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CLUSTER ANALYSIS OF USA UNIVERSITIES AS REVENUE DIVERSIFIERS DURING THE FINANCIAL CRISIS

Abstract

For more than ten years, Universities have experienced an increase in the complexity of their work and the *competitive scenario* that is very crowded, unstable and rather unforeseeable.

On one side, audiences are multiple and always changing in their estimates of relationships with universities. On the other side, universities are always looking for diversified revenues, as public and private grant-makers suffer of budgetary cuttings.

The first paragraph is focused on the nonprofit entrepreneur and the university as a nonprofit entrepreneur who diversifies revenues. The second paragraph is mainly concerned on the presentation of revenue diversification in 85 USA universities in 2008–2009, their performances affected by the financial crisis. The third paragraph is a cluster analysis – Ward and K-means – of the sample as for performances of these universities who have sometimes exaggerated the role of investments as a source of income.

The analysis will give evidence that *revenue diversification* through investments caused heavy losses.

Key words:

University, performance, cluster.

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To my University Maestro,
Professor Carlo Ricciardi

1. Literature review
on nonprofit entrepreneurship
and revenue diversification

Nonprofit entrepreneurs are a solution to market failures in the accomplishment of several social goals. They play a crucial role in market economies (Koning, Noailly and Visser: 2006, Seaman: 2004). In most European countries, they supply *merit goods* like education thanks to the public and the private support (OECD: 2010, 2009 and 2007). In the USA, private contributions and program service revenues have always been prevailing for decades in nonprofit universities (IRS Report: 2010). Nevertheless, next to them, the importance of investment incomes has grown.

The global economic crisis – especially the flop of financial markets – is, particularly, affecting nonprofit entrepreneurs: endowments are suffering, contributions and program services revenues are not always increasing, financing through investments is generating big losses as for the collapsing of assets. Besides, the market for donations is featured by a keen competition: donors are targeted by a pressing cause-related marketing and the selection of the good cause becomes for them a priority (Gordon, Knoch and Neely: 2009; Chhaochharia and Gosh: 2008).

The literature counts several contributions about entrepreneurship of nonprofit firms (Seaman and Young: 2010; Short, Moss and Lumpkin: 2009). The literature debate is, often, focused on the question of the main target: the nonprofit entrepreneur should not concentrate on revenues or gains, but on the excellent accomplishment of the *merit* activity. The nonprofit entrepreneur should estimate the number of customers or donors, the customers' and donors' satisfaction, the reputation or prestige, all variables that are not always calculated in euros or dollars. Standards should matter when euros and dollars were not the most important parameters.

Moreover, if an entrepreneurial approach is to be applied, this one is not a recall of strategies, best practices and standards usually developed by for-profit entrepreneurs. A proper theory should be developed for the nonprofit «busi-

ness», with mutual concessions of economics and management theories, of fundraising and «other financing» solutions, though the performance analysis could always recall that the Net Gain is a positive signal for any stakeholders and that the institutional form of the Nonprofit implies that the net gains must be returned to the nonprofit Goals.

Nonprofit entrepreneurs (Hsieh: 2010; Peneder: 2009) manage multiple targets and, as a consequence, they try to diversify revenue sources in order to cope with these different targets (Carrol and Stater: 2008; Geiger: 2000; Chang and Tuckman: 1994). They may *amplify* the value of merit goods they provide, so that customers will buy more and public fund-givers will be more inclined to subsidize their productions, the whole process allowing them to spread the range of resources, maximize their revenues and consolidate their competitive advantage (the positive spiral from the growth of customers, donors and other clients).

For nonprofit universities, the range of stakeholders is always varying including students, public administrations, investor relators, etc. From fundraising to marketing, also considering positive performances of investments of assets and inventories, the revenue diversification is implemented in order to gain resources – money and in-kind – for the cause from multiple audiences (Carroll and Stater: 2008, Okten and Weisbrod: 2000). From a draft application to mature strategies, marketing, fundraising and other resource-raising are exploited by the «nonprofit university» who copes with the never-ending compromise between *the first best* of the education quality and an efficient allocation of resources.

The aim of this paper is to verify how revenue diversification negatively affected performances of USA Universities during the latest crash of financial markets, when relying on incomes from investments whose collapse was evident in 2008–2009. This trend affected both their total revenues, net gains, net assets and total assets.

The next paragraph will be a description of main 2008–2009 performances of 85 USA Universities, whose sample was selected in «B43 Universities and Technological» category of the Guidestar website, www.guidestar.org during September 2010 – January 2011. The analysis will consider available 990Forms[1] of the years 2008 and 2009 of the first 85 USA Universities, there listed for the relevancy of the keyword «university» and fully listed in the QS

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[1]The Form 990, *Return of Organization Exempt From Income Tax,* is the IRS's primary tool for gathering information about tax-exempt organizations, for educating organizations about tax law requirements, and for promoting compliance with tax law. It shows several sorts of information: from governance to the composition of assets, liabilities, revenues and expenses of a charity, not for profit organizations, those organizations engaged in the accomplishment of good causes. With regard to a tax period beginning on the 1st of July and ending on the 30th of June, the Form 990 is an annual document used by approximately one-third of all USA public charities to report information about their finance and operations to the Federal Government.

World University Rankings 2010 too. The focus of the analysis will be the composition of revenue macro-categories of USA Universities: contributions, program service revenues, investment incomes and other revenues.

The third paragraph will be a multivariate cluster analysis of 2009–2008 variations in gains, total assets and net assets, these ones ultimately and negatively conditioned by revenue performances. The cluster analysis – Ward and K-means Methods – of the sample will give evidence of emblematic groups.

This analysis points out the negative performances of USA Universities with an ongoing global crisis of financial markets: this sample should reconsider traditional and innovative fundraising from public and private grant-makers, marketing to students – revenues from tuition fees are still increasing – and other audiences and drastically revise the role of other resource-raising.

2. The revenue diversification
of USA universities

USA university fundraisers and marketing officers relate to several stakeholders. There are primary alternative financial resources: tuition fees, institutional and faculty entrepreneurship, philanthropy and other revenues from asset management. Both public and private contributions can be so important as program service revenues, dividends and sales of assets.

Fundraising is mainly developed through relationship marketing, mailing and community building, events and membership. Price and Product Marketing are absolutely essential next to fundraising.

Public and private contributions are originated from fundraising campaigns. Program service revenues depend on the segmentation of paying students and paid services. Other revenues may derive from sales of financial instruments or other assets, profiling a sort of University-Investor.

The university governance is often confronted with a marketing vs. fundraising trade-off, where marketing that is typical of for-profit industries regards customers, their segmentation and their purchasing-power exploitation, and fundraising that is typical of not-for-profit industries corresponds to gain the propensity and trustworthiness of donors, both public and private fund-givers. The exploitation of the «willingness to pay» (Choi, 2009; Delaney and O'Toole, 2007) is as important as the exploitation of the «willingness to donate».

Main stakeholders of USA universities may be summed up as the following:

- *Donors.* They are philanthropists. They are research *partners* who are interested in focused alliances and joint venturing and they are *big*

philanthropists[2] too. These ones provide a meaningful bequest for the University of their territory. Supporting a strong *community identity*, they donate money to education centers that are key-stakeholders of their domicile. The third category of donors include *ex alumni*, funding clubs who are volunteering as for time, in-kind resources and money too.

- *Customers*. They are students who are paying fees and any other client who is paying a service – from consultancy to locations –.

- *Other Audiences*. From the sale of assets and other tangibles or financial, USA universities diversify their revenues also investing their capital. Above all, revenues from investments include *Interest on savings and temporary cash investments*: the amount of interest income from savings and temporary cash; *Dividends and interests from securities*: the income from equities and securities; *Sales of Assets and Inventories*; *Other investment income*. *Other Revenues* may include *Revenues of Fundraising Special Events* and *Rental Incomes*.

If the above-mentioned are stakeholders, strategies are:

- *fundraising;*

- *pricing;*

- *investing and other resource-raising.*

Students generate the main revenue of tuition fees, the so-called Program Service Revenues. The processing of paying has been eased with accurate financing schemes, from loans to risk-sharing and pooling so that the students' liquidity constraint has been surrounded. Otherwise, it should be considered that today USA Universities have multiple *clients*. The range of their core business is quite wide. Few examples, referring to the biggest universities of our sample as for 2009 total assets, will be useful. For example, Program Service Revenues of Harvard do not only refer to *Tuition and fees* but also to *Publications, Health services, Laboratory services, Museums, Conferences* and the *Dental clinic*. The Education of Harvard has, therefore, developed in curricula, research objectives, cultural activities[3] and *Social Goals* for decades. For Yale the *Students Income* is listed next to the *Medical services income*, the *Publications* one, the *Contract* one (non government), *Royalties, Athletic admissions and fees, Application fees and service charges, Library fees, Subscription ticket sales* and *Other material sales*[4]. For Stanford the *Students Income* is listed next to *Nongovernment Research, Patient Care, Special Programs* and *Driving Range*. For Princeton the accounting line of Program Service Revenues includes *Tuition and fees, Gradu-*

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[2] The so called *major donors*.
[3] The *Preservation and conservation of arts and related materials* is one activity that Harvard lists and this activity importantly contributes to the accomplishment of this organization's exempt purpose.
[4] All these categories are listed in 990 Forms of the mentioned Universities.

ate student housing, Dormitory fees, Food services, Conference and event services, Athletic fees, Advertising and *Other.*

The public and private philanthropy ensures the important resource of *Contributions, grants, gifts and similar*[5]. Grant-making and memberships may here refer to several partners, from individuals to corporations, from grant-making foundations to international organizations.

Sometimes meaning a much more important share of total revenues than *Contributions, Investment* opportunities have derived of university assets and the traditional financial markets, where either temporary cash investments or securities may have generated positive performances. Inside of specific Offices and Departments, University Managers have been growing in the investing proficiency. Sometimes stimulated by diminishing resources from other grant-makers or financing partners, they have developed effective investing policies. The push for increasing revenue supplementation has, as a consequence, increased investing relations and financial products: among them, financial derivatives and other financial products, common stocks, closely-held equity interests, real assets, real estates, pooled funds, limited partnerships. This strategy could have nourished revenues before the latest collapse of financial markets.

In the revenue composition, the percentage of *Other revenues* may demonstrate that the exploitation of Universities locations and proficiencies can be profitable, both for students and other several stakeholders, and the creativity of University Managers is quite accurate in the analysis of business opportunities. The Research is the most comprehensive projecting that generates revenues: apart of partnerships with corporations of different industries, for example from the pharmaceutical to the entertainment one, publications of research results, patents and other Commercial Research may push further this type of income.

The sample was selected in «B43» category of the Guidestar website, www.guidestar.org during September 2010 – January 2011. The analysis refers to available 990Forms of the years 2008 and 2009 of the first 85 USA Universities, there listed for the relevancy of the keyword «university» and, for available data,[6] listed in the QS World University Rankings 2010 too.[7]

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[5] Government grants are here included. Accounting categories are here classified as for the USA Internal Revenue Services Guidelines.

[6] In Guidestar, the «B43 University or Technological» category includes 804 organizations. Most universities gave birth to several organizations: these ones manage hospitals, libraries, sports and other leisure activities, ex alumni associations, etc. We only considered the 990Form of the core organization. After the selection of USA universities in the *QS World University Rankings 2010*, we explored the 804 organizations in order to find the USA universities that were listed in the Ranking. They are not all present in Guidestar. As a consequence, we extrapolated the full sample – here investigated – considering the relevance of the keyword in the search engine Guidestar and the ranking for increasing 2009 total revenues.

[7] QS *World University Ranking, 2010 – Top 500 Universities*, Quacquarelli Symonds Limited. www.qs.com

The sample shows same relevant performances at the end of 2008 and 2009: Total Assets increased from $ 405,310,076,200 in 2008 to $ 407,277,806,200 in 2009 with a very modest change of 0.48%; Net Assets diminished from $ 325,993,263,800 in 2008 to $ 288,727,746,700 in 2009 with a worrying change of -12.90%; Total Revenues decreased from $ 102,072,392,900 in 2008 to $ 79,370,002,300 with a consistent change of -28.60% and The Net Gain of $ 21,238,977,380 in 2008 changed in a Loss of $ -14,059,940,450 with an impressive decrease of –166.19%. The magnitude of critical performances is also evident if we consider indexed Gain and Loss: in 2008 the Gain of the sample is 20.80% of Total Revenues and 6.51% of Net Assets; in 2009 the Loss is –17,71% of Total Revenues and –4,86% of Net Assets, a repentine change of the sign, from positive to negative, and a consistent change.

In the Table 1 these Universities are ranked for increasing 2009 total assets and the composition of 2009 revenues, which are indexed to total revenues for the four categories of the 990Form, is evident:

Table 1

Composition of revenues for 85 USA Universities
(of 2009 total revenues, referring to the four categories of the 990Form)

The Sample	2009 Contributions	2009 Program Service Revenues	2009 Investment Income	2009 Other Revenues
NATIONAL-LOUIS UNIVERSITY, WHEELING	0,073392271	0,91007451	0,01038883	0,006144389
UNIVERSITY CONCORDIA TEXAS, AUSTIN	0,217242994	0,774413983	0,0106462	-0,002303178
ST MARYS UNIVERSITY OF MINNESOTA, WINONA	0,084818239	0,897837311	0,008579619	0,008764832
UNIVERSITY OF CHARLESTON, CHARLESTON	0,147805114	0,820989236	0,022039763	0,009165886
TRUSTEES OF THE HAMLINE UNIVERSITY OF MINNESOTA, SAINT PAUL	0,094708412	1,060028112	-0,158429027	0,003692504
XAVIER UNIVERSITY, NEW ORLEANS	0,239489677	0,238973051	-0,027100072	0,548637345
UNIVERSITY OF THE SOUTH, SEWANEE	0,144068884	0,974886266	-0,142413929	0,023458778
SAMFORD UNIVERSITY, BIRMINGHAM	0,368220615	0,996253857	-0,364474473	0
BRADLEY UNIVERSITY, PEORIA	0,136637552	1,118698623	-0,255107599	-0,000228576
SEATTLE UNIVERSITY, SEATTLE	0,130779993	0,852027795	0,016677603	0,000514609
HAMPTON UNIVERSITY, HAMPTON	0,3457906	0,65336125	0,001069523	-0,000221373
VILLANOVA UNIVERSITY, VILLANOVA	0,069928453	0,945338968	-0,055114543	0,039847122
BUCKNELL UNIVERSITY, LEWISBURG	0,142977956	0,812973998	0,019237898	0,024810148
SOKA UNIVERSITY OF AMERICA, ALISO VIEJO	0,35399661	0,179401127	0,448390297	0,018211966
UNIVERSITY OF SAN DIEGO, SAN DIEGO	0,070980439	0,962893296	-0,083582586	0,049708851

The Sample	2009 Contributions	2009 Program Service Revenues	2009 Investment Income	2009 Other Revenues
CREIGHTON UNIVERSITY, OMAHA	0,164711055	0,864853496	-0,030521439	0,000956888
LOMA LINDA UNIVERSITY, LOMA LINDA	0,212811309	0,373684536	0,082660546	0,330843609
UNIVERSITY OF SAINT THOMAS, SAINT PAUL	0,151048925	0,891201161	-0,102144889	0,059894802
JULLIARD SCHOOL, NEW YORK	0,767024867	0,868061525	-0,647905875	0,012819482
LOYOLA MARYMOUNT UNIVERSITY, LOS ANGELES	0,096114674	0,925336761	-0,017904992	-0,003546443
THE AMERICAN UNIVERSITY, WASHINGTON	0,049753069	0,953917841	-0,003670911	0
NOVA SOUTHEASTERN UNIVERSITY, FORT LAUDERDALE	0,070868926	0,94399638	-0,000839355	-0,014025951
DEPAUL UNIVERSITY CHICAGO	0,04833142	0,957087602	-0,034634726	0,029215704
ST JOHNS UNIVERSITY, QUEENS	0,064164963	0,968124465	-0,032289428	0
WAKE FOREST UNIVERSITY, WINSTONSALEM	0,152615973	0,898289132	-0,071515558	0,020610454
UNIVERSITY OF DAYTON, DAYTON	0,082728756	0,961723517	-0,067507923	0,023055649
UNIVERSITY OF TULSA, TULSA	0,503678945	1,624590916	-1,128763519	0,000493658
COLORADO SEMINARY, DENVER	0,048372759	0,937868425	0,004424828	0,009333988
MARQUETTE UNIVERSITY, MILWAUKEE	0,118312657	0,90953374	-0,064527149	0,036680752
LOYOLA UNIVERSITY OF CHICAGO, CHICAGO	0,231902447	0,861450594	-0,10093068	0,00757764
DREXEL UNIVERSITY, PHILADELPHIA	0,220861075	0,844348408	-0,080953692	0,015744209
FORDHAM UNIVERSITY, BRONX	0,129205266	0,921893289	-0,05167267	0,000574114
BRANDEIS UNIVERSITY, WALTHAM	0,135095392	0,870869659	-0,013637011	0,00767196
PRESIDENT AND FELLOWS OF MIDDLEBURY COLLEGE, MIDDLEBURY	0,177557672	0,818162019	0,003625711	0,000654599
PEPPERDINE UNIVERSITY, MALIBU	0,083578963	1,002238493	-0,084379955	-0,001437501
THE HOWARD UNIVERSITY, WASHINGTON	0,292446828	0,736900544	-0,037946616	0,008599244
SANTA CLARA UNIVERSITY, SANTA CLARA	0,133730564	0,925374173	-0,056686425	-0,002418312
ROCHESTER INSTITUTE OF TECHNOLOGY, ROCHESTER	0,228507244	0,786401903	-0,027050451	0,012141304
RENSSELAER POLYTECHNIC INSTITUTE, TROY	0,297644453	0,707889126	-0,017396336	0,011862757
SAINT LOUIS UNIVERSITY, ST LOUIS	0,17024567	0,864701853	-0,055451342	0,020503819
TEXAS CHRISTIAN UNIVERSITY, FORT WORTH	0,182023936	1,051802043	-0,33282305	0,098997071
LEHIGH UNIVERSITY, BETHLEHEM	0,266943779	0,80898477	-0,081825487	0,005896938
INDIANA UNIVERSITY FOUNDATION, BLOOMINGTON	-0,312647463	-0,056541836	1,377137968	-0,007948668
THE TRUSTEES OF THE SMITH COLLEGE, NORTHAMPTON	0,271820258	0,687248265	0,016471505	0,024459973
BAYLOR UNIVERSITY, WACO	0,106000747	0,794420089	0,092819096	0,006760068
ADMINISTRATORS OF TULANE EDUCATIONAL FUND, NEW ORLEANS	0,275362299	0,693869576	-0,0350339	0,065802024
NORTHEASTERN UNIVERSITY, BOSTON	0,114267824	0,957673253	-0,083509914	0,011568838
CARNEGIE MELLON UNIVERSITY, PITTSBURGH	0,459149591	0,638419894	-0,120945337	0,023375852

The Sample	2009 Contributions	2009 Program Service Revenues	2009 Investment Income	2009 Other Revenues
SOUTHERN METHODIST UNIVERSITY, DALLAS	0,218083546	0,859630238	-0,093814609	0,016100825
SYRACUSE UNIVERSITY, SYRACUSE	0,101889301	1,015529395	-0,118134667	0,00071597
YESHIVA UNIVERSITY, NEW YORK	0,460764297	0,569365994	-0,043776597	0,013646306
PRESIDENT AND DIRECTORS OF GEORGETOWN UNIVERSITY, WASHINGTON	0,373061643	0,577021853	0,006543811	0,043372694
TEMPLE UNIVERSITY, PHILADELPHIA	0,319003073	0,635617861	0,040194801	0,005184265
UNIVERSITY OF DELAWARE, NEWARK	0,212006243	0,592742358	-0,0461529	0,241404299
TRUSTEES OF TUFTS COLLEGE, SOMERVILLE	0,382242207	0,77048902	-0,1601024	0,007371172
CASE WESTERN RESERVE UNIVERSITY, CLEVELAND	0,624970617	0,478120209	-0,111137579	0,008046753
THE ROCKEFELLER UNIVERSITY, NEW YORK	1,187383999	0,231198843	-0,551324019	0,132741177
THE GEORGE WASHINGTON UNIVERSITY, WASHINGTON	0,070931828	0,955012534	-0,043916786	0,017972424
TRUSTEES OF BOSTON COLLEGE, CHESTNUT HILL	0,239168248	0,755997472	0,001957047	0,002877233
UNIVERSITY OF MIAMI, CORAL GABLES	0,212090869	0,831951171	-0,045972265	0,001930225
UNIVERSITY OF ROCHESTER, ROCHESTER	0,031820443	0,940255403	0,007789067	0,020135087
BROWN UNIVERSITY, PROVIDENCE	0,475825605	0,634950846	-0,145933327	0,035156876
CALIFORNIA INSTITUTE OF TECHNOLOGY, PASADENA	0,157670983	0,833852043	-0,004137384	0,012614358
TRUSTEES OF BOSTON UNIVERSITY, BOSTON	0,134757393	0,779323717	0,065354515	0,020564375
TRUSTEES OF DARTMOUTH COLLEGE, HANOVER	0,468402443	0,602527296	-0,03570123	-0,035228509
UNIVERSITY OF PITTSBURGH, PITTSBURGH	0,158969086	0,871270239	-0,037084027	0,006844702
WILLIAM MARSH RICE UNIVERSITY, HOUSTON	0,405868032	0,565208719	-0,047509099	0,076432347
UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES	0,294682153	0,811905113	-0,107508428	0,000921163
JOHN HOPKINS UNIVERSITY, BALTIMORE	0,078873333	0,91847977	-0,008007566	0,010654463
NEW YORK UNIVERSITY, NEW YORK	0,19168293	0,819417767	-0,039364173	0,028263476
VANDERBILT UNIVERSITY, NASHVILLE	0,16589962	0,844749919	-0,024328514	0,013678975
UNIVERSITY OF NOTRE DAME DU LAC, NOTRE DAME	0,255339694	0,680199881	0,054838878	0,009621547
WASHINGTON UNIVERSITY, SAINT LOUIS	0,32658339	0,731318708	-0,08064784	0,022745741
THE UNIVERSITY OF CHICAGO, CHICAGO	0,454774862	0,53794794	-0,028694801	0,035971999
NORTHWESTERN UNIVERSITY, EVANSTON	0,126652173	0,856544947	-0,035438528	0,052241408
DUKE UNIVERSITY, DURHAM	0,614441076	0,439046928	-0,080472005	0,026984
EMORY UNIVERSITY, ATLANTA	0,21946769	0,805270895	-0,031670671	0,006932086
CORNELL UNIVERSITY, ITHACA	0,116511074	1,079186416	-0,365120004	0,169422513

The Sample	2009 Contributions	2009 Program Service Revenues	2009 Investment Income	2009 Other Revenues
TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA	0,245387737	0,748150505	0,002261518	0,004200239
THE TRUSTEES OF COLUMBIA UNI-VERSITY, NEW YORK	0,398139933	0,589318235	-0,049473251	0,062015083
MASSACHUSSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE	0,480301609	0,895031128	0,019770006	-0,395102743
THE TRUSTEES OF PRINCETON UNI-VERSITY, PRINCETON	0,422095894	0,135679045	0,401572336	0,040652725
STANFORD UNIVERSITY BOARD OF TRUSTEES, PALO ALTO	0,608239321	0,714075878	-0,352190526	0,029875326
YALE UNIVERSITY, NEW HAVEN	0,281442162	0,362809247	0,323152475	0,032596117
PRESIDENT AND FELLOWS OF HAR-VARD COLLEGE, CAMBRIDGE	-0,543744555	-0,467749985	2,039156003	-0,027661463

Source: our elaboration of 990Forms data

Note: Universities are listed for increasing Total Assets, 2009

As it is clearly understood, most sufferings are in investments, whose results were quite different at the end of the previous year, 2008. Exactly, only three Universities had losses from investments in 2008. 71,76% of the sample suffered from a loss from investments in 2009.

The Table 2 refers to investment incomes in 2008, 2009, their change and the change in gains. In 2008 most of data were positive. Besides, for 20 Universities revenues from investments were more than one quarter of total revenues in 2008.

Table 2

The flop of investments in 2008–2009

The Sample	Investment Income 2009 (of total rev.s)	Investment Income 2008 (of total rev.s)	Change of Investment Income	Change for Gain or Loss
TRUSTEES OF THE HAMLINE UNI-VERSITY OF MINNESOTA, SAINT PAUL	-0,158429027	-0,060839241	1,470458321	1,821956008
TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA	0,002261518	-0,045820678	-1,055775696	-0,634870556
YESHIVA UNIVERSITY, NEW YORK	-0,043776597	-0,024765406	0,52808684	1,95602042
DREXEL UNIVERSITY, PHILADELPHIA	-0,080953692	0,002871431	-30,72897774	-27,29546991
NORTHEASTERN UNIVERSITY, BOSTON	-0,083509914	0,011479305	-8,071391444	-2,294932282

The Sample	Investment Income 2009 (of total rev.s)	Investment Income 2008 (of total rev.s)	Change of Investment Income	Change for Gain or Loss
CARNEGIE MELLON UNIVERSITY, PITTSBURGH	-0,120945337	0,014957739	-7,506086911	-2,119977298
NOVA SOUTHEASTERN UNIVERSITY, FORT LAUDERDALE	-0,000839355	0,015468819	-1,058686055	-0,375983908
THE HOWARD UNIVERSITY, WASHINGTON	-0,037946616	0,017149594	-3,217301362	2,419448081
NATIONAL-LOUIS UNIVERSITY, WHEELING	0,01038883	0,019902773	-0,483076614	-0,254476036
XAVIER UNIVERSITY, NEW ORLEANS	-0,027100072	0,020003229	-2,370648707	-0,026451053
LOYOLA UNIVERSITY OF CHICAGO, CHICAGO	-0,10093068	0,022435464	-5,132358241	-1,414511575
NEW YORK UNIVERSITY, NEW YORK	-0,039364173	0,02570193	-2,497265282	-3,563637917
TEMPLE UNIVERSITY, PHILADELPHIA	0,040194801	0,03078271	0,301443222	-0,520462796
RENSSELAER POLYTECHNIC INSTITUTE, TROY	-0,017396336	0,031071578	-1,552407668	0,168519659
COLORADO SEMINARY, DENVER	0,004424828	0,032377655	-0,868330954	-0,686935522
SEATTLE UNIVERSITY, SEATTLE	0,016677603	0,037598981	-0,533632596	-0,093345717
UNIVERSITY OF CHARLESTON, CHARLESTON	0,022039763	0,041685157	-0,457158733	-0,122869508
UNIVERSITY OF MIAMI, CORAL GABLES	-0,045972265	0,043512726	-2,102136227	-4,329768709
WAKE FOREST UNIVERSITY, WINSTONSALEM	-0,071515558	0,043802962	-2,457514111	-2,966404606
UNIVERSITY CONCORDIA TEXAS, AUSTIN	0,0106462	0,046254067	-0,726827866	1,769985157
DEPAUL UNIVERSITY CHICAGO	-0,034634726	0,049531927	-1,700624932	-0,717633055
CALIFORNIA INSTITUTE OF TECHNOLOGY, PASADENA	-0,004137384	0,050503518	-1,08379982	3,611456613
ST MARYS UNIVERSITY OF MINNESOTA, WINONA	0,008579619	0,050775609	-0,836675283	-0,872426343
ADMINISTRATORS OF TULANE EDUCATIONAL FUND, NEW ORLEANS	-0,0350339	0,052124899	-1,630718874	-0,188782601
ST JOHNS UNIVERSITY, QUEENS	-0,032289428	0,055023653	-1,578355807	-2,717939003
MARQUETTE UNIVERSITY, MILWAUKEE	-0,064527149	0,055623748	-1,966096705	-1,463556098
UNIVERSITY OF SAN DIEGO, SAN DIEGO	-0,083582586	0,05711586	-2,332834885	-1,419168704
PRESIDENT AND DIRECTORS OF GEORGETOWN UNIVERSITY, WASHINGTON	0,006543811	0,058161075	-0,880259577	0,303812295
THE AMERICAN UNIVERSITY, WASHINGTON	-0,003670911	0,059801888	-1,060804288	-0,347710923
BUCKNELL UNIVERSITY, LEWISBURG	0,019237898	0,060325234	-0,674223717	3,247076225
HAMPTON UNIVERSITY, HAMPTON	0,001069523	0,065101718	-0,986807438	-0,911829635
SYRACUSE UNIVERSITY, SYRACUSE	-0,118134667	0,068239289	-2,527147481	-2,679021407
JOHN HOPKINS UNIVERSITY, BALTIMORE	-0,008007566	0,069225413	-1,117236874	-1,086817424

The Sample	Investment Income 2009 (of total rev.s)	Investment Income 2008 (of total rev.s)	Change of Investment Income	Change for Gain or Loss
LOYOLA MARYMOUNT UNIVERSITY, LOS ANGELES	-0,017904992	0,074797135	-1,220979387	-0,968460782
VILLANOVA UNIVERSITY, VILLANOVA	-0,055114543	0,077753971	-1,629659665	-0,943474639
FORDHAM UNIVERSITY, BRONX	-0,05167267	0,078398261	-1,593382215	-1,271256792
THE GEORGE WASHINGTON UNIVERSITY, WASHINGTON	-0,043916786	0,079093652	-1,512984738	-1,531940183
TRUSTEES OF BOSTON UNIVERSITY, BOSTON	0,065354515	0,081572955	-0,15242059	0,347701013
UNIVERSITY OF PITTSBURGH, PITTSBURGH	-0,037084027	0,082562976	-1,398450669	-1,463052461
UNIVERSITY OF ROCHESTER, ROCHESTER	0,007789067	0,083939911	-0,910852975	-1,427629582
ROCHESTER INSTITUTE OF TECHNOLOGY, ROCHESTER	-0,027050451	0,086499642	-1,295467234	-1,310744745
BRADLEY UNIVERSITY, PEORIA	-0,255107599	0,08683691	-3,50273746	-2,115137478
UNIVERSITY OF SAINT THOMAS, SAINT PAUL	-0,102144889	0,094279804	-1,921661522	-1,104995917
UNIVERSITY OF DAYTON, DAYTON	-0,067507923	0,095311081	-1,66373716	-1,147000983
LOMA LINDA UNIVERSITY, LOMA LINDA	0,082660546	0,100079804	-0,199722354	-1,170684264
UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES	-0,107508428	0,100616177	-1,949778331	-1,903153975
SAINT LOUIS UNIVERSITY, ST LOUIS	-0,055451342	0,105927671	-1,473732758	-0,980512374
CREIGHTON UNIVERSITY, OMAHA	-0,030521439	0,114166262	-1,234218621	-1,366504914
PEPPERDINE UNIVERSITY, MALIBU	-0,084379955	0,12518686	-1,572688415	-3,986147771
UNIVERSITY OF DELAWARE, NEWARK	-0,0461529	0,144696601	-1,273908465	-1,764043519
CASE WESTERN RESERVE UNIVERSITY, CLEVELAND	-0,111137579	0,145609285	-1,6131482	-3,602572116
EMORY UNIVERSITY, ATLANTA	-0,031670671	0,145646261	-1,192955873	-2,593870891
BAYLOR UNIVERSITY, WACO	0,092819096	0,148227146	-0,358271928	-0,497751935
CORNELL UNIVERSITY, ITHACA	-0,365120004	0,161811063	-2,386032048	-2,275573351
SAMFORD UNIVERSITY, BIRMINGHAM	-0,364474473	0,168033314	-2,607252005	-4,946359788
BRANDEIS UNIVERSITY, WALTHAM	-0,013637011	0,168974231	-1,05693432	-1,564554328
VANDERBILT UNIVERSITY, NASHVILLE	-0,024328514	0,172608668	-1,125528986	-1,108849799
TRUSTEES OF BOSTON COLLEGE, CHESTNUT HILL	0,001957047	0,180178847	-0,99015686	-0,641695555
SANTA CLARA UNIVERSITY, SANTA CLARA	-0,056686425	0,192676001	-1,230785203	-0,992989792
SOUTHERN METHODIST UNIVERSITY, DALLAS	-0,093814609	0,199473466	-1,346294383	-1,323066008
THE TRUSTEES OF COLUMBIA UNIVERSITY, NEW YORK	-0,049473251	0,202883609	-1,202373211	-1,299926257
TEXAS CHRISTIAN UNIVERSITY, FORT WORTH	-0,33282305	0,203533156	-1,998659553	-1,730427357
UNIVERSITY OF THE SOUTH, SEWANEE	-0,142413929	0,203768439	-1,422434695	-1,608993064
WASHINGTON UNIVERSITY, SAINT LOUIS	-0,08064784	0,208424178	-1,306331541	-1,722122893

The Sample	Investment Income 2009 (of total rev.s)	Investment Income 2008 (of total rev.s)	Change of Investment Income	Change for Gain or Loss
UNIVERSITY OF TULSA, TULSA	-1,128763519	0,215945097	-2,529317615	-2,138058134
LEHIGH UNIVERSITY, BETHLEHEM	-0,081825487	0,252504358	-1,28322311	105,9980652
MASSACHUSSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE	0,019770006	0,254777765	-0,96147642	-2,205064206
TRUSTEES OF TUFTS COLLEGE, SOMERVILLE	-0,1601024	0,264518698	-1,390996595	-1,379501176
THE UNIVERSITY OF CHICAGO, CHICAGO	-0,028694801	0,265615213	-1,079043996	-1,734336862
TRUSTEES OF DARTMOUTH COL-LEGE, HANOVER	-0,03570123	0,267804518	-1,085425314	-2,430824084
DUKE UNIVERSITY, DURHAM	-0,080472005	0,275146428	-1,180626439	-2,207136923
STANFORD UNIVERSITY BOARD OF TRUSTEES, PALO ALTO	-0,352190526	0,315958381	-1,504107241	-1,769637107
JULLIARD SCHOOL, NEW YORK	-0,647905875	0,346384828	-1,601251819	-2,39885824
INDIANA UNIVERSITY FOUNDA-TION, BLOOMINGTON	1,377137968	0,349190869	-4,504513109	-3,385986723
PRESIDENT AND FELLOWS OF MIDDLEBURY COLLEGE, MID-DLEBURY	0,003625711	0,353517573	-0,99362659	-2,29302659
BROWN UNIVERSITY, PROVIDENCE	-0,145933327	0,36914735	-1,235233215	-1,474040279
UNIVERSITY OF NOTRE DAME DU LAC, NOTRE DAME	0,054838878	0,370169968	-0,912670918	-1,059067618
THE ROCKEFELLER UNIVERSITY, NEW YORK	-0,551324019	0,41356509	-1,461585522	-3,140140595
NORTHWESTERN UNIVERSITY, EVANSTON	-0,035438528	0,423797138	-1,048263695	-1,339953171
SOKA UNIVERSITY OF AMERICA, ALISO VIEJO	0,448390297	0,450400915	-0,478192707	-0,759976682
THE TRUSTEES OF THE SMITH COLLEGE, NORTHAMPTON	0,016471505	0,488988672	-0,980763968	-1,221450041
WILLIAM MARSH RICE UNIVER-SITY, HOUSTON	-0,047509099	0,531647827	-1,046045465	-1,55529763
YALE UNIVERSITY, NEW HAVEN	0,323152475	0,567002063	-0,643958485	-1,067337016
PRESIDENT AND FELLOWS OF HARVARD COLLEGE, CAMBRIDGE	2,039156003	0,621641585	-2,232673809	-3,027409547
THE TRUSTEES OF PRINCETON UNIVERSITY, PRINCETON	0,401572336	0,740755218	-0,636208622	-0,550146636

Source: our elaboration of 990Forms data

Note: universities are listed for increasing 2008 investment incomes

3. The cluster analysis of performances
of USA universities: methodology and results

If revenues are negatively affected by a diversification that is mainly specialized in investments, decreasing revenues affect gains, net assets and total assets.

We clustered universities' performances considering three main variations: the 2009–2008 change of gains (or losses), the 2009–2008 change of net assets and the 2009–2008 change of total assets

Firstly we adopted the Ward (1963) clustering method that uses an analysis of variance to evaluate the distances between clusters. Secondly we verified this clustering also adopting the K-means Method, whose results perfectly match with those ones of the Ward clustering.

K-means clustering is an iterative follow-the-leader strategy. First, the number of clusters, *k*, must be specified. Then a search algorithm goes out and finds *k* points in the data, called *seeds*, that are not close to each other. Each seed is then treated as a cluster center. The routine goes through the points (rows) and assigns each point to the cluster it is closest to. For each cluster, a new cluster center is formed as the means (centroid) of the points currently in the cluster. This process continues as an alternation between assigning points to clusters and recalculating cluster centers until the clusters become stable. The main tests are the *F test* that is the variance between groups devided by the variance inside of groups and the *Significance test* (Sig. less than 0.05).

Clustering universities performances with *JMP IN The Statistical Discovery Software*, we obtained five main groups.[8] Table 3 and Graph 1 show the features of each cluster.

The analysis gives evidence that the change of investment income is always more than -100%. The Program Service Revenue is the only revenue accounting line that is increasing. Contributions are diminishing for all clusters and program service revenues are partially compensating – with other revenues for the second cluster – the trend of losses. Total revenues increase of a modest 1,5% for the fourth cluster: on average, the positive performance of Boston University and Georgetown University compensates the negative changes of other members of this cluster.

The most crowded groups – «•», «◊», «Δ» – are heavily suffering: the negative change of gains is quite the same as the negative change of investment income in the first three rows of the Table 3.

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[8] Samford University, Pepperdine University, University of Miami, Drexel University and Lehigh University are greatly different from the five main clusters. They were excluded from the analysis.

Table 3

Average features of five clusters (2009–2008 percent changes of gain or loss, total assets, net assets, contributions, program service revenues, investment income, other revenues, total revenues)

| The five clusters	% Change Gain (or Loss)	% Change Total Assets	% Change Net Assets	% Change Contributions	% Change Program Service Revenues	% Change Investment Income	% Change Other Revenues	% Change Total Revenues
•, 19 Universities. From Indiana University to Dartmouth College	**-263,42**	**-13,26**	**-19,47**	-17,84	+6,15	**-270,57**	-55,47	-42,89
◊, 23 from Stanford University to Fordham University	**-143,30**	-8,52	-14,60	-10,47	+7,65	**-157,04**	+103,26	-22,52
Δ, 24 from Soka University to Hampton University	**-84,375**	-6,58	-13,00	-4,75	+6,20	**-98,91**	-27,91	-12,08
Z, 8 from Tulane to Georgetown University	+1,75	**-2,50**	**-12,75**	-5,37	+10,12	-100,50	-7,75	**+1,5**
☐, 6 from Yeshiva to California Institute of Technology	**+246,5**	-8,50	-15,83	-2,33	+14,66	-136,00	-37,5	**+0,6**

Source: our elaboration on 990Forms

In the fifth cluster, apart of University of Concordia Texas, the percent change of the first cell (first column) refers to losses that have increased from 2008 to 2009.

K-means clustering universities performances with *SPSS Statistical Discovery Software*, we specified five groups whose final cluster centers and significant ANOVA are shown in Table 4 and 5. Particularly two main groups emerged: the Cluster 1, with 22 items, perfectly matches with «•» and «y» clusters in the previous Dendrogram; Cluster 3, with 55 items, perfectly matches with «◊», «Δ», «Z» Ward clusters.

Graph 1

The Dendrogram

- INDIANA UNIVERSITY FOUNDATION, BLOOMINGTON
- CASE WESTERN RESERVE UNIVERSITY, CLEVELAND
- NEW YORK UNIVERSITY, NEW YORK
- PRESIDENT AND FELLOWS OF HARVARD COLLEGE, CAMBRIDGE
- THE ROCKEFELLER UNIVERSITY, NEW YORK
- WAKE FOREST UNIVERSITY, WINSTONSALEM
- SYRACUSE UNIVERSITY, SYRACUSE
- EMORY UNIVERSITY, ATLANTA
- ST JOHNS UNIVERSITY, QUEENS
- UNIVERSITY OF TULSA, TULSA
- CARNEGIE MELLON UNIVERSITY, PITTSBURGH
- BRADLEY UNIVERSITY, PEORIA
- MASSACHUSSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE
- DUKE UNIVERSITY, DURHAM
- CORNELL UNIVERSITY, ITHACA
- PRESIDENT AND FELLOWS OF MIDDLEBURY COLLEGE, MIDDLEBURY
- NORTHEASTERN UNIVERSITY, BOSTON
- JULLIARD SCHOOL, NEW YORK
- TRUSTEES OF DARTMOUTH COLLEGE, HANOVER
- ▼ SAMFORD UNIVERSITY, BIRMINGHAM
- ▼ PEPPERDINE UNIVERSITY, MALIBU
- ▼ UNIVERSITY OF MIAMI, CORAL GABLES
- ◇ STANFORD UNIVERSITY BOARD OF TRUSTEES, PALO ALTO
- ◇ UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES
- ◇ TEXAS CHRISTIAN UNIVERSITY, FORT WORTH
- ◇ WASHINGTON UNIVERSITY, SAINT LOUIS
- ◇ UNIVERSITY OF DELAWARE, NEWARK
- ◇ THE UNIVERSITY OF CHICAGO, CHICAGO
- ◇ WILLIAM MARSH RICE UNIVERSITY, HOUSTON
- ◇ UNIVERSITY OF THE SOUTH, SEWANEE
- ◇ BROWN UNIVERSITY, PROVIDENCE
- ◇ BRANDEIS UNIVERSITY, WALTHAM
- ◇ THE GEORGE WASHINGTON UNIVERSITY, WASHINGTON
- ◇ MARQUETTE UNIVERSITY, MILWAUKEE
- ◇ UNIVERSITY OF SAN DIEGO, SAN DIEGO
- ◇ UNIVERSITY OF PITTSBURGH, PITTSBURGH
- ◇ NORTHWESTERN UNIVERSITY, EVANSTON
- ◇ TRUSTEES OF TUFTS COLLEGE, SOMERVILLE
- ◇ LOYOLA UNIVERSITY OF CHICAGO, CHICAGO
- ◇ UNIVERSITY OF ROCHESTER, ROCHESTER
- ◇ SOUTHERN METHODIST UNIVERSITY, DALLAS
- ◇ THE TRUSTEES OF COLUMBIA UNIVERSITY, NEW YORK
- ◇ CREIGHTON UNIVERSITY, OMAHA
- ◇ ROCHESTER INSTITUTE OF TECHNOLOGY, ROCHESTER
- ◇ FORDHAM UNIVERSITY, BRONX
- △ SOKA UNIVERSITY OF AMERICA, ALISO VIEJO
- △ DEPAUL UNIVERSITY CHICAGO
- △ COLORADO SEMINARY, DENVER
- △ TRUSTEES OF BOSTON COLLEGE, CHESTNUT HILL
- △ TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA, PHILADELPHIA
- △ THE TRUSTEES OF PRINCETON UNIVERSITY, PRINCETON
- △ BAYLOR UNIVERSITY, WACO
- △ THE AMERICAN UNIVERSITY, WASHINGTON
- △ TEMPLE UNIVERSITY, PHILADELPHIA
- △ NOVA SOUTHEASTERN UNIVERSITY, FORT LAUDERDALE
- △ THE TRUSTEES OF THE SMITH COLLEGE, NORTHAMPTON
- △ UNIVERSITY OF DAYTON, DAYTON
- △ LOMA LINDA UNIVERSITY, LOMA LINDA
- △ UNIVERSITY OF SAINT THOMAS, SAINT PAUL
- △ VANDERBILT UNIVERSITY, NASHVILLE
- △ JOHN HOPKINS UNIVERSITY, BALTIMORE
- △ UNIVERSITY OF NOTRE DAME DU LAC, NOTRE DAME
- △ YALE UNIVERSITY, NEW HAVEN
- △ SANTA CLARA UNIVERSITY, SANTA CLARA
- △ LOYOLA MARYMOUNT UNIVERSITY, LOS ANGELES
- △ VILLANOVA UNIVERSITY, VILLANOVA
- △ SAINT LOUIS UNIVERSITY, ST LOUIS
- △ ST MARYS UNIVERSITY OF MINNESOTA, WINONA
- △ HAMPTON UNIVERSITY, HAMPTON
- ⊻ ADMINISTRATORS OF TULANE EDUCATIONAL FUND, NEW ORLEANS
- ⊻ NATIONAL-LOUIS UNIVERSITY, WHEELING
- ⊻ SEATTLE UNIVERSITY, SEATTLE
- ⊻ XAVIER UNIVERSITY, NEW ORLEANS
- ⊻ UNIVERSITY OF CHARLESTON, CHARLESTON
- ⊻ RENSSELAER POLYTECHNIC INSTITUTE, TROY
- ⊻ TRUSTEES OF BOSTON UNIVERSITY, BOSTON
- ⊻ PRESIDENT AND DIRECTORS OF GEORGETOWN UNIVERSITY, WASHINGTON
- ☐ YESHIVA UNIVERSITY, NEW YORK
- ☐ TRUSTEES OF THE HAMLINE UNIVERSITY OF MINNESOTA, SAINT PAUL
- ☐ UNIVERSITY CONCORDIA TEXAS, AUSTIN
- ☐ THE HOWARD UNIVERSITY, WASHINGTON
- ☐ BUCKNELL UNIVERSITY, LEWISBURG
- ☐ CALIFORNIA INSTITUTE OF TECHNOLOGY, PASADENA
- ✕ DREXEL UNIVERSITY, PHILADELPHIA
- ✦ LEHIGH UNIVERSITY, BETHLEHEM
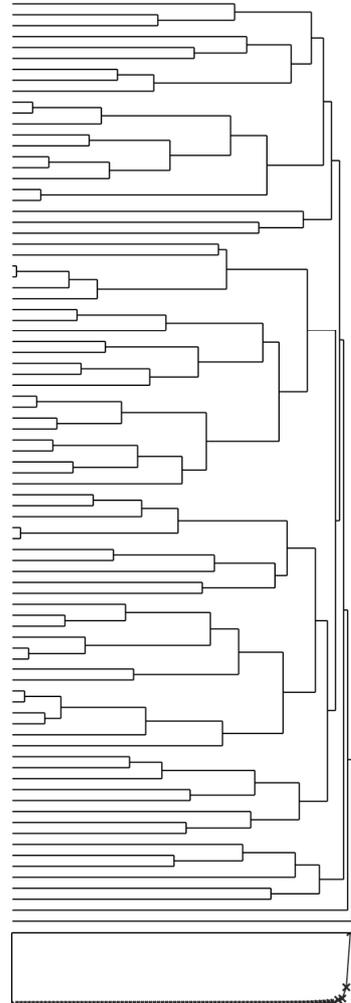
Source: our elaboration on 990 Forms data with *JMP IN The Statistical Discovery Soft-ware*

Table 4

K-means Final Cluster Centers

	Cluster **1**. 22 universities: «•» and «y» in the Dendrogram	Cluster 2. 1 university: «+»	Cluster **3**. 55 universities: «◊», «Δ» and «Z»	Cluster 4. 6 universities: «▢»	Cluster 5. 1 university. «X»
Change GAIN Or LOSS	-2.8826294	105.99806517	**-1.00131590**	2.4709904	-27.295469
Change Total Assets	**-.1336941061**	-.1058492594	-.07505228	-.09128314	-.02971094
Change Net Assets	**-.2151540812**	-.1663206787	-.1384447631	-.16166028	-.12052976

Table 5

ANOVA

	Cluster		Error			
	Mean Square	df	Mean Square	df	F	Sig.
ChangeGAINorLOSS	3061.973	4	.424	80	7229.300	.000
changeTOTassets	.015	4	.005	80	2.782	.032
changeNETassets	.024	4	.005	80	4.331	.003

Similarly to Ward Clustering, the K-means Cluster 1 – the «•» in the Dendrogram – is affected by the highest negative change in Total Assets and Net Assets; the K-means Cluster 3 is comparatively – with Cluster 1 – affected by a lower change in Total Assets and Net Assets, as it is in the Ward «◊», «Δ» and «Z» groups. The negative change of Gains is very significant in the Cluster 1; it is less significant in the Cluster 3.

4. Conclusions, limitations
and future research

The multi-mode financing is well-developed in USA Universities. Otherwise, as the analysis outlines, the roles of different financing strategies should be weighted with a particular attention. The financial crash has drastically changed the performances, reducing revenues and gains from 2008 to 2009. Financial markets have collapsed and this has *depressed* any revenue maximization. Performances of financial products have been negative and these results have affected gains, net assets and total assets.

The sustainability of an education system is affected by multiple variables: the endogenous ability of fundraising, marketing, investing and other effective strategies, the exogenous implications of governmental policies, community connections, the potential growth of the *social capital* and general macroeconomic conditions.

The competition *at hard times* together with slower growth rates of available monetary resources makes revenue management a crucial focus for the modern *University Manager*. An effective *financing creativity* should play an increasing role in higher educational finance. Traditional resources are to be exploited next to *Other Resoruces* whose excellence might be selected through a proficient multi-mode financing.

There are some limitations associated to our study. First of all, the selected sample refers to core organizations: most universities are a mix of organizations, trusts, associations, foundations whose comprehensive performances should be estimated. Most of these collateral organizations can have a fundraising role and their performances affect the results of main (or core) organizations.

To understand the extent and implications of revenue diversification and the profiling here investigated, it could be useful both to widen the sample with other categories of nonprofit entrepreneurs – museums, theatres, etc. – and considering a longer period, before and after the crisis.

Bibliography

1. Carrol, D. – Stater, K. J. (2008), «Revenue diversification in Nonprofit Organization: does it lead to financial stability?», *Journal of Public Administration Research and Theory*, 19: 947–966.

2. Chang, C. F. – Tuckman, H.P. (1994), «Revenue diversification among nonprofits», *International Journal of Voluntary and Nonprofit Organizations*, 5: 273–290.

3. Chhaochharia, V. – Gosh, S. (2008), *Do Charity Ratings matter?*, Paper provided by Department of Economics, College of Business, Florida Atlantic University in its series Working Papers with number 08001.777.

4. Choi, A. S. (2009), «Willingness to pay: how stable are the estimates?» *Journal of Cultural Economics*, 33: 301–310.

5. Delaney, L. – O'Toole, F. (2007), «Willingness to Pay: Individual or Household?», *Journal of Cultural Economics*, 30: 305–309.

6. Geiger, R. (2000), «Politics, Markets, and University Costs: Financing Universities in the Current Era», Center for Studies in Higher Education, UC Berkeley http://www.escholarship.org/uc/item/3xj0b748.

7. Gordon, T. P. – Knoch, C. L. – Neely, D. G. (2009), «The role of rating agencies in the market for charitable contributions: An empirical test», *Journal of Accounting and Public Policy*, Vol. 28. No. 6: 469–484.

8. Hsieh, J. (2010), «Strategic stakeholder orientations and performance consequences – a case of private non profit performing arts in the US», *International Journal of Non profit and Voluntary Sector Marketing*, 15: 13–27.

9. IRS-Internal Revenue Service, Exempt Organizations, 2010. *Colleges and Universities Compliance Project*, May 2010, http://www.irs.gov/pub/irs-tege/cucp_interimrpt_052010.pdf last accessed in December 2010.

10. Koning, P. – Ailly, J. – Visser, S. (2006), «Do nonprofits make a difference?», *CPB Netherlands Bureau for Economic Policy Analysis Document*, 142.

11. OECD (2010), *The High Cost of Low Educational Performance, THE LONG-RUN ECONOMIC IMPACT OF IMPROVING PISA OUTCOMES*, www.sourceoecd.org/education/9789264077485.

12. OECD (2009), *Education at a Glance 2009*, OECD INDICATOR www.oecd.org/dataoecd/41/25/43636332.pdf.

13. OECD/IMHE-HEFCE (2007), «On the Edge: Securing a Sustainable Future for Higher Education», Working Paper No. 7, http://www.oecd.org/dataoecd/20/24/38309943.pdf.

14. Okten,C. – Weisbrod,B. (2000), «Determinants of donations in private nonprofit markets», *Journal of Public Economics*, 75: 255–272.

15. Peneder,M. (2009), «The Meaning of Entrepreneurship: a modular Concept», *WIFO-Oesterreichisches Institut fuer Wirtschaftsforschung Working Papers*, No. 335.

16. QS *World University Ranking, 2010 – Top 500 Universities*, Quacquarelli Symonds Limited. www.qs.com.

17. Seaman, B. A. – Young, D. R. (2010), *Handbook of research on nonprofit economics and management*, Edward Elgar.

18. Short, J. C. – Moss, T. W. – Lumpkin G. T. (2009) «Research in social entrepreneurship: past contributions and future opportunities», *Strategic Entrepreneurship Journal*, Vol. 3, Issue 2: 161–194.

19. Thornton, J. P. (2006), «Nonprofit Fund-Raising in Competitive Donor Markets», *Nonprofit and Voluntary Sector Quarterly*, Vol. 35. No. 2: 204–224.

20. Ward, J. (1963), «Hierachical Grouping to Optimize an Objective Function», *Journal of the American Statistical Association*, Vol. 15: pp. 317–27.