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## *Managing Global Transitions* *International Research Journal*

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# *Managing Global Transitions*

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# *Is Foreign Aid Panacea for African Problems? The Case of Namibia*

Ravinder Rena

Namibia has experienced impressive growth since 21 years of independence. Current GDP growth rates, estimated at 4–5%, are fuelled mainly by the increasing competitiveness of the mining sector. Mining sector accounts for half of the national foreign exchange earnings. Low scores on capital investment and education, however, is a considerable barrier to greater economic diversification and may contribute to the poor innovation score. As a result, Namibia remains somewhat dependent on foreign aid, despite relatively high average incomes. This paper will discuss the impact of foreign aid on the Namibian economy by systematically analyzing its influence on developing countries using Namibian economy as focus reference. Fifty years since the first official development assistance (ODA) programs were instituted, the question of the effectiveness of foreign aid remains an unresolved issue. The purpose of the study is to investigate whether foreign aid is effective in helping Namibia to achieve development goals.

*Key Words:* foreign aid; African economy; Namibian economy; economic development; capital investment

*JEL Classification:* F35, H11

## **Introduction**

Foreign aid has long been a major topic of interest, both between governments and in academic studies.<sup>1</sup> Official aid is often criticized for not have contributed to economic growth and poverty reduction. Foreign aid is always presented as altruistic endeavor on the part of industrial countries, the motivate is to help the Third World nations in Africa, Asia and Latin America achieve progress and development similar to that of the North. However, the impact of foreign aid in the last half century is not impressive. If foreign aid was extended to arrest famine, disease, malnutrition, pandemics, and societal disorder, its goal has not been met and its impact is meaningless. This is particularly true with respect to Africa (Tseggai 2006).

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As foreign aid remains a major source of income for many low-income countries in Africa, it is important to consider its implications for these countries' efforts to foster economic growth. Generally, realization of development and prosperity need decades of hard work. But unfortunately, in today's developing countries especially in Africa most of the rulers and the ruled alike see development as the result only of foreign aid and donor hand-outs, rather than people's own efforts (Boone 1996; Tavares 2003). However, given its dismal development records, Africa falls short of being able to provide its people with adequate resources, to have even the basic capabilities to feed its population and prepare suitable ground for development, the need for foreign aid in these countries seems indisputable. Particularly, today, with soaring fuel and food prices, aid to Africa has even become more essential and timely (Rena 2008).

Nevertheless, this does not mean that, these African nations should submissively accept any political conditions that could open the gate for foreigners to meddle in the internal affairs of the continent as an exchange for any sort of aid. Freedom of sovereign political decision should not be compromised for any charity in the name of foreign aid. Foreign aid can only be valuable, if the recipient country benefits from it in the reduction and elimination of poverty, inequality and unemployment through promotion of work-culture. It can only be realized by bringing cultural transformation to the existing deep-rooted dependency and parasitism, through helping people to help themselves. Aid should not be considered as a principal factor for development; rather it should only be regarded as a necessary compliment to the domestic efforts nurtured by culture of self-reliance and hard work, because aid cannot be depended upon indefinitely. Besides, governments of Africa must be allowed to enjoy what international political economic theorists call 'the policy space' to determine their own trade policies, and to set their development priorities (Rena 2008). Aid can help, but it should be concentrated on countries with good macroeconomic policy and governments genuinely committed to improving public services and infrastructure, and stamping out corruption.

Some people may argue that, foreign aid rescued millions of people around the world, by boosting their economic growth and by increasing an impetus to national development. But in reality, only 16 Western European countries, which received an aid package of about \$13 billion, under the Marshall Plan during 1948–1951, and some countries in east Asia, particularly Japan, Taiwan and South Korea have been able to achieve devel-

opment due to a major role-played by a huge external aid. This situation has also its own peculiarity, both in terms of the amount given, and the way it was used, as well as the extent of political conditions attached to it (Rena 2008).

According to Cowen (2003) the Marshall Plan did not ever exceed 5 per cent of the gross national product of the recipient nations. In the case of Germany, note that we were taking more out of Germany, in the forms of reparations and occupation cost reimbursements (11 to 15 per cent of West German GNP), than we were ever putting in. Then throughout the mid-1950s, Bonn repaid half of the aid it had received. Note that German economic recovery followed from liberalization and reforms, which predated Marshall Plan aid. In 1949–1950, our Marshall Plan aid to France was roughly equivalent to French military expenditures abroad in Indochina and North Africa. Of the European nations, arguably, Belgium recovered from World War II most rapidly, and this happened before Marshall Plan aid kicked in.

Cowen (2003) further discussed that for example, at the end of World War II, the Austrian economy was one of the most desperate in Europe. Austria received high per capita aid sums, but the economy stagnated. Austria later recovered, when it improved its monetary and fiscal policies. Marshall Plan supporter Franz Nemschak wrote: ‘The radical cuts in foreign aid in the last year of the Marshall Plan and the stabilization tendencies in the world economy forced Austria to make a basic change in economic policy.’ Greece received high per capita aid as well, but had a poor recovery.

Many development economists agree that the effectiveness of America’s European Recovery Plan (Marshall Plan), by and large, was due to limited political conditions that required the recipient nations only to cooperate against communist expansion and the way that amount of money was spent. A quick survey of the Marshall Plan for instance, shows that; of the \$13 billion allotted, \$3.4 billion had been spent on imports of raw materials and semi-manufactured products; \$3.2 billion on food, and fertilizers; \$1.9 billion on machines, vehicles, and equipments; and \$1.6 billion on fuel (Rena 2008).

Moreover, the strategy followed in allocation of aid received by west Europeans, under the Marshall Plan, makes certain that Europeans were given not only aid, but also, their freedom of choice in determining their priorities in allocation of a given aid. As a result, they were able to identify their exact shortcomings and used that aid to fund appropriately the

projects intended to alleviate their real problems. But this is not case in Africa; the donors dictate the terms and conditions of the aid where it ultimately brings less result or no result (Mayer and Raimondos-Møller 1999; Collier and Dollar 2002; Masud and Yontcheva 2005; Rena 2008).

This paper discusses the impact of foreign aid on the developing countries in Africa and with a special focus on Namibian economy by systematically analyzing its influence on least developed country's (LDC) and Upper Middle Income Countries using Namibian economy as focus reference. Most Aid was first officially extended for development purposes during and after the Cold War. Fifty years since the first official development assistance (ODA) programs were instituted, the question of the effectiveness of foreign aid remains an unresolved issue. For example, Cape Verde receives the highest net ODA per capita (\$438.2); Nigeria receives the lowest (\$9.5).<sup>2</sup>

Out of all the developing countries in Africa Namibia is used as the case study of this research; however the other developing countries will be compared to the foreign aid of Namibia. This is mainly because Namibia is a small open economy, which has pursued foreign aid. The purpose of the study is to investigate whether foreign aid is effective in helping Namibia to achieve development goals. When Namibia receives aid it is used to fill the gap between savings and investment.

#### OBJECTIVES OF THE STUDY

The objectives that this study hopes to investigate are: i) Analyze whether African countries should rely on foreign aid when pursuing economic growth and development; ii) Analyze the main reasons why Namibia receives foreign aid whether there are any potential impacts the economy.

#### RESEARCH QUESTIONS

An attempt is made in this paper to highlight the features of foreign aid and how they are tailored to parallel donor's interests. In this case, the types of foreign aid extended through bilateral and multilateral protocols are discussed. Furthermore, the impact of foreign aid as can be measured by goals and achievements are also analyzed. Are there altruistic foreign aid programs specifically tailored to bring a positive change in education, health, food production, transportation and industrialization? What has been the effect of foreign aid in the African Continent? When foreign aid is not altruistic, what is the motivation? Is the motivation rational in the sense that the expected benefits are worth the cost to recipient and donor?



## RESEARCH METHODOLOGY AND DATA SOURCES

The present study is mainly based on the secondary sources of data. The data has been collected from different articles published in books, Journals, magazines, websites. The data was also collected from research books and reports. The data on Namibia was collected from the reports of the u Commission and Namibian Economic Policy Research Unit (NEPRU), books, internet, etc.

The paper has been organized into five sections. The first section deals with the introduction and the second section provides the relevant literature of the study. Namibian economy and the aid related issues are discussed in the third section. The fourth section, devoted to provide the perspectives & discussion of the study and last section provides the summary and conclusions of the study.

### Review of Literature

Recently there has been renewed interest in the reasons and effects of foreign aid. The work of Boone (1996), Burnside and Dollar (2000), and Alesina and Dollar (1998) analyses foreign aid flows for a large number of years and countries and tests a number of hypotheses concerning the effectiveness of aid, the allocation of aid between different recipient countries, the motives for giving aid, etc. These papers' results provide answers to the many questions that have been put forward in the extensive literature on the economics of foreign aid.

Boone (1996) found that aid finance is consumption rather than investment. Financing consumption of a few poor people is not so bad, but the proponents of aid hoped for the kind of society-wide transformation that would come from aid financing investment and growth. Some proponents have argued that aid could also buy time for reformers to implement painful but necessary changes in economic policies. This seems plausible but has not been systematically tested. One could try to alter the incentives to consume aid by tying transfers to purchases of investment goods, as in Bruce and Waldman (1991).

Burnside and Dollar (2000) investigated the relationship between foreign aid, economic policy, and growth of per capita GDP using a new database on foreign aid that had been developed by the World Bank. They run a number of regressions in which the dependent variable of growth rates in developing countries depend on initial per capita national income, an index that measures institutional and policy distortions, foreign

aid, and then aid interacted with policies. 'We find that aid has a positive impact on growth in developing countries with good fiscal, monetary, and trade policies but has little effect in the presence of poor policies.' They suggested that 1 per cent of gross domestic product in aid given to a poor but well-managed country could increase its growth rate by a sustained 0.5 percentage points.

Further, the empirical literature on the connections between aid and economic growth has been hampered by the lack of a clear theoretical model by which aid would influence growth, and which could pin down the empirical specification of the aid-growth relationship. For many years, the standard model used to justify aid was the 'two-gap' model of Chenery and Strout (1966). In this model, the first gap is between the amount of investment necessary to attain a certain rate of growth and the available domestic saving one between investment and saving, while the second gap is the one between import requirements for a given level of production and foreign exchange earnings. At any moment in time, one gap is binding and foreign aid fills that gap.

Easterly (2001) tested the 'financing gap' model in which aid improves investment and growth, using time series data. There are two steps in his argument. First, foreign aid needs to increase investment. Next, investment needs to increase economic growth. He further discussed that how many of these countries show a significant and positive effect of foreign aid on investment, with a coefficient greater than or equal to one? There are 88 aid recipient countries on which we have data spanning the period 1965-1995.

First, Easterly (2001) considers a regression done for each country where the dependent variable here is Investment/GDP and the independent variable is Overseas Development Assistance ODA/GDP. If aid increases investment, then the coefficient on this regression should be positive and greater than or equal to one. Just six of the 88 countries pass this test. The magic six include two economies with trivial amounts of aid: Hong Kong (which got an average of .07 per cent of GDP in aid 1965-1995) and China (average of 0.2 per cent of GDP). The other four countries are Tunisia, Morocco, Malta, and Sri Lanka.

In the next step Easterly (2001) run a regression for each country where the dependent variable is the growth rate and the independent variable is the rate of investment. The coefficient from this regression can then be checked to see whether it falls into the plausible range for the incremental capital-output ratio of between 2 and 5. Using annual data, four countries

out of 88 pass the tests of a positive and significant relationship between growth and investment, a constant not significantly different than zero, and an ICOR between 2 and 5. The four economies that pass the tests are an unusual assortment: Israel, Liberia, Reunion (a French colony), and Tunisia (see also Easterly and Ross 1997).

According to Easterly (2001) 'One of the more extreme cases of the 87 out of 88 countries that did not fit the model was Zambia. If Zambia had converted all the aid it received since 1960 to investment and all of that investment to growth, it would have had a per capita GDP of about \$20,000 by the early 1990s. Instead, Zambia's per capita GDP in the early 1990s was lower than it had been in 1960, hovering under \$500.'

The 'financing gap' model in which aid increases investment and then that investment increases economic growth has dubious theoretical foundations and numerous empirical failings. Yet no other model of aid and growth has arisen to take its place. The financing gap model continues to be used today in the World Bank and other institutions making aid policy (Easterly 1999).

According to Bräutigam and Knack (2004) aid dependence cannot be directly measured, so they used a proxy that reflects 'aid intensity' – net aid flows as a percentage of gross domestic product (GDP) and aid as a percentage of government expenditure. In 1980, 13 sub-Saharan countries were receiving net aid (aid inflows minus principal repayments) at levels above 10% of GDP, by 1990, that figure had more than doubled, to 30 countries. In 1998, 21 countries continued to receive aid at that level. Almost all of them had been net recipients of aid flows at 10% of GDP for 10 years or more. In a number of countries such as Malawi, Ghana, and Zambia, aid has funded more than 40% of government expenditures, on average, for nearly 20 years (Bräutigam and Knack 2004).

Arellano et al. (2009) investigated in the case of Ivory Coast and found that as aid increases, it becomes an increasingly dominant influence on economic developments in the model economy. For example, the correlation coefficient between aid and GDP increases to 0.6 when aid is equivalent to 20% of GDP relative to the 0.2 correlation in the benchmark model. We observe similar shifts along the aid continuum in the relationship between aid and tradable output (a stronger negative relationship) and non-tradable prices (a stronger positive relationship). Higher aid levels can also rationalize a positive relationship observed in the data between non-tradable prices and GDP because higher aid levels increase both variables. The correlation between GDP and the non-tradable rel-

ative price when aid inflows are on average 20% of GDP is equal to 0.4 (as compared to  $-0.7$  with aid equal to 0% of GDP). Higher aid inflows also increase the volatility of all variables in the economy. Consumption volatility increases from 11% to 15% relative to the benchmark model when aid flows are increased to 20% of GDP. Investment and aggregate output also become much more volatile with higher aid flows. Finally, the relative price of non-tradables is three times as volatile (12% compared with 4%) when aid flows are 20% of GDP relative to the benchmark. Our results show that aid volatility is especially costly for economies that receive large aid inflows.

On the contrary, researchers like Moyo (2009a, 2009b), Rena (2008) concluded that aid had no substantial impact on growth, savings or investment. Aid was shown to increase unproductive public consumption (Mosley 1992). Aid is misallocated (donors give aid for strategic reasons to the wrong recipients), aid is misused (recipient governments pursue non-developmental agendas) and GDP growth is not achieved (Lensink and White 2001). Most of the foreign aid Namibia receives is very specialized and when the donors pull out of the project they fall apart as Namibia does not have the technical capability to continue the projects. Excessive foreign aid also leads to the recipient country being too dependent on the donor's country, which may lead to the infant effect on the economy or misappropriation of funds (corruption). El Shibly (1984) by using Sudan as a laboratory test ground acknowledged that foreign capital neither boosted economic growth nor abridges the gap between savings and investment.

According to Chenery and Strout (1966), developing countries face constraints on savings and export earnings that hamper investment and economic growth. Aid flows are meant to fill the gap between investment needs and domestic savings, but this study faced severe criticism virtually since its origin. Foreign aid is important to developing countries (LDCs) and lower-middle income countries such as Namibia, because it is used to face their economic and social challenges' namely: poverty, HIV/AIDS, malaria and other communicable diseases, unequal distribution of income, inadequate economic growth, high level of unemployment, human resource development and inadequate capacity.

More than \$50 billion of foreign aid is given to African countries every year to address poverty on the continent. Although this may seem generous, and to some a solid strategy to treat Africa's ailments, Dambisa Moyo – a Zambian economist with a background that includes Harvard,

Oxford and Goldman Sachs – says just the opposite. In her new book, *Dead Aid: Why Aid is Not Working and How There is Another Way for Africa*, Moyo claims that foreign aid has been ‘an unmitigated political, economic and humanitarian disaster.’ However, Moyo stated that although she is not completely against humanitarian aid, she doesn’t believe ‘charity-based aid’ can provide long-term sustainable development for Africa. Her biggest issue is with ‘government-to-government aid,’ and funds from large monetary institutions like the World Bank. Moyo says the \$60 trillion of this aid that has been given in the past 60 years is not working, evident from the fact that the number of Africans who live on less than \$1 day has doubled in the last 20 years. In addition, most foreign government aid, she argues, has been pocketed by corrupt politicians.

Moyo further vowed that foreign aid actually increases the risk of civil conflict. People will take up arms to be in power because ‘the victor gains virtually unfettered access to the package of aid that comes with it.’ Further, Moyo said in an interview with the *New York Times*, trade, foreign investments and microfinance opportunities can provide a better future for Africans.

Several other researchers also addressed the problem of aid and economic development. According to Bandow (2002) foreign aid has failed despite the best efforts of many dedicated professionals. Bandow supported his claim by using African countries that received aid in 1970 and 1995, The United Nations Development Program reported in 1996 that 70 developing countries were poorer then than they were in 1980; 43 were poorer than they were in 1970. Bandow argument is supported by Dambisa Moyo (2009a) also advocated that Limitless development assistance to African governments has fostered dependency, encourage corruption and ultimately perpetuate poor governance and poverty, foreign aid helps perpetuate the cycle of poverty and hinders economic growth in Africa.

Is a voluntary transfer of resources from one country to another, given at least partly with the objective of benefiting the recipient country? It may have other functions as well it may be given as a sign of diplomatic approval, or to strengthen a military ally, to reward a government for behavior desired by the donor, to extend the donors cultural influence, to provide infrastructure needed by the donor for resource extraction from the recipient country, or to gain other kinds of commercial access. Humanitarianism and altruism are nevertheless, significant motivations for

giving of aid. Aid may be by individuals, private organizations, or governments.

#### PERSPECTIVES AND CRITICISM ON MOYO'S AID PHILOSOPHY

As expected, Dambisa Moyo's claims have raised serious criticism. In an interview with *Newsweek*, ONE Campaign co-founder Jamie Drummond says 'Dead Aid' is 'a poor polemic, with nothing new of substance, filled with anecdotal micro examples which ignore mountains of evidence.' Madeleine Bunting from the *Guardian* calls Moyo's claims 'poorly argued' with 'frequent pre-emptory glib conclusions.'

As Sharma (2009) quoted, Moyo blames 'government-to-government aid' and 'large developmental organizations' like the World Bank, rather than charity-based aid for Africa's worsening situation. She says funds from governments and the bank have not contributed to development and in many cases are misused.

Sharma (2009) also stated that according to Laura Miller, Mercy Corps, 'the main objective of bilateral aid isn't always humanitarian relief; it's also used to help strengthen fragile or strategic states and improve trade relations with the West. Money from the World Bank is often geared more towards large infrastructure projects such as water systems and road networks. Usually the recipient government is responsible for managing funds given by the World Bank. Some countries' governments are more transparent and provide more oversight over aid money than others.'

Moyo does question the value of 'charity-based aid,' too. She says it might help after a disaster, but says it only provides 'band-aid solutions' and can't be the 'platform for long-term sustainable growth.' Her example is giving a young African girl a scholarship even though she's unlikely to find a job after finishing school. Even if Moyo is correct that after receiving an education it may be difficult for graduates to find work, education is still important, and aid agencies such as Mercy Corps are working to help strengthen economic opportunities, although humanitarian agencies cannot help everyone.

#### Namibian Case Study

##### PROFILE OF THE COUNTRY

Republic of Namibia is a country in Southern Africa with an area of 825,418 km<sup>2</sup>. Namibia is the world's thirty-fourth largest country (after Venezuela). Namibia's western border is the Atlantic Ocean. It shares land borders with Angola and Zambia to the north, Botswana to the east and

South Africa to the south and east. It gained independence from South Africa on 21 March 1990, following the Namibian War of Independence. Its capital and largest city is Windhoek. Namibia is divided into 13 regions and subdivided into 107 constituencies and a stable multi-party parliamentary democracy (CIA 2012).

Agriculture, herding, tourism and the mining industry – including mining for gem diamonds, uranium, gold, silver, and base metals form the backbone of Namibia's economy. The economy is tied closely to South Africa's due to their shared history. The largest economic sectors are mining (10.4% of the gross domestic product in 2009), agriculture (5.0%), manufacturing (13.5%), and tourism. Namibia's nominal GDP (2010 estimate) – total \$11.865 billion and the Per capita \$5,651. However, according to 2003 estimates the Gini-coefficient rate 0.66 (highest in the world and the Human Development Index of Namibia is registered to be 0.606 (105th out of 174 countries) in 2010 (CIA 2012). Namibia has a population of 2.4 million people out of which little more than 50% (51.2%) people are unemployed and the nation has suffered heavily from the effects of HIV/AIDS, with more than 15% of the adult population infected with HIV in 2007 (Republic of Namibia 2008).

Paradoxically based on per capita income, Namibia has moved from lower middle country to the list of Upper Middle Income Countries by April 2011 by the World Bank. However, the fact is approximately half the population lives below the international poverty line of US \$1.25 a day. With this background, Namibia therefore receives foreign aid (Rena 2010; NPC 2011; CIA 2012). Although, Namibia has experienced impressive growth since its independence, but the growth rate was slowed down since 2005 and shown a negative growth of 0.8 percent in 2009. However, GDP growth rates, estimated in 2010 at 4–5%, are expected to fuel mainly by the increasing competitiveness of the mining sector (as indicated by relative movements in price levels). Mining accounts for half of national foreign exchange earnings. Low scores on capital investment and education, however, is a considerable barrier to greater economic diversification and may contribute to the poor innovation score (NPC 2007). As a result, Namibia remains somewhat dependent on foreign aid, despite relatively high average incomes. As stated earlier that Namibia was classified as upper middle-income country (UMC) by the World Bank but the ground reality in the country is different and more than 50 percent of the people are unemployed and large portion of people living below poverty line. Further, due to legacies of its colonial and apartheid history

Namibia has one of the most unequal distributions of income and wealth in the world (NPC 2011).

The country also faces a number of other economic and social challenges, including poverty, the HIV/AIDS pandemic inadequate economic growth, high levels of unemployment, inadequate capacity, and low levels of industrialization, which also require additional resources. Given the vulnerability of the economy to the unpredictability in international financial markets, increased grant aid and concessional loans are the appropriate means with which the international community should assist Namibia (Blaauw, Oranje, and Schade 1998). 'Aid for Trade' and Technical Assistance (TA), should be provided, sustainable, and aligned to national development plans and strategies.

However, the aid flows have continued to decline steadily from US \$110 per capita in the 1990s to US \$60 per capita in 2005. In addition, the number of bilateral donors active in Namibia declined from 22 in the 1990s to 17 in 2006. Furthermore, donor assistance in the form of technical assistance (TA) and other areas is not as enthusiastic and effective as it should be. Thus, there is an urgent need to analyze and identify the ways in which the donor community should effectively assist.<sup>3</sup>

Namibia has been benefitted from the foreign aid for more than 2 decades, it is also clear evidence that without donor aid Namibia cannot sufficiently stimulate local enterprise and development, trigger off foreign investment and create working opportunities for jobless people in the country. The secret of success for an optimized donor aid is that Namibia has to go for a stimulation of its economy without getting to high debts. It has been the general opinion of the people in Namibia that aid should be given without any strings attached to it and further the Vicious Donor Aid/Debt Circle has to be broken so that the aid can support the economy to grow. Therefore at this point of time, Namibia cannot be better-off without foreign aid.

### **Discussion**

In 2002 at the Monterrey Consensus of the International Conference on Financing for Development highlighted the importance of increasing international finance and technical cooperation for development. This was followed by the initiatives of Multilateral Financial Institutions (MFIs) and the Development Assistance Committee of the Organization for Economic Cooperation and Development (OECD-DAC) to enhance and ensure the effective and efficient use of foreign aid.



The Monterrey conference was followed by the Paris Declaration (2005) that advocated for (i) harmonization of donor operational policies and procedures to reduce the transaction cost on aid recipient countries; (ii) alignment of aid to recipient country development priorities and plans as articulated in National Development Plans; and (iii) Mutual (donor and recipient) accountability for the results.

The Declaration also contained twelve indicators and targets, among which is the reiteration of the need for the donor countries to fulfill their commitment to provide 0.7% of their Gross National Income (GNI) as aid to developing countries.

Foreign aid or (development assistance) is often regarded as being too much, or wasted on corrupt recipient governments despite any good intentions from donor countries. In reality, both the quantity and quality of aid have been poor and donor nations have not been held to account.

Further, in 1970, the world's rich countries agreed to give 0.7% of their gross national income as official international development aid (IDA), annually. Since that time, despite billions given each year, rich nations have rarely met their actual promised targets (Hadjimichael et al. 1995). For example, the US is often the largest donor in dollar terms, but ranks amongst the lowest in terms of meeting the stated 0.7% target. Whereas the small countries like Luxemburg, Switzerland, Norway, Sweden met their promises.

Furthermore, aid has often come with a price of its own for the developing nations (Shah 2012): (i) aid is often wasted on conditions that the recipient must use overpriced goods and services from donor countries; (ii) most aid does not actually go to the poorest who would need it the most; (iii) aid amounts are dwarfed by rich country protectionism that denies market access for poor country products, while rich nations use aid as a lever to open poor country markets to their products; and (iv) large projects or massive grand strategies often fail to help the vulnerable; money can often be embezzled away.

As Rena (2008) argued that the aid should not be seen as the panacea to all African countries' problems. Instead, they must be allowed to trade its way out of poverty through utilizing its own resources, by reinforcing its participation in international trade. For example, currently, the African continent accounts less than 4% of the global trade. But a further 1 per cent increase in trade from Africa would be the equivalent of five times the amount of aid the continent currently receives. Therefore, Africans have to sort out their weakness and work to remedy them by developing

good policies which help to effectively use foreign aid in line with domestic resources (Rena 2008).

The aid should be 'acceptable,' so long as it represents an injection of resources into the national economy that enables investment, and hence growth. At the same time 'it should not be acceptable' with any sort of criteria that may undermine freedom of sovereign political decisions, or as a means to foster dependency rather than self-reliance (Rena 2008).

Moyo (2009a) observed that in 2002, the African Union (AU), an organization of African nations, estimated that corruption was costing the continent \$150 billion a year, as international donors were apparently turning a blind eye to the simple fact that aid money was inadvertently fueling graft. With few or no strings attached, it has been all too easy for the funds to be used for anything, save the developmental purpose for which they were intended.

In Ethiopia, where aid constitutes more than 80% of the government budget, a mere 2% of the country's population has access to mobile phones (the African country average is around 30%). Might it not be preferable for the government to earn money by selling its mobile phone license, thereby generating much-needed development income and also providing its citizens with telephone service that could, in turn, spur economic activity?

There is a classic example, how the Aid is destabilizing the domestic small and medium scale enterprises in Africa, for example, there is a mosquito-net maker in small-town Africa. Say he employs 10 people who together manufacture 500 nets a week. Typically, these 10 employees support upward of 15 relatives each. A Western government-inspired program generously supplies the affected region with 100,000 free mosquito nets. This promptly puts the mosquito net manufacturer out of business, and now his 10 employees can no longer support their 150 dependents. In a couple of years, most of the donated nets will be torn and useless, but now there is no mosquito net maker to go to. The people will have depended more on aid and subsequently, the African governments once again get to abdicate their responsibilities.

In a similar vein has been the approach to food aid, which historically has done little to support the African farmers. Under the auspices of the US Food for Peace program, each year millions of dollars are used to buy American-grown food that has to then be shipped across oceans. One wonders how a system of flooding foreign markets with American food, which puts local farmers out of business, actually helps better Africa. A better strategy would be to use aid money to buy food from farmers

within the country, and then distribute that food to the local citizens in need (Moya 2009b).

Africa remains the most unstable continent in the world, beset by civil conflicts and war. Since 1996, 33 out of 55 countries in Africa have been embroiled in civil wars directly or indirectly. According to the Stockholm International Peace Research Institute, in the 1990s, Africa had more wars than the rest of the world combined. Africa's tragedy has been well known for a while now. Every African nation in crisis, from brutal civil wars in Sudan, Angola, and Chad, not to mention Rwanda's genocide and the recent carnage in the Democratic Republic of the Congo, Somalia to Liberia has received billions of dollars from the West in the form of foreign aid but still today nearly fifty percent of the their population lives on less than \$2.5 a day. In July 2005, the G-8 agreed to double foreign aid to Africa, from \$25 billion a year to \$50 billion to finance the 'big push,' as well as to forgive the African aid loans contracted during previous attempts at a 'big push' (Rena 2008).

Moyo (2009a) argued that the proponents of aid are quick to argue that then \$13 billion aid of the post-World War II Marshall Plan helped pull back a broken Europe from the brink of an economic abyss, and that aid could work, and would work, if Africa had a good policy environment. The aid advocates skirt over the point that the Marshall Plan interventions were short, sharp and finite, unlike the open-ended commitments which imbue governments with a sense of entitlement rather than encouraging innovation. And aid supporters spend little time addressing the mystery of why a country in good working order would seek aid rather than other, better forms of financing. No country has ever achieved economic success by depending on aid to the degree that many African countries do. Further, economically successful countries such as China and India, and Namibian neighbors like South Africa and Botswana. Their strategy of development finance emphasizes the important role of entrepreneurship and markets over a staid aid-system of development that preaches handouts. This is the time for Africa especially emerging country Namibia to exercise maximum discipline on how it manages its foreign aid. India, China, the West and other emerging powers are also trying to provide aid to Africa to serve the people in Africa and also serve their own interests.

### **Conclusion**

To conclude that there is encouraging evidence that countries with good track records of macroeconomic management, as well as good gover-

nance, do better at development, whether measured as growth, literacy, or infant mortality. Aid is more likely to have its intended impact where governance and policy provide a solid foundation for development. The task for the international community and aid-dependent countries alike is to respond to the challenge of weak states by providing incentives for good governance rather than the incentives for poor governance inherent in the present system.

In line with this, Governments in Africa need to attract more foreign direct investment by creating attractive tax structures and reducing the red tape and complex regulations for businesses. There is a dire need that the African nations should also focus on increasing trade within Africa and rest of the world especially China is one promising partner. Besides, the Western countries can help by cutting off the cycle of giving something for nothing. It is time for a change towards development. It is extremely important to support the local economy because too much dependence on foreign aid can crush the local economy, and it's not sustainable in the long run. Material aid is appropriate when goods cannot be procured locally. Some organizations use a social marketing approach; instead of distributing goods for free, goods are sold through existing markets, which ensures that this cycle can continue over the long term.

Indeed, many of Moyo's solutions can help development in Africa, but it's important to focus on all levels of society: the household level, the community level and the institutional level. As a matter of fact, we should not deny the honest contributions made by some NGOs that focused on economic development and provided an impetus for in the upliftment of the socio-economic development of Africa. However, with the aid, there is a need to promote demand-driven development, link producers with markets, and foster entrepreneurship among the local population that may bring sustainable development in the second largest and resource rich continent.

All developing countries in Africa including Namibia (being a upper middle income country) need foreign aid, without any preconditions. For example, the donor country should not decide on what kind of projects and issues a given foreign aid is spent. Furthermore, donors usually never offer a large sum of aid in cash that would possibly help to cover the requirements of the recipient country in budget deficit, or to fund an import of necessary machineries and other essential raw materials like; fuel, food and other commodities etc. Moreover, their decisions often give more consideration to their national interests represented in terms of politi-

cal or economic conditions, rather than to the real needs of the recipient countries in Africa. Therefore, foreign aid in Africa has become controversial. It is therefore strongly argued that the foreign aid is important but not a panacea for the African economic development. Finally, it is believed that, 'do not give a fish to the people but teach them how to get the fish.' This will virtually stimulate the trade and development and subsequently reduce dependency of foreign aid.

### Notes

- 1 This article is revised version of the paper presented at the 8th African Finance Journal Conference on the theme 'Essential Development Finance Research for Africa's Development' held 14–15 April 2011 at Safari Hotel, Windhoek, Namibia.
- 2 Please refer to <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/0,,contentMDK:20563739menuPK:1613741pagePK:146736piPK:14683otheSitePK:258644,00.html>
- 3 Available at [www.npc.gov.na](http://www.npc.gov.na) (International Conference on Development Cooperation with Middle Income Countries (MICs), Madrid, Spain, 1–2 March 2007).

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# *Environmental Management Practices and Firm Performance in a South African Mining Firm*

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This paper examines the impact of environmental management practices on the financial performance of a South African mining firm. The major aim of this paper is to investigate whether such practices have a close relationship with the mining firm's financial performance (represented by return on equity [ROE]). The approach is a case study of a South African mining firm listed under the socially responsible index (SRI) of the Johannesburg Stock Exchange (JSE). It uses Green-Steel SA (pseudonym used in place of the real name) as a case study. Using multiple regression statistics, the return on equity of Green-Steel SA is regressed on three environmental management practices of Green-Steel (carbon reduction, energy efficiency, and water usage). The result shows there is no significant relationship between the variables and this lends credence to information gathered from Green-Steel environmental reports that Green-Steel's environmental management practices are driven mostly by a desire to abide by regulations and also by a moral obligation to use environmental management practices to mitigate climate change impact.

*Key Words:* environmental management practices; environmental management; mining firms; financial performance; return on equity  
*JEL Classification:* M11, M41

## **Introduction**

There are contemporary environmental and ecological problems faced by mining firms within the communities in which they operate (Evangelinos and Oku 2006; Garvin et al. 2009; Mutti et al. 2010). This has often resulted in corporate reactive measures to settle environmental problems

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created in communities or to clean the environment (Garvin et al. 2009). However, firms require proactive environmental management practices (EMP) to curtail the occurrence of environmental problems. South Africa is one of the emerging economies in which ensuing rapid growth has been accompanied by environmental degradation (Shaw 2012). Consequently, mining firms have been criticised for apparent environmental neglect that contributes to climate change in Africa (Shaw 2012).

The problem that warrants this study is that there is little prior research evidence regarding environmental management practices (EMP) [carbon emission reduction, energy efficiency and efficiency in water usage] and their effect on firm financial performance (represented in this study by Return on Equity [ROE]) of mining firms in the Republic of South Africa. But an overview of mining firms in South Africa indicates that these firms have begun to integrate environmental management practices as part of corporate strategy. Hence, this study attempts to bridge this research gap and thus proceeds to determine whether the environmental management practices of a South African mining firm (Green Steel South Africa) are related to its financial performance (ROE).

Drawing from the above problem, this paper will attempt to answer the following questions: Could carbon emission reduction affect a firm's return on equity; can energy efficiency affect a firm's return on equity; and, can efficiency in water usage affect firm's return on equity. Accordingly, the objectives of this study are: to evaluate the likely effect of carbon emission reduction on firm's return on equity; to examine the likely effect of energy efficiency on firm's return on equity; and, to evaluate the likely effect of efficiency in water usage on firm's return on equity. Thus to provide answers to the above questions and objectives, three hypotheses are presented and analysed in the analysis section.

The paper is organised as follows: the next section after this introduction presents the literature review and hypotheses development, methodology, the results and discussions, the limitations and lastly, the conclusion.

## Literature Review

### CONCEPTUAL FRAMEWORK

The concept of environmental management practices (EMP) has been on the agenda of the corporate world since a series of significant events in the sustainability arena; the Bruntland Report (1987), the Earth summit

in Rio de Janeiro, Brazil in 1992, the World summit on Sustainable Development (WSSD) in Johannesburg in 2002 and the Earth summit 2012 in Rio de Janeiro, Brazil. In various literature, the term environmental management practices (EMP) has been interchangeably used with corporate environmental responsibility (CER), corporate environmental management (CEM), corporate environmental engagement (CEE) and corporate social responsibility (CSR). Montabon, Sroufe, and Narasimhan (2007) defined environmental management practices (EMP) in their paper as the techniques, policies and procedures a firm uses that are targeted at monitoring and controlling the impact of its operations on the natural environment. Whilst there may be many aspects of environmental management practices, as can be noted from the literature (Evangelinos and Oku 2006; Montabon, Sroufe, and Narasimhan 2007; Liu et al. 2010), in this research, environmental management practices (EMP) refers to the action taken by mining firms to remedy environmental pollution vis-à-vis carbon emission reduction, efficient energy use and efficient water usage.

#### RETURN ON EQUITY

Return on equity (ROE) has been defined and conceptualised differently by various authors and researchers. Investopedia ([www.investopedia.com](http://www.investopedia.com)) defines ROE as 'the amount of net income returned as a percentage of shareholders' equity.' It is further stated that ROE 'measures a firm's profitability by revealing how much profit a firm generates with the money invested by shareholders.' Teitelbaum, McDonald, and Brown (1996) defined ROE as profits divided by the shareholders' equity and stated that it is a useful tool for investors to measure managerial performance in the firms. Vigarío (2005, 237) stated that the ROE shows how much of the profit generated by the company belongs to the shareholders. He further alluded to the fact that shareholders are always expectant of increases in this measure as it has a direct impact on their investments. ROE has been used in similar research internationally such as that by Tsoutsoura (2004) and Moneva and Ortas (2010). This study shall use return on equity (ROE) to measure firm performance. This is because stakeholders are believed to be interested ultimately in their equity and thus concerned about corporate engagements such as environmental management practices that may make it grow (Artiach et al. 2010).

Recent research in developed countries has established a linkage between ROE and firms' environmental management practices (Moneva and Ortas 2010). But no research has employed ROE and environmental

management practices in the Republic of South Africa. However, this has become important because contemporary research has indicated that equity holders (investors) may influence the environmental management practices of their firm (Azapagic 2004; Jenkins and Yakovleva 2006; Sumiani, Haslinda, and Lehmann 2007). The use of ROE in this research would bridge the existing gap in literature as no previous research in South Africa has used this variable. There are many variables that may affect return on equity such as profit margin, asset turnover and leverage ratio (Teitelbaum, McDonald, and Brown 1996). Other factors include industry, firm size and operational risk (Ullmann 1985; Tsoutsoura 2004). However, the strong variables that affect ROE, which are also used in determining the level of ROE, are net income and shareholders' equity (Singapurwoko and El-Wahid 2011); and these are therefore employed as control variables in this paper.

#### RELATED PREVIOUS RESEARCH LITERATURE AND DEVELOPMENT OF HYPOTHESES

Previous research findings identify various factors in determining a positive relationship between environmental management practices and firm performance. Thus, some find that the financial rewards of engaging in environmental management practices outweigh the costs involved in the long run (McGuire, Sundgren, and Schneeweis 1988; Barnett 2007) and investing in environmental management practices may result in improved relationships with stakeholders such as local communities, lenders and governments. Similarly, other findings hold that environmental management investment results in improved firm performance by managing stakeholders (Artiach et al. 2010). Another perspective, also known as the resource view, suggests that firms that invest in environmental management practices experience increased resources (Alexander and Buchholz 1978; Waddock and Graves 1997; Clarkson et al. 2011; Artiach et al. 2010). Montabon, Sroufe, and Narasimhan (2007) in their paper examined the relationship between environmental management practices and firm performance. They established that a significant and positive relationship exists between environmental management practices and measures of firm performance.

Previous studies (Evangelinos and Oku 2006; Lee 2012) found that the level of corporate apathy towards environmental responsibility is high. In contrast, other researchers have engaged in discovering the drivers of corporate environmental responsibility (Lee and Hutchinson 2005; Set-

thasakko 2007; Zhang et al. 2008; Artiach et al. 2010). Amongst other reasons, it has been found that financial performance tends to motivate firms to embark on environmental management practices (McGuire, Sundgren, and Schneeweis 1988; Barnett 2007; Artiach et al. 2010). However, these studies were conducted overseas. Environmental related research in South Africa (De Villiers and Barnard 2000; Antonites and De Villiers 2003; De Villiers 2003; Hamann 2004; Mitchell and Hill 2010) has focused more on disclosure, but none of these earlier studies looked into the effect of mining firms' environmental management practices (EMP) on return on equity in the Republic of South Africa. Hence, this research has become important to fill this gap and, in doing so; add to existing literature on environmental management practices and firm financial performance from a South African perspective.

Assumptions have been made that environmental management practices and firm performance are unrelated and have nothing in common (Slater and Gilbert 2004). Most of the existing literature on environmental management practices has focused on the relationship between corporate sustainability performance, corporate financial performance and the quality of environmental management reports (Al-Tuwaijji et al. 2004). Over the years, different hypotheses have emerged from researchers aimed at addressing the relationship between corporate environmental performance and firm performance. These hypotheses suggest a negative, neutral or positive relationship between the aforementioned variables (Artiach et al. 2010).

One perspective states that there is a negative relationship between the two variables as reported in previous studies (Alexander and Bucholz 1978; Aupperle, Carroll, and Hatfield 1985; McGuire, Sundgren, and Schneeweis 1988; Barnett 2007; Becchetti, Di Giacomo, and Pinnachio 2005; Cho and Patten 2007; Artiach et al. 2010). A common reason found to cause such a negative relationship is the costs involved in adopting more environmentally friendly practices which results in resource distribution away from investors to external stakeholders such as local communities (Aupperle, Carroll, and Hatfield 1985; McGuire, Sundgren, and Schneeweis 1988; Barnett 2007; Artiach et al. 2010).

Another view suggests that environmental management practices and firm performance have no association (Ullmann 1985; Artiach et al. 2010). The argument raised here is that this relationship is difficult to ascertain due to the possibilities of numerous intervening influences which pose a challenge for control. This, coupled with inadequate theoretical support,

was deemed to be too much for anyone to expect a relationship between environmental management practices and firm performance (Artiach et al. 2010). A more recent suggestion to explain the lack of relationship found in previous studies is failure on the part of early researchers to control for firm size and industry (Paten 2002; De Villiers and Van Staden 2011). However, contrary to these negative findings, other researchers maintain that environmental management practices and firm performance are positively associated (Alexander and Bucholz 1978; Waddock and Graves 1997; Al-Tuwaiji et al. 2004; Barnett 2007; Clarkson et al. 2008; 2011; Artiach et al. 2010).

Klassen and McLaughlin (1996) proposed a theoretical model aimed at establishing a linkage between strong environmental management and improved future financial performance. Using empirical methods, Klassen and McLaughlin (1996) discovered that significant positive financial returns were measured for strong environmental management while significant negative financial returns were measured for weak environmental management. King and Lenox (2001) investigated whether a causal relationship existed between firm's environmental management practices and firm financial performance. The main thrust of their study was to test whether other underlying firm attributes had a direct effect on this relationship. Applying empirical methods, King and Lenox (2001) discovered that a link existed between a measure of environmental management practices and firm financial performance, but failed to illustrate the direction of this linkage. Wingard and Vorster (2001) carried out an in-depth examination on the financial performance of environmentally responsible South African listed companies. Using correlation analysis, they argued that a positive relationship existed between the environmental responsibility and financial performance of South African listed companies. Salama (2005) used regression analysis to measure the impact of environmental performance on financial performance. The findings showed that a positive relationship existed between environmental performance and firm financial performance.

Horváthová (2010) argued that the inconclusiveness of results regarding the impact of environmental performance on financial performance was due to underlying factors. The results of her study showed that the probability of obtaining a negative association between environmental management practices and financial performance drastically increases when using correlation coefficients while the use of panel data techniques and multiple regressions had a neutral effect on the outcomes.

Yang, Hong, and Modi (2011) studied the impact of lean manufacturing and environmental management on business performance. Within this study, environmental management practices were measured against market and financial performance and Yang, Hong, and Modi (2011) discovered that a negative relationship existed between the two variables.

Hart and Ahuja (1996) studied the relationship between emissions reduction and firm financial performance. They found that, using return on equity as one of their variables, a relationship between emissions reduction and return on equity could only be partially confirmed. In their work, Delmas and Nairn-Birch (2010) examined the impact of greenhouse gas emissions (GHG) on firm financial performance. Interestingly, their findings indicated that increasing carbon emissions resulted in a positive impact on firm financial performance when employing accounting based measures of financial performance, while the same linkage was negative when using market-based measures of firm financial performance. Iwata and Okada (2011) carried out a comprehensive study on the impact of carbon emissions on firm financial performance. They examined this relationship in Japanese manufacturing firms for a five-year period. They employed return on equity as one of their measures of firm financial performance and discovered that carbon emission reductions increase long-run firm financial performance. From the preceding literature, we therefore present the following first hypothesis of this paper:

*H<sub>1</sub> Carbon emission reduction affects firm's return on equity.*

Furthermore, other extant researches have specifically looked at the relationship between energy efficiency, water efficiency and firm financial performance. Soyka and Powers (2002) studied the effects of energy efficiency on corporate profitability performance. They found evidence suggesting that energy efficient strategies create remarkable new corporate wealth. They also discovered that investments in energy saving programs by firms used in their study resulted in statistically significant positive impacts on their operating margins. Pons et al. (2013) explored the impact of energy efficient technologies on a manufacturing firm's financial performance. Their findings showed that the adoption of energy efficient technologies had on meaningful impact on the firms' financial performance.

Wagner et al. (2002) and Wagner (2005) explored the relationship between environmental and economic performance. Energy and water usage was used as one of the variables. Using empirical methods, the results

showed no significant relationship between environmental and financial variables. On the other hand, in their study, Oberholzer and Prinsloo (2011), used GHG emission, water usage, and energy usage as environmental variables and found that gold mining firms did not realise economic gain from efficient use of their environmental variables. Drawing from the above therefore, we state the following hypotheses:

- H<sub>2</sub> *Energy efficiency affects a firm's return on equity.*
- H<sub>3</sub> *Efficiency in water usage affects a firm's return on equity.*

### **Methodology**

This paper evaluates the impact of environmental management practices on financial performance of a South African mining firm (Green-Steel South Africa) and data has been collected from Green-Steel South Africa (real name withheld for reasons of commercial confidentiality). Green-Steel SA is among the South African mining firms that have positioned environmental concern as an important component of corporate strategy. Green-Steel SA has embraced various environmental management practices to enhance natural resource efficiency and to reduce negative impact on the environment. Some of the environmental management practices of Green-Steel SA include inter alia, water efficiency, energy efficiency and carbon emission reduction. Green Steel SA is a leading steel producer and can be categorised as a large firm based on the total workforce employed and annual turnover.

### **SAMPLE**

The Company used as sample in this paper is drawn from the nine JSE SRI 2011 listed mining firms. Mining firms were used in this study as they are ranked as high impact firms with regards to environmental management practices in this index. This paper has used only one mining firm – Green-Steel (a pseudo name in place of the real name) for the analysis as this was the only firm that had related environmental data (used in this analysis) available to the public domain for the periods examined.

### **DATA COLLECTION**

Data on return on equity and environmental management practices were gathered from the various annual and sustainability reports of Green-Steel for the time periods under study. In this paper, environmental management practices (EMP) constitute the independent variables and are



represented by carbon emission reduction (CE), energy usage (EU) and water usage (WU). As captured from the firm's environmental data; carbon emissions reduction is measured in metric tonnes of CO<sub>2</sub> equivalent (mt CO<sub>2</sub>e); energy usage is measured in Giga Joules per tonne (Gj/t); and, water usage is measured in kilo litres per tonne (kl/t). On the other hand, the dependent variable is return on equity (ROE) is a percentage. This data in its entirety has been obtained from the environmental data of Green-Steel SA.

Thus the regression equation may be stated as follows:

$$y = a + b_1x_1 + b_2x_2 + b_3x_3, \tag{1}$$

Where  $y$  = return on equity (ROE);  $x_1$  = carbon emission reduction (CE);  $x_2$  = energy usage (EU);  $x_3$  = water usage (WU);  $a$  = intercept and  $b$  = slope.

Hypotheses restated here:

H<sub>10</sub> *Carbon emission reduction affects firm's return on equity in Green Steel SA.*

H<sub>11</sub> *Carbon emission reduction does not affect firm's return on equity in Green Steel SA.*

H<sub>20</sub> *Energy efficiency affects a firm's return on equity in Green Steel SA.*

H<sub>21</sub> *Energy efficiency does not affect a firm's return on equity in Green Steel SA.*

H<sub>30</sub> *Efficiency in water usage affects a firm's return on equity in Green Steel SA.*

H<sub>31</sub> *Efficiency in water usage does not affect a firm's return on equity in Green Steel SA.*

The data has been analysed using the regression function in Microsoft excel. Using the multiple regression statistics at 0.05 significant levels, the return on equity of Green-Steel SA over a period of nine years is regressed on three environmental management practices (carbon reduction [CE], energy usage [EU], and water usage [WU]) of Green-Steel SA.

#### CONTROL VARIABLES

Return on equity (ROE) is normally affected by variables such as profit margin ratio, assets turnover and the assets to equity ratio (equity multiplier) (Brigham and Ehrhardt 2005; Singapurwoko and El-Wahid 2011). There are two common variables used to compute these three ratios; these are net income and shareholders' equity (Singapurwoko and El-Wahid

TABLE 1 Multicollinearity test results

Item	ROE	CE	EU	WU
ROE	1			
CE	-0,646150	1		
EU	0,480805	-0,079070	1	
WU	-0,115480	0,301078	0,390650	1

2011). For the purpose of this study, these two variables are used as control variables in the regression analysis.

### MULTICOLLINEARITY

To enhance the validity of the regression, a co-linearity test using excel was performed. The results are shown in table 1.

According to Analysights (2010), perfect correlation results in a figure of 1.00 while no correlation results in 0.00. Therefore results closer to 1.00 means multicollinearity is present while the opposite result means multicollinearity is not present (Analysights 2010). From the table, as expected, each independent variable is perfectly correlated with itself with a result of 1.00. However, the correlations between the dependent and independent variables are listed below:

$$\rho_{x_1y} = -0.65$$

$$\rho_{x_2y} = 0.48$$

$$\rho_{x_3y} = -0.12$$

The Greek letter  $\rho$  is used to represent correlation (Analysights 2010). The variables represented are  $y = \text{ROE}$ ;  $x_1 = \text{CE}$ ;  $x_2 = \text{EU}$ ;  $x_3 = \text{WU}$ .

Furthermore, the correlations between the three independent variables CE, EU and WU are:

$$\rho_{x_1x_2} = -0.08$$

$$\rho_{x_1x_3} = 0.30$$

$$\rho_{x_2x_3} = 0.39$$

The above test shows a strong correlation between ROE and CE, a slightly weak correlation between ROE and EU and a weak correlation between ROE and WU. Therefore, between the dependent variable ROE and the independent variables CE, EU and WU, the co-linearity is spurious. However the co-linearity between the independent variables CE, EU and WU indicates a weak correlation as the results are inclined towards

0.00. In conclusion, based on the findings of the test, it can be concluded that co-linearity is not present in the model.

### **Results and Discussion**

From the analysis, the results indicate (table 2) a significant level of 15% (which is above 5%) with an adjusted  $R^2$  of 38%. This therefore shows that there is no significant relationship existing between Green-Steel environmental management practices and its return on equity; hence we reject the three null hypotheses and accept the alternative hypotheses that: carbon emission reduction does not affect firm's return on equity in Green Steel SA; energy efficiency does not affect a firm's return on equity in Green Steel SA; and, efficiency in water usage does not affect a firm's return on equity in Green Steel SA. This finding is contrary to previous research by Cohen, Fenn, and Naimon (1995) and Hart and Ahuja (1996) that find a positive relationship between environmental management practices and return on equity.

Further analysis incorporating the control variables shareholders' equity and net income, indicates a significant relationship (table 3), but close scrutiny of the significance levels of individual independent variables shows that this positive significance level is caused by the presence of non-environmental variables – the control variables – shareholders' equity and the net income respectively. The environmental variables remain insignificant, thus indicating that in this evaluation, they do not constitute a causative factor on ROE in Green Steel South Africa.

Some researchers have concluded that financial performance may drive firms' environmental management practices. However, the lack of a significant relationship, as evidenced in this analysis, indicates that Green-Steel's environmental management practices may not be driven by potential financial value to the firm or shareholders' return on equity. This leaves one to question what major factors drive the Green-Steel environmental proclivity.

Information obtained from financial and sustainability reports of Green-Steel South Africa does not portray financial motive as a driving force for Green-Steel environmental management practices; it shows that Green-Steel's environmental management practices are rooted in its concern to meet growing environmental demands and comply with regulations. Additionally, it is also encouraging to note that Green-Steel SA emphasizes that environmental management practice is a moral obligation on the part of the company.

TABLE 2 Regression results without control variables

Regression Statistics		Anova		df	SS	MS	F	Sig. F
Multiple R	0,7854607	Regression	3	1034,574769	344,858260	2,684359	0,157433	
R <sup>2</sup>	0,6169486	Residual	5	642,347453	128,469490			
Adjusted R <sup>2</sup>	0,3871177	Total	8	1676,922222				
Standard error	11,334438							
Observations	9							

  

	Coefficients	Standard error	t-statistics	p-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	-68,730048	76,191347	-0,902072	0,408370	-264,586142	127,126046	-264,586142	127,126046
CE	-9,336743	4,908317	-1,902229	0,115532	-21,953974	3,280488	-21,953974	3,280488
EU	5,504764	3,472157	1,585402	0,173731	-3,420700	14,430228	-3,420700	14,430228
WU	-4,086447	9,691663	-0,421646	0,690798	-28,999661	20,826767	-28,999661	20,826767

TABLE 3 Regression result incorporating the control variables

Regression Statistics		Anova		df	SS	MS	F	Sig. F
Multiple R	0,993715	Regression	5	1655,909413	331,181883	47,282857	0,004709	
R <sup>2</sup>	0,987469	Residual	3	21,012809	7,004270			
Adjusted R <sup>2</sup>	0,966585	Total	8	1676,922222				
Standard error	2,646558							
Observations	9							

  

	Coefficients	Standard error	t-statistics	p-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	18,702258	21,157710	0,883945	0,441824	-48,631019	86,035535	-48,631019	86,035535
CE	0,159895	1,631731	0,097991	0,928120	-5,033001	5,352791	-5,033001	5,352791
EU	0,301807	1,090624	0,276729	0,799959	-3,169046	3,772660	-3,169046	3,772660
WU	-0,207197	2,306277	-0,089841	0,934076	-7,546800	7,132405	-7,546800	7,132405
SE	-0,001139	0,000295	-3,867708	0,030574	-0,002077	-0,000202	-0,002077	-0,000202
NI	0,004728	0,000502	9,417771	0,002537	0,003130	0,006325	0,003130	0,006325

### **Limitations**

This study used only one company because it was difficult to collect data on firms' environmental management practices given that firms have only recently commenced adopting these voluntary practices; hence, lack of disclosed data for prior years that could allow for an extended time series regression. As such, the paper did not test for auto correlation due to the limited number of observations, and could not use more than once company. It is hoped that similar research may be repeated in the near future when more environmental data have been made available and with more companies involved.

### **Conclusion**

This paper examined the effect of the environmental management practices of a South African mining firm (Green-Steel South Africa) on financial performance (represented in this research by return on equity). The study used Green-Steel South Africa for the study and, employing regression statistics, return on equity is regressed on three environmental management practices. Given that previous research results indicate mixed findings – some find negative relationship between environmental management practices, whilst others find positive relationship; this paper thus hypothesised that environmental management practices (carbon emission reduction, energy efficiency and water efficiency) affects return on equity (ROE) in Green Steel SA. However contrary to some previous research that has found a positive relationship between environmental management practices and return on equity (Cohen, Fenn, and Naimon 1995; Hart and Ahuja 1996), our analysis shows no significant relationship between the environmental management practices and the ROE of Green-Steel; hence our hypotheses were rejected.

This leads us to a conjecture that other factors apart from impact on equity may be driving Green-Steel's environmental practices. Information obtained from the company reports shows that Green-Steel's environmental management practices are spurred by moral obligation to mitigate climate change impact and by a desire to meet growing environmental regulations. The paper concludes that it may not be in all cases that firms' environmental management practices are driven by financial motive and, that firms may still possess the moral and ethical obligation to curb negative climate impact and to respect environmental regulations. The paper therefore offers an agenda for further research on the impact

of regulations and ethics on corporate environmental management practices in developing economies.

This finding has implication for industry and academia. For the industry; it shows that firms may eschew their desire for immediate financial profit and pursue environmental ethics to enhance corporate resiliency and thus future profitability. For the academia; this study may assist to expand theoretical knowledge beyond the long-held view that the sole aim of every business activity is for profit; thus further research becomes apposite to examine the factors - financial or ethics, that motivate environmental practices in other sectors of South African firms.

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# *India's Leather and Manufactures Export in the Scenario of WTO: An Analysis Trend and Structural Shift*

Shrabanti Maity

Trade is considered as the engine of growth. For a developing country like India trade plays an important role for achieving the target of sustainable development. One of the major export articles for India is leather and leather manufactures (India accounts for approximately two percent of the world trade). So it will be prudent in this light to check the present status of India's leather and manufactures export.

In this paper author has considered the problems of the Indian Leather Industry and has suggested the possible solution to these problems. Author has used Poirier's (1974) spline function approach to estimate the growth rate of leather and leather manufactures export during pre- and post-WTO period. Instability in export earnings is measured by using Cuddy-Della Valle (1978) index.

*Key Words:* leather and leather manufactures export; Poirier's spline function approach; Cuddy-Della Valle Index; pre- and post-WTO phase

*JEL Classification:* Q17, Q13

## **Overview**

### **INTRODUCTION**

India is recognized as one of the fastest growing countries in the world and in the world economy trade always plays an important role for achieving the target of higher rate of growth. In fact the importance of trade is so much that it is recognized as an 'engine of growth.' In this light it is important to analyse the performance of any country in world market, particularly for a developing country like India. Once India was mainly the exporter of agricultural and allied products but after independence, India has become the exporter of agricultural and allied products as well as industrial and manufacturing products. Particularly after the trade openness there were massive changes in the export structure of India. After the WTO agreement the trade structure of India had changed significantly.

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The major exported articles for India have now become manufactured goods, gems and jewellery, handicrafts. Among the manufactured goods, the most important are leather and leather manufactures, engineering goods and textile and textile products. So it will be prudent to analyse the effect of WTO on the export of leather and manufactures.

#### RATIONALE OF STUDY

India accounts for approximately two percent of the world trade in leather and leather products. In order to have a first track growth in the international business India's Council for Leather Export (CLE) has taken a number of initiatives. For achieving this objective an action plan has been chalked out by the miracle trios, namely, The Central Leather Research Institute (CLRT), the Fashion Technology and Development Institute (FTDI) and CLE. The action plan has not only taken care of the growing international demand but also suggested measures to face Indian leather industry's major competitors in Asia, like, China, Indonesia, Korea and Taiwan. At the same time, CLE is trying to make a dent in new markers. Focus countries include the Latin American countries, Israel and Japan. Japan is the fifth largest importer of leather and leather products in the world. CLE aims at raising India's share in Japan's total import of leather and leather products. Italy is yet another favoured export destination for Indian leather industry. Through joint ventures with Indian companies, CLE has helped bring in Italian leather footwear manufacturers to set up export production bases in India. India is the second largest footwear producer in the world. It accounts for 20% of India's total export of leather and leather products. Major markets include the UK, USA, Germany, Italy, France, Netherlands, Canada, Sweden and Russia. Around 64% footwear exported from India goes to UK, USA and Germany.

The Indian leather industry is the 8th largest foreign exchange earner and has constantly been upgrading structure of its exports from raw hides and skin to value added products and is presently achieving 80% of total exports in finished leather products. The footwear segment is the pride of India's leather industry, and is ranked second in the world next to China. Record shows 60% increase in India's footwear production in the last five years. India mainly concentrated on gents' footwear production rather than women's footwear in case of footwear production. From April–February 2008–2009 the export of leather and leather products touched US \$3337.33 million against US \$3248.73 million in the corresponding period of last year. But like any other industry of India leather

industry also suffers from some problems. The export of leather and leather goods touched \$1.24 billion in 2007–2008, went down to \$959 million in 2008–2009 and is expected to further reduce to \$833 million in 2009–2010, showing a reduction of \$407 million in two years. The falls in exports were 21.39% during 2008–2009 and 18% in 2009–2010. The export of leather decreased 7.57%, leather garments declined 12.53%, leather gloves 37% and export of other leather products declined to about 31.60%. Presently, the leather industry is facing several problems such as:

1. Government failed to make a strategy to keep balance between the demand for livestock product for the citizens and for industry and exporters. As the number of animals did not increase to meet the domestic demand, the Government allowed export of animals, and thus smuggling of livestock is also going on.
2. The main reasons for the decline in export are increase in cost of production, high bank rate and law and order situation. The skin supply has also reduced to 20%. Leather exports declined from \$1.24 billion in 2007–2008 to \$900 million in 2009–2010. Export of sausage casings, made from animal intestines, earned \$25 million to \$30 million per annum, is also reducing, due to decreasing livestock availability.
3. The tanning industry also faced the problem of funds because the funds allocated under the Strategic Trade Policy Frame Work (STPF) 2009–2012 and notified under Trade Policy 2009–2010 were not being released.

India's export of leather and leather goods have increased over the last five years. Exports rose from \$1.88 billion in 2002–2003 to \$3.48 billion in 2007–2008, showing an annual growth rate of 11.91%. But in 2008 the growth rate decreased to 1.5% with exports adding up to just \$3.53 billion in 2008–2009. The target for 2009–2010 was fixed at \$4 billion, but with the huge cancellation of orders especially from the US and EU which are the top markets it is feared that there would be a 25% fall in export. Beside this, India projected an export target at \$5 billion for 2011–2012 and of \$7 billion for 2013–2014, with domestic sales of \$5 billion. In fact, leather is the eighth largest foreign exchange earner for India.

Indian leather industry is moving towards an unprecedented crisis with the slowdown of global economy. The leather export sector which witnessed a growth 20 percent in the first half of 2009 got dented by the global slowdown in the subsequent months. The main reason behind this was the decline in orders from western markets, mainly, the US and UK.

The two biggest markets for Indian leather export firms are US and European Union, which stand at 65 percent and 25 percent respectively in terms of India's export share of leather products.

The post-liberalization era has opened up enough opportunities for the Indian leather industry. India's share in the global trade in leather is around 3 percent and that of China is 20 percent. The government of India has also been making significant effort to promote rapid advancement of the industry. With generous export earnings, employment potential, and growth rate, the Indian leather industry turns out as the 10th largest sector among the Indian manufacturing sector. The Leather Industry in India occupies a significant place in Indian economy. Leather and its products were amongst the top ten export earners for the country and is the 10th largest among the Indian manufacturing sector. The major production clusters of the industry are Kanpur, Agra, Kolkata and Chennai and it mainly organized as tanning and finishing. Under such circumstances it will be prudent to analyse the present status of Indian leather and manufactures export.

#### OBJECTIVES OF THE STUDY

This paper intends to study the relation between changes in the policy regimes during period from 1987–1988 to 2005–2006 and export growth of leather and manufactures of India. This paper makes an attempt to provide a comprehensive analysis of the trends in India's external trade in leather and manufactures. Again the signing of the Final Act of the Uruguay Round by member nations of GATT in April 1994 paved the way for the setting up of the World Trade Organization. An agreement to this effect was signed by 104 members and India was among them. The WTO agreement came into force from January 1, 1995. Thus this paper intends to study the effect of WTO on India's export of leather and leather manufactures to the other country as well as on total export of manufactured goods. Accordingly, the perceived objectives of the study are as follows:

- To examine the trends in external trade in leather and manufactures.
- To estimate the growth rate of leather and manufactures export during pre-WTO and post-WTO period.
- To compare the growth rate of leather and manufactures export with total exports of agricultural and allied products.
- To estimate the product and market concentrations in the external trade.

- Finally, to highlights policy options emerging from study.

The paper is organized so as to investigate each objective in turn. Namely, after a short survey of the literature in section 2, we present data and methodology in section 3. Section 4 outlines analysis of estimated results. Section 5 concludes.

### **Some Major Empirical Works: Related Literature**

In this broad conceptual background, this paper makes an attempt to provide a comprehensive analysis of India's tea export in the scenario of trade openness. A considerable number of studies have attempted to explain empirically the nature of relationship between economic growth and export instability.

Chand and Tiwari (1991) estimated growth and instability of Indian exports and imports of agricultural commodities. Talwar (2002) estimated the instabilities of export earnings of selected groups and selected commodities and all the commodities from the period 1974–1975 to 1989–1990. Goyal, Pandey, and Singh (2000) examined the magnitude, causes and effects of instability of agricultural export earnings of India for the period 1979 to 1989. The analysis of the effects of export earnings instability on economic growth of developing countries has long interested economists for several reasons (Aiello 1999a).

A considerable number of studies have attempted to explain empirically the exact nature of the relationship between economic growths and export instability. Mac Bean (1966), Knudsen and Parnes (1975), Lam (1980), Knudsen and Yotopoulos (1976), Yotopoulos and Nugent (1976), and Saovides (1984) find a positive relationship between export instability and economic growth of a country. Whereas Coppock (1962) and Ozler and Harringan (1988) find a negative relationship between export instability and economic growth. Finally, Cristian (1983) and Sinha (1999) find no relationship between export instability an economic growth. Pi-ana (2001) explained that balance of trade that is the difference between exports and imports of a country is clearly the first to be influenced by export dynamics.

Alag (2002), Singh and Goyal (2005), and Asopa (2008) in their articles focused on the competitiveness of tea trade in the World and highlights the importance of Indian tea industry. Dutta (2007) in his article investigated about the strengths and weaknesses of Indian tea industry. He also suggested several policy prescriptions for increasing the export

of tea from India. Aiello (1999b) pointed out another reason for the attention development economists have devoted to this line of research is the fact that policy makers, despite the uncertainty surrounding the theoretical framework on this issue, have joined forces with that part of the academic world, which sees instability of earnings from exports as a serious problems. Hicks (2009) in his article discussed about the current status of the global tea production. At the same time he also discussed about the future development of global tea production and tea products.

In an interview in *Business Standard* (2008), Zackria Sait, Chairman of the Indian Finished Leather Manufactures and Exporters Association, accused global slowdown for 20 percent fall in the order volume of leather from India in 2008. Habib Hussain, Chairman Council for Leather Exports, mentioned that Indian leather industry needed a long term project for the all round development of Indian leather industry (Gupta 2009).

Sabir (2010) discussed several reasons for the decline in the exports leather and leather goods from India to different countries. In his article he also mentioned the weaknesses as well as the strengths of the Indian leather industry and also made several recommendations for the long term development of the Indian leather industry.

Talwar (2010) in his article gave an overview of Indian leather industry. He discussed about the employment opportunities, growth aspects, strength, weaknesses etc. of the Indian leather exports as well as about Indian leather industry. At the end he proposed some strategies for the development of leather industry.

Kumar (2010) in his article mentioned several reasons in liberalization era especially after 2008–2009. According to him global financial meltdown is responsible for this. He also suggested several measures for recovery from this situation. An article by Adhikary and Maity (2010) followed the same method for explaining the trend in the change in the rate of growth of tea export from India by dividing the entire study period into two regimes. Keeping all these studies in mind author now returns back to the said objectives. Finally, like any other research work author will also indicate the line of the future research.

## Data and Methodology

### DATA

This study is exclusively based on secondary data. The analysis is based on the data for the 19 years period (1987–1988 to 2005–2006) on the value



of exports of leather and leather manufactures and the data were collected from 'Hand Book of Statistics on Indian Economy'. For the comparative analysis the 9 years period from 1987–1988 to 1995–1996 considered as the pre WTO phase where as the 10 years period from 1996–1997 to 2005–2006 represents the post-WTO phase. We consider 1987–1988 to 1995–1996 as Regime 1 and 1996–97 to 2005–2006 as Regime 2.

**METHODOLOGY**

*Growth Rate*

In order to derive a more realistic assessment of the trends, nominal values of leather and manufactures-export in US million dollars are taken. Following Poirier's (1974) spline function approach, the trend in the growth of several variables of interest is looked into for different regimes. Assuming a linear time trend, the postulated model is

$$\begin{aligned} \text{Regime 1: } \ln Y_t &= \alpha_1 + \beta_1 t + u_t \text{ for } 1987-1988 < t \leq 1995-1996 \\ \text{Regime 2: } \ln Y_t &= \alpha_2 + \beta_2 t + u_t \text{ for } 1995-1996 < t \leq 2005-2006 \end{aligned} \quad (1)$$

Let us define the following variables:

$$w_{1t} = t; \quad w_{2t} = \begin{cases} 0 & \text{if } t \leq 1995-1996 \\ t - 1995 & \text{if } 1995-1996 < t \end{cases}, \quad (2)$$

and reparameterise the function as:

$$\ln Y_t = \alpha_1 + \delta_1 w_{1t} + \delta_2 w_{2t} + u_t, \quad (3)$$

The expression  $[\exp(\beta_i) - 1] \cdot 100$  will yield the percentage growth rate for the *i*-th regime

(*i* = 1, 2), where  $\beta_1 = \delta_1$  and  $\beta_2 = \delta_1 + \delta_2$ . Equation (3) will be used to compute the growth rates of desired variables for different regimes. The variables that capture the growth rates in the period prior to and posterior to WTO are  $w_{1t}$  and  $w_{2t}$  respectively.

The growth rate for the entire period 1987–1988 to 2005–2006 will be computed by using the equation as

$$\ln Y_t = \alpha + \beta_t + U_t. \quad (4)$$

*Measurement of Instability*

This section looks at the measures used to evaluate the export earning and instability in the quantity Indian tea exported abroad. Author uses here

Cuddy-Della Valle (1978) index of instability to measure the instability in export earnings. The Cuddy-Della Valle index is defined as

$$I_x = cv \sqrt{1 - \bar{R}^2}, \quad (5)$$

where  $cv$  is the coefficient of variation and  $\bar{R}^2$  is the corrected or the adjusted coefficient of multiple determination of the trend function that best fits the series of export earnings. If  $F$ -test is significant at 5 percent level, the index is calculated by selecting trend function (linear or log linear) having the highest  $\bar{R}^2$ . If  $\bar{R}^2 < 0$ , then unadjusted  $R^2$  is chosen.

### *Stationarity*

For the purpose of estimation it is required that data should be stationary. Otherwise the estimators will not be reliable for prediction and policy prescription. Thus author feels that test of stationarity of the time series data used in for the analysis is necessary. Therefore author has used the 'Phillips Perron' non-parametric test to test the presence of unit root in the time series data and the hypothesis of absence of unit root or non-stationarity has been accepted at 5 percent level.

### **Result and Discussion**

In this section author will empirically analyze the research result. All the tables are estimated from the secondary data on exports of leather and leather manufactures and the used methodology has already been explained in section three.

#### EXTERNAL TRADE OF COFFEE

First we will consider the salient features of external trade of leather from India to different countries during the 19-year periods. Table 1 illustrates the following points:

- The percentage share of leather export in the total export shows a declining trend at times and an increasing trend at other times. From 1987–1988 to 1989–1990 the leather exports show a decreasing trend, again during 1991–1992 to 1993–1994 also shows a declining trend.
- 1994–1995 is the period in which maximum percentage share value was obtained.
- No trend can be fitted for the subsequent years. In other words during 1995–1996 to 2005–2006 we would not be able to find out any

TABLE 1

Export of leather and manufactures	Year	(1)	(2)	(3)
	1987-1988	964.4	8195.1	11.768
NOTES Column headings are as follows: (1) export value of leather and manufactures, (2) total value of export of manufactured products, (3) value of leather and manufactures (export as % of total exports of manufactured products). Author's own calculations based on different issues of the <i>Handbook of Statistics on the Indian Economy</i> ( <a href="http://dbie.rbi.org.in">http://dbie.rbi.org.in</a> ).	1988-1989	1051.0	10110.3	10.395
	1989-1990	1171.5	11971.5	9.786
	1990-1991	1449.2	12996.4	11.151
	1991-1992	1268.8	13148.4	9.650
	1992-1993	1277.5	14038.8	9.100
	1993-1994	1299.5	16656.7	7.802
	1994-1995	1610.6	10404.4	15.480
	1995-1996	1752.2	23747.0	7.397
	1996-1997	1605.8	24613.4	6.524
	1997-1998	1657.7	26546.6	6.244
	1998-1999	1660.7	2579.5	6.439
	1999-2000	1590.2	29714.4	5.352
	2000-2001	1944.4	34335.2	5.663
	2001-2002	1910.1	33369.7	5.724
	2002-2003	1848.3	40244.5	4.593
	2003-2004	2163.0	48492.1	4.461
	2004-2005	2421.6	60730.7	3.987
	2005-2006	2623.8	71815.7	3.654

trend in the percentage share of the export of leather of the total export of manufactured goods.

Next in our analysis we will consider the mean value of the exports of leather and manufactures from India to different countries and we will also consider the consistency of the export of leather and manufactures from India to different countries during the study period.

#### MEAN AND CONSISTENCY OF LEATHER AND LEATHER MANUFACTURES EXPORTS

The discussion of the mean and consistency of leather and leather manufactures is done in table 2. Table 2 provides the mean level of exports and consistency in the level of exports of leather and leather items by India in different years. The mean value of exports of leather and leather manufactures from India shows a wide fluctuation. The table shows the average exports of leather and leather products was lowest in the year

TABLE 2  
Exports of leather and man-  
ufactures in different years  
(from India to different coun-  
tries) (USD million)

NOTES Column headings  
are as follows: (1) mean, (2)  
standard deviation, (3) co-  
efficient of variation. Au-  
thor's own calculations  
based on different issues  
of the *Handbook of Statis-  
tics on the Indian Economy*  
(<http://dbie.rbi.org.in>).

Year	Export of leather and manufactures		
	(2)	(3)	(4)
1987–1988	87.673	68.857	78.538
1988–1989	95.555	77.055	80.639
1989–1990	106.500	85.216	80.015
1990–1991	131.736	109.543	83.153
1991–1992	115.345	90.147	78.154
1992–1993	116.136	93.794	80.762
1993–1994	118.127	106.868	90.469
1994–1995	146.427	126.120	86.132
1995–1996	159.291	135.590	85.121
1996–1997	145.973	126.596	86.726
1997–1998	150.609	120.550	80.042
1998–1999	150.982	122.888	81.393
1999–2000	144.573	115.758	80.069
2000–2001	176.745	131.413	74.352
2001–2002	173.655	127.515	73.430
2002–2003	168.054	119.647	71.196
2003–2004	196.645	141.846	72.133
2004–2005	220.136	165.308	75.094
2005–2006	237.809	180.287	75.812

1987–1988. From 1987–1988 it shows more or less an increasing trend up to 1995–1996. Then it shows fluctuating trend up to 2002–2003. After that the average export of leather and leather products from India to world market increases. From the table it follows that the highest average leather and leather products export was obtained in the year 2005–2006, but what is important is that two years after the WTO agreement the exports of leather and leather products started to show raising trend. Lower the value of CV, more consistent will be the result. Table 2 reveals that the value of CVs is very high which indicates inconsistency in the value of export of leather and leather products. The highest value of CV is obtained for the year 1993–1994, whereas the lowest value of CV is obtained for 2002–2003. What is important is that in the post-WTO phase the export of leather and leather products shows more consistency than in the pre WTO phase.

TABLE 3 Export of leather and manufactures and share of export of leather and manufactures in total export of manufactured products to different countries from India (USD million)

Country	(1)	(2)	(3)	(4)	(5)	(6)
France	81.405	24.560	30.170	4.941	0.491	9.937
Germany	313.490	54.186	17.285	19.779	3.837	19.399
Hong Kong	87.226	75.690	86.775	4.687	2.865	61.127
Italy	192.305	60.759	31.595	11.561	1.340	11.591
Netherland	40.095	18.369	45.814	2.328	0.551	23.668
Portugal	25.126	9.369	37.288	1.494	0.285	19.076
Russia	68.979	67.456	97.801	5.448	6.217	114.115
Spain	68.911	55.976	81.229	3.681	2.129	57.838
UK	204.042	62.942	30.848	12.293	1.425	11.592
USA	237.847	63.583	26.733	14.553	2.502	17.192
Other	325.926	131.996	40.499	19.217	2.480	12.905

NOTES Export of leather and manufactures from India to different countries: (1) mean, (2) standard deviation, (3) coefficient of variation; Share of export of leather and manufactures in total export of manufactured goods: (4) mean, (5) standard deviation, (6) coefficient of variation. Author's own calculations based on different issues of the *Handbook of Statistics on the Indian Economy* (<http://dbie.rbi.org.in>).

Next we consider table 3, in which we have considered the mean and consistency of export of leather and manufactures from India to different countries. This table also provides the mean level of export and consistency of the country wise share of export of leather and manufactures in total export of India. It reveals that the average value of export of leather and manufactures from India to other countries varies widely from one country to the other. The highest average value of leather and manufactures export from India is obtained in the case of Germany and the cv of leather and leather manufactures export for Germany is 17.285 percent (the lowest cv in the table). On the other hand the smallest average value of leather and leather manufactures export is obtained for Portugal and cv is 37.288 percent that is not very high, which indicates moderate inconsistency in the export of leather and leather manufactures from India to Portugal. In the case of Russia the average value of leather and leather manufactures export is 68.979 and cv is 97.801 percent (the highest cv of the table), which indicates high consistency, in the export of leather and leather manufactures from India to Russia. In the case of Germany we obtain consistent export result.

More or less same result is obtained in the case of the share of export of leather and leather manufactures in total export of manufactured goods from India to other countries. The highest value of average export is obtained in case of Germany, 19.779 percent and the corresponding value of CV is 19.399 percent and consequently shows high consistency. The lowest value of CV is obtained for France 9.937 percent and the corresponding value of mean is 4.941. The smaller value of CV indicates consistency in the share of export of leather and leather manufactures in total export of manufactured goods from India to different countries. The highest value of CV of the share of exports of leather and leather manufactures in total export of manufactured goods from India is obtained for Russia, 114.115 percent but the mean value of export is only 5.448. In case of Portugal lowest average value of export is obtained and CV is also not so high, 19.076 percent, which indicates moderate consistency in export.

We could have used Chow Test but it suffers from the arbitrariness in the choice of switching point. Switching point should be selected by some statistical criteria. Thus, in order to identify the structural break we have conducted CUSUM and CUSUMSQ test. The test indicates that there is a break in the year 1995–1996. So, we can consider the effect of WTO on India's export of leather and leather manufactures.

#### GROWTH AND INSTABILITY IN EXPORT OF LEATHER AND LEATHER MANUFACTURES

We next consider the discussion of table 4, which provides the aggregate level of composition and trends in the external trade in leather and leather manufactures and the instability measure by Cuddy-Della Valle index. In this table we have discussed the growth rate of the export of leather and leather manufactures from India to different countries by dividing the entire time period into two different regimes, namely, Regimes 1 and 2. Regime 1 is considered as pre-WTO phase and Regime 2 as post-WTO phase. The details discussion of the division of entire time period into two different regimes is already done in section three. First of all we consider the growth analysis of leather and leather manufactures.

#### GROWTH ANALYSIS OF LEATHER AND LEATHER MANUFACTURES EXPORTS

It is important to understand the growth rate and stability of export of leather and leather manufactures exports from India to different countries during the period of nineteen years of the time periods that com-

TABLE 4 Growth rate and instability of export of leather and manufactures from India to different countries

Country	(1)	(2)	(3)	(4)	(5)	(6)
France	4.477436	4.750897	0.045655	0.798359	30.170	26.95718
Germany	8.047106	-1.617390	0.015963	0.626117	17.285	13.67720
Hong Kong	9.553380	16.78892	0.133614	0.894655	86.775	82.07718
Italy	6.594692	4.885282	0.053419	0.783004	31.595	27.95763
Netherland	10.943090	7.730236	0.084824	0.958650	45.814	44.85680
Portugal	8.095374	6.173001	0.066272	0.834855	37.288	34.07019
Russia	-15.498900	-21.643000	-0.218604	0.846869	97.801	90.00185
Spain	18.437720	15.683760	0.154251	0.972330	81.229	80.09731
UK	7.688143	4.574557	0.054986	0.900397	30.848	29.27144
USA	13.531430	0.015554	0.043875	0.913811	26.733	25.55500
Other	6.904385	6.640079	0.065340	0.905756	40.499	38.54339

NOTES Rate of growth of export of leather and manufactures from India to different countries: (1) Regime 1 (1988 to 1995–1996), (2) Regime 2 (1997 to 2005–2006), (3) entire regime (1988 to 2005–2006); Measure of instability of the export of leather and manufactures from India to different countries: (4)  $\bar{R}^2$ , (5) coefficient of variation, (6)  $I_x$  Cuddy-Della Valle index. Author's own calculations based on different issues of the *Handbook of Statistics on the Indian Economy* (<http://dbie.rbi.org.in>).

prises pre-WTO and post-WTO phases. Table 4 provides the summary. The estimated growth rates of export exhibited disparate trends during the two regimes. The annual average growth rate in the total value of export decreased from 8.047106 to -1.61739 percent during the post-WTO phase in case of Germany. But the growth rate shows an increasing trend for the entire period for Germany. Surprisingly for all the countries export growth rate was higher but had decreased during the post-WTO phase, except for Hong Kong. It is rather paradoxical to note that the growth rate of export of leather and leather manufactures from India to different countries showed a declining trend for the developed countries. Russia for the entire 19 years period and all the other countries showed increasing trend. For the countries USA, UK, Germany rate of growth of export are 0.015554 percent, 4.574557 percent and -1.61739 percent respectively during post-WTO phase. For these countries the rates of growth of export during pre-WTO phase were 13.53143 percent, 7.688143 percent and 8.047106 percent respectively. Another important observation is that all the countries showed declining trend in the export growth rate during

post-wto phase as compared to post-wto phase, except Hong Kong. During pre- and post-wto phase the highest rate of growth of export of leather and leather manufactures from India was obtained for the same country Spain, and the rate of growth of exports are 18.43772 percent and 15.68376 percent respectively. The same result holds for the entire period and the rate of growth of export of leather and leather manufactures from India to Spain was 0.154251 percent. Comparing the growth rate rates of export of leather and leather manufactures from India between Regime 1 and Regime 2 we see all the countries showed a decline the growth rate from Regime 1 to Regime 2, except Hong Kong. From this we can conclude that wto agreement failed to affect positively the leather and manufactures export from India to other countries. Another distinguishing feature is that during the entire period of 19 years, the positive rates of growth were obtained for all the countries except for Russia. For Russia the rate of growth for the entire period is negative and the corresponding rate was  $-0.218664$  percent.

From the above discussion, it may be concluded that the four largest leather and manufactures importing countries from India are Spain, Hong Kong, Netherland and Portugal. There could be many more reasons for growth in export like stable export demand, global competitive prices etc.

#### *Instability of Leather and Leather Manufactures Exports*

The instability in export discourages investment in the production of the commodity, limits the economic horizon and destroys the sense of continuity, which is necessary for planning production (Chand and Tiwari 1991). The policy makers for formulating product export promotion and investment policies. The  $cv$ ,  $\bar{R}^2$  and instability indices (modified  $cv$ ) for export of tea are shown in table 4. Appropriate instability indices for export of leather and leather manufactures, based on the criterion discussed in methodology section are presented in table 4. It is clear from the table that instability indices for export of leather and leather manufactures from India to other countries, were highest for Russia (90.00185%), indicating that Russia was most vulnerable importer of leather and leather manufactures from India. Next highest instability was observed in case of Hong Kong (82.07718%) followed by Spain (80.09731%). For Germany (13.6772%) least instability was recorded in terms of export earnings. USA (25.55500%) and France (26.95718%) recorded next least in line of instability in value of export of leather and leather manufactures.



TABLE 5 Growth rate and instability in the share of export of leather and manufactures in total export of manufactured products from India to other countries

Country	(1)	(2)	(3)	(4)	(5)	(6)
France	-0.856770	0.516853	0.000426	-0.082803	9.937	10.34023
Germany	2.530641	-5.593930	-0.029266	0.897542	19.399	6.209438
Hong Kong	3.960115	12.068520	0.088384	0.791486	61.127	27.91263
Italy	1.152483	0.645906	0.008190	0.049595	11.591	11.29992
Netherland	5.278870	3.375973	0.039595	0.808018	23.668	10.37031
Portugal	2.576547	1.881577	0.021042	0.307726	19.076	15.87181
Russia	-19.813100	-24.810100	-0.263834	0.883100	114.115	39.01665
Spain	12.390860	11.007910	0.109021	0.966399	57.838	10.60204
UK	2.190107	0.347741	0.009757	0.211870	11.592	10.29099
USA	7.735069	-4.026990	-0.001355	0.752328	17.192	8.555883
Other	1.446365	2.329776	0.020110	0.816762	12.905	5.524154

NOTES Rate of growth of export of leather and manufactures in the share of export of manufactured products from India to different countries: (1) Regime 1 (1988 to 1995–1996), (2) Regime 2 (1997 to 2005–2006), (3) entire regime (1988 to 2005–2006); Measure of instability of the export of leather and manufactures in total export of manufactured products from India to different countries: (4)  $\bar{R}^2$ , (5) coefficient of variation, (6)  $I_x$  Cuddy-Della Valle index. Author's own calculations based on different issues of the *Handbook of Statistics on the Indian Economy* (<http://dbie.rbi.org.in>).

Comparison of instability indices for the different leather and manufactures importing countries from India, some of the developed countries like, France, USA, UK and Germany showed stability in the value of import of leather and leather manufactures from India.

#### GROWTH RATE AND INSTABILITY IN THE SHARE OF EXPORT OF LEATHER AND LEATHER MANUFACTURES IN TOTAL EXPORT OF MANUFACTURED PRODUCTS

We are now going to consider the analysis of the growth rate and instability for the share of export of leather and manufactures in total export of manufactured products. The entire thing is represented in table 5.

First of all we consider the analysis of growth rate.

#### *Growth Analysis of the Share of Export of Leather and Leather Manufactures in Total Export of Manufactured Products*

The highest rate of growth of in pre WTO phase is obtained for Spain (12.39086%). Spain was followed by USA (7.735069%) and Netherland

(7.735069%). At the same time the lowest rate of growth during the pre-WTO phase were obtained for Russia (-19.81310%), France (-0.85677%) and Italy (1.15283%). During the post-WTO phase the highest rate of growth were obtained for Hong Kong (12.06852%), Spain (11.00791%) and Netherland (3.375973%). But the surprising result was that in the pre-WTO phase we obtained negative growth rate for France where as during post-WTO phase it turned into a positive growth rate. The opposite result was obtained in the case of USA, where the rate of growth turned from positive to negative. The three countries for which we obtained lowest growth rate during the post-WTO phase were Russia, Germany and USA. What is paradoxical here is that USA which was the second largest exporter in the pre-WTO phase turned as the third lowest exporter in the post-WTO phase. From the table we can conclude that some of the most developed countries showed a declining trend in the growth rate of export of leather and leather manufactures in total export of manufactured products during post-WTO phase. For the entire study period the developed countries like Germany, Russia, and USA showed a declining trend. In fact table 5 reveals that the top three exporting (leather and leather manufactures in terms of manufactured products) countries were Spain, Hong Kong and Netherland.

### *Instability*

It is clear from the table that instability index, was highest for Russia (39.01665%) indicating that leather and leather manufactures was most vulnerable commodity in terms of export of manufactured products. Next highest instability was observed for Hong Kong (27.91263%), followed by Portugal (15.87181%) and Italy (11.29992%).

The least instability in terms of export of leather and leather manufactures in the total export of manufactured products were recorded for Germany (6.209438%), followed by UK (10.29099%) and Netherland (10.37031%). From the above analysis we can conclude that developed countries showed stability in the export of leather and leather manufactures in the total export of manufactured products.

### *Empirical Analysis*

With the slowdown of global economy Indian leather industry is moving towards an unprecedented crisis. During 2009 Indian leather industry experienced a growth of 20 percent but after that global slowdown dented the growth rate in the subsequent months. The main reason behind this

is the decline in orders from Western markets, especially the US and UK. The two biggest markets for Indian leather export firms are the European Union and the US; they share 65 percent and 25 percent respectively of India's export share of leather products. Global recession caused a poor take-off of leather goods at fashionable stores across the US and Europe in the recent time. The recession in the West has hurt many of the smaller units and most unfortunately, these smaller units also faced the liquidity problem. Another problem of the leather industry is that the small-scale and medium-scale units, however, are fragmented and often face problems relating to hygiene, pollution, control and quality standards.

There are certain organizations such as the people for the Ethical Treatment of Animals (PETA) which are carrying out global campaigns, highlighting the pathetic condition in which animals are kept, or transported, discouraging some fashion houses from buying leather products from India. These types of campaigning are also creating obstacles for the exports of Indian leather and leather items in the developed countries. Another problem faced by the exporters is that the exporters have seen their consignment being rejected by buyers in Europe and US because of the presence of restricted substances. As pointed out by Mr Vinod Kumar, manager, leather testing, TUV SUD South Asia, that nearly 25 percent – 30 percent of lots is being rejected annually due to non-compliance to testing standards. It may so happen that in some cases an entire order worth over \$1 million has been rejected by a buyer, leaving the exporter to bear all the cost and this is simply because not all lots in the consignment were tested for all quality and eco-parameters. Now, in order to ensure quality products of the international standard, the small-scale units have to invest significantly. But, instead of investing for maintaining the quality of the products, some unscrupulous exporters prefer cutting corners to save costs. These types of actions on the part of the exporters result in the loss of the brand equity of Indian leather exporters.

The global economic meltdown is another important factor for shrinking the Indian leather industry. Leading players fear a 25 percent – 30 percent drop in export and consequent job losses in the long run. European countries are the biggest importers of Indian leather goods, followed by the US and Australia. There were quite a few export cancellations in the recent past from US and UK. Leather industry is a very labour intensive industry. The organized sector employs around 2.5 million people. If the present trend continues, it may hurt the labour strength of the industry.

The global slowdown has started taking its toll on Indian leather in-

dustry as production is already down and exporters expect around 20 percent fall in their order volume. According to Zackria Sait, chairman of the Indian Finished Leather Manufacturers and Exporters Association, the tanneries were working at 30–40 percent capacity in November 2009 as against 80 percent utilization in November 2008; a higher fall in export volumes would affect the industry adversely. In addition, the European nations have started erecting non-trade barriers, which would increase the costs as well as the degree of problems of the Indian leather industry.

Fluctuations in value of euro and pound sterling are also creating critical situation for Indian leather exporters. According to Habib Hussain, chairman of the Council of Leather Exports (CLE), since nearly 75 percent of the Indian exports are to Europe, the currency fluctuations is a worrisome factor for the industry. There is no doubt that no industry can absorb 10–15 percent currency fluctuation. At the same time Indian exporters are only focusing on the mid and upper segments of the European market and not at the mass segments in other world markets. As a whole we can identify several problems of the leather industry, such as:

1. Lack of warehousing support from the government.
2. International price fluctuations
3. Lack of strong presence in global fashion market.
4. Unawareness of international standard by the unorganized sector of the industry.
5. Difficulty in obtaining bank loans resulting in high cost of private borrowing.
6. Stricter international standards.

### **Conclusion and Policy Prescription**

The post-liberalization era has opened up surfeit opportunities for Indian leather industry. Next, to China, India enjoys the biggest share of the global market. The industry has greater growth potentials. With generous export earnings, employment potentials, growth it turns out as the 10th largest sector among the Indian manufacturing sector. The Indian leather industry absorbs 2.5 million people, of which about 30 percent are women.

But from our analysis it is clear that in recent times leather and leather product exports are passing through a crisis period. The export of leather and leather goods touched \$1.24 billion in 2007–2008, went down to \$959 million in 2008–2009 and was expected to further reduce to \$833 million

in 2009–2010, showing a reduction of \$407 million in two years. The fall in exports was 21.39 percent during 2008–2009 and is expected to fall further to about 18 percent in 2009–2010. The export of leather decreased by 7.5%, leather garments declined 12.53%, leather gloves 37%, and export of other leather products declined to about 31.60%. In the international arena main competitions of India are China, Bangladesh and Pakistan. In order to overcome the situation the Indian exporters demanded that withholding of tax on export of leather be reduced from 1 to 0.5% or government should suspend export development surcharge of 0.25% for at least two years.

There is no doubt that Indian government has over the years liberalized rules relating to the leather industry to encourage exports. It allows duty-free imports of critical components from the manufacture of footwear, garments and other leather goods, duty-free imports of raw, tanned and other varieties of leather, concessional rates for import of equipment and machinery for effluent treatment plants and tannery and foot wear machinery. It also allows 100% foreign ownership in units subject to certain conditions and up to 51 percent foreign ownership is accorded on an automatic approval basis in several areas. The government has also been promoting the setting up of footwear complexes, parks, leather goods, parks and tanning complexes. The Indian exporters also got Rs 2,630 million in grant, under the head of modernization capacity building, and betterment of infrastructure of the sector. The country faced a sharp decline of 28% in leather goods export during 2008–2009. But the true fact is that the leather industry that consisted of thousands of small units working in the unorganized sector is now undergoing changes. The smaller units are keen to acquire the latest technology to take advantage of the growing demand for Indian value-added leather products.

During the 10th Five Year Plan 400 corers was made available for implementation of various schemes under 'Indian Leather Development' which comprises of two programmes: one was Integrated Development of Leather Sector and the second was Infrastructure Strengthening of Leather Sector. At the same time some schemes which were implemented during 9th Five Year Plan, like, Rural Artisans, INTECHMART etc. were decided to continue.

In order to overcome the problems of the leather industry certain proposals from the business community are mentioned below:

1. Increase the equipment of raw hides and skins so as to reduce imports of raw hides and skins.

2. Resourcefully addresses environmental concerns to make the leather units meet severe environmental norms.
3. Establishing training facilities to cater to the demands of the industry which was facing an acute shortage of skilled manpower.
4. The international demand for leather products is shifting from luxury goods to necessary goods. Thus it is important for Indian manufacturers to strike a balance between quality and quantity to cater to the present need. At the Indians producers need to gear up to manufacture goods at competitive prices.
5. The Indian leather goods manufacturers are willing to sit with the government to chart out a joint medium-and long-term plan of action to take the industry ahead.

Some of these proposals are already implemented and some are going to be implemented. So we have to wait for some more time with patience to see what will be the impact of all these policy implementations.

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# *Forecasting Employees' Success at Work in Banking: Could Psychological Testing Be Used as the Crystal Ball?*

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Human resources have nowadays been recognized as one of the most important key competitive advantages of organizations. Human resources management deals with the recruitment, selection and training of the best candidates for a particular job position. Although training has significant influence on the performance of employees, recruitment and selection still remain the crucial steps. The goal of the paper is to explore if special characteristics of candidates for employment in the banking industry could be used for predicting their future success at work. Real-life data from a Croatian bank's employee database are used for analysis, with the total sample of 1659 candidates tested for the purpose of employment. Results of the multiple regression analysis indicate that the following characteristics are important at forecasting an employee's success at work in the banking sector: cognitive ability, reasoning, dominance, social boldness, sensitivity, openness to change, warmth, and emotional stability. Therefore, as the best practice for recruitment, the use of the *Profile of a Quality Candidate in Banking* is proposed.

*Key Words:* recruitment; psychology testing; data mining; cognitive ability tests; personality traits tests

*JEL Classification:* M51, M54, C81

## **Introduction**

Human resources have become one of the key competitive strengths of enterprises in the era of highly intense competitiveness and globalization

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(Chien and Chen 2008; Meško Štok et al. 2010). Human resources management is the organizational function that deals with recruitment, selection and training of employees. Many scientists and experts from the domain of human resources deal with the topic of how to recruit and select most promising future employees and how to develop, educate and motivate them (Lievens, Van Dam, and Anderson 2002). Human resources management thus contributes to the stability of enterprise operations that can be characterized by many uncertainties such as instability (Pejić Bach 2003).

In the recent years, quality recruitment has gained a substantial attention (Bertoncelj 2010), primarily with the emergence of private enterprises that support firms in professional employee selection (Vujić 2008). Quality of professional selection is significantly increased by the use of psychological testing (Schmidt 1998). Results of psychological testing are mostly considered only at the moment of employment, and their use for investigation of their correlation with later job performance is still scarce (Singh and Singh 1994; Raufelder et al. 2013). In modern organizations, the data mining approach has become highly significant, since in most of organizations' databases the data on employees' personal characteristics are available, and could be used for future performance prediction (Strohmeier and Piazza 2013).

Since the prediction of employees' work performance is extremely important for the decision making within the human resources domain, this research paper aims to make a contribution in this field. The purpose of this paper is to explore the possibilities of forecasting future performance of employees in banking based on their personal characteristics. For this purpose real-life data from a Croatian bank's employee database are used. The total sample of 1659 candidates tested for the purpose of employment will be used for analysis. Also, the choice of this topic presents an attempt to contribute to the local employment policies (Drobne, Bogataj, and Lisec 2012).

The paper consists of the following parts. After the introductory part of the paper, the literature review is presented with the focus on the importance of cognitive abilities, and the importance of personality traits in professional selection. The methodology part of the paper presents data used in the study and describes the study sample. The section on results of the paper presents multiple regression models with the following criterion variables: *Performance* and *Speed of Promotion*. The discussion part of the paper explores possible improvements of the prediction of job per-

formance during the recruitment process in the banking sector. The last part of the paper presents a conclusion.

### **Literature Review**

Designing a selection procedure in an organization is a complex and challenging process that often consists of several stages. Although it may seem that posting a job advertisement and choosing the best candidate is a relatively simple and not a particularly demanding procedure, the process itself is significantly more complex since it is indirectly connected to the organizational long-term goals and strategy (Bahtijarević Šiber 1999). General potential for learning and development is one of the most important factors of good performance. Previous research and current practices have shown that the potential for learning and development can be best evaluated by using cognitive ability tests and personality factors questionnaires.

#### **THE IMPORTANCE OF COGNITIVE ABILITY IN PROFESSIONAL SELECTION**

Previous research indicates that one of the most significant predispositions influencing performance is the general cognitive ability (e.g. Schmidt and Hunter 1998). Therefore, the results of general cognitive ability tests are in fact the best future performance indicators and are used in selection procedures most commonly. Also, they have proven to be the best predictors for learning in professional educational programs. Their main advantages stem from good psychometric characteristics: objectivity, sensitivity, validity and reliability (Jackson 2000). Raven's Advanced Progressive Matrices (APM) is one of the cognitive ability tests that has proved to be highly appropriate in the area of professional selection of highly qualified workers, and is therefore used in our research.

#### **THE IMPORTANCE OF PERSONALITY TRAITS IN PROFESSIONAL SELECTION**

Personality traits can be identified as customary routines of behavior, thought and emotions. Traits are stable over time, they vary among individuals (e.g. outgoing and shy people), and affect behavior. Personality traits are, along with the cognitive ability, most commonly used assessment indicators in professional selection.

Although there is a lot of research regarding influence of personality traits on performance in the workplace, there are still some inconclusive

findings. Barrick, Mount, and Judge (2001) in their meta-study of previous research revealed the following findings: (i) conscientiousness predicts a wide range of job performance criteria for all occupational groups; (ii) emotional stability is a good predictor for general job performance for all occupational groups; and (iii) extraversion, agreeableness and openness to experience are predictors of some specific variables (e. g. teamwork, sales talent, and management). Similarly, people who are anxious, hostile, with low self-esteem and depressed will hardly be great performers, especially in jobs that require teamwork.

Personality traits are measured by personality tests. Rothstein and Gofin (2006) claim that the use of personality tests leads to the better selection of employees whose personalities fit into the corporate culture of the organization, which can in turn significantly reduce unwanted outflow of employees.

Personality tests are often used for the purpose of professional selection. Croatian human resources professionals commonly use the 16 Personality Factors (16PF) questionnaire, which is a venture by Raymond Cattell (Russell and Karol 2000), who used the factor analysis for identification of primary components of the personality. The fifth edition of the questionnaire, which was used in this study, contains 185 items (questions) that are summarized to 16 primary personality factors.

## **Methodology**

### **RESEARCH INSTRUMENT**

Multiple regression models were used in order to explore possible predictors of future employees' success at work.

### *Predictor Variables*

The following predictor variables were used: (1) the results of the APM cognitive ability test, (2) the results of the 16PF test (Raven, Raven, and Court 2003). Table 1 explains 16 primary personality factors that represent personality traits. Primary personality factors are bipolar, which means that both high and low scores can be interpreted as opposite characteristics. For example, a high score on the factor A (Warmth) indicates that the person is warm in interpersonal relationships, and low scores indicate that one tends to be more restrained in relationships. However, in some situations it is appropriate to be restrained, while in other situations it may be more appropriate to be warmer.

TABLE 1 Primary personality factors

(1)	(2)	(3)	(4)
A	Warmth	Distant, reserved, deliberate	Warm, outgoing, attentive to others
B	Reasoning	Concrete thinking	Abstract thinking
C	Emotional Stability	Reactive emotionally, emotionally less stable	Emotionally stable, adaptive, mature
E	Dominance	Submissive, cooperative, avoids conflict	Dominant, forceful, assertive
F	Liveliness	Serious, restrained, taciturn	Lively, animated, spontaneous
G	Rule-Consciousness	Expedient, nonconforming	Rule-conscious, dutiful
H	Social Boldness	Shy, threat-sensitive, timid	Socially bold, venturesome, thick-skinned
I	Sensitivity	Utilitarian, objective, un sentimental	Sensitive, aesthetic, sentimental
L	Vigilance	Trusting, unsuspecting, accepting	Vigilant, suspicious, skeptical, distrustful
M	Abstractedness	Grounded, practical, solution oriented	Abstract, imaginative, absorbed in ideas
N	Privateness	Forthright, genuine, artless	Private, discreet, non-disclosing
O	Apprehension	Self-Assured, unworried, confident	Apprehensive, worried, insecure
Q1	Openness to Change	Traditional, attached to familiar	Open to change, experimental
Q2	Self-Reliance	Group-oriented, affiliative	Self-reliant, solitary, individualistic
Q3	Perfectionism	Tolerates disorder, unexacting, flexible	Perfectionistic, organized, self-disciplined
Q4	Tension	Relaxed, placid, tranquil,	Tense, high energy, impatient, driven

NOTES Column headings are as follows: (1) primary personality factor, (2) primary personality factor name, (3) descriptors of low range, (4) descriptors of high range. Adapted from Russell and Karol (2000).

### Criterion Variables

For the purpose of this study several types of criterion variables will be used: (1) *Performance*, and (2) *Speed of Promotion*. *Performance* of the employee is expressed as one of the three recorded levels (high, medium and

realized). It is revised each year for each employee of the bank, and it is a combination of several factors, such as the general level of knowledge of the domain of work and motivation for further learning. *Speed of Promotion* is measured as the average number of months spent at the same workplace, which is expressed as the ratio of the total number of months of work in the bank and the total number of vertical promotions/demotions that were recorded. This measure suggests that successful workers are promoted faster than less successful workers and also that unsuccessful workers are demoted. Since data on employees' performance from 2005 to 2010 were used, the average values for the performance and the speed of promotion were calculated in order to be used as criterion variables.

#### SAMPLE DESCRIPTION

The data used in this research are the actual data obtained from the human resources department of one Croatian bank. The data use has been approved by a responsible manager. The data was collected at the beginning of 2010 and the sample in this study represents the data on the employees employed in the bank since 2005 (1695 employees).

Table 2 shows the average results of the APM and the 16PF tests for 1695 candidates that were tested for the purpose of employment.

Based on the results shown in table 2 one can conclude that the employees of the bank have specific characteristics. For example, employees are on average motivated to do jobs that involve intense interaction with other people, they are focused on establishing a connection with other people, they are empathetic, and they tend to express emotions but also easily recognize feelings and intentions of others and other individuals perceive them as friendly. This is consistent with Cattell's findings (Cattell 2003) that high scores on the scale of agreeableness are common in sales occupations, management and supervisory professions. Therefore it is expected that the candidates employed in a bank have elevated scores on this scale.

#### Results

In this section, the aim was to investigate whether the simultaneous consideration of several predictor variables using multiple regression models may predict the results of the criterion variables. The following text presents a review of multiple regression models. The APM test results and the 16PF test results are used as predictor variables. Performance and speed of promotion of employees are used as the criterion variables.

TABLE 2 Exploratory analysis of the predictor variables

Predictor variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
APM cognitive ability test	1679	21.38	22	23	5.91	1	36
16PF test Warmth (A)	1679	6.61	7	7	1.70	1	10
Reasoning (B)	1671	6.18	6	6	1.54	3	10
Emotional Stability (C)	1680	7.69	8	9	1.32	2	10
Dominance (E)	1680	6.78	7	7	1.62	1	10
Liveliness (F)	1680	5.88	6	6	1.02	1	9
Rule-Consciousness (G)	1679	6.94	7	8	1.58	2	9
Social Boldness (H)	1680	7.83	8	9	1.18	1	9
Sensitivity(I)	1679	4.01	4	4	1.94	1	10
Vigilance (L)	1679	6.12	6	7	1.66	1	10
Abstractedness (M)	1680	3.38	3	3	1.25	2	10
Privateness (N)	1679	4.38	4	4	1.46	1	9
Apprehension (O)	1678	4.12	4	4	1.57	1	9
Openness to Change (Q1)	1679	6.38	7	7	1.51	1	10
Self-Reliance (Q2)	1680	3.00	3	2	1.05	1	7
Perfectionism (Q3)	1680	7.29	8	9	1.48	2	9
Tension (Q4)	1677	3.08	3	2	1.43	1	9

NOTES Column headings are as follows: (1) *n*, (2) mean, (3) median, (4) mode, (5) standard deviation, (6) minimum, (7) maximum.

#### MULTIPLE REGRESSION MODEL WITH THE CRITERION VARIABLE PERFORMANCE

Table 3 presents results of the multiple regression model with the criterion variable *Performance*. The coefficient of determination is 0.088 thus indicating that only 8.8% of the variation in *Performance* could be attributed to the variation in predictor variables (results of the APM and the 16PF tests). Although this result indicates modest reliability of the model, results are interesting and give important insights into the relation between the predictor variables (results of the APM and the 16PF test) and *Performance* as the criterion variable. Five predictor variables were found to be statistically significant. The results of the APM tests of cognitive abilities contribute significantly to the prediction of *Performance*, thus indicating that the higher level of cognitive ability could predict the higher level of *Performance*, and vice versa. Agreeableness (A) significantly contributes to the prediction of *Performance*, thus indicating that the lower level of

agreeableness could predict the higher level of *Performance*. Reasoning (B) also significantly contributes to the prediction of *Performance*, thus indicating that the higher result on reasoning could predict the higher level of *Performance*. At this point it is important to note that although the correlation coefficients between the  $APM$  and *Performance*, and Reasoning (B) and *Performance* are of similar value ( $r_{APM} = -0.239$ ,  $r_B = -0.207$ ), the Beta coefficient for the variable B is lower than the the Beta coefficient for the  $APM$  because these two variables are correlated with each other ( $r_{APM-B} = 0.555$ ). Emotional Stability (C) and Sensitivity (S) significantly contribute to the prediction of *Performance*, but with the opposite sign, thus indicating that the higher result on the emotional stability could predict the higher level of *Performance*, while the lower value of sensitivity could predict the higher value of *Performance*.

#### MULTIPLE REGRESSION MODEL WITH THE CRITERION VARIABLE SPEED OF PROMOTION

Table 4 presents results of the multiple regression model with the criterion variable *Speed of Promotion*. The coefficient of determination is 0.054 thus indicating that only 5.4% of the variation in *Performance* could be attributed to the variation in predictor variables (results of the  $APM$  and the 16PF tests). It is important to mention that *Speed of Promotion* is measured as the average number of months spent at the same workplace. Therefore, a lower level of *Speed of Promotion* indicates better results.

Although this result indicates modest reliability of the model, results are interesting and give important insights into the relation between the predictor variables (results of the  $APM$  and the 16PF test) and *Speed of Promotion* as the criterion variable. Again, five predictor variables were found to be statistically significant. Again, the results of the  $APM$  tests of cognitive abilities contribute significantly to the prediction of *Speed of Promotion*, thus indicating that the higher level of cognitive ability could predict the fewer average number of months spend at the same workplace, and thus faster *Speed of Promotion*. Reasoning (B) also significantly contributes to the prediction of performance, thus indicating that the higher result on reasoning could predict the fewer average number of months spend at the same workplace, and thus faster *Speed of Promotion*. The same explanation can be attributed to Dominance (E) and Social Boldness (H). However, Sensitivity (I) and Openness to Change (Q<sub>1</sub>) have positive beta coefficients, indicating a negative correlation between high re-



TABLE 3 Results of the multiple regression model with the criterion variable *Performance*

Predictor variables	(1)	(2)	(3)	(4)	(5)
Constant	1.470	.910		1.614	.107
APM cognitive ability test	-.014	.003	-.158	-4.128	.000***
16PF test Warmth (A)	.045	.023	.150	1.971	.049**
Reasoning (B)	-.033	.013	-.096	-2.532	.012**
Emotional Stability (C)	-.061	.026	-.156	-2.352	.019**
Dominance (E)	-.007	.035	-.022	-.199	.842
Liveliness (F)	-.020	.026	-.038	-.753	.452
Rule-Consciousness (G)	.033	.026	.101	1.247	.213
Social Boldness (H)	-.020	.027	-.045	-.757	.449
Sensitivity(I)	.066	.030	.242	2.223	.026**
Vigilance (L)	.022	.023	.069	.964	.335
Abstractedness (M)	.007	.028	.017	.255	.799
Privateness (N)	.003	.021	.009	.147	.883
Apprehension (O)	.015	.025	.044	.587	.557
Openness to Change (Q1)	.042	.034	.122	1.242	.215
Self-Reliance (Q2)	.018	.024	.035	.734	.463
Perfectionism (Q3)	.030	.026	.082	1.148	.251
Tension (Q4)	.018	.025	.050	.724	.469

NOTES  $R = 0.297$ ,  $R^2 = 0.088$ ,  $\bar{R}^2 = 0.066$ . Column headings are as follows: (1)  $\beta$ , (2) standard error (unstandardized coefficients), (3)  $\beta$  (standardized coefficient), (4)  $t$ , (5)  $p$ -value. \*\*\* Statistically significant at 1%. \*\* Statistically significant at 5%.

sults and the *Speed of Promotion*, although it should be taken into account that the coefficients are statistically significant at 10% probability.

## Discussion

### THE IMPORTANCE OF IMPROVING THE PREDICTION OF JOB PERFORMANCE DURING THE RECRUITMENT PROCESS IN THE BANKING SECTOR

If an organization employs a quality candidate, the candidate will achieve better results, with its quality work she or he will contribute to the successful realization of business objectives and overall long-term success of the organization. However, hiring quality candidates is only one of the essential elements for long-term success of an organization, because the

TABLE 4 Results of the multiple regression model for the criterion variable *Speed of Promotion*

Predictor variables	(1)	(2)	(3)	(4)	(5)
Constant	.548	25.019		.022	.983
APM cognitive ability test	-.483	.094	-.152	-5.139	.000***
16PF test Warmth (A)	.455	.637	.042	.715	.475
Reasoning (B)	-.677	.351	-.056	-1.932	.054*
Emotional Stability (C)	.725	.711	.051	1.019	.308
Dominance (E)	-2.082	.969	-.181	-2.149	.032**
Liveliness (F)	-.624	.728	-.034	-.856	.392
Rule-Consciousness (G)	-.363	.723	-.031	-.503	.615
Social Boldness (H)	-1.454	.725	-.092	-2.005	.045**
Sensitivity(I)	1.583	.822	.165	1.926	.054*
Vigilance (L)	-.845	.626	-.075	-1.350	.177
Abstractedness (M)	.237	.776	.016	.305	.760
Privateness (N)	.388	.579	.031	.670	.503
Apprehension (O)	-.868	.687	-.074	-1.264	.206
Openness to Change (Q1)	1.657	.953	.135	1.739	.082*
Self-Reliance (Q2)	1.077	.664	.060	1.623	.105
Perfectionism (Q3)	.889	.715	.070	1.243	.214
Tension (Q4)	-.356	.703	-.027	-.507	.612

NOTES  $R = 0.233$ ,  $R^2 = 0.054$ ,  $\bar{R}^2 = 0.041$ . Column headings are as follows: (1)  $\beta$ , (2) standard error (unstandardized coefficients), (3)  $\beta$  (standardized coefficient), (4)  $t$ , (5)  $p$ -value. \*\*\* Statistically significant at 1%. \*\* Statistically significant at 5%. \* Statistically significant at 10%.

organization necessarily also needs to develop systems of career development with an emphasis on talent management, payment and reward schemes as well as retaining quality employees. If an organization does not have good methods for identification of high-quality candidates, the average or below-average candidates will with time begin to create difficulties. In that case organizations need to address the issue of terminating employment for these sub-quality employees, instead of focusing on the question of how to properly utilize the potential of high quality workers in order to achieve better results.

In the banking sector, which is under the influence of constant dynamic changes in the business environment, it has been proven that hiring can-

didates who have a high overall potential for learning and development is of the highest importance. Such abilities are measured with cognitive ability and personality traits tests. The abovementioned is generally known in business practice in Croatia, and therefore almost all banks apply more or less similar instruments in the selection of candidates. However, the business practice shows that different banks differ in successfulness of employing really quality candidates. Although similar instruments are used, the differences in the quality of hired candidates may arise for several reasons.

One of the reasons is the quality of the recruitment process, that is, the ability to attract quality candidates into the selection process. This may seem illogical to some extent, given that banks are generally desirable places to work in Croatia. However, there are significant differences in the perception of how desirable a bank is as an employer. Precisely for these reasons, some banks are investing significant efforts into positioning themselves in the labor market as very highly desirable employers as this will ensure that quality candidates will keep applying to their job posts.

The second reason is the consistency in compliance with the prescribed selection procedure. Specifically, business practices in Croatia indicate that the selection procedures are often violated if a candidate has a recommendation of a high-ranking person in the organization. This is encountered so frequently in the business practice, that selection procedures can often be thought as being 'fixed.'

The third, and perhaps the decisive reason for the difference in the quality of candidates that banks employ is the issue of defining the threshold for fulfilling the criteria on psychological tests, or in other words the ability to define the so-called *Profile of a Quality Candidate in Banking*. Such a profile would define certain factors of the criteria which should ensure high job performance of employees in the bank. Also, the ideal profile should define whether all the factors are equally important, or some factors may be less important in some cases. The abovementioned represents the main reason for conducting research elaborated in this paper.

As there are difficulties in defining what the best measure for the employee performance is, this paper presents a few of them, each of which to a greater or lesser extent represents the actual job performance. Specifically, the appraisal of job performance, although defined as an individual result of achieving planned goals, is influenced to some extent by the

evaluators. People differ according to their personal equations in the estimates of others. Although all the evaluators go through a well-structured training on evaluating performance and although the appraisal distribution for individual organizational units is aligned with the performance of organizational units, it is certain that not all evaluators are equally stern. Some workers may get lower appraisals from some evaluators than they would get from other assessors. It is similar with the assessment of potential workers. In dealing with the criteria of the average number of months spent in a particular workplace, it is possible to assume that the rate of promotion depends in addition to the employee performance and strictness in the criteria of managers, to some extent also on the opportunities within each organizational unit (for example, in organizational units with significant fluctuations of workers, it is easier for an individual to make an opportunity for promotion, than in stable and well-arranged organizational units). As these problems of objectivity of criteria for job performance were known in advance, several measures of work performance were deliberately used in this paper in order to, among other things, examine in more details the factors that are significantly associated with a larger number of criteria. Namely, it can be assumed that those factors that are associated with a larger number of criterion variables are very important in predicting job success.

The results of the analysis indicate that the bank whose data were analyzed already manages the professional selection process successfully. This conclusion is the result of an exploratory analysis. The average values of employed candidates are almost in all factors significantly shifted towards higher or lower values than in the average population, whereby the more emphasized qualities are more desirable in banking (based on the logical analysis of the meaning for individual factors). Although no studies have been found that have dealt with the issues of which results are optimal for a 'good banker,' if a group of experts were to try to describe a 'good banker,' their description would most likely be in line with the results obtained by an exploratory analysis. The deviation from the average population and thus the reduced standard deviation have very likely 'camouflaged' the association between the individual predictor and criterion variables. Because of the reduced data variability (for the already continuous quality selection procedure) the correlation of individual variables is lower. Nevertheless, several factors have shown, though small, yet a significant association with a variety of criterion variables.

APPLICATION OF IMPROVED PREDICTION OF JOB  
PERFORMANCE DURING THE RECRUITMENT PROCESS  
IN THE BANKING SECTOR

For the purpose of improving business employment practices in the Croatian banking sector based on the analysis made, an overall suggestion would certainly be to develop a *Profile of a Quality Candidate in Banking* presented in table 5. In this profile, it would be important to determine passing thresholds for each factor or in fact the range of results that would ensure that the candidate will be successful in his or her work in the bank. Assuming that the research was done using the data of a successful bank, the ranges for all factors (except APM, A, B and C) can be defined as a  $\pm 3$  points in relation to the average results obtained from the exploratory analysis. This conclusion results from the following: employees used for the analysis are on average high-quality employees. The range of  $\pm 3$  points is taken to ensure that there is a sufficient range of results and there are enough candidates that meet specified ranges. As far as APM factors are concerned, it has been already suggested that candidates with a higher achieved result should be recruited. For university degree candidates a minimum threshold of 25 points could be used, and for high school candidates, a minimum threshold of 18 points achieved. For the factor Reasoning (A), a positive association with two criteria was found and a range of 6–10 points might be suggested. For the factor Emotional stability (C), where most employees already achieve very high scores (9) a range of 7–10 points could be suggested, while Agreeableness has a negative correlation and the proposed range would be 5–9.

LIMITATIONS IN THE APPLICATION OF PSYCHOLOGICAL  
TESTS AS PREDICTORS OF EMPLOYEES' SUCCESS

In the application and interpretation of psychological tests, it is important to note some limitations that may affect the test results.

Fatigue and lack of sleep, stress, and poor health adversely affect the intellectual capacity of a person, and as such may result in a diminished ability to solve problems in cognitive ability tests. The results of the cognitive ability tests are sometimes influenced by personality traits, culture and the perception of the test situation stressfulness. It follows that a good score on the test indicates a highly developed trait and should be accepted as such, while a low result requires another testing. Tests that measure the learning ability of the individual (general factor) are generally more difficult to solve and more demanding. Therefore, if an individual is not

TABLE 5 Profile of a quality candidate in banking

Cognitive abilities	Adjusts to new and unexpected circumstances with difficulty	APM > 25* APM > 18**	Easily adjusts to new and unexpected circumstances
Warmth	Distant, reserved, deliberate	• • • • •	Warm, outgoing, attentive to others
Reasoning	Concrete thinking	• • • • •	Abstract thinking
Emotional Stability	Reactive emotionally, emotionally less stable	• • • • •	Emotionally stable, adaptive, mature
Dominance	Submissive, cooperative, avoids conflict	• • • • • • •	Dominant, forceful, assertive
Liveliness	Serious, restrained, taciturn	• • • • • • •	Lively, animated, spontaneous
Rule-consciousness	Expedient, nonconforming	• • • • • • •	Rule-conscious, dutiful
Social Boldness	Shy, threat-sensitive, timid	• • • • • • •	Socially bold, venture-some, thick-skinned
Sensitivity	Utilitarian, objective, unsentimental	• • • • • • •	Sensitive, aesthetic, sentimental
Vigilance	Trusting, unsuspecting, accepting	• • • • • • •	Vigilant, suspicious, skeptical, distrustful
Abstractedness	Grounded, practical, solution oriented	• • • • • • •	Abstract, imaginative, absorbed in ideas
Privateness	Forthright, genuine, artless	• • • • • • •	Private, discreet, non-disclosing
Apprehension	Self-assured, unworried, confident	• • • • • • •	Apprehensive, worried, insecure,
Openness to Change	Traditional, attached to familiar	• • • • • • •	Open to change, experimental
Self-reliance	Group-oriented, affiliative	• • • • • • •	Self-reliant, solitary, individualistic
Perfectionism	Tolerates disorder, unexacting, flexible	• • • • • • •	Perfectionistic, organized, self-disciplined
Tension	Relaxed, placid, tranquil,	• • • • • • •	Tense, high energy, impatient, driven

NOTES \* University graduates. \*\* High school graduates.

motivated and does not attach great importance to the testing situation he or she is likely to achieve inferior results.

Personality traits should be relatively stable over time. However, there

is always a possibility of fluctuations in results due to the effect of aging, learning or different experiences an individual has been subjected to. In case of retests, results for individual subjects should be approximately the same, despite the fact that certain time (even a few years) has passed since the original testing. If a person has, in the meanwhile, undergone some important life events that are expected to affect the person's mental state, retesting is strongly recommended.

When taking into account the results of our research one should also be careful since the data from only one bank have been included into the analysis. However, the selection process for most of the banks in Croatia is conducted with the assistance of a few human resources management consulting firms, thus indicating that the results could be applicable to the Croatian banking sector. Also, it is important to note that the *Profile of a Quality Candidate in Banking* represents just one of the attempts to improve the selection process in the banking industry, and that prior to the implementation of the specified profile, it should be further tested through several selection procedures.

### Conclusion

The goal of this research was to investigate if it is possible to predict success of employees in the banking sector by applying the data mining approach. The analysis was based on data from one Croatian bank. The variables that were used as predictors are the psychological testing results: the APM cognitive abilities test and the 16 Personality Factors test. The variables that were used as criterion variables are: the assessment of employee performance and the speed of promotion/demotion of workers expressed as the average number of months spent in the same workplace. The results of the multiple regression models showed that the predictor variables explained from 4% to 8% variability of criterion variables, and that their implementation requires some improvements, particularly ensuring access to a wider set of data. However, interesting results were found regarding the influence of predictor variables on the criterion variables, which led development of the *Profile of a Quality Candidate in Banking*.

The use of the abovementioned *Profile of a Quality Candidate in Banking* may present a practical application of the paper's results in the selection process in the banking sector. The basic idea of the profile is to determine intervals of points for specific factors to ensure that the candidates whose results fit specified intervals indeed prove to be successful at work. This success should be reported as a measure of job perfor-

mance discussed in this paper. Proposed intervals for all factors (except APM, Warmth (A), Reasoning (B) and C (Emotional stability) should be defined  $\pm 3$  points higher than the average results obtained from the exploratory analysis. The range of Warmth (A) is defined as 5–9 points, the Reasoning factor (B) as 6–10 points, and the Emotional stability factor (C) as 7–10 points. For the cognitive ability test, the minimum defined threshold is 25 points for university graduate candidates and 18 points for high school candidates.

Further research in this area should explore the issue of forecasting employees' success at work in broader contexts. Specifically, it would be interesting to explore if the results of our research are applicable to other similar occupational groups for instance in the insurance and the investment banking sector. For a more precise selection of candidates, it would be interesting if future research included the so-called prospects of the *Profile of a Quality Candidate in Banking*, separately for high school occupations and university degree professions, and specifically for particular occupational groups (for example sales occupations/non-sales occupations).

Organizations operate in a very dynamic and competitive environment and are forced to constantly seek ways to improve business processes that will ensure the long-term viability of operations and survival in the market (Hernaus, Pejić Bach, and Bosilj Vukšić 2013). One of the business processes that directly affects the long-term viability of the business is the professional selection process. Hiring the best candidates, candidates who have a high potential for learning and development, will ensure that quality work achieves quality business results and thus directly affects long-term quality business performance of enterprises.

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# *Using the Cultural Dimension and Accounting Value Classification Frameworks to Investigate Cultural Diversity in a Multi-National South African-Based Company*

Stefan Stander  
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The developing South African economy provides good business opportunities for global companies. Despite the popularity of mergers and acquisitions as a way to expand into a developing economy, many such business transactions fail to create sustainable organisations due to issues pertaining to national and corporate cross-cultural issues. This study investigated the potential impact of national cultural differences pertinent to the acquisition of a South African-based resource company by a French-based international group. It was evident that there were cultural differences in the manner which certain attitudes and actions were expressed within the workplace, which have led to some conflict that hampered the optimum functioning of the accounting-related functions within the company. By using Hofstede's cultural dimensions and Gray's accounting value classification frameworks within this case study, the organization's management was provided with insights into how national cultural orientation affects their functioning.

*Key Words:* accounting value classification; corporate culture; cultural dimensions; mergers and acquisitions; resilience; sustainability

*JEL Classification:* M10, M41

## **Introduction**

According to Mantecon (2009) cross-border mergers and acquisitions (M&As) have increased nearly three times faster than that of domestic M&As over the past two decades, with greater potential challenges due

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to cultural differences. In the context of this article, the term 'merger and acquisition' is used in the context of the corporate environment, and not per se in a non-corporate environment such as combinations of government or non-profit entities. A case in point for unsuccessful mergers is the example of the *German* Daimler Benz and the *American* Chrysler Corporations' attempted merger, in which the diverse corporate cultures and structures significantly convoluted the merger (Fitzgibbon Dermidoff 2004). The economic motivation suggests that M&As take place to realise economic advantages, including economies of scale, synergy, time to market, substitutions of assets, corporate control, and tax savings (Sternad 2012; Mura et al. 2011). Several studies however, indicated that many M&As actually destroy rather than create shareholder value, and that M&As often fail because potential culture clashes are ignored (Slangen 2006; Schreder and Self 2003).

This article investigates a South African/French cross-border M&A scenario in which national cultural diversity played a key role. The core transaction involved was the *acquisition* of a South African silica extraction company by a French conglomerate. This case study focusses on the South African based company, which had to submit periodic financial reports to its French parent company post-M&A. The post-M&A company's reporting requirements differed substantially from the pre-M&A company, and even though the M&A as a business transaction was successful, there was evidence of employee dissent in the accounting and finance functions of the company with some degree of (national) cultural mismatch found in the post-M&A company. The focus of the study is therefore to investigate cultural differences between South African and French nationals within the merged company's accounting and finance functions according to Hofstede's cultural value systems as components of national cultures. These results paved the road to extend the study to focus on cultural differences according to Gray's accounting value classification. The importance of the study is that cultural differences within the company are highlighted, which revealed differences between the two cultures in respect of the accounting value classifications of professionalism, uniformity, conservatism and secrecy. Recommendations could therefore be made to assist the company's management better understand the employees within the accounting and finance functions.

### **Research Problem, Objectives and Method**

It has been suggested earlier that when a cross-border M&A takes place, organisations do not always properly understand the various cultural

characteristics (be it individual, national or corporate) at play. The key research problem under consideration here is therefore to determine whether the individuals' cultural diversity in the company's accounting and finance functions could be responsible for some of the conflict situations within the department. Therefore, within the context of this case study, the supporting research questions can be formulated as follows:

- Is there a significant difference between the South African and French respondents' answers regarding specific cultural dimension questions per the measuring instrument?
- What are the key cultural aspects pertinent to the cross-border M & A impacting on the case study company's management objectives?

In order to answer the above questions, four objectives are set.

- Firstly, it is important to define the theoretical framework in which the case study is conducted. This is done by highlighting Hofstede's cultural dimensions and Gray's accounting value classifications.
- The second objective is to test the statistical significance between the responses of the South African and French respondents within the specific case study company regarding cultural dimension questions.
- The third objective is to determine and interpret the potential impact of the current M & A transaction, taking the cultural differences per Hofstede's cultural dimensions into account.
- The fourth objective is to extend the cultural differences between the South African and French nationals to Gray's accounting value classification.

To fulfil the above objectives, an empirical study was conducted by means of an adjusted questionnaire from Hofstede's Value Survey Model 2008 (consisting of 16 questions). Since the case study is pertinent to the accounting and finance function of the specific company, the total targeted population was all the employees within these functions. The questionnaire was therefore distributed to the 25 employees within such accountancy-related functions of the *post-M & A* company, with a final response of 84% ( $n = 21$ ).

The results were analysed using the *t*-test to determine differences in the responses of the two groups of respondents, calculating four indices regarding Hofstede's national value systems as components of national cultures, a Chi-squared test to determine the association between the four

indices and the two national cultures and finally, to interpret the results of the four indices.

The remainder of the article is set out as follows: Firstly, the theoretical framework, including a contextual review of M&As and the cultural implications thereof, is provided, followed by the results of the Value Survey Model, and finally a concluding discussion and research summary.

### **Theoretical Framework**

The consideration of the theoretical framework is conducted to reach the first research objective as set out above and provides a basis to the case study by explaining the difference between mergers and acquisitions, the cultural considerations as developed by Hofstede's national value systems as components of national cultures and Gray's accounting value classifications.

#### **MERGERS AND ACQUISITIONS**

Even though the term *merger and acquisition* is often used to describe the consolidation of two or more organisations, it consists of two diverse concepts. The term *merger* is typically defined as a combination of two or more organisations resulting in a single (new) entity, while the term *acquisition* is typically defined as obtaining control (operational or legal) of another organisation (Reed, Lajoux, and Nesvold 2007). Therefore, even though this case study would be considered as an acquisition of the South African entity, the term 'M&A' is still used to describe this specific transaction.

Cross-border M&As provide organisations the opportunity to obtain new knowledge from each other. When the knowledge bases are substantially different, however, neither organisation may have the appropriate absorptive capacity to profit from the knowledge of the other (Tsai 2001). Focusing on culture, there are often problems during cross-border M&As, because organisations tend to have diverse corporate and national cultures that need to be integrated (Khanna and Krishna 2010). Such differences play a role in both pre- and post-M&A phases. In the *pre-M&A* phase, the cultural distance plays an important role and factors such as distance, differences in law, language, political issues, management styles, values, will impact greatly on the success of the integration process (Lees 2003). During the *post-M&A* phase, integration plays an important role in order to fight the resistance against change, which can only be successful if the employees are involved in the process (Larsson and Lubatkin

2001). The purpose of this article is therefore to focus more on the post-M&A cultural situation of the case as explained earlier in the article.

### CULTURAL CONSIDERATIONS

While the term culture is frequently used in our everyday lives, it is not always clear exactly what it entails. Culture can be defined as an *embedded societal belief system* that is reflected in the behaviour of organisations and people (Gulev 2009; Kock and Van der Merwe 2009; McDermott and O'Dell 2001), or as a *collective programming of the mind* that distinguishes one human group from another (Gulev 2009; Benou, Gleason, and Madura 2007). According to (Steyn and Du Toit 2007) effective management must recognise the importance and the impact of culture, both the so-called organizational culture and the specific cultures of the people within the organization, on the organizational operations. Historically, cultural differences have often been mandated by religion (La Porta et al. 2000), by language (Stulz and Williamson 2003), or by law (Licht, Goldschmidt, and Schwartz 2005).

#### *Hofstede's Cultural Dimensions*

In terms of diverse organisational behaviour, recent literature recognises the value of Hofstede's cultural dimensions, which include:

- The *Power Distance Index* (PDI) dimension, which is the basic premise of how human inequality is handled by different societies (Orr and Hauser 2008). In a high PDI culture, more importance will be placed on status, rank and centralised power (Samovar, Porter, and McDaniel 2009).
- The *Individualism* (IDV) dimension, which describes the relationship between individuals and their prevailing relationship in a specific society (McFarlin and Sweeney 2006). In a high IDV culture, individuals tend to look after themselves, as opposed to after each other (Orr and Hauser 2008).
- The *Masculinity* (MAS) dimension, which indicates how the male characteristics (e.g. egocentric goals) and female characteristics (e.g. social beneficial goals) in a society differ (Samovar et al. 2009; Orr and Hauser 2008).
- The *Uncertainty Avoidance Index* (UAI), which provides an indication as to the manner in which a society accepts uncertainty (Sternad 2012; Avery, Baradwaj, and Singer 2008).

*Gray's Accounting Value Classifications*

Within an accountancy context, cultural factors have an influence on the development of accounting and financial reporting systems (Askary 2006; Dounnik and Tsakumis 2004). From Hofstede's basic cultural dimensions, Gray identified four accounting value classifications to define an accounting sub-culture, including (Chanchani and Willett 2004):

- The *Professionalism* classification, whereby a preference is set for individual professional judgement against a preference for prescriptive legal requirements and statutory controls.
- The *Uniformity* classification, whereby uniformity is seen as the preference of using the same accounting practices, as opposed to flexible accounting practices that adapt in accordance with the needs of the organisation.
- The *Conservatism* classification, whereby conservatism is seen as a preference for caution in order to avoid the uncertainty of future events as opposed to a more optimistic, *laissez-faire* and risk-taking approach.
- The *Secrecy* classification, whereby secrecy is the preference for disclosing financial information in a cautious manner as opposed to more transparent, open and publicly accountable approaches.

These accounting classifications have theoretically been linked to Hofstede's cultural value dimensions, from which the following hypotheses have been developed:

- H<sub>1</sub> *Higher IDV rankings together with lower UAI and PDI rankings should equate to a higher professionalism classification.*
- H<sub>2</sub> *Higher UAI and PDI rankings together with lower IDV rankings should equate to a higher uniformity classification.*
- H<sub>3</sub> *Higher UAI rankings together with lower IDV and MAS rankings should equate to a higher conservatism classification.*
- H<sub>4</sub> *Higher UAI and PDI rankings together with lower IDV and MAS rankings should equate to a higher secrecy classification.*

The above hypotheses expanding Hofstede's cultural dimensions into Gray's accounting value classifications, are supported by empirical research conducted by various researchers, including Olimid and St. Calu (2006) who found evidence in Romania for the first three of Gray's hypotheses, and Askary (2006) who confirmed the effects of culture on accounting professionalism in twelve developing countries, including Iran,



Bangladesh, Jordan, Oman and Qatar. Sudarwan (1994) used linear structural relations to test the validity of Gray's model and found that all four of the accounting value classifications are confirmed by Indonesian accounting practices and Chanchani and Willet (2004) who provided support for the accounting values of uniformity, professionalism and secrecy.

### Data Analysis and Interpretation

The responses received indicated that the majority of the workforce was male (86%,  $n = 18$ ) as opposed to female (14%,  $n = 3$ ), and that the French nationals accounted for 24% ( $n = 5$ ) of the respondents while the South African nationals accounted for 76% ( $n = 16$ ). In respect of experience, the majority of the respondents were older than 30 years (86%) and had more than five years' work experience (62%) with the company.

In respect of the questions pertaining specifically to cultural dimensions, the data was collected in terms of Likert scale selections ranging from 1 to 5. The first nine questions used a scale with 1 meaning *of utmost importance* and 5 meaning *of very little or no importance*. The tenth question used a scale with 1 meaning *always* and 5 meaning *never*, the 11th question used a scale with 1 meaning *very good* and 5 meaning *very poor*, the 12th question used a scale where 1 means *never* and 5 means *always*. The 13th to 16th questions used a scale with 1 meaning that the participant *strongly agrees* and 5 meaning that the participant *strongly disagrees*. The results (based on the mean from the responses) are indicated in table 1.

To reach the second objective as set out above partly, a two-sided hypothesis test was done to determine the difference between the means of the 16 scores in table 1 of the South African and the French respondents' answers, where  $H_0 = \mu_{RSA} - \mu_{French} = 0$  and  $H_1 = \mu_{RSA} - \mu_{French} \neq 0$ . A *t*-test that is suitable for smaller samples was used to test the hypothesis. Since Microsoft Excel was used in this analysis, the *F*-test was first performed that indicated that a *t*-test, assuming equal variances, should be run (see <http://www.qimacros.com/qiwizard/t-test-two-sample.html>). The results showed that  $\rho = 0.94 > \alpha = 0.05$ , implying that the null-hypothesis  $H_0$  should not be rejected, since there is no evidence to accept the alternative hypothesis  $H_1$  (Wegner 2007).

Furthermore, to reach the third objective as set out above partly, the 16 content questions indicated allow index scores to be calculated for the four dimensions of national value systems as components of national cultures, i. e. PDI, IDV, MAS and UAI. The index formulae are as follows:

- Power Distance Index:  $35(m_{07} - m_{02}) + 25(m_{13} - m_{15}) + C(pd)$  (1)

TABLE 1 Hofstede's dimensions: South African (RSA) versus French respondents (individual means)

Value Survey Model questions	RSA	French
1 Do you have sufficient time for your personal or home life?	1.69	2.00
2 Do you have a direct superior you can respect?	1.75	1.60
3 Do you get recognition for good performance?	1.69	1.20
4 Do you have security of employment?	1.75	2.80
5 Do you have pleasant people to work with?	2.94	2.00
6 Do you do work that is interesting?	1.69	1.60
7 Are you consulted by your superior in decisions involving your work?	1.44	2.20
8 Do you live in a desirable area?	2.44	3.00
9 Do you have a job respected by your family and friends?	3.19	3.60
10 Do you have opportunity for promotion?	1.50	2.00
11 How often do you feel nervous or tense?	3.25	3.40
12 How would you describe your state of health currently?	2.00	1.60
13 How often, in your experience, are subordinates afraid to contradict their boss?	3.44	3.40
14 Do you think one can be a good manager without having a precise answer to every question a subordinate may raise about his or her work?	2.31	1.60
15 Do you think an organisation structure in which certain subordinates have two bosses should be avoided at all cost?	1.94	1.40
16 Do you think an organisation's rules should not be broken – not even when the employee thinks breaking the rule would be in the organisation's best interest?	2.47	2.40
Total mean	2.22	2.24

- Individualism Index:  $35(m_{04} - m_{01}) + 35(m_{09} - m_{06}) + C(ic)$  (2)

- Masculinity Index:  $35(m_{05} - m_{03}) + 35(m_{08} - m_{10}) + C(mf)$  (3)

- Uncertainty Avoidance Index:  $40(m_{11} - m_{07}) + 25(m_{15} - m_{16}) + C(ua)$  (4)

The formulae can be interpreted as follows:  $m_{16}$  is the mean score for question 16 on the adjusted value survey questionnaire and  $C(pd)$ ,  $C(ic)$ ,  $C(ua)$  and  $C(mf)$  are all constants (positive or negative) that can be chosen by the user to shift the applicable indicator to values between 0 and 100.

The cultural dimensions of the French and South African respondents

TABLE 2 Cultural dimension index

Respondents	PDI	IDV	MAS	UAI
French	72	99	64	8
South African	28	56	78	64

in the accountancy function of the company were compared to each other (table 2). In further support of reaching the second objective, the Chi-squared test, which is only an upper tail test, for independence association, was performed to test the null-hypothesis,  $H_0$ . There is no association between culture and the four dimension index scores (i. e. they are independent), alternatively,  $H_1$ . There is an association (i. e. they are not independent). The level of significance is chosen as  $\alpha = 0.05$  and the degrees of freedom  $df = (\text{number of rows} - 1) \times (\text{number of columns} - 1) = 3$ . The results showed that  $\rho < 0.001$ , implying there is overwhelming evidence to reject the null-hypothesis  $H_0$  and support the alternative hypothesis  $H_1$  (Wegner 2007). The next sections provide the interpretation of Hofstede's cultural dimension index (third objective).

- The *PDI index* indicates that unequally distributed power is more acceptable to the French respondents (72) than to the South African respondents (28). Power inequalities may therefore be more often questioned by the South African respondents, while the French would accept power inequalities more readily.
- The *IDV index* indicates that individual rights are more dominant with the French respondents (99) than with the South African respondents (56). The French should therefore place more importance on the individual taking care of himself than the South African respondents.
- In respect of the masculinity, the *MAS index*, the French respondents consider attributes such as assertiveness and material success as less important than the South African respondents (64 vs. 78).
- The *UAI index* was assessed to be much higher with the South African respondents (64) than the French respondents (8), which indicate that different viewpoints should be better handled by the French respondents than by the South Africans respondents.

Following from the above, the cultural dimensions have been extended to the accounting classifications (table 3), which is the fulfilment of the fourth objective.

TABLE 3 Accounting value classification index

Classification	French				South African			
	PDI	IDV	MAS	UAI	PDI	IDV	MAS	UAI
Professionalism	72	99		8	28	56		46
Uniformity	72	99		8	28	56		46
Conservatism		99	64	8		56	78	46
Secrecy	72	99	64	8	28	56	78	46

- The cultural dimensions that relate to *professionalism* versus *statutory control* are the PDI, IDV and UAI indexes. Gray's first hypothesis suggests that a higher ranking in terms of IDV and a lower ranking in terms of UAI and PDI is suggestive of a preference for professionalism. The research revealed that due to a higher IDV ranking and lower UAI and PDI rankings, both the French (99/8/72) and the South Africans (56/46/28) should rank high in terms of professionalism. The French, however, have higher indicators for IDV and PDI than the South Africans, which should be indicative of even higher levels of professionalism and lower needs for statutory controls than the South Africans. The South African respondents, in turn, have a higher indicator of UAI, which is indicative of a strong feeling against uncertainties and therefore a higher preference for statutory control than the French.
- The cultural dimensions that relate to *uniformity* versus *flexibility* are PDI, IDV and UAI. Gray's second hypothesis suggests that a higher UAI and PDI ranking and lower IDV ranking will indicate that uniformity is preferred over flexibility. The research revealed that, due to a lower UAI and lower PDI and higher IDV, both the French (8/72/99) and the South Africans (46/28/56) will rank high in terms of flexibility. The South African respondents' higher UAI, however, indicates that they should perhaps be less willing to deviate from norms, with the French more likely to be more flexible.
- The cultural dimensions that relate to *conservatism* versus *optimism* are IDV, MAS and UAI. Gray's third hypothesis suggests that higher UAI and lower IDV and MAS classifications are indications of a preference in terms of conservatism, rather than optimism. The research revealed that, due to lower UAI and higher IDV and higher MAS classifications, both the French (8/99/64) and the South African (46/56/8) respondents will rank high in terms of optimism,

with the French respondents perhaps even slightly more optimistic and willing to take risks.

- The cultural dimensions relevant to *secrecy* and *transparency* are PDI, IDV, MAS and UAI. Gray's fourth hypothesis suggests that a higher ranking in terms of UAI and PDI and a lower ranking in terms of IDV and MAS are indicative of a preference for secrecy. The result indicates that with low UAI and PDI rankings and high MAS and IND (rankings) it is suggested that the South Africans (46/28/78/56) will prefer a more transparent, open and publicly accountable approach. The French respondents have very low UAI (8) and relatively high PDI (72) rankings together with very high IDV (99) and moderate MAS (64) rankings. The results indicate that only three of the four classification indicators (i. e. UAI, IDV and MAS) are relevant here, which may be indicative that the South Africans are likely to be more transparent than their French counterparts.

## Concluding Discussion

### SUMMARY OF RESEARCH FINDINGS

The objective of this study was to identify the cultural implications as experienced in an actual South African/French M&A scenario. A better understanding of cultural differences within this context will serve to make a successful M&A even better by ensuring that the *post-M&A* organisation continues to take cognisance of the fact that diverse cultural perceptions are at work in this case.

Referring to the first research question, the study found that there is no difference between the means of the 16 questions answered by the South African and the French respondents. Nevertheless, a visual inspection of the answers showed substantial differences between specific questions. These differences are further highlighted by the results of the Chi-squared test, implying that there is overwhelming evidence that there is an association between the national cultures and the four dimension index scores.

Referring to the second research question, that the focus needs to shift to the specific indices, the study revealed that there were significant differences in the power distance index between the French and the South African respondents. The French will tend not to take advice from their subordinates, while the South Africans may expect to be more included in the daily business decisions. The French respondents should also allow for more inequality between the organisational levels and wider salary

ranges. In this scenario, where the French nationals are in a South African environment, the input of the locals can be very important towards the success of the company post-M&A. The dimension relating to individualism indicated that the French had higher levels of individualism, which translates to higher expectations of individual rights. In the workplace, the French should be more open to hiring and promotional practices based on skills and rules, whereas the South Africans will consider the *in-groups* when making such decisions. This means that there might be conflict in hiring new employees or making promotions. The uncertainty avoidance index indicated that the South Africans had a higher level of uncertainty, which indicates that they will introduce more rigid procedures to reduce the levels of uncertainty, whereas the French will be more acceptable of uncertainty and will be more willing to take risks. The French will also have less stress and they will tend to be hard-working only when needed. The final cultural dimension, masculinity, indicated that although the difference between the French and the South Africans was relatively small, the South African respondents may be more focused on *living in order to work*, with South African managers more decisive and assertive, with more competition between colleagues. Cultures with lower masculinity indicators, such as the French respondents will tend to be more focused on *working in order to live*, with such managers striving for agreement, and resolving conflict by means of compromise and negotiation. Cultural conflict may therefore arise between the two cultural groups because the South Africans may be more intent on work with the French more intent on life characteristics.

The results of the study indicate that to a large extent the two groups of respondents can be divided into the same accounting value classifications. Notwithstanding, there are still differences in the levels within these classifications. The employees in the company will be very professional in their work and be adaptable to certain situations as they favour flexibility. The company will also favour an optimistic and transparent open approach to accounting. In three of the accounting values, the French participants had a higher level of professionalism, flexibility and optimism. The higher level of individualism and lower level of uncertainty avoidance contributed to the fact that the French will follow a higher level of professionalism than the South Africans. The fact that the French have a lower level of uncertainty and a higher level of individualism contributed to the fact that they rank higher in terms of flexibility and optimism, because they are more willing to take risks and to adapt to certain situa-

tions. The fact that all four the cultural dimensions apply to the South Africans, indicated that they will rank higher in terms of transparency as opposed to only three dimensions applicable on the French. Although the difference between the accounting values is not that big, it is still apparent that the cultural dimension does affect the level of the accounting values.

#### IN CONCLUSION

The above findings indicate that culture does play a crucial part in cross-border M&As. In this case study, it was statistically evident that there are differences between the cultures, which may lead to cultural conflict and may hamper the success of the cross-border merger or acquisition. In terms of the cross-border M&A, the financial director indicated that the holding organisation made use of a facilitator who acted as a mediator between the South Africans and the French. The mediator, however, was French and as such he had very limited experience of the South African culture or how they do things, but he had a clear objective in that he had to *influence* all processes and practices to see what can be challenged within current laws and cultural constraints. As part of the South African management team, a key phrase in this stage was *no holy cows*, meaning that all processes and procedures were challenged so that only the best, either French or South African, was maintained or incorporated. This could be a key reason why the acquisition of the organisation was such a success.

#### LIMITATIONS TO THE STUDY

There are a number of limitations to the research study. Firstly, the general uncertainty of the ability of questionnaire surveys to reveal understandable and cultural characteristics is a limitation. It is assumed that the questionnaire responses were truthful and meaningful and that reported attitudes, perceptions, beliefs and values have significance for the respondents in terms of social action. Secondly, it is assumed that the responses to the questionnaire items reflect substantive constructs rather than reactions to linguistic signals. Thirdly, the reader should take cognisance of the fact that this article describes a single and specific case study with a limited sample size. As such the detailed facts are particular to this case and care should therefore be taken not to generalise findings of the case study necessarily to all cross-border M&As, but should be understood within the context of this case study.

## RECOMMENDATIONS FOR FURTHER RESEARCH

Further research in this field, focusing on different organisations and cultures, would also be beneficial, as it could provide additional valuable assistance to organisations wishing to participate in cross-border M&As. The South African business context is culturally very diverse with 11 official (indigenous) languages, each with a distinct population group and associated culture. The developing South African economy is also attracting major foreign investors from Asia, North America and Europe. Better understanding the impact(s) of national, individual and corporate culture within this ‘melting pot’ of cultures may go a long way in promoting successful M&As. The more accurate and relevant the ‘soft information’ about cultural roles in a corporate environment, the bigger the chances are that organisations will investigate the cultural fit before entering into the actual business transaction.

## Notes

- 1 This article is based on the research conducted by Stefan Stander’s Master’s degree in Managerial Accounting at the Potchefstroom Campus of the North-West University in South Africa.

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### Je tuja pomoč zdravilo za afriške probleme? Primer Namibije

Ravinder Rena

Namibija je v 21 letih neodvisnosti doživela izjemno gospodarsko rast. Sedanja gospodarsko rast, ocenjujejo jo na 4–5 odstotkov, poganja predvsem povečevanje konkurenčnosti na področju rudarstva. Ta panoga prispeva polovico vseh prihodkov države iz mednarodnega poslovanja. Po drugi strani pa nizka raven vlaganj v gospodarstvo in izobraževanje predstavlja znatno oviro povečevanju gospodarske raznolikosti in lahko povzroči slabše rezultate na področju inovativnosti. Zaradi vsega tega in navkljub razmeroma visokim povprečnim dohodkom ostaja Namibija do neke mere še vedno odvisna od tuje pomoči. Članek obravnava vpliv tuje pomoči na namibijsko gospodarstvo, ob tem pa na namibijskem primeru sistematično analizira vpliv te pomoči na dežele v razvoju. Petdeset let po začetku prvih programov razvojne pomoči namreč ostaja še vedno odprto vprašanje učinkovitosti takšne pomoči. Namen pričujoče raziskave je ugotoviti, če je tuja pomoč učinkovit način pomoči Namibiji pri doseganju razvojnih ciljev.

*Ključne besede:* tuja pomoč; afriško gospodarstvo; namibijsko gospodarstvo; gospodarski razvoj; vlaganja

*Klasifikacija JEL:* F35, H11

*Managing Global Transitions* 11 (3): 223–241

### Okoljsko ravnanje južnoafriškega rudarskega podjetja in njegova donosnost

Gibson Nyirenda, Collins C. Ngwakwe in Cosmas M. Ambe

Članek preučuje vpliv postopkov v zvezi z okoljskim ravnanjem na donosnost južnoafriškega rudarskega podjetja. Poglavitni cilj članka je raziskati, ali so takšni postopki v tesni povezavi z donosnostjo podjetja (ki ga predstavlja donosnost lastniškega kapitala). V ta namen je bila narejena študija primera južnoafriškega rudarskega podjetja, ki je na seznamu družbeno odgovornih podjetij, uvrščenih na johannesburško borzo vrednostnih papirjev. Za primer je bilo izbrano podjetje Green-Steel (namesto pravega imena je uporabljen psevdonim). Z uporabo multiple regresije smo skušali poiskati povezavo med donosnostjo kapitala v podjetju Green-Steel in tremi področji okoljskega ravnanja v tem podjetju (zmanjševanje izpustov CO<sub>2</sub>, energetska učinkovitost in

poraba vode). Izsledki kažejo, da med spremenljivkami ni pomembne povezave, kar potrjujejo navedbe v okoljevarstvenih poročilih podjetja Green-Steel, po katerih je motiv okoljskega ravnanja predvsem spoštovanje zakonodaje, pa tudi moralna obveza k okoljskemu ravnanju zaradi zmanjševanja vplivov na podnebje.

*Gljučne besede:* okoljsko ravnanje; rudarska podjetja; donosnost lastniškega kapitala

*Klasifikacija JEL:* M11, M41

*Managing Global Transitions* 11 (3): 243–260

### **Indijski izvoz usnja in usnjenih izdelkov v scenarijih WTO: razčlemba smeri razvoja in strukturnih sprememb**

*Shrabanti Maity*

Trgovino se pogosto obravnava kot gonilo gospodarske rasti. V deželah v razvoju, kakršna je Indija, ima trgovina pomembno vlogo pri zagotavljanju trajnostnega razvoja. Med najpomembnejše indijskimo izvozno blago sodijo usnje in usnjeni izdelki (na Indijo odpadeta približno dva odstotka svetovne trgovine s tem blagom). Zaradi tega je smotrno preveriti stanje na področju indijskega izvoza usnja in usnjenih izdelkov. Članek preučuje probleme indijske industrije usnja in predlaga možne rešitve zanje. Uporabljen je bil Poirierjev (1974) način ocenjevanja stopnje rasti izvoza usnja in usnjenih izdelkov v času pred vstopom v WTO in po njem. Spremenljivost pridodkov od izvoza je bila merjena s pomočjo Cuddy-Della Vallejevega indeksa.

*Gljučne besede:* izvoz usnja in usnjenih izdelkov; Poirierjev pristop;

Cuddy-Della Vallejev indeks; obdobje pred in po vstopu v WTO

*Klasifikacija JEL:* Q17, Q13

*Managing Global Transitions* 11 (3): 261–281

### **Napovedovanje uspešnosti dela zaposlenih v bančništvu: je mogoče psihološko testiranje uporabljati kot kristalno kroglo?**

*Mirjana Pejić Bach, Natalija Šimić in Marjana Merkač*

Človeške vire dandanes štejejo za eno od najpomembnejših ključnih primerjalnih prednosti organizacije. Management človeških virov obsega nabor, izbiro in usposabljanje najprimernejših kandidatov za določeno delovno mesto. Čeprav ima usposabljanje pomemben vpliv na učinkovitost zaposlenih, ostajata nabor in izbira še vedno najpomembnejša koraka. Cilj članka je raziskati, ali je na podlagi posebnih značilnosti kandidatov za zaposlitev v bančništvu mogoče napovedovati

njihovo uspešnost pri delu. V raziskavi so bili uporabljeni podatki iz zbirke o hrvaških bančnih uslužbencih; skupaj je bilo testiranih 1659 kandidatov za zaposlitev. Rezultati multiple regresijske analize kažejo, da so pri napovedovanju uspešnosti zaposlenih v bančništvu najpomembnejše njihove kognitivne zmožnosti, razsodnost, zmožnost obvladovanja, pogum, občutljivost, zmožnost sprejemanja sprememb, toplina in čustvena trdnost. Na podlagi teh izsledkov je bil kot pomoč pri izbiri kandidatov izdelan *Profil dobrega kandidata za zaposlitev v bančništvu*.

*Gljučne besede:* zaposlovanje; psihološko testiranje; podatkovno rudarjenje; testi kognitivnih zmožnosti; testi osebnostnih značilnosti

*Klasifikacija JEL:* M51, M54, C81

*Managing Global Transitions* 11 (3): 283–299

### **Uporaba kulturnih dimenzij in ogrodja razvrstitve računovodskih vrednosti pri proučevanju kulturne raznolikosti v mednarodnem podjetju v Južni Afriki**

*Stefan Stander, Pieter Buys in Merwe Oberholzer*

Razvijajoče se južnoafriško gospodarstvo ponuja dobre poslovne priložnosti za globalna podjetja. Čeprav so združitve in prevzemi pogost način vstopa v razvijajoče se gospodarstvo, se s takšnimi poslovnimi povezavami pogosto ne uspe ustvariti trdnih podjetij; vzrok temu so kulturne razlike med državami in podjetji. V pričujoči študiji je bil raziskan možen vpliv kulturnih razlik v primeru, ko je mednarodna skupina s sedežem v Franciji kupila južnoafriško podjetje. Jasno so se pokazale kulturne razlike v vedenju in ravnanju na delovnem mestu, ki so pripeljale do sporov, ti pa so ovirali izvajanje računovodskih dejavnosti v podjetju. V tej raziskavi je bilo na podlagi Hofstedejevih kulturnih dimenzij in Grayevega ogrodja razvrstitve računovodske vrednosti vodstvu podjetja pokazano, kako kulturna usmeritev v deželi vpliva na njihovo poslovanje.

*Gljučne besede:* razvrstitev računovodske vrednosti; kultura podjetja; kulturne razsežnosti; prevzemi in združitve; odpori; trajnost

*Klasifikacija JEL:* M10, M41

*Managing Global Transitions* 11 (3): 301–316



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