in finding a way-out in creating their perfect vacation in efficient and transparent way. In order to meet the forth mentioned aim and objective, the paper is structured in several parts. So, Section 2 presents a brief overview on literature review on this issue. The methodology and scope of work are set in Section 3, while the conclusions and future research directions are noted in Section 4.

Related Work

Due to the importance of tourism, recommendation systems applied in tourism have been a field of study since the very beginnings of artificial intelligence. There is a large body of literature regarding their importance and effectiveness of application in tourism, travelling and hospitality. It is a matter of identifying a class of intelligent applications that offer recommendations to travelers, generally as a response to their queries. Hence, without prior knowledge of their preferences, it is groundless to expect efficient tourism development.

Tourists' Preferences

Many researchers were interested in identifying tourists' needs, expectations and behavior. In this respect, numerous papers discuss tourist roles in order to define their considerable variations. In mostly, the behavior is related to specific demographic and background characteristics emphasizing the life course as the leading component for investigating tourist role preferences. Yet, attention should be paid to a variety of social structures and processes, including psychological needs and life-course stage.

Cohen [2] was one of the first sociologists who proposed a typology to conceptually clarify the term "tourist" by developing a four-fold typology. Based on that, Pearce [3] identified specific behaviors thus enabling tying the evolutionary nature of tourist role preference and the psychological needs. Moreover he developed 15 different tourist types which allowed creation of several measurement scales. In this respect, the Tourist Roles Preference Scale [4] presents a comprehensive classification of leisure tourists. Additional work resulted in adding two more tourist types to the tourist categorization [5]. Moreover, researchers focused on exploring the experience of tourists as well as the importance of the tourist experience for tourists [6].

Recommendation Systems

Generally, the recommendation systems mostly leverage in-built logical reasoning capability or algorithmic computational schemes to deliver their recommendation functionality. Consequently, the

recommenders are an attempt to mathematically model and technically reproduce the process of recommendations in the real world.

Numerous researchers made efforts in their introducing. In this respect the need for developing intelligent recommenders which can provide a list of items that fulfill as many requirements as possible is elaborated [7], [8] and [9]. Also, a recommender system dealing with a case-based reasoning is introduced in order to help the tourist in defining a travel plan [10] and [11]. However, as the most promising recommenders in the tourism domain are the knowledge-based and conversational approaches [12] and [13]. Yet, some other variants of the content-based filtering and collaborative filtering are engaged for recommendation, like knowledge-filtering, constraint-based and casebased approaches [14], [15] and [16]. In the same line, the recommenders based on a text mining techniques between a travel agent and a customer through a private Web chat may easily find an application [17].

Due to rapid expansion of tourism industry, the recommenders for tourism have attracted a lot of interest in academia. Some late research that brought more sophisticated outcomes are referred additionally, like: introducing a personalized tourist information provider as a combination of an event-based system and a location-based service applied to a mobile environment [18]; investigation on sources and formats of online travel reviews and recommendations as a third-party opinions in assisting travelers in their decision making during the trip planning [19]; findings regarding development of a web site in order to enable Internet users to locate their own preferred travel destinations according to their landscape preferences [20] and similar. Furthermore, the usage of the orienteering problem and its extensions to model the tourist trip planning problem was elaborated as efficient solution for number of practical planning problems [21]. It is evidently that the research area is extending resulting in improving the dependability of recommendations by certain semantic representation of social attributes of destinations [22]. Moreover, most recommenders focus on selecting the destination from a few exceptions [23] and [24].

Methodology and Scope of Work

The paper aims in developing a web-based tourism portal on national level. To this purpose, the case of Macedonia is empirically investigated. The research outcome is introduction of an efficient and accurate personalized recommendation system which will support tourists and travelers visiting Macedonia by helping them to identify relevant tourist objects to match to their personal interests, preferences and desires.

The research employs dataset from proprietary database collected by the mixed research group composed of researchers from the "Goce Delcev" University. It contains 56320 ratings from 483 users for 818 tourist objects, whereas each user has rated at least 30 objects, and each object has been rated at least once. In order to accomplish the research objective and main aim, a several step methodology was developed. The first step foresees tourists and tourist objects profiling. In the line of modeling tourist personal profile, the system uses tourist types methodology [4]. Namely, the tourist profile indicates the degree to which tourists identify themselves with the given types. Typically, individual tourist cannot be characterized by only one of these archetypes but has unique combination of these personalities, although to varying degrees. Thus, tourist types model the tourists' generic interests in an abstract form. Vectors are suited to model such tourist profile, whereby each dimension corresponds to a certain tourist type while the value indicates how much the tourist identifies him- or herself with the corresponding type.

Tourist profiling is a two-step process which involves creating the profile and then reviewing the profile to make any necessary adjustments. The initial tourist profile for each system user is created by the user himself during the process of registration, by determining the degree of membership to each of the tourist types. Considering the fact that the human preferences change over time due to various factors, the tourists might change their behavior too. To make the system capable to cope with these changes, the tourist profile adjustment has been enabled. It is based on the ratings the tourist give for each tourist object that he visits after his journey and according to Eq. 1.

$$U_{ij_{t+1}} = \frac{1}{2}(U_{ij_t} + R_{ik_{t+1}} * w * Ok_j) \quad (1)$$

Where:

U_i denotes i-th user and $U_i \in U$

U denotes the set of users registered to system

U_{ijt} denotes degree of membership in the moment t of i-th user to tourist type T_j and $T_j \in T$

T denotes the set of tourist types according to Gibson and Yiannakis (2002)

$Ok \in O$ denotes k-th object in the set of all objects O registered in system

w denotes the weighting factor and

Similarly, the profiles for attractions might be generated and represented in form of a vector. So, every tourist object is modeled through a vector as well. Thereby, this vector describes in a quantitative way how much the object is related to the given types.

For example, the famous monastery Saint Panteleimon in the city of Ohrid known as a birthplace for Cyrillic alphabet and used by Saint Clement for teaching the Cyrillic alphabet, might be highly relevant for sightseeing tourists but not for such kind of tourists that would like to do some risky activities.

In the developed system a manual process to link the given tourist types to appropriate tourist objects is proposed. Therefore, for each of the tourist objects, the degree of relationship to each of the tourist types is specified by domain experts. In order to prevent information overload of the tourist and provide only relevant information, the system should recommend a subset of tourist objects according to the personal experiences individual tourist desire and those he/she prefer to avoid. This in turn might lead to an increase of the tourist's satisfaction of experiencing a relaxed sightseeing trip.

According to this, the next step of the proposed methodology aims to match tourist profiles against the set of tourist objects on the basis of tourist types, thus producing a ranked list of objects for each given tourist and reducing the set of objects. If a tourist profile matches the characteristics of an object, this object should be recommended to the respective tourist. Therefore, the matchmaking algorithm has to examine whether they share similar structures. The more similarities they have in common, the more contributes the tourist object to the tourist's satisfaction and should be ranked higher.

To estimate the similarity degree between tourist profiles and tourist objects, the system contains a special module based on a vector-based matchmaking function, whereby a given profile and each tourist object constitute vectors and are compared in a vector space model. A common method to obtain the similarity is to measure the cosine angle between two vectors. If the vector space is non-orthogonal, kernel based algorithms can be applied to measure the similarity in such a space. The dimensions of the vector space model correspond to selected tourists types [5], such that each distinct tourist type (e.g., adventure or cultural type) represents one dimension in that space (Eq. 2).

$$SIM_{\cos}(U_i, O_j) = \frac{\sum_{k=1}^N U_{i_k} \cdot O_{j_k}}{\sqrt{\sum_{k=1}^N U_{i_k}^2} \sqrt{\sum_{k=1}^N O_{j_k}^2}} \quad (2)$$

Where:

U_{ik} denotes the degree of membership of the i-th user to the tourist type T_k

O_{jk} denotes the degree of membership of the j-th tourist object to the tourist type T_k

N denotes the number of tourist types.

According to Eq. 2, the degree of similarity between tourist profiles and tourist objects will be calculated. Tourist objects will be ordered by the value of the matchmaking function for a given user, and only those objects that have positive value for this function will be considered for recommendation. Considering the five point Likert scale for rating the objects, to each object in the constructed set, a recommendation mark will be assigned.

Furthermore, another very important fact is considered related with behavior dimension of tourists and travelers planning a vacation or trip. In everyday life, while planning a holiday, people also rely on recommendations from reference letters, news reports, general surveys, travel guides, and so forth. In addition, they desire personal advice from other people with similar preferences or someone they trust. In fact, over 80% of travelers participating in a TripAdvisor.com survey agree that “reading other travelers’ online reviews increases confidence in decisions, makes it easier to imagine what a place would be like, helps reduce risk/uncertainty, makes it easier to reach decisions, and helps with planning pleasure trips more efficiently” [25].

Experimental findings show that there exists a significant correlation between the trust expressed by the users and their similarity based on the recommendations they made in the system; the more similar two people are, the greater the trust between them [26]. Similarity can be interpreted in several ways such as similarity in interests or ratings or opinions. Different methodologies can be used to calculate the similarity between the users in the system.

Collaborative Filtering

As one of the most prevailing and efficient techniques to build a recommender, collaborative filtering (CF) implements the idea for automating the process of “word-of-mouth” by which people recommend items to one another. It uses the known preferences of a group of users who have shown similar behavior in the past to make recommendations of the unknown preferences for other users. CF is facing many challenges, among which the ability to deal with highly sparse data and to scale with the increasing numbers of users and items, are the most important in order to make satisfactory recommendations in a short time period. Sparsity of ratings data is the major reason causing poor recommendation quality. The sparsity problem occurs when available ratings data is rare and insufficient for identifying the similar neighbors. This problem is often very significant when the system is in its early stages. On the other hand, when numbers of existing users and items grow tremendously, traditional CF algorithms will suffer serious scalability problems, with computational

resources grown nonlinearly and going beyond practical or acceptable levels.

To reduce the dimensionality of data and avoid the strict matching of attributes in similarity computation the cloud-model CF approach has been adopted. It is constructing the user’s global preference based on his perceptions, opinions and tastes, which are subjective, imprecise, and vague [27]. Hence, it seems to be an appropriate paradigm to handle the uncertainty and fuzziness on user preference.

The main goal of the cloud model CF is to construct the global preference for each user by calculating a triple of three digital characteristics: expected value-Ex, entropy- En and hyper-entropy He [19] (Eq. 3).

$$\begin{aligned} Ex &= \frac{1}{n} \sum_{i=1}^n r_{u,i} \\ En &= \sqrt{\frac{\pi}{2}} \times \frac{1}{n} \sum_{i=1}^n |r_{u,i} - Ex| \\ He &= \sqrt{S^2 - \frac{1}{3} En^2}, \text{ where } S = \frac{1}{n-1} \sum_{i=1}^n (r_{u,i} - Ex)^2 \end{aligned} \quad (3)$$

The recommendation function based on the cloud model is defined as in Eq. 4:

$$R_{u,j} = \bar{r}_u + \frac{\sum_{v \in N(u)} (r_{v,j} - \bar{r}_v) \times sim(u,v)}{\sum_{v \in N(u)} sim(u,v)} \quad (4)$$

Where:

$N(u)$ denotes the k most similar users to active user u and r_u and r_v denote the average rating of user u and v , respectively.

The value of rating $r_{v,j}$ is weighted by the similarity of user v to user u ; the more similar the two users are, the more weight $r_{v,j}$ will have in the computation of the recommendation function .

According to the value of total recommendation functions the objects will be ordered and further classified into five categories (Eq. 5).

$$Cat_{i,j} = \left\{ \begin{array}{l} k = 1, \forall O_j \in O_{i_{rec}} \wedge 0 \leq Frec_{i,j} \leq 0.2 \\ k = 2, \forall O_j \in O_{i_{rec}} \wedge 0.2 < Frec_{i,j} \leq 0.4 \\ k = 3, \forall O_j \in O_{i_{rec}} \wedge 0.4 < Frec_{i,j} \leq 0.6 \\ k = 4, \forall O_j \in O_{i_{rec}} \wedge 0.6 < Frec_{i,j} \leq 0.8 \\ k = 5, \forall O_j \in O_{i_{rec}} \wedge 0.8 < Frec_{i,j} \leq 1 \end{array} \right\} \quad (5)$$

Design

The proposed web-based tourism portal encompasses national level and is structured in a form of social network. Although official national tourism portal of

Macedonia already exists (www.exploringmacedonia.com) and several other private initiatives act as additional tourism portals, thus supporting country's tourism profile (www.travel2macedonia.com, www.go2macedonia.com, www.simplymacedonia.com, www.macedonialovesyou.com, www.mysticalmacedonia.com, www.macedonia-timeless.com etc), the suggested model is interactive and assisting. Namely, the proposed recommendation system is a significant improvement on existing travel websites and provides tourists and travelers with a customized, unique, and enriching travel experience. It incorporates some standard plugins typical for social networks like Facebook, Tweeter, LinkedIn, MySpace etc. But, it advances the concept by including custom plugins, like the recommended objects plugin which is the core of the portal. It is using the Google Map of Macedonia to visualize static tourist objects (object that are not temporary, like churches, museums, archeology localities, etc.) and dynamic objects (object that have limited time duration, like events, expositions, etc.). They are displayed on the map according to their geographical location being grouped in municipalities.

Municipalities are recommended to the user in the form of circles as displayed on the map (Fig. 1). The size of the circle indicates the user's affinity for the municipality; therefore, a large circle indicates a municipality with many tourist objects with high recommendation marks i.e. that match the user profile. By displaying the user's affinity through the size dimension of the circle, users can easily observe which municipalities would be of most interest to them.

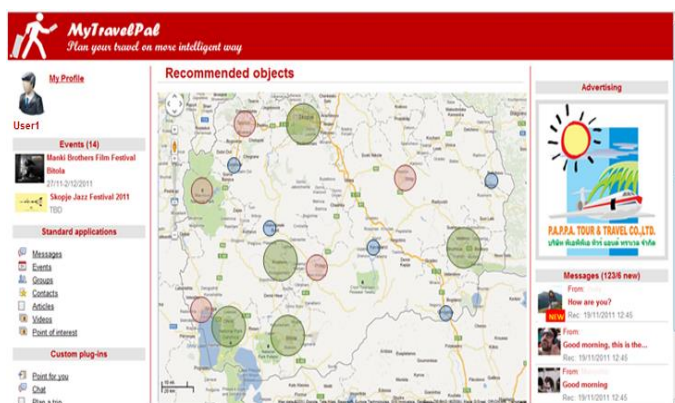


FIG. 1 PLANNING A TRIP

The tourist objects are displayed as icons in the location of the correspondent object (Fig. 2).

The image of the icon indicates the type of tourist objects such as a museum, church, or restaurant. The

size indicates how closely the object meets the user's interests. Each attraction also has an information window as displayed in Figure 2. The information window usually includes the name and picture of the attraction, an icon of an umbrella indicating that the attraction is accessible in the rain, and tags. Additionally, it displays a general idea of the time consumption of the attraction, friends who have visited the attraction, and an option to view narratives in either video, audio, or text format. Through this window, the user can also rate the object. This operation is recommended to be done after visiting the object and according to the personal experience and satisfaction. The goal of this operation is two-fold: to help updating the user profile, and to make the process of recommendation more accurate.

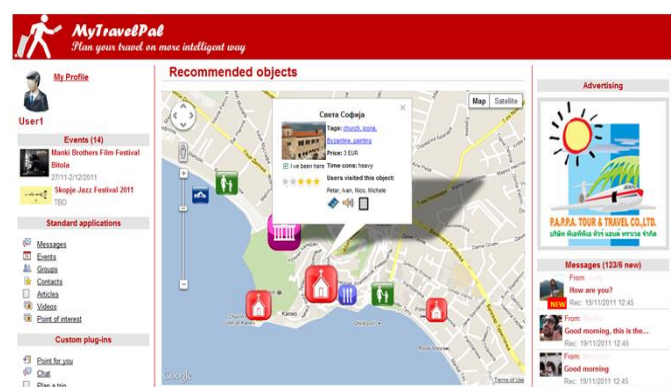


FIG. 2 RECOMMENDED TOURIST OBJECT

Accuracy Testing

In order to measure recommendation accuracy, the information-retrieval classification metrics are used. This step is undertaken for the purpose of evaluating the capacity of the recommender system in suggesting a list of appropriate objects to the user. Such process enables measurement of probability that the recommendation system takes a correct or incorrect decision about the user interest for an item. When using classification metrics, four different kinds of recommendations can be distinguished. If the system suggests an interesting tourist object to the user we have a true positive (TP), otherwise the object is uninteresting and we have a false positive (FP). If the system does not suggest an interesting tourist object we have a false negative (FN). If the system does not suggest an object uninteresting for the user, we have a true negative (TN).

The most popular classification accuracy metrics are the recall and the precision. Recall measures the percentage of interesting objects suggested to the users, with respect to the total number of interesting objects, while precision measures the percentage of interesting objects suggested to the users, with respect to the total number of suggested objects. In order to understand

the global quality of a recommender system, a combination of recall and precision by means of the F-measure may be done.

Furthermore, to evaluate the system a methodology which uses the k-fold and the leave-one-out together with classification metrics recall and precision was used. The created model is tested on the remaining partition by means of the following algorithm:

Step 1: One user in the testing set is selected (the active user).

Step 2: One rated tourist object (the test object) is removed from the profile of the active user.

Step 3: An order list of recommended tourist objects is generated.

Step 4: If the test item is in the top-3 categories of recommended objects, either the true positive or false positive counter is incremented, depending whether the user liked or disliked the test item.

In this respect, two distinct user groups were considered. Group I contained all users who have rated 30-60 objects (the few raters user group). Group II contained all users who have rated 61-100 objects (the moderate raters user group). Step 1 of the proposed algorithm was repeated for all the users in both groups. Steps 2-4 are repeated for all the objects rated by the active user. In order to understand if a user likes or dislikes a rated tourist object, it is presumed that an object is interesting for the user if it satisfies two conditions. The first constraint reflects the absolute meaning of the rating scale, while the second the user bias. If a rating does not satisfy both conditions, it is assumed that the item is not interesting for the user.

Upon the conducted evaluation, the results for system precision, recall and f-measure were averaged for each of the groups (Table 1).

TABLE 1. AVERAGE PRECISION VALUES

Group	Precision (%)	Recall (%)	F-measure (%)
I	75.14	79.18	77,11
II	81.74	85.32	83.49

According to the obtained results, the suggested national tourism web-based portal with its collaborative recommender system seems to be robust as it achieves good results in both scenarios (group I - users with few and group II - moderate ratings). It also accomplishes a good trade-off between precision and recall, a basic requirement for all recommendation systems. The experimental results show that the proposed approach can provide satisfactory performance even in a sparse dataset.

Conclusion

Although the designed national tourism portal is in initial phase of development, resulted in accurate recommendations and guidelines for tourists and travelers in the line of identifying an ideal trip and holiday. In this respect, it must be noted that tourism is defined as one of the most economically-oriented industries in the world due to the fact that enhances and strengthens national economies. Moreover, the development of such software module contributes generally to increasing the awareness of tourist destination that is capable of fulfilling travelers' preferences, and respectfully in raising net tourism income.

The successful implementation of the proposed recommender (named "MyTravelPal") based on collaborative filtering notes positive impulses in the line of supporting the national economy through improvement of tourism supply in more qualitative manner. It assists all interested parties in planning their travel on more intelligent way by generating a personalized list of favorable and tailor-made items. Since this portal indicates the motives, preferences and reasons for traveling to Macedonia, it may be of high importance to all key-tourism actors in the process of identifying measures and implementing activities necessary for creating comprehensive tourism policy.

Generally, the contribution of this paper lies in the fact that it proposes methodology for developing a module which relies on efficient and accurate personalized recommendation algorithm that supports tourist consumers to identify relevant tourist objects matching to their personal interests and to plan more efficiently their trips. Additionally, the empirical investigation may alarm the relevant tourism-actors that the time has changed and that the on-line experience has shifted from searching and consuming to creating, connecting and exchanging. Previously passive consumers and web surfers are now generating content, collaborating and commentating thus achieving their rights to enjoy the electronic communication as a fragment of the general economic interest services.

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Empirical Evidence on Money Demand Modelling

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Abstract

The paper provides an empirical analysis of the demand for narrow money in Macedonia. Specifically, it deals with the following issues: the empirical modelling of the demand for money in the long-run, the short-run dynamics of money, and the stability of the demand for money. The empirical analysis of the demand for money covers the period Q1:1994-Q4:2008. The period following the Global economic crisis is excluded due to clear structural break in data. For the purpose of the research, the following variables are applied: narrow money as represented by the monetary aggregate M1, real Gross Domestic Product, and nominal interest rate on 3-month time deposits, denominated in domestic currency. The Vector Error Correction Model (VECM) is employed by running two alternative test statistics: the trace of the stochastic matrix and the maximum eigenvalue. Based on both tests it may be concluded that there is cointegration relationship between the variables of interest. Furthermore, the research results may reflect the fact that we model the demand for narrow money, which serves for transaction purposes and not as an asset, so that economic agents tend to economise with money holdings. This finding is further confirmed by the pretty high coefficient before the interest rate, which is in line with the interest semi-elasticity usually found in other countries with less developed financial systems. As for the short-run dynamics, the results suggest very slow adjustment of the demand for money towards its long-run equilibrium level. Finally, an estimation of the recursive coefficients before real income and nominal interest rates is conducted and found that they remain quite stable over time. Therefore, one may take this exercise as evidence in favour of the stability of the demand for money.

Keywords: Money demand; Vector error correction model; Cointegration.

Introduction

The growing interest in empirical modelling of money demand dates back decades ago, reflecting the need to investigate the relationship between monetary aggregates and macroeconomic variables. Intuitively, the analysis of money demand seems to be important for central bankers because, quite naturally, monetary policy deals with money. In these regards, the analysis of the stability of the relationship between money and prices is usually done within the context of the money demand function. This kind of empirical studies is especially relevant for monetary policy strategies where monetary aggregates play an important role, such as the two-pillar framework of the European Central Bank. In this case, the existence of a stable relationship between money, price level and other relevant variables is a precondition for the conduct of monetary policy.

Modelling money demand seems to be an important tool in the evaluation of the existing monetary policy strategy in Macedonia and the search for the possible alternatives. Since 1995, Macedonia has pursued the exchange rate targeting, which resulted in quick and sharp disinflation and sluggish economic growth. Hence, during the whole post-disinflation period, the peg has been criticised for its alleged negative effects on economic activity calling for replacing it with another monetary policy strategy. Therefore, if this substitution is to be done with a strategy in which monetary aggregates play more active role, the empirical analysis of money demand proves to be of crucial importance for checking the existence of a stable relationship between money and prices.

This paper provides an empirical analysis of the demand for narrow money in Macedonia. Specifically, the paper deals with the following issues: the empirical modelling of the demand for money in the long-run, the short-run dynamics of money, and the stability of the demand for money. The paper is organized as follows: the next section provides for a brief theoretical background for the demand for money; Section 3 reviews the empirical literature on the demand for money; Data and research methodology are outlined in Section 4; Section 5 focuses on the empirical modelling of the demand for money in Macedonia, both in the long and the short run. Finally, the paper ends with the most important conclusions and suggestions for possible future research.

Theoretical Background

As elaborated in any standard textbook on monetary theory, money may be demanded for two reasons: first, money is held for transaction purposes, and second, money may be viewed as an asset in the economic agents' portfolio. In the former case, holding some amount of money serves as a means of covering the gap between the periodic income and expenditure flows. In the latter case, economic agents may decide to keep a portion of their overall wealth in the form of money balances, given the useful functions they perform. Notwithstanding the reason for holding money, the demand for it is usually given in the following general form (Eq. 1):

$$M^d/P = f(I, R) \quad (1)$$

Where:

M^d denotes the nominal quantity of money demanded

P denotes a measure of the general price level

I denotes a scale variable representing the economic agents' income or wealth, and

R denotes a vector comprising the returns on various financial and physical assets, which appear as alternative investment opportunities.

Within this simple theoretical framework, the demand for money is an increasing function in the scale variable in the sense that an increase in economic activity raises the demand for money. As for the response of the demand for money with respect to the vector of returns, the standard monetary theory predicts that higher returns on the alternative assets in the portfolio result in decreasing demand for money. In this respect, the vector R is usually referred to as the opportunity cost of holding money. Recently,

reflecting the process of financial deregulation, where monetary aggregates provide some return, the vector R may be given a broader interpretation in the sense that it incorporates two types of returns: first, the return on the assets included in the definition of money (the "own" return on money), and second, the return on the assets outside the monetary aggregates (bonds, commodities, property etc.). If we take this broader interpretation of R , then the demand for money is an increasing function in the "own" rate of return and a decreasing function in the outside rates of return (which represent the opportunity cost of money).

An Overview of the Empirical Research of Money Demand

During the last two or three decades a huge empirical literature has accumulated dealing with demand for money. Though various studies differ with respect to the monetary aggregates analysed (narrow or broad money), the general approach (country-specific or panel data), the countries being covered (industrialised or emerging economies), the methodology (VECM, ARDL etc.), they usually follow some standard procedure. A non-exhaustive list of money demand studies comprises [1], [2], [3], [4], and [5] for industrialised countries; [6], [7], [8], [9], [10] and [11] for less developed, emerging economies; and [12], [13] and [14] for Central and Eastern European countries.

In addition, [15] provides an exhaustive review of the empirical literature on money demand, especially that employing the ECM approach. He finds that the estimated income elasticity for narrow money ranges from 0.4 to 2, although both the mean and the median of estimates are closer to 1 than to 0.5. Furthermore, [16] provide even a broader survey of almost 1000 money demand estimations extracted from three survey papers, including that of [15]. They find that the income elasticity is lower for the demand for narrow money, it is higher in less developed countries, and the estimates range within a wide interval (from 0.4 to 1.6), though, once again, the mean and median are often around 1.

Data and Methodology

The empirical analysis of the demand for money in Macedonia is based on data sources obtained from the Research Division within the central bank. The sample extends from the first quarter of 1994 up to the last

quarter of 2008, i.e. we exclude the period following the Global economic crisis, which has caused a structural break in the data. We work with quarterly values of the following variables: narrow money as represented by the monetary aggregate M1 (comprising cash plus sight deposits), Gross Domestic Product (GDP), and the interest rate on 3-month time deposits, denominated in domestic currency (DENDEP). In addition, nominal narrow money and GDP are deflated by the Consumer Price Index (CPI) and are expressed in natural logarithms.

We chose to model the demand for narrow money for several reasons: First, the definition of M1 in Macedonia is consistent with the definitions generally applied elsewhere, thus allowing comparisons of the results; Second, M1 is closely associated with transactions, because it comprises the most liquid financial instruments, i.e. those that serve as medium of exchange; Third, working with M1 allows for unambiguous selection of the opportunity cost of holding money, because it eliminates the need for differentiating between own and outside rate of return; Fourth, from central bank's point of view, it's much easier for monetary authorities to control narrow money than broader aggregates; Finally, one may argue that narrow money is closer related with prices and other economic variables, especially in countries where the financial system is not so developed and the financial instruments are not sophisticated. Therefore, we think that the model for narrow money will work better compared to the one with broader money (which was confirmed by our preliminary estimates of the money demand for M2).

In the empirical research on money demand, the general function (1) is usually represented in a log-linear form:

$$(m - p) = \beta_0 + \beta_1 y + \beta_2 r \quad (2)$$

In the above specification, the dependent variable is the real demand for money ($m - p$), where money is represented by the monetary aggregate M1. As can be seen, we model money demand as demand for real money, which implies that the model incorporates the assumption of price homogeneity. In turn, this assumption implies that money is neutral in the long run, i.e. the demand for nominal money balances rises proportionally with the increase in prices.

Further on, since we model the demand for narrow money, it means that the empirical model employed herein is consistent with the transactions demand for

money, so that real GDP is used as a measure of the volume of transactions. As for the last variable in equation (2), at least from theoretical point of view, the yield on long-term bonds seems to be an adequate proxy of the opportunity cost. However, there are no relevant long-term interest rates that would play this role in Macedonia. So far, only a few two-year government bonds have been issued for which there is no active secondary market. In these circumstances, short term interest rates are taken as representatives of the opportunity cost of money, because these financial instruments appear to be closer substitutes of money. Among the various short-term interest rates, the usual approach found in the empirical literature is to work with the yield on treasury bills. In Macedonia, treasury bills have been introduced only recently and, at the same time, they lack liquidity, so that the use of interest rates on central bank bills (CB-bills) seems to be more promising.

Yet, we think that the interest rate on three-month time deposits provides a better measure of the opportunity cost, compared to (CB-bills), for two reasons: First, the market for central bank bills is dominated by commercial bank, i.e. bank deposits are still the predominant form of financial assets in which population and companies invest their excess money holdings; Second, there's no active secondary market for CB-Bills, so due to their low liquidity, they can hardly be regarded as close substitutes of money. In addition, the preliminary investigation of the time series properties has shown that CB-Bills might not be integrated of the same order such as the other variables included in the model, which might be a source of estimation problems.

Given the log-linear form of the empirical model, the coefficients before the independent variables measure the elasticity of the demand for money. However, since the interest rate enters the model in levels rather than in logarithms, it implies that the coefficient before this variable represents the semi-elasticity. As for the signs and magnitudes of the coefficients, the main theoretical predictions are as follows: the quantity theory of money implies that $\beta_1 = 1$, while the Baumol-Tobin model asserts that $\beta_1 = 0.5$; and the coefficient before the opportunity cost of money should bear a negative sign. See [17] on these and other important issues on empirical modelling of money demand.

Estimation of the Empirical Model

In the last two decades, the Vector Error Correction Model (VECM) has emerged as the usual

methodology for analysing the demand for money, because it enables researchers to study both the long run and short run dynamics of economic variables. Here, we first look at the time series property of the variables in the empirical model.

Unit Root Tests

The variables included in the empirical model were checked for stationarity, using the Augmented Dickey-Fuller (ADF) test. Given the small sample, the Schwarz Information Criterion has been employed for determining the number of lags in the ADF test in order to save degrees of freedom. Based on this information criterion, the ADF-test for M1/P was performed with two lags in the test-equation, the test-equation for GDP included four lags, while the test for DENDEP didn't include any lags, implying that the basic DF-test has been employed. The results of the unit root tests performed in levels are reported in the Table 1.

As can be seen, the test of the null hypothesis for presence of a unit root reveals that GDP is clearly non-stationary, while two of the three test-variants show that money and interest rate are non-stationary, too.

TABLE 1. ADF UNIT ROOT TEST (IN LEVELS)

Variable	Variant of the test		
	constant	constant and trend	none
Log (M1/P)	-0.5212 (0.8773)	-3.2586* (0.0861)	3.7079 (0.9999)
Log (GDP)	0.1832 (0.9684)	-1.7157 (0.7270)	1.6652 (0.9749)
DENDEP	-1.9789 (0.2949)	-0.4943 (0.9804)	-2.9542*** (0.0040)

Note: *, ** and *** denote rejection of the null at 10%, 5% and 1%, respectively.

Due to the slight uncertainty of the results, and taking into account the low power of the ADF-test in small samples, we decided to check for the stationarity properties of the variables by means of the Philips-Perron (PP) test.

TABLE 2. PP UNIT ROOT TEST (IN LEVELS)

Variable	Variant of the test		
	constant	constant and trend	none
Log (M1/P)	-0.7309 (0.8288)	-2.5175 (0.3187)	4.7137 (1.0000)
Log (GDP)	-1.8672 (0.3445)	-4.8076*** (0.0017)	3.1138 (0.9993)
DENDEP	-1.9605 (0.3028)	-0.5503 (0.9774)	-2.9717*** (0.0038)

Note: *, ** and *** denote rejection of the null at 10%, 5% and 1%, respectively.

As shown in Table 2, the PP-test didn't change the previous results dramatically: Here, M1 appeared to be clearly non-stationary, while the tests for GDP and DENDEP provide mixed results, depending on the variant of the test-equation employed.

Overall, most of the tests suggest that all the variables, taken in levels, are non-stationary.

Therefore, the unit root tests performed on the levels of the variables lead to the conclusion that money, GDP and interest rates are non-stationary. In order to see if they're integrated of the same order, we checked for the stationarity properties of the same variables taken as first differences. Here, one again, we employed the ADF and PP tests, which clearly showed that the null of a unit root can be rejected at 1% significance level (The results of the unit root tests on the first differences are not presented in order to save space).

The Long-run Model of Money Demand

Hence, on the basis of the unit root tests, we can conclude that M1, GDP and DENDEP are I (1) processes. Since all the variables in the empirical model are integrated of the same order, we can proceed with the econometric analysis, by testing for the presence of cointegration between these three variables. As already mentioned, the concept of cointegration was introduced by [18] who showed that even if the variables are non-stationary, some linear combination of them may be stationary, in which case, they are said to be cointegrated. The economic interpretation of cointegration is that a long-run equilibrium relationship exists between a given set of variables.

We study the long-run relationship between money, income and interest rates by means of the maximum-likelihood approach to cointegration, introduced by [19] and [20], which appears to be commonly used method to analyse cointegrated systems. In contrast to the procedure of [18], which is based on the residuals obtained from a single equation, the [19] approach utilises the Vector Autoregression (VAR) framework. Here, the procedure begins with an unrestricted VAR and then the cointegration rank of the system is determined, showing the number of cointegrating vectors.

We begin our empirical modelling of money demand by specifying a VAR model containing the levels of three variables from the equation (2). Note that, a priori, all the variables in the money demand function

are endogenous, which implies that we employ a nonstructural VAR. When working with VARs, one needs to determine the lag length, which is usually done by means of some information criterion. We employed several information criteria and, expectedly, the results differed sharply, with Akaike and Hannan-Quinn Information Criteria suggesting much more lags, while Schwarz Information Criterion selecting a first-order VAR. Because of the limited size of the sample, we decided to make a compromise between the results from the three information criteria. Hence, we've included four lags in the VAR, which seems reasonable, given that we work with quarterly data. In order to determine the number of cointegrating vectors, we employed the two Johansen's alternative test statistics: the trace of the stochastic matrix (Table 3) and the maximum eigenvalue (Table 4).

TABLE 3. COINTEGRATION TEST BASED ON THE TRACE OF THE STOCHASTIC MATRIX

Null	Alternative	Statistic	5% critical value
r = 0	r >= 1	30.38127	24.27596
r <= 1	r = 2	11.69149	12.32090
r <= 2	r = 3	1.286008	4.129906

TABLE 4. COINTEGRATION TEST BASED ON THE MAXIMUM EIGENVALUE

Null	Alternative	Statistic	5% critical value
r = 0	r >= 1	18.68978	17.79730
r <= 1	r = 2	10.40548	11.22480
r <= 2	r = 3	1.286008	4.129906

As can be seen from Table 3 and Table 4, in both cases, the test statistic exceeds the critical values at 95% confidence level, suggesting that we can reject the null hypothesis of no cointegrating vectors in favour of the alternative. On the other side, the obtained test statistic is not sufficient to reject the null of at most one cointegrating vector in favour of the alternative of two cointegrating vectors. Hence, based on the trace statistic and the maximum eigenvalue statistic, we can conclude that there is cointegration relationship between the variables of interest, and this cointegrating vector can be regarded as money demand function. Yet, a note of caution is needed when interpreting these results: It is known that the results of the Johansen's cointegration tests depend on the lag-length of the VAR. As mentioned above, when determining the order of the VAR, two of the information criteria suggested that many lags should

be included, while one criterion pointed to only one lag. Since we work with a small sample and don't want to lose too many degrees of freedom, we've adopted a somewhat arbitrary approach to work with a VAR of fourth order. This decision had a substantial impact on the results of the cointegration test, which proved to be sensitive on the number of lags included in the VAR. Further on, it should be mentioned that the cointegrating rank depends on the variant of the cointegration test, i.e. on whether the VAR includes intercept and(or) trend. Finally, as noted in [17], this sensitivity of the cointegration tests may reflect the choice of particular measure of the variables in the empirical model.

When normalised with respect to M1, we obtain the following cointegration vector (with standard errors given in parentheses):

$$M1 - 0.607037GDP + 5.406044DENDEP \sim I(0).$$

(0.02471) (2.93254)

The coefficients before the variables are of the expected sign, although it should be noted that the coefficient before DENDEP is significant only at 10%, while that before GDP is highly significant. Hence, the cointegrating vector can be interpreted as a money demand function, where money holdings are positively related to real income and negatively associated with the short run interest rate. As for the economic importance of the obtained coefficients, it can be seen that income elasticity is much lower than unity, i.e. it is closer to 0.5. This result may reflect the fact that we model the demand for narrow money, which serves for transaction purposes and not as an asset, so that economic agents tend to economise with money holdings. In these regards, it is worth noting that the recent institutional and technological innovations in the payment system have increased the ability of economic agents to economise with money balances, thus, reducing the income elasticity of the demand for narrow money. In terms of money demand theories, it seems that our empirical model supports the Baumol-Tobin framework. This tendency of economic agents to economise with money holdings is further confirmed by the pretty high coefficient before the interest rate, which is in line with the interest semi-elasticity usually found in other countries with less developed financial systems.

Figure 1 plots the cointegrating vector estimated with the Johansen's approach. In these regards, the cointegrating vector might be taken as a measure for

the deviation of the money demand from its equilibrium level. As shown, during the whole period, the cointegrating vector lies below the zero line, which means that the demand for narrow money has been less than its equilibrium long-run level. This result reflects both the low income elasticity and the high interest rate elasticity of the demand for money, i.e. the tendency of economic agents to keep money holdings as low as possible. In addition, this finding might be related with the high degree of currency substitution, too. Finally, it seems that monetary policy had, also, been an important factor that kept demand for money under its equilibrium level. On the one hand, in order to defend the exchange rate peg, the central bank has maintained relatively high interest rates throughout the sample period, thus reducing the demand for money. On the other hand, during the second half of the 1990s, the central bank employed direct instruments for controlling the money supply (credit ceilings), resulting in very low rates of monetary growth. As a consequence of this tight monetary policy, it was difficult for the economic agents to adjust their money holdings to the desired level. However, recently, the overall macroeconomic environment has changed substantially (with quite high money growth rates and much lower interest rates), thus, enabling economic agents to drive their money holdings to the long-run equilibrium level.

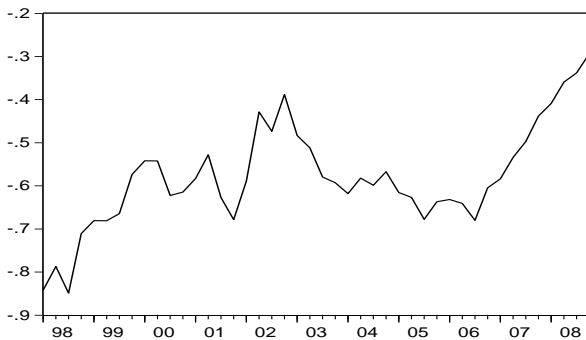


FIG. 1 COINTEGRATION VECTOR FOR THE MONEY DEMAND

The Short-run Model of Money Demand

We analyse the short-run dynamics of the money demand by means of the VEC model, containing the first differences of all endogenous variables entering the system (real money, real income and the short-run interest rate) along with the error correction vector, which represents the deviations of the endogenous variables from their long-run equilibrium levels. The short-run model shows how the demand for money

reverts to its long-run equilibrium level, after having been disturbed by exogenous shocks.

Therefore, on the basis of the cointegration equation, the following Error Correction Model (ECM) for the demand for narrow money was estimated:

$$\Delta M1_t = \beta_0 + \beta_1 \Delta M1_{t-1} + \beta_2 \Delta GDP_{t-1} + \beta_3 \Delta DENEDEP_{t-1} + \lambda ECM_{t-1} + u_t$$

Where:

$$ECM_{t-1} = M1_{t-1} - 0.607037GDP_{t-1} + 5.406044DENEDEP_{t-1}.$$

Table 5 presents the estimates obtained from the short-run empirical model of the demand for money.

TABLE 5. ECM OF THE DEMAND FOR MONEY

Dependent variable: $\Delta M1$ Sample: 1998Q1 - 2008Q4 Number of observations: 44			
Regressor	Coefficient	Standard error	t-statistics
$\Delta M1(-1)$	0.211292	0.16782	1.25905
$\Delta M1(-2)$	-0.268380	0.16440	-1.63246
$\Delta M1(-3)$	-0.004873	0.15940	-0.03057
$\Delta GDP(-1)$	-0.212917	0.20181	-1.05505
$\Delta GDP(-2)$	-0.447801	0.23282	-1.92338
$\Delta GDP(-3)$	-0.170700	0.18104	-0.94290
$\Delta DENEDEP(-1)$	3.065300	1.84455	1.66182
$\Delta DENEDEP(-2)$	1.266141	1.89475	0.66824
$\Delta DENEDEP(-3)$	0.049120	1.77842	0.02762
ECM(-1)	-0.070275	0.02009	-3.49872
$\bar{R}^2 = 0.1503$			
Standard error of the regression: 0.0467			
LM-test for serial correlation: 19.0588 (p-value 0.0247)*			
Jargue-Bera test for normality: 16.0864 (p-value 0.0133)			
Heteroskedasticity test: 118.6562 (p-value 0.5175)			

The error correction term in the equation of the demand for money represents the mechanism by which the demand for money adjusts towards its long-run equilibrium level. As such, the coefficient before the error term should have a negative sign, revealing how much of the deviation from equilibrium is adjusted in one period. As we can see, the error term bears the "correct" sign and is highly significant and this confirms the existence of the cointegrating relationship. In fact, the above table shows that only the error term is significant at 5%, with almost all the other coefficients being insignificant even at 10%. Moreover, it is obvious that the other coefficients in the short-run model bear "wrong" signs, as well. As for the magnitude of the coefficient before the error term, it is quite low, suggesting very slow adjustment of the demand for money towards its long-run equilibrium level. Indeed, the error correction term implies that less than 10% of the deviation from equilibrium is corrected in a single quarter, i.e. it takes three and a half years to restore the long-run equilibrium. This

result is in line with our explanation of Figure 1. Finally, the diagnostic tests presented in Table 5 show that our short-run model is less than satisfactory, because suffers from serial correlation and, also, the residuals are not normally distributed (although in the equation for the demand for money, we cannot reject the null of normality). Although, these weaknesses of the model should be taken seriously, still, they don't necessarily disqualify it in terms of the possibility to draw sound economic inferences. On the other hand, it is true that the above shortcomings imply opportunities for further development of the empirical model (Ericsson, 1998).

Stability of the Demand for Money

Following the estimation of both the long-run and the short-run model, in this section we address the issue of the stability of the money demand function. Specifically, we want to check whether the estimated coefficients are stable over time. In these regards, it is worth noting that parameter constancy is of critical importance in the empirical modelling of money demand, because it bears strong implications for the economic interpretation of the parameters as well as for policy evaluation across different regimes. As for the former, it is well known that in order to be relevant for the practical implementation of monetary policy, money demand needs to be stable. As for the latter, constancy of the parameters in the money demand function is a necessary condition in the evaluation of the effects of monetary policy actions across different policy regimes in the light of [21]. For precise and very useful discussion on the importance of parameter constancy in the analysis of the demand for money, see [17].

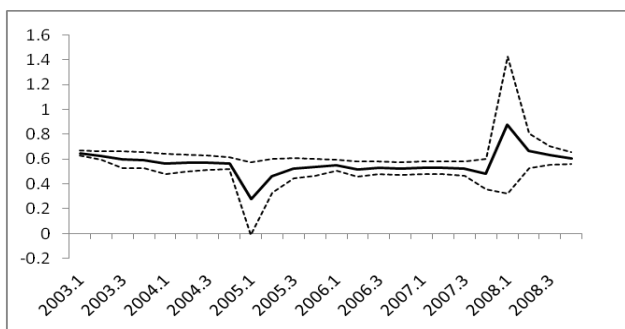


FIG. 2 RECURSIVE COEFFICIENTS OF INCOME ELASTICITY

Fig. 2 and 3 show the recursive estimates of the coefficients before real income and nominal interest rates, respectively, together with the confidence interval of ± 2 standard errors. It is striking that the

values of the coefficients remain quite stable over time, especially the coefficient before real income, which lies between 0.5 and 0.6.

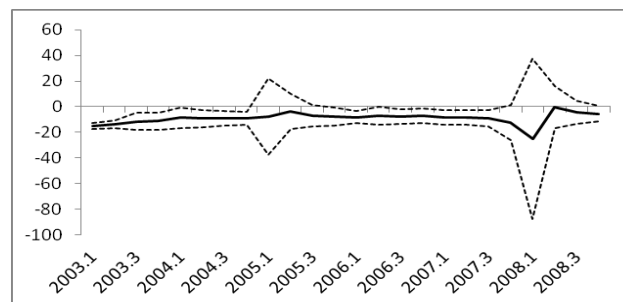


FIG. 3 RECURSIVE COEFFICIENTS OF INTEREST RATE SEMI-ELASTICITY

The stability of the coefficient before nominal interest rates is not so pronounced, since it shows much wider variations, although it usually varies between -7 and -10. In both cases, two outliers are present: one in the first quarter of 2005 and another one in the beginning of 2008. Since there's no obvious explanation for these large deviations, we treat them as random outcomes. Therefore, we take this exercise as evidence in favour of the stability of the demand for money. This finding is in contrast with the hypothesis of the alleged instability of the money demand in Macedonia, which has always been taken as a priori given, but has never been proven (or even investigated) empirically. In addition, the overall results of our study suggest that monetary aggregates might have an important role in the implementation of monetary policy within a different monetary policy framework (e.g. inflation targeting or the ECB framework).

Conclusion

In this paper, we provided an empirical analysis of the demand for narrow money in Macedonia during the post-stabilisation period, but excluding the aftermath of the Global economic crisis. Specifically, we have first estimated the long-run model and found a cointegrating relationship between real money, real income and nominal interest rates, which can be interpreted as money demand function. As for the magnitudes of the coefficients in the long-run model, we found income elasticity below unity and high interest rate semi-elasticity. Further on, we investigated the short-run dynamics of the demand for money employing the standard ECM. The error correction term appeared to be statistically significant, thus confirming the existence of the cointegration, though the estimated coefficient was very low, suggesting slow adjustment towards long-run

equilibrium. Finally, we checked for the parameter constancy and found that empirically stable money demand function could be established. Taken together, the results of our study imply that, in case the existing monetary policy strategy (exchange rate targeting) is substituted for an alternative framework (inflation targeting or ECB-style approach), narrow money might have some role in the practical implementation of monetary policy.

However, in order to be able to derive firm recommendations for policy makers, several open issues should be further investigated: First, this study deals only with the demand for narrow money, and hence, it would be interesting to analyse the demand for broader monetary aggregates, too; Second, since Macedonia is a small open economy with high degree of currency substitution, perhaps the inclusion of foreign returns in the money demand function (foreign interest rates and foreign exchange rates) might produce valuable insights; Third, though Macedonia has seen low inflation rates during the last 15 years, its previous long experience with high inflation might justify possible inclusion of inflation in the empirical model; Fourth, it could be interested to study the dynamics of the money demand within a regime-switching framework, which allows for a different behaviour in different environments (for instance, before and after the Global economic crisis); Finally, in future research, it would be useful to examine the robustness of the results across various econometric techniques and assumptions (VARs of different lag-length, alternative approaches to cointegration etc.).

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Access to Finance: Case of the Baltic States

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Abstract

The purpose of this research is by analysing financial resources availability in the three Baltic States to develop recommendations for improving access to financial services. The research methodology used in this paper starts with a literature review in order to highlight the importance of financial services availability from companies and financial market perspectives. The analysis conducted in this paper is based on data and statistics provided mainly by the Baltic States Central banks, by certain empirical studies and by the World economic forum data base. During development of the paper the generally accepted qualitative and quantitative methods of economic research were used including comparative analysis and synthesis, graphical illustration methods. To analyse access to finance is a multifaceted task, the author of the paper in this research has mostly concentrated on the main sources of finance: loans, stock markets and venture capital. The study results highlight the need to recognize that countries require sound and at the same time well-functioning financial markets. Only in this case financial markets can provide resources for investments as sound banking loans, properly regulated securities exchanges, venture capital, and other sources.

Keywords: *Access to finance; Financial market efficiency; Loans; Stock markets; Venture capital.*

Introduction

Financial markets all over the world face a number of significant and interrelated challenges that could prevent a real growth after an economic crisis as in the most advanced economies as in the developing markets as well. The remaining financial difficulties in the euro zone have led to a long-lasting sovereign debt crisis that has now reached the highest point. Scientists together with governments are looking for cooperation and management of the current economic challenges while preparing their economies to perform well in an increasingly difficult and changing environment. Financial markets activities mostly

focused on the short-term crisis management, remain critical for countries to establish the fundamentals that contribute to economic growth and development in the long run.

In the Baltic States SMEs form the largest part of companies, providing the majority of jobs. Small firms find it difficult to obtain commercial bank financing, especially long-term loans, for a number of reasons, including lack of collateral, difficulties in proving creditworthiness, small cash flows, inadequate credit history, high risk premiums, underdeveloped bank-borrower relationships and high transaction costs. This is evidenced in [1], [2], [3], [4], [5] and [6].

In particular, [7] conclude that smaller firms and firms in countries with underdeveloped financial and legal systems use less external finance, based on data from a firm-level survey in 48 countries. Additionally there exists a positive correlation between the financial market development on one hand, and the companies' access to finance, on the other hand [8].

Access to finance plays a significant role in the development of the company, while the company's development level is dependent on the availability of financial services; at the same time access to finance is dependent on the financial market development and vice versa, available financial services improve financial market efficiency. Access to finance can be analysed from different aspects:

- How available are financial services for companies and individuals in general;
- Who can afford financial services in general;
- What are the main resources of financing: loans, securities and venture capital?

Backed by solid empirical evidence, development practitioners are becoming increasingly convinced that

efficient, well-functioning financial systems are crucial in channelling funds to the most productive uses and in allocating risks to those who can best bear them, thus boosting economic growth, improving opportunities and income distribution, and reducing poverty [9], [10], [11], [12], [13], [14] and [15].

ANALYSES AND RESULTS

The author of the paper relied on “The Global Competitiveness Report” of the World Economic Forum, by assessing development of the financial markets of the Baltic States from international competitiveness perspective.

This forum has, for more than thirty years, provided detailed assessments of the productive potential of nations worldwide. The Report contributes to an understanding of the key factors that determine economic growth, helps to explain why some countries are more successful than others in raising income levels and opportunities for their respective populations, and offers policymakers and business leaders an important tool in the formulation of improved economic policies and institutional reforms.

In accordance with World Economic forum’s report financial market efficiency can be characterised by following factors:

- Availability of financial services;
- Affordability of financial services;
- Financing through local equity market;
- Ease of access to loans;
- Venture capital availability.

Factors characterising trustworthiness and confidence are:

- Soundness of banks;
- Regulation of securities exchanges;
- Legal rights index

In Fig. 1 are reflected the main determinants of financial market development in the Baltic States in accordance with World Economic forum’s report. As we can see all efficiency determinants correlate with access to finance. Analysing availability of financial services in the Baltic States in general, the author concluded that in Estonia companies and individuals have better access than in Latvia and Lithuania,

ranking Estonia in 43rd place (2012), within 45 best countries, at the same level as Slovak Republic and Czech Republic, and not far from Japan’s and Israel’s levels. Whereas Latvia’s and Lithuania’s positions are 65 and 74 respectively, placing Latvia at the same level as Jamaica and Colombia, and for Lithuania - Uganda and Zambia.

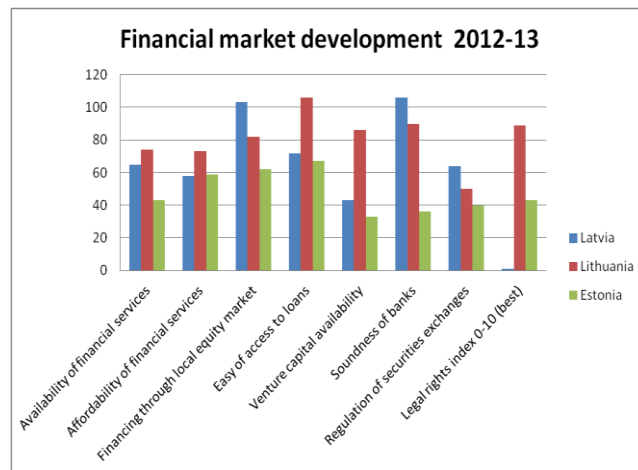


FIG.1. GLOBAL COMPETITIVENESS INDEX 2012-13 OF FINANCIAL MARKET DEVELOPMENT FOR THE BALTIC STATES (RANK/144 COUNTRIES) [16]

Whereas access to finance is significantly better in Estonia, the affordability of financial services is rather similar in the all Baltic countries, placing Latvia and Estonia in 58 and 59 places out of 144 countries, and Lithuania in 73rd place. By evaluating the positions of the Baltic States in the world countries ranks, Latvia shows an improved affordability of financial services when compared with access to services, whereas in Estonia the situation is opposite, as for Lithuania in both determinants situation is the same.

In Fig. 2. are presented the responses of companies to inquiry of the most problematic factors of doing business in the Baltic States. Access to financing was the third ranked most pressing problem faced by Latvian entrepreneurs after too high tax rates and inefficient government. For Lithuanian entrepreneurs’ access to finance was ranked as the six ranked obstacle, as they consider tax rates and tax regulations alongside with corruption and inefficient government more problematic. Access to financing was the second ranked obstacle to doing business in Estonia.

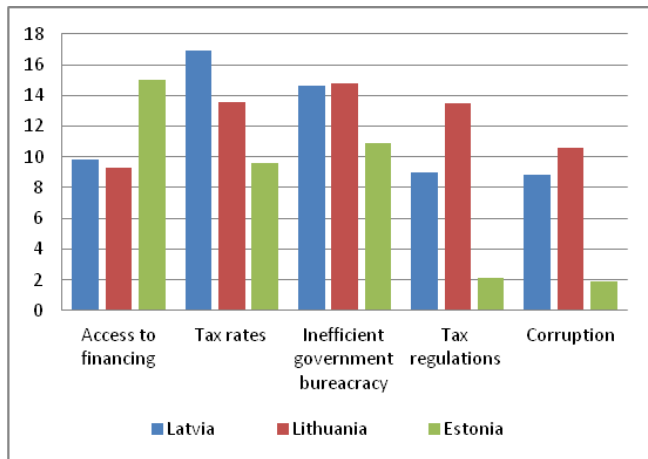


FIG. 2. THE MAIN OBSTACLES TO DOING BUSINESS IN THE BALTIC STATES 2012-2013, % [17]

Loans

The period from 2004 to 2007 was marked by buoyant growth of the Baltic States economies and banking sector, characterised by investment inflows, lending boom and a very low exposure to non-performing loans in the loan portfolios. In 2006-2007 all three Baltic States were actively working on the introduction of the euro and were trying to reduce too high inflation, for example Latvian government was forced into action to set up a working group on inflation which published an anti-inflation plan in early March 2007. As a result if in the beginning of 2006 access to loans in Lithuania and Estonia was at the same level and significantly better than in Latvia, after government reforms Latvia and Lithuania worsened their positions equally. Whereas Estonia continued to strengthen financing possibilities for companies and individuals till 2008.

Starting from the third quarter of 2008, the first signs of growing stress became apparent mainly as a result of the shrinking economic activity, drying-up lending and an ever accelerating fall in real estate prices. In the second half of the year, access to loans worsened against the background of the collapse of Lehman Brothers and the subsequent liquidity squeeze and deterioration of the external economic environment. In Latvia situation was complicated with the take-over of JSC Parex banka in 2008 and the government turning to international donors for assistance. Despite the fact that Lithuania didn't use international aid, the problems in the country were very similar to Latvia's, as a result Lithuania's access to credits was only slightly better than the Latvia's. Only starting from 2010, the situation can be assumed to normalise, yet

the high provisions ratio, significant losses of the banking sector and shrinking loans still suggest that the availability of loans remains problematic.

After 2010 Latvia showed significant improvements in crediting and almost reached the level of Estonia, at the same time in Lithuania the improvement of credit availability was moderately stable. The crisis affected Latvia's market more severely than others, as during 2 crisis years the drop of availabilities of loans was 41% compared with 38% and 35% in Lithuania and Estonia respectively.

It is interesting to compare the performance of the Baltic States as a group with other EU groups. The crisis had similar effect on all economic groups, but the effect was stronger in the Baltic region, when during 2 years the availability of loans decreased by 38%, whereas in EU-12 (Accession) and EU-15 only by 25%. The author positively values that after the crisis recovery was more dynamic in the Baltic region, when access to loans improved by 10%; at the same time in EU-12 and EU-15 it decreased by 3% and 6% respectively.

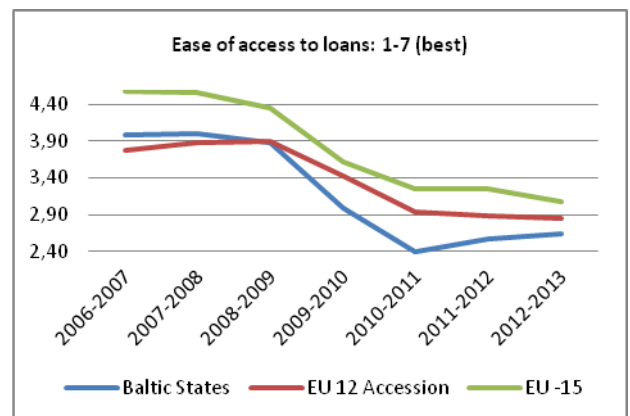


FIG. 3. EASE OF ACCESS TO LOANS FROM 2006-2013 [18], [19], [20] and [21]

Comparing the Baltic financial markets with EU-12 and EU-15 the author concluded that our markets were not as stable, as fluctuations in the access to financing are significantly higher than average for the EU (see Fig. 3).

The Doing Business getting credit indicator measures the legal rights of borrowers and lenders with respect to secured transactions through one set of indicators and the sharing of credit information through another.

The ranking on the ease of getting credit is based on the percentile rankings on its component indicators: the depth of credit information index (weighted at

37.5%) and the strength of legal rights index (weighted at 62.5%) (see Table 1).

The strength of legal rights index measures the degree to which collateral and bankruptcy laws protect the rights of borrowers and lenders and thus facilitate lending. Strong creditor rights expand the availability of loans. In Latvia, in accordance with Doing Business report, lenders have better legal protection during bankruptcy and reorganization of the debtor; they are more confident about the return of their investment in cases of default and therefore more willing to issue credits, whereas the situation in Estonia corresponds to the average level in Eastern Europe & Central Asia region. Estonia and especially Lithuania have to amend current laws, improving protection for lenders and for borrowers.

TABLE 1 RANKING ON THE EASE OF GETTING CREDIT IN THE BALTIC STATES, RANK/185 COUNTRIES [17]

	Estonia	Latvia	Lithuania	Eastern Europe & Central Asia
Getting credit (rank)	40	4	53	-
Strength of legal rights index (0-10)	7	10	5	7
Depth of credit information index (0-6)	5	5	6	5
Public registry coverage (% of adults)	0	63,8	24,4	17,3
Number of individuals		908374		
Number of firms		56993		
Private bureau coverage (% of adults)	33,4	0	81,2	29,8
Number of individuals	200 000		1 577 143	514 715
Number of firms	100 000		220 789	24 811

The depth of credit information index measures rules and practices affecting the coverage, scope and accessibility of credit information available through either a public credit registry or a private credit bureau. For regulators, credit information systems provide a powerful tool for supervising banks and monitoring credit risk and credit trends in the economy. Regulators often use information from credit bureaus to assess whether current provisioning is adequate and to analyze developments in credit markets and interest rates. The results may guide changes in the legislation governing financial institutions. Research in Argentina, Brazil and Mexico

found that credit registries played a valuable role in credit risk evaluation and in supervision, including in calculations of credit risk for capital or as a check on a bank's internal ratings [22]. In 2008 the Bank of Latvia's registry of debtors was transformed into a full-fledged credit registry. It now collects both positive and negative information on borrowers, borrower guarantors and their obligations. The registry is also able to record more precise information, such as the type of settlement of the borrower's obligations and the date on which settlement of a delayed payment is registered. And the registry expanded its coverage from 3,5% of adults in 2008 to 63,8% in 2013. In Lithuania both private bureau and public registry record the number of individuals and firms listed in registry with information on their borrowing history from the past 5 years. As a result Latvia needs to continue the started process of improving the registry of debtors, whereas Estonia has to be more active in this direction.

Securities

When a company wants to raise money, one of its first decisions is whether to do so by bank lending or by issuing bonds and shares. In the 20th century, most company finance, apart from share issues was raised by bank loans. But since about 1980 there has been an ongoing trend for disintermediation, where large and credit worthy companies have found they effectively have to pay out less in interest if they borrow from the capital markets rather than banks. The tendency for companies to borrow from capital markets instead of banks has been especially strong in the US. According to the Lena Komileva writing for *The Financial Times*, Capital Markets overtook bank lending as the leading source of long term finance in 2009 - this reflects the additional risk aversion and regulation of banks following the 2008 financial crisis [23].

However in the Baltic States financial market loans are more accessible for small and medium companies and in general bank-loans remain the main resource of financing. Capital market consists of fixed income debt securities and share market. In the Baltic States, the fixed income securities market is small by international standards, yet it has developed a versatile legislative framework and adequate institutions. Baltic fixed income securities market offers government debt securities, debt securities of joint stock companies, mortgage bonds and other

securities. Share market, the second component of capital market, plays a less significant role in the Baltic States at present than debt securities market. Baltic countries, like other EU accession countries, started with a small number of shares, all of which were offered through initial public offering. Many shares had fairly liquid trading. Gradually the number of listed companies grew. Besides those that appeared in the list through privatisation programs, there were also newly established joint-stock companies. By analysing availability of equity market (see Fig.3) one may conclude that most developed is Estonian market, than Lithuanian and in the third place Latvian. The crisis effected all countries very negatively, but recovery is more dynamic in Latvia, as a result availability of equity market worsen in Estonia by 40%, in Lithuania by 36% and in Latvia by 33%. Still Estonia and Lithuania enjoy better positions than Latvia.

To forecast future prognosis of equity market development the author compared Baltic countries with other EU-12 accession countries and old EU-15 countries (see Fig.4).

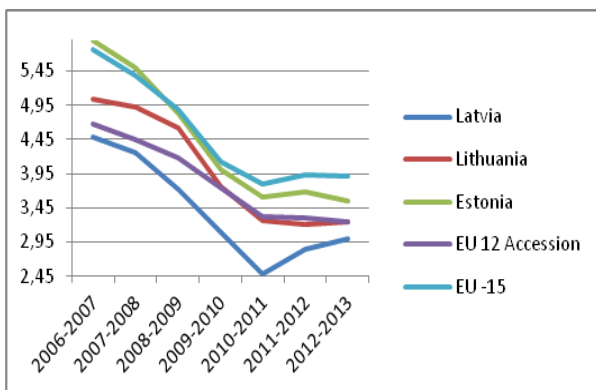


FIG.4. FINANCING THROUGH LOCAL EQUITY MARKET IN THE BALTIC STATES: 1-7(BEST) [18], [19], [20] and [21]

The situation in Estonian market had been the best, and before the crisis was even better than in EU-15, but unfortunately after the crisis the tendency remains negative, when EU-15 started to show an improvement. As for Lithuania, the Lithuanian position worsened more significantly than in other average EU-12 accession countries, but moderate improvements in recent years could be observed as a positive tendency. Availability of Latvian equity market so far was the most unstable, as a result more unattractive for potential issuers, but positive changes can be observed.

Venture capital

Venture capital (VC) is financial capital provided to early-stage, high-potential, high risk, growth start-up companies. The venture capital fund makes money by owning equity in the companies it invests in, which usually have a novel technology or business model in high technology industries, such as biotechnology, IT, software, etc. The typical venture capital investment occurs after the seed funding round as growth funding round in the interest of generating a return through an eventual realization event, such as an IPO or trade sale of the company. Venture capital is a subset of private equity. Therefore, all venture capital is private equity, but not all private equity is venture capital [24]. In addition to angel investing and other seed funding options, venture capital is attractive for new companies with limited operating history that are too small to raise capital in the public markets and have not reached the point where they are able to secure a bank loan or complete a debt offering. In exchange for the high risk that venture capitalists assume by investing in smaller and less mature companies, venture capitalists usually get significant control over company decisions, in addition to a significant portion of the company's ownership (and consequently value).

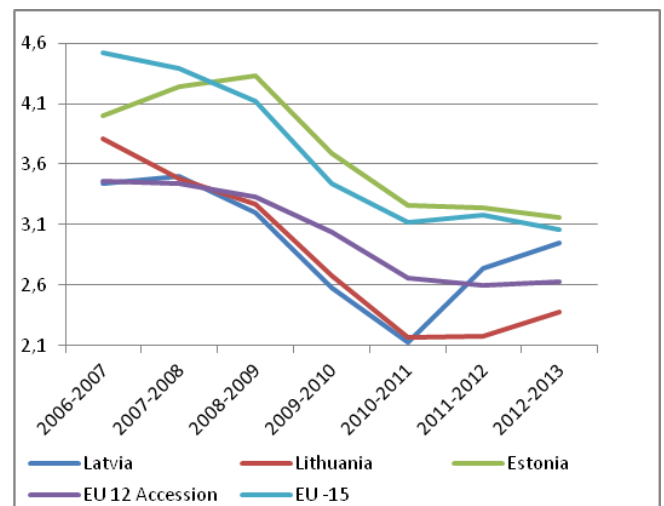


FIG 5. VENTURE CAPITAL AVAILABILITY: 1-7(BEST) [18], [19], [20] and [21]

Venture capital availability also characterises how innovative the country is. From the analysis of access to venture capital in the Baltic States the author concluded that Estonian financial market is more innovative when compared with Latvia's and Lithuania's and, what is very positive, more creative than average EU-15 markets. The crisis in general

affected negatively also this market, but it catalysed Lithuanian and Latvian markets to look for new non-traditional finance possibilities.

Conclusion

Based on the results of empirical analyses the author offers recommendations for improving the availability of financial services in the Baltic markets.

SME access to finance in the Baltic financial markets is a fundamental component of financial market efficiency and at the same time has a significant importance for the creation of new businesses, the growth and development of already existing ones, which, in their turn, foster the economic and social development of a country. Backed by solid empirical evidence, development practitioners are becoming increasingly convinced that efficient, well-functioning financial systems are crucial in channelling funds to the most productive uses and in allocating risks to those who can best bear them, thus boosting economic growth, improving opportunities and income distribution, and reducing poverty. However, most surveys emphasize that SMEs report, consistently, the access to finance as one of the most important obstacles to their functioning and development. The main caveats and directions for improvement are as follows.

First, improvement of financial market efficiency needs the revaluation of: (a) macroeconomic policy and data transparency; (b) supervision and regulation of financial intermediaries and (c) institutional and market infrastructure.

Second, macroeconomic policy and data transparency by strengthening responsibility and increasing the political risk can therefore enhance credibility. As a result companies will receive access to finance with lower borrowing costs and in general stronger support for sound macroeconomic policies by a well-informed public.

Third, in recent years the problems in financial intermediaries' sector activities have highlighted the necessity of structural reforms in this sector regulation and supervision all over the world:

- The need for greater supervisory intensity and adequate resources to deal effectively with systemically important system participants;

- The importance of applying a system-wide, macro perspective to the micro-prudential supervision of financial intermediaries to assist in identifying, analysing and taking pre-emptive action to address systemic risk;
- The increasing focus on effective crisis management, recovery and resolution measures in reducing both the probability and impact of the intermediary failures.

For Latvia the most vital improvements have to be done in equity market (from financing through local equity market perspective, and from regulation of securities exchange perspective), as well as greater intensity of supervision of banking activities in order to avoid possible bankruptcy of banks (the case of the bank "Krajbanka" bankruptcy in 2011).

For Lithuania it is essential to ease access to loans. To do that, Lithuanian government needs to amend collateral and bankruptcy laws, protecting more the rights of borrowers and lenders and thus facilitating lending. Nevertheless, rather well established registry of debtors compared to other Baltic States, was not sufficient to avoid problems in the banking sector (bank "Snoras" bankruptcy in 2011), as a result a more intensive supervision of financial intermediaries is still recommended.

As for Estonia, improvements have to be made in credit information systems, and in legal protection for lenders and borrowers.

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