DRIVERS BEHIND REVENUE CONCENTRATION OF NPO

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Nonprofit organizations (NPO) rely on a diverse mix of revenue sources. Existing literature mainly support that diversification among the different sources of revenue are desirable as it enables organizational growth. Given a new data set of over 200 Swiss fundraising charities we prove the opposite to be true: Organizations that display higher degree of revenue concentration grew stronger between 2005 and 2012. We then identify factors that influence the organization's capital and revenue structure. These factors can be divided into "nature" and "nurture" which allows us to show which of them may be actively influence by an NPO's management and which are stemming from the organization's condition that cannot be readily overcome by managerial interventions (such as age, size, and legal form). Revenue concentration is positively influenced by an organization's geographical range of activity and consistency in primary revenue source and negatively by board size and diversity.

Keywords: Financial Stability, Growth, NPO, Revenue Concentration, Revenue Diversification

INTRODUCTION

Nonprofit organizations (NPO) rely on a diverse mix of income (Wilsker and Young, 2010). Typically these sources of revenue can be divided into four major categories: (1) income from donations (from private individuals and enterprises), (2) income from government (through grants and services), (3) income from own revenues (such as service fees and sold products), and finally (4) income from investments. Existing research finds broad support of diversification among these sources being a positive influence on the financial stability and growth of NPO (see Chang and Tuckman, 1994; Froelich, 1999; Greenlee and Trussel, 2000; Carroll and Stater, 2009; Tuckman & Chang 1991; Wicker and Breuer, 2014). In their recent article Chikoto and Neely (2014, p. 570) however prove the opposite to be true, as previously also proposed by Foster & Fine (2007): They find that a "revenue concentration strategy generates a positive growth in (…) total revenue".

As formulated in the benefits theory of nonprofit finance (Wilsker and Young, 2010) the main sources of revenue may depend on the nature of the organization's produced goods. Therefore the question of diversification or concentration may also be a question of an organization's range of offered and produced products. As these are often directly tied to the organization's underlying mission, they may be perceived as being part of an organization's *nature* - "organizational conditions that cannot readily be overcome by management response" (Hager and Brudney, 2011, p.137, based on the original work by Galton, 1874)[1]. Factors driving revenue diversification that may be influenced by management, henceforth labeled *nurture*, are often neglected in existing research. The aim of our article is therefore concerned with both, nature und nurture of capital and revenue structure and thus their indirect influences on NPO growth. To our knowledge, none of the existing studies on NPO's capital and revenue structure determine organizational factors that influence the degree of revenue diversification or concentration and therefore ultimately revenue growth. Hence, the goal of this article is twofold. First, we contribute to the discussion of the influence of the degree of revenue diversification on financial growth in nonprofits. Second, we aim to discover drivers for revenue concentration and

[1] "Nature is all that a man brings with himself into the world; nurture is every influence from without that affects him after birth." (Galton 1874, p. 9)

diversification building on previous work on the benefits theory of nonprofit finance (Wilsker and Young, 2010) and capital structure theories of nonprofits (Calabrese, 2011; Jegers and Verschuren, 2006). Hence, this piece of work adds to the further development of a theory of nonprofit capital structure and offers a better understanding on how nonprofits can strive for a more sustainable financial setting.

In contrast to previous studies our analysis is based on a new, non-US data set, compromising certified Swiss fundraising charities of different legal forms. Given a sample of over 200 NPO we find that NPO generally demonstrate a high degree of persistence in their primary revenue sources. Our OLS regression analysis shows a significantly negative influence of revenue diversification (measured by an adjusted Herfindahl-Hirschman Index (HHI), as proposed by Yan, Denison, and Butler, 2009) on logarithmized revenue growth. Further we find support for a more market-based view, that NPO which use higher portions of their spending to fund projects grew stronger. We therefore conclude that donors actively focus on and reward organizations directing most of their revenues to projects. Although it is a consequence of this expectation, we find no significant influence of administrative costs of financial growth. Organizational variables that significantly explain the degree of revenue diversification (again measured by an adjusted HHI, as proposed by Yan et al., 2009) include the organization's geographical range of activity, consistency of income sources, board diversity (measured as the relative percentage of female board members) and board size, and finally the organization's size (measured as total revenues). Our analysis however did not find support of the legal form being of significant influence on the degree of revenue diversification.

Our article is structured as follows: After an overview of existing literature on nonprofit financial stability, growth, and revenue structures, including the identification of research gaps, we derive our analysis' research method from central nonprofit financial management theories. This includes the formulation of several hypotheses with regard to organizational growth and revenue diversification. We conclude our methodological part with our two central regression models. An overview containing descriptive statistics of our dataset bridges our methodological part with the presentation of the results. These are subsequently discussed in our second but last section. Finally we conclude our analysis with an outlook and propositions for future research.

LITERATURE REVIEW

The ultimate reasoning for nonprofits to collect financial means is the enduring persecution of its charitable mission (Froelich, 1999). However, nonprofits face several challenges in their financial management. First, in most cases, nonprofits do not generate revenue through sales. Based on their charitable mission, they offer services and products for free or at a below market rate. Thus, they need other income sources without a valuable consideration. However, these sources – private or public contributions – are definite (Jegers, 2011). Second and as a consequence of the first, nonprofits rely on a mix of income sources, but their selection and proportion is not clear and is different from on organization to another (Wilsker and Young, 2010). Finally, nonprofits are restricted in their capability to issue debt and pursue external borrowing (Bowman, 2006). Nonprofits often lack of creditworthy assets that would facilitate borrowing. Even if there are assets or an endowment, they are mostly restricted for the cause and, thus, cannot serve as collateral for borrowing (Calabrese, 2011). These challenges open up for questions on how nonprofits can grow if both, accumulation of internal funds and external borrowing are limited and on the influences on diversification and concentration of nonprofit revenue structure.

Theories on organizational survival and growth

In the past two decades, the nonprofit sector increased on a global level. Many new nonprofits were established, but most notably, the financial resources of the nonprofits developed to an all-time-high. Despite the burgeoning literature on the economic and social relevance of the overall sector, research on growth on the organizational level is scarce. In an early article, James (1983) argues that mission rather than economic self-interest is the major driver of nonprofit growth. Nonprofit managers chose goals based on the mission and then select activities respectively. Accordingly, they collect as much financial resources as they need to execute their activities. Hence, nonprofits grow in light of resource enhancement and expansion of activities to achieve the charitable mission (Steinberg, 1993; Galaskiewicz, Bielefeld, and Dowell, 2006). Research adopted this

perspective on “balancing money and mission” as primary issue of nonprofit management (Frumkin and Andre-Clark, 2000; McDonald, 2007).

In the general literature on organizational survival and growth one can find two prominent theories: resource dependency theory and competitive advantage theory. Resource dependency theory predicts that organizations survive if they manage to secure access to important resources (Pfeffer and Salancik, 1978). The reasons for the constant strive for resources lie in scarcity and uncertainty. Hence, collaboration with other organizations and requirements of resource providers are necessary means for organizational survival and growth (Froelich, 1999). Based on the resource dependency theory, diversification is a vital strategy to remain independent. Thus, research on financial vulnerability of nonprofits predominantly adopts this assumption (Chang and Tuckman, 1994; Frumkin and Keating 2011; Greenlee and Trussel, 2000) as will be shown in the following section.

In contrast to the previous theory, the theory on competitive advantage builds on the fundamental assertion that firms survive if they manage to create a surplus through a competitive advantage (Porter, 1985). Thus, marketization and professionalization are important strategies for nonprofits in the light of this theory (Kong and Prior, 2008; Warnaby and Finney, 2005; Weerawardena and Sullivan-Mort, 2001). However, the definition of market is not that clear for nonprofits. In terms of services and sales, nonprofits are in many times not competing through prizing or promotion as their clients are not the paying the full prize. Hence, the market perspective is more vital in terms of competition on resources, especially in fundraising. Investing and reporting on successful projects thus does fulfil both, clients’ satisfaction and donors’ expectations.

The body of literature on nonprofit finance strongly favors the resource dependency perspective, emphasizing the importance of financial stability and reduced volatility (Bowman, 2006; Froelich, 1999; Tevel, Katz, and Brock, 2015). However, financial health consists of two dimensions: stability and capacity. The second is defined as “resources that give an organization the wherewithal to seize opportunities and react to unexpected threats” (Bowman, 2011, p. 38). Instead of focusing on financial stability, recent research investigates the ability of nonprofits to build financial resources as we will show in the following section (Chikoto and Neely, 2014; Foster and Fine, 2007). Hence,

we state a research gap on the interdependence of revenue diversification and nonprofit growth.

Capital and revenue structure

Although nonprofits are not profit-oriented, their revenue generation is vital for the pursuit of their social mission. Two issues dominate the literature on nonprofit capital structure: borrowing and diversification. Both issues aim at reducing financial vulnerability and increase predictability (Kingma, 1993). The research on borrowing deals with balancing internal funds and external debt. Several researchers have investigated the application of corporate finance theories, especially trade-off theory and pecking order theory (Yan et al. 2009; Jegers, 2011; Calabrese, 2011; Bowman, 2011). While trade-off theory posits that nonprofits balance costs and benefits of debt for an optimal leverage level, pecking order theory states that managers prefer internal funds to external borrowing (Calabrese, 2011). Jegers and Verschuren (2006) name three mechanisms that influence nonprofit capital structure: (1) equity constraints as available funds do not cover investment requirements; (2) agency problems as managers have to be supervised and debt is one mechanism to do so; (3) borrowing constraints as nonprofits cannot always borrow even if they are creditworthy. Jegers (2011) finds support for the first two mechanisms, meaning that nonprofit capital structure is explained by balancing internal versus external funds and through mechanisms of control. Calabrese (2011) finds that nonprofits organize their capital structure according to pecking order theory. However, internal funds are not completely used to reduce debt, but partly retained as a rainy day fund. These findings are in line with a general observation on nonprofit finance by Bowman (2006): A unique source of income of nonprofits is endowments, given and restricted by donors. By nature, they are part of the capital structure and revenue generation at the same time. However, as they are restricted funds, they cannot be easily used as collateral for borrowing. In contrast, earnings from endowments as well as own revenues are unrestricted. Calabrese (2011) thus determines a more imminent differentiation than balancing equity and debt. He posits that resources have to be differentiated according to their availability. Unrestricted resources are controllable or available for managers and creditors, whereas unrestricted resources are protected or controlled by a third party. Hence,

endowments and other restricted funds reduce the influence of managers on the nonprofit capital structure. Only recently, research has started to further investigate non-financial influences on nonprofit capital structure. Jegers (2013), for example, shows that agency conflicts between management and the board induce manipulations of earnings. Similarly, current research on revenue diversification opens up for questions on nature or nurture.

As stated before, revenue diversification is the far most common recommendation for financial stability in nonprofits. In her seminal work, Froelich (1999) discusses how a reliance on different revenue sources serves for a better financial stability as every source has its specifics in terms of volatility, goal displacement, and effects on processes and structures. Measures for revenue diversification are seen as important indicators against financial vulnerability (Bowman, 2011; Carroll and Stater, 2009; Chang and Tuckman, 1991; Kingma, 1993). Yan et al. (2009) prove that diversified nonprofits are more likely to issue debt, without necessarily having higher debt ratios. Tevel et al (2015) support the utility of diversification as risk reduction. However, the increased financial stability comes at costs for managing and controlling the different revenue sources (Frumkin and Keating, 2011). Schober, Littich, Schober, and Lintschinger (2011) show based on a sample of Austrian nonprofits that agency costs increase with a higher diversification, in some cases disproportionately to the increase of revenue. Mayer, Wang, Egginton, and Flint (2014) highlight that increased diversification does not always reduce volatility. Kingma (1993) points out that beyond the risk tolerance of the organization the covariance between the single revenue sources have to be taken into account, as well. Even more critical on the effects of diversification are the works by Foster and Fine (2007) and Chikoto and Neely (2014). Foster and Fine (2007) analyze the development of a sample of 144 nonprofits over a period from 1970 to 2003. As a result they state that 90% out of 110 nonprofits with annual revenue over US$50 million managed growth in revenue through the decision to rely on one single type of income source. Based on a much larger sample, Chikoto and Neely (2014) support this finding. They highlight that revenue concentration leads to financial growth and helps to build up financial capacity. They argue that investments in administrative and fundraising costs pay off if concentrated on less income sources. Calabrese (2011) emphasizes that “revenue diversification and sources

have little effect on a nonprofits' capital structure" (p. 139). At the current state of discussion we find it necessary to further investigate the drivers of diversification.

Drivers of diversification: nature or nurture?

Analyzing the attractiveness of organizations for volunteers, Hager and Brudney (2011) use the concept of "nature" and "nurture" to differentiate the influencing factors. With nature, they understand all factors that are directly tied to the organization's mission or structure, whereas "nurture" consists of factors influenced by management. In that sense, restricted funds – as stated before – would be labeled nature and unrestricted funds would be identified as nurture. This understanding is supported by the benefits theory of nonprofit finance by Wilsker and Young (2010). They argue that the choice of revenue source is influenced by the goods and services offered by an organization. Based on their empiric research, public or collective goods lead to public funding and private donations, whereas individual goods are more likely financed by own revenue. Hence, revenue diversification is not only a result of managerial decisions, but it is a subsequent consequence of the organization's mission.

Lu (2015) finds organizational factors that determine whether NPO receive government funding or not. Hence, bureaucratic orientation, domain consensus with government, and funding history with government are more important than revenue diversification, professionalization, or board composition. Other drivers of capital structure may be found in the governance of an organization. Siciliano (1996) finds support for a positive influence of board size on donations, but no influence of board diversity, although general management literature shows that women have a positive influence on firm value (Carter, Simkins, and Simpson, 2003). Size (Suarez, 2011), professionalization (Hwang and Powell, 2009), and commercialization (Child, 2010) may be other factors that influence the capital structure of nonprofits.

To conclude, in pursuit of their charitable mission nonprofits are relying on the generation of financial means to survive or even grow. Private donations, government funds, own revenues, and income from financial investments are the typical income sources of nonprofits. Research on the composition of the financial capital structure of nonprofits offers a wide range of alternatives. Building on the distinction of nature and

nurture, we highlight aspects of control and availability in terms of restrictions of funds as well as in terms of drivers influencing the diversification of revenue sources. However, existing literature widely neglected the analysis of non-financial influences on nonprofit capital structure.

METHODOLOGY

The aim of our survey is to improve our understanding of the influence of the degree of revenue diversification on financial growth and to distinct drivers of revenue diversification in nonprofits. We therefore conduct two regression models based on the theories and literature discussed.

Drivers behind revenue growth

Our first model takes logarithmized seven 7 year revenue growth as dependent variable, as also employed by several of the previously discussed articles. Herewith we will test the two central theories on nonprofit growth. First, we test in the light of the results by Chikoto and Neely (2014) if the degree of revenue diversification has an influence on revenue growth. Second, based on competitive advantage theory, we assume that a high proportion of spending on projects instead of administration and fundraising has a positive effect on donors' willingness to further support the organizations. This is supported by several authors (for an excellent overview see Lecy and Searing, 2015), but also deemed problematic as "the reliance on overhead ratios also creates the condition for an excessive pursuit of administrative efficiency that may cause a steady and self-perpetuating practice of cost-cutting, which in turn may harm the nonprofit" (Lecy and Searing, 2015, p. 540). Additionally, we introduce two control variables to account for size and age. Therefore, our two central null-hypotheses are formulated as follows:

- H1.0: There is no influence of revenue diversification on revenue growth
- H2.0: There is no influence of the relative proportion of revenue directly dedicated to projects on revenue growth

Drivers behind capital and revenue structure

In our search for factors that influence the capital and revenue structure in NPO we divide the possible variables identified from our theoretical analysis into two main categories. We do so by applying Hager and Brudney's (2011) differentiation of "nature" and "nurture" of NPO.

Based on Wilsker and Young's (2010) benefits theory of nonprofit finance the type of products and services an organization offers influences the revenue structure. We propose that additional to the types of products and therefore indirectly the organization's mission, there are additional organizational factor's that management cannot influence that drive the degree of revenue diversification. First of all, the range of activity, whether an organization acts on a regional, national, or international level attracts a different type of donors and makes the organization more or less relevant for certain governmental agencies than others. As the radius of activity is very often mentioned in the mission statement or deed of foundation, this is clearly a factor of the organization's nature. Our second hypothesis is based on the fact that associations have members while foundations (set up as trusts after Swiss civil law, see von Schnurbein and Timmer, 2015) do not. Income from members has a significant influence on revenue structures of NPO (see Wicker, Longley, and Breuer, 2013). We therefore include the legal form as independent variables based on the organization's nature into our analysis as a change of the legal form is rather difficult. Finally, the size of an organization heavily influences its capabilities of hiring professional (fundraising) staff and most often is combined with a higher degree of visibility which ultimately should influence the revenue structure. As management cannot influence the organization's size on a short and medium term level, we will include this independent variable also as being part of an organization's nature. These variables lead to the formulation of the following three nature null-hypotheses:

- H3.0: There is no influence of the organization's radius of activity on the degree of revenue diversification (taking a national radius of activity as standard, identifying organization's with one dummy for regional activities only and one dummy for activities on an international level)

- H4.0: There is no influence of the organization's legal form on the degree of revenue diversification(taking a dummy variable for the organization being either a foundation or an association)
- H5.0: There is no influence of the organization's size on the degree of revenue diversification

Next to factors that can be perceived as an organization's nature we introduce another three independent variables that are influence by managerial decisions (hence, an organization's nurture) and should influence the degree of revenue diversification for different reasons. First, organizations that show consistency in their primary income source over time (coded as a dummy variable) should tend to have a higher degree of revenue concentration, as the primary income source has proven to be effective and focusing on that specific source leads to higher expected income. Although the principle revenue structure depends on the nature of the organization's produced goods as defined in the benefits theory, the consistency over a timespan of seven years depends on managerial decisions and can also be interpreted as the absence of a shift in fundraising strategy. This independent variable does not reflect the same information as the dependent variable, as one organization may well have shifted from mainly raising funds through donations to government grants, but display a similar degree of revenue concentration (hence the same degree of revenue diversification but no consistency). Second, we include governance issues as drivers for revenue diversification. Brown (2005) shows a general influence of board performance on organizational performance, including financial stability. Siciliano (1996) proves that an increase in board diversity leads to higher levels of donations. Galaskiewicz et al. (2006) argue that more diverse boards connect to more networks in the environment and, thus, are better in securing funds. Finally, the absolute size of the organization's board is expected to have a positive influence on revenue diversification. The findings by Brown (2005) provide evidence that larger boards are better in providing resources. Additionally based on resource dependency theory, larger board size reduces organizational uncertainty (Miller-Millesen 2003). We summarize the three factors labeled nurture in the following null-hypotheses:

- H6.0: There is no influence of consistency in primary income source on the degree of revenue diversification

- H7.0: There is no influence of board diversity (as proportion of female members) on the degree of revenue diversification
- H8.0: There is no influence of board size (as number of board members) on the degree of revenue diversification.

Regression models

Given on our two central research questions and corresponding hypotheses we now formulate two basic regression models. In order to test drivers behind revenue growth (calculated as the logarithmized percentage of revenue growth between 2005 and 2012 – see for instance Chikoto and Neely (2014)) we set up a simple linear regression model that will be evaluated using a standard multivariate OLS regression (computed in RStudio[2]). The model is specified as follows:

$$\log(growth_i) = \beta_0 + \beta_1 HHI_{Yan,i} + \beta_2 Proj._i + \beta_3 \log(Size_i) + \beta_4 Age_i + \epsilon_i$$

For our second research question our dependent variable is a proportion, as revenue concentration/diversification is measured using adjusted HHI index as proposed by Yan et al. (2009). The values of the variable are therefore bound in the (0,1) interval (see data description in the subsequent section). Standard multivariate OLS regression is not suitable for the analysis of such a variable: First of all the estimated values would exceed the unit interval and thus cannot be interpreted. Second, proportions often show accumulation of mass in the extremes and heteroscedasticity around the mean. Logit transformation would solve the problem of the variable being bound in the (0,1) interval. However the interpretation of logit transformed results is not straightforward and it is not clear if the transformation stabilizes the variance (see Kieschnicke and McCullough, 2003). We therefore employ a beta regression model as proposed by Ferrari and Cribari-Neto (2004), which is specifically designed for data such as proportions and especially suitable for smaller sample sizes (Kieschnicke and McCullough, 2003). The model's underlying linear regression model is formulated as follows:

[2] Using R statistical software: http://cran.r-project.org/

$$g_1(\mu_i) = \beta_0 + \beta_1 Region.I_i + \beta_2 Region.C_i + \beta_3 Foundation_i + \beta_4 \log(Size_i) + \beta_5 Cons._i + \beta_6 Divers._i + \beta_7 Board.Size_i,$$

with the dependent variable following a beta distribution:

$$HHI_{Yan,i} \sim B(\mu_i, \phi_i)$$

$$f(HHI_{Yan}; \mu, \phi) = \frac{\Gamma(\phi)}{\Gamma(\mu\phi)\Gamma\big((1-\mu)\phi\big)} HHI_{Yan}^{\mu\phi-1}(1 - HHI_{Yan})^{(1-\mu)\phi-1}.$$

In contrast to common OLS regressions this model is estimated with a maximum likelihood approach. The model was estimated in RStudio using the package *betareg* as described in Zeileis, Cribari-Neto, Gruen, and Kosmidis (2015).

Additional to the models estimated with revenue diversification calculated using an HHI as proposed by Yan et al. (2009) we will also test the models with Carroll and Stater's (2009) modification of the HHI. This calculation excludes revenues from investments. Therefore variables depending on total revenue will also be calculated exclusive of revenues from investment.

DATA

So far, only few surveys used non-US data to analyze nonprofit capital structure (Jegers, 2011; Schober et al., 2011; Wicker and Breuer, 2014). Our sample consists of Swiss charitable nonprofits. The Swiss nonprofit sector consists of an estimated number of 100'000 organizations active in all fields of society (Helmig, Gmür, Bärlocher, von Schnurbein, Degen, Nollert, Budowski, Sokolowski, and Salamon, 2011). The typical legal forms are association and foundation. While foundations have to be registered, there is no such obligation for association. Under Swiss law, the legal type gives no indication on the organization's activities. Thus, a charitable social service agency can be both, an association or a foundation. Tax exemption is based on two major criteria: public interest and unselfishness. Bearing in mind that our analysis is about the revenue structure of NPO we chose to focus on Swiss fundraising charities that are certified by ZEWO, a foundation that sets standards with regard to "ethics and integrity, corporate governance,

efficient use of funds, results, true and fair accounting, transparency, accountability as well as fundraising and communication" (ZEWO, 2015). ZEWO-certified charities therefore not only publish their annual reports online and implement the same accounting standards (Swiss GAAP FER 21, see Eberle and Müller, 2011), but also have similar motives in raising funds, as they have obtained the ZEWO seal. About 430 organizations are certified to date, collecting more than two thirds of total private and corporate donations in Switzerland. At the time of the initial data collection the 2012 annual report were the newest reports available from all certified organizations. To cover the longest possible timespan given the same accounting standards these organizations were invited twice by e-mail to take part in our study by sending us their 2005 annual report. This marks the first year all organizations were required to apply GAAP FER 21 standards. In combination with the accounting standard Swiss GAAP FER 21, especially developed for fundraising organizations, the certificate of ZEWO offers a high standard of self-regulation in the sector (Bies, 2010). Only nonprofits in the social service industry (including international aid) can apply for the ZEWO label. Thus, our sample covers only a small portion of the nonprofit sector in total. However, Kingma (1993, p. 113) points out that results obtained "across categories may not be relevant within a category or for a group of similar nonprofits". We gathered information from a total of 203 organizations, from which 193 were complete enough to conduct a preliminary analysis. This included the year of establishment, legal form, board size and number of women on the board, radius of activity (dummy for local, national, and international radius) sum of total assets as well as organizational capital, revenue from donations/government/own sources/income, and spending on projects/administrative tasks/fundraising. Among these organizations two had to be excluded because of special effects, leaving us with 191 organizations. Table 1 presents general descriptive statistics about the size of these organizations. Unfortunately, in the year 2004 Southeast Asia and India was struck by the tsunami resulting from the Sumatra-Andaman earthquake. As a result 2005 saw an unprecedented amount of donations directed towards ZEWO organizations. This heavily affected revenue numbers in our sample. In order to account for this bias, revenue from donations from organizations with an international radius of activity were adjusted given interpolated values from estimated total countrywide donations from the years before and after 2005, see Figure 1.

This resulted in a reduction of revenue from donations of 56% for internationally active organizations. Further numbers from 2005 have been adjusted for 2012 inflation. Table 2 puts our dataset in to relation to the official numbers ZEWO publishes annually.

TABLE 1

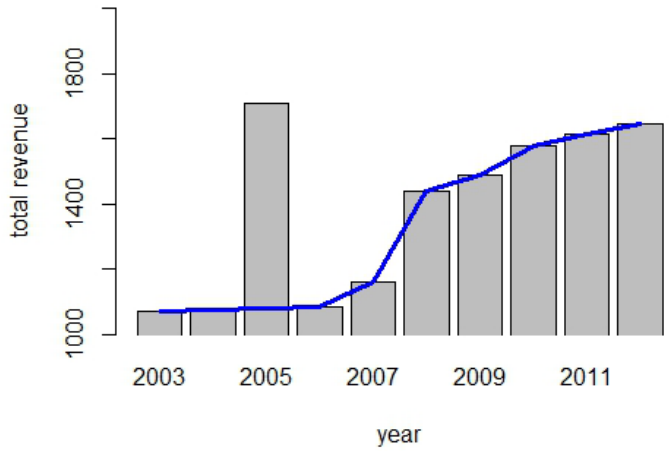
General descriptive statistics of included organizations (N = 191, in 1'000 CHF)

Variable	Min.	Median	Mean	Max	Total
Total assets 2005	36	2'484	10'120	164'800	1'881'815[1]
Total revenue 2005 (adj., excl. investments)	55	2'235	7'894	162'700	1'524'870
Total assets 2012	87	3'478	12'020	310'100	2'295'100
Total revenue 2012 (excl. investments)	37	3'188	10'660	247'500	2'036'130

[1]excluding 5 organizations that did not report their total assets in the 2005 annual report

FIGURE 1

Estimate of total donations (bars) and smoothed values (blue line), 2003-2012 (in 1 mio CHF)



Source: Based on ZEWO (2012)

Between 2005 and 2012 the adjusted revenue increase in our sample (+31%) is identical to ZEWO-statistics (see Table 2). Our sample accounts for 64% (2005) and 65% (2012) of total reported ZEWO revenue, with 44% (2005 and 2012) of reporting organizations included in the annual statistics by ZEWO.

TABLE 2

Sources and sum of revenues of ZEWO-certified organizations in 2005 and 2012

year	donations	government	Own	other	total revenue (in 1'000 CHF)	N
2005	39%	32%	20%	9%	2'381'000	437
2012	34%	38%	23%	5%	3'114'000	431
Change	*-7%*	*+6%*	*+3%*	*-4%*	*+31%*	*-1%*

Source: ZEWO (2006) & ZEWO (2013)

Based on the two models and hypotheses introduced in the previous section, Table 3 gives an overview of the descriptive statistics of the variables, including minimum and maximum values, median and mean, and standard deviation. As the regression models will be calculated using both revenue diversification based on HHI version by Yan et al. (2009), *RD(Yan)*, and Carroll and Stater (2009), *RD(CS)*, variables that are based on revenue related numbers will also be included in two versions: inclusive and exclusive of investment revenues. As in Chikoto and Neely's (2014) paper RD(Yan) displays lower median and mean values as RD(CS) for 2005 and 2012 and have decreased over time.

TABLE 3

Descriptive statistics of variables (N=191)

Variable	Min.	Median	Mean	Max.	Std.
log(revenue.growth) - (2005-2012, incl. investments)[1]	-0.86	0.29	0.36	2.91	0.51
log(revenue.growth) - (2005-2012, excl. investments)	-0.86	0.28	0.37	2.89	0.51
log(size.2005) - (corr, incl. investments)	10.84	14.63	14.73	18.93	1.59
log(size.2005) - (corr, excl. investments)	10.84	14.62	14.69	18.91	1.59
log(size.2012) - (incl. investment)[1]	10.53	15.00	15.08	19.34	1.54
log(size.2012) - (excl. investment)[1]	10.52	14.98	15.05	19.33	1.53
RD(Yan).2005	0.00	0.65	0.58	0.96	0.23
RD(CS).2005	0.00	0.70	0.60	0.99	0.28
RD(Yan).2012[1]	0.00	0.63	0.56	0.93	0.25
RD(CS).2012	0.00	0.66	0.58	1.00	0.28
projectratio.2005 (incl. investments)	0.08	0.84	0.87	2.89	0.31
projectratio.2005 (excl. investments)	0.08	0.87	0.90	2.89	0.31
age[2]	7	46	53	127	30.76
region.international (dummy)	0	0	0.28	1	0.49
region.canton (dummy)	0	0	0.33	1	0.47
consistency (dummy)	0	1	0.83	1	0.38
Diversity	0	0.33	0.38	1	0.19
board.size	4	8	8.64	45	5.06
foundation (dummy)	0	0	0.31	1	0.46

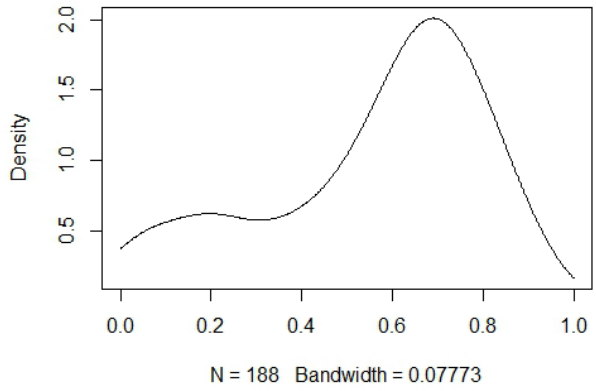
[1]excluding 3 organizations that did not report full information necessary for the calculation of this variable

[2]excluding 1 organization that did not report year of establishment

The descriptive statistics for the degree of revenue diversification in 2012 do not contain enough information to justify the application of a beta regression model to calculate our second model. We therefore additionally depict the density distribution of the model's dependent variable in Figure 2, to visualize the accumulation of data points close to one of the unit interval's extremes.

FIGURE 2

Density distribution of RD(Yan) 2012 (gaussian kernel, bound in unit interval)



RESULTS

In the following subsection we present general findings with regard to the revenue structures of Swiss fundraising NPOs and how they have changed over time. Further we present the regression results for the two dependent variables: log of the 7 year logarithmized growth of total revenues as well as the degree of revenue diversification in 2012.

General findings

In a first attempt we arranged the sample according to the primary revenue source at both points in time. The results as shown in Table 4 support the fundamental assertion of the benefits theory of nonprofit finance (Wilsker and Young, 2011). Although our data set covers a spectrum of seven years, there is a high consistency in the primary revenue source. As the sample covers fundraising organizations it is not surprising that private donations are the most frequent primary revenue source. Despite the general debate on commercialization (Child, 2010), the data only reports a slight shift from donations and

government funds toward own revenues. However, due to the limited data it is not suitable to speak of a trend.

TABLE 4

Primary revenue source 2005 vs. 2012 (N=191)

		2012				
		Donations	Government	Own	**Total**	Percentage
2005	Donations	77	6	8	**91**	47.6%
	Government	6	42	6	**54**	28.3%
	Own	5	4	37	**46**	24.1%
	Total	**88**	**52**	**51**	**N=191**	
	Percentage	46.1%	27.2%	26.7%		
	Change	*-1.6%*	*-1.0%*	*+2.6%*		

Revenue growth

In this section we present the regression results for the log of 7 year revenue growth as the dependent variable. For revenue diversification we used the measure of Yan et al. (2009) with distinction of four different revenue sources. As shown in Table 5, revenue diversification has a significantly *negative* influence on revenue growth, thus rejecting H1.0 and supporting findings of Chikoto and Neely (2014). For Swiss fundraising organizations, a concentration in revenue sources increases the overall financial revenue. The findings are statistically significant at the 5% level, offering no evidence for resource depency theory. Additionally, the amount of revenues spent on projects has a significantly *positive* influence on revenue growth, thus rejecting H2.0. Hence, with higher project expenditures, financial revenues grow by 34% (statistically significant at the 1% level). These results are in line with the assumptions on the competitive advantage, meaning that higher project expenditures serve both, clients and donors. However, we cannot confirm Chikoto and Neely's (2014) finding that increasing administration costs have a positive influence on financial growth. When included in the model, administrative costs had a negative but not significant influence.

The results of the control variables are statistically significant, as well. Size of organization has a significantly negative influence on revenue growth, making it harder for large nonprofits to show high growth rates. Age of organization has s significantly negative influence on revenue growth, too. This means younger organizations were able to

grow stronger than older ones. As a primary conclusion, one can say that costs for organizational growth increase with size and age.

TABLE 5

Summary regression results – Determinants of NPO revenue growth 2005-2012

Coefficient		Estimate (Std.)	Pr(>|t|)	
(Intercept)		1.4527 (0.3348)	2.37E-5	***
RD.2005(Yan)		-0.3231 (0.1547)	0.0382	*
projectratio.2005		0.3398 (0.1140)	0.0033	**
log(size.2005) - (corr., incl. investments)		-0.0722 (0.0226)	0.0017	**
Age		-0.0026 (0.0012)	0.0315	*
Adj, R-squared	0.1859			
F-Stat. (4/182)	11.62		2.016E-08	***

*** 0.001, ** 0.01, * 0.05

We computed the same model with revenue diversification measured as in Carroll and Stater (2009), i.e., without revenue from investments, which also affects size and project expenditure. The results show a slightly lower adj. R^2 (0.1808) and lower level of significance of revenue diversification (10% level). However, the other results remain unchanged. These effects are in line with the results by Chikoto and Neely (2014). They state, that a better differentiation of revenue sources leads to more robust results.

Drivers behind diversification of capital and revenue structure

In the second regression model, we test the influence of nature and nurture factors on revenue diversification based on the measure by Yan et al. (2009). When looking at the nature factors, two show significant influence, one does not. The two dummy variables for geographical radius of activity both show significant influence on revenue diversification, at least on 10% level, thus rejecting H3.0. Based on a nation-wide radius of activity as reference the wider the radius of activity, the higher the degree of concentration on certain sources of revenue.

Organizational size, measured by total revenues has a significantly positive influence on the degree of revenue diversification, thus rejecting H5.0. Given that size can be perceived as a proxy for professionalization, revenue diversification is driven by professionalization.

Given our regression analysis, hypothesis H4.0 could not be rejected, meaning we found no significant influence of the legal form of an organization on the degree of revenue diversification. The reason might be that income from member fees is less relevant for the nonprofits in our sample.

The three nurture factors are all statistically significant in our model. Consistency in primary source of revenue over time has a highly significant negative influence on revenue diversification, thus rejecting H6.0. Organization that did not show shifts in in primary source of income over time therefore tend to concentrate on that specific source.

Board diversity measured by the fraction of female members on board had a significantly positive influence on revenue diversification, thus rejecting H7.0. Also board size had a significantly positive influence on revenue diversification, rejecting H8.0. Hence, a more diversified and larger board leads to a higher diversification in revenue sources, as well. This can be explained through the larger networks and a heterogeneous mind set in such a board.

TABLE 6

Summary regression results – Determinants of NPO revenue diversification 2012

Coefficient		Estimate (Std.)	Pr(>|z|)	
(Intercept)		-2.6018 (0.7900)	0.0001	***
region.international		-0.4463 (0.1695)	0.0085	**
region.canton		0.3263 (0.1715)	0.0571	°
Foundation		-0.1920 (0.1591)	0.2276	
log(size.2012)		0.1762 (0.0502)	0.0005	***
Consistency		-0.6950 (0.1837)	0.0002	***
Diversity		0.8698 (0.3735)	0.0199	*
board.size		0.0442 (0.0146)	0.0025	**
Pseudo R-squared	0.1973			
Phi	3.5515		<2E-16	***

*** 0.001, ** 0.01, * 0.05, ° 0.10

Again, the model was computed for a second time with the measure of revenue diversification by Carroll and Stater (2009). The results showed a slightly lower pseudo R^2 (0.1784) and a lower level of significance of multiple variables (international only 10%, canton not significantly different from zero, board size on 5%, and size on 1% level).

DISCUSSION

The findings presented in the previous section add to the recent debate on revenue diversification (Chikoto and Neely, 2014; Tevel et al., 2014; Lecy and Searing, 2015). In the light of resource dependency theory, revenue diversification has been used as a measure for financial stability and further on as an explanatory factor of financial health. Thus, revenue diversification was always used as an *independent* variable, understood as an active management choice. However, Wilsker and Young (2010) have shown that "revenue sources are associated with the mix of programs offered by a nonprofit" (p. 209). We further developed this stream of theory by adding the notion of nature and nurture on influencing factors of revenue diversification.

One major finding of this research is the positive influence of revenue concentration on financial growth. Thus, we support the argument of Chikoto and Neely (2014) that financial health consists of both, stability and capacity. When nonprofits only focus on financial stability, they actively refuse to grow. Stability may reduce volatility and increase predictability, but it is no mechanism to increase revenues. Even more, a nonprofit may risk entering a starvation cycle resulting in falling overhead ratios (Lecy and Searing, 2015). However, our findings also proved that higher project expenditures lead to financial growth. Our explanation for this relationship is built on the competitive advantage theory meaning that donors are less interested in administrative cost ratios but more in project investments and results. Hence, nonprofits can expect higher revenues in the future if they explore their projects. However, high project expenditures hinder the accumulation of unrestricted, internal funds which serve as basis for future growth (Calabrese, 2011). One could discuss, if nonprofits would grow stronger, if regulations such as the ZEWO label would allow for higher administrative ratios. Although NPO are measured by their actions, they shouldn't be judged by their inputs or time of outputs, but total impact achieved over time. One answer on how to exploit growth potential given in this paper is the awareness of nature and nurture factors that drive revenue structure.

By referring to the notion of nature vs. nurture we investigated the drivers for revenue diversification. Both, nature and nurture factors have a significant influence on diversification. Following the theoretical understanding, nature factors such as activity range or size influence the grade of diversification but cannot be changed. It is a some-

what contradicting result that more international organizations become concentrated, and larger organizations become more diversified. Usually, one would expect that size and activity range are interfering. One explanation might be that Swiss international aid organizations highly rely on government funds without many options for substitution.

On the contrary, fundraising methods, board composition and board size are factors that can be actively influenced. This findings are in line with previous work by Jegers (2011), emphasizing the influence of revenue constraints and agency problems for nonprofit capital structure. Additionally, it offers important insights for practitioners.

Although our data consisted of two points in time only, there are some interesting findings in terms of development. First, revenue concentration increases over time. This may be a result of specification and learning. A young nonprofit with an innovative mission approach may find financial support in many occasions. But with ongoing operations, only few revenue sources will prove to be stable and predictable over time. Second, despite the high consistency of the primary income source, a shift towards commercial revenues can be detected. Aside of rationing of government funds, this might be a result of blurring boundaries between the sectors. Finally, our seven year sample provides evidence on the ongoing growth of the nonprofit sector at large. We cannot report stagnation, nor decline of overall revenues in the nonprofit sector. Additionally, our sample consists of nonprofits that highly rely on private donations. Thus, philanthropic action is of high relevance in society.

As a conclusion, revenue diversification and concentration are not perfect substitutes and nonprofits have to follow either one or the other. In line with Bowman's (2011) definition of financial health, consisting of stability *and* capacity, our results provide evidence that both factors have to be included in managerial decisions simultaneously as the optimal revenue structure is not only about reduced volatility.

OUTLOOK

Before addressing some implications for further research and practice, we have to highlight some limitations of our study. First of all, our sample does not allow for generalization on the nonprofit sector at large or on international context. As we only captured Swiss fundraising organizations in the areas of social service and development aid, we

have to be aware of the specifics of these organizations. However, in the public perception they display the "typical" nonprofit. Additionally, our data set is limited as it only covers two points in time. Inclined to cover a wide range of time, we choose the first and the last available time period with consistent accountability reporting standards. On the downside of this approach were the difficulties with the high amount of donations in the course of the tsunami catastrophe. Thus, future data sets should cover more time periods in order to apply portfolio-theory based calculation of degree diversification. Finally, we are aware that our data set is not as elaborated as some other data sets of US origin. This originates from a lack of available data in the annual reports of nonprofits and is a limitation that cannot be extinct quickly.

Despite these limitations, our research adds to the further development of a theory on nonprofit capital structure. Future research should further investigate the drivers of revenue diversification. Building on Wilsker and Young (2011) and our piece of work, additional determinants of revenue diversification should be detected. This stream of research would fill the gap of understanding between nonprofit operations and nonprofit revenues. Until so far, the two areas – colloquially speaking of mission and fundraising – have been analyzed without much interference.

We further call for a revision of the resource dependency paradigm. More research should concentrate on revenue concentration and the developments in the direct environment of the nonprofit sector. Research on social entrepreneurship and social businesses offers interesting insights on a mix of mission and market orientation that might be helpful in developing the nonprofit sector.

With regards to the practical implications of our research we put the emphasis on the differentiation of nature and nurture. Nonprofit manager should analyze these factors when planning the mix of financial sources for their organization. Size, activity range, or legal form cannot be changed quickly, but they have an impact on the capital structure. Being aware of these influences, nonprofit managers have to deal with the nurture factor in a way to compensate the influences of the other drivers in order to direct the capital structure according to the chosen strategy. Board composition and structure play an important role in that respect (Brown, 2005). Additionally, nonprofits should develop a model of financial health that includes strategies for both, financial stability and capacity.

Rewarding the relative proportion of revenue dedicated to project spending (as positive driver of revenue growth) challenges nonprofits, as the accumulation of unrestricted assets reduces the vulnerability of nonprofits (see Calabrese, 2012). They seem to be able to grow in terms of total annual revenues, but not in terms of organizational and unrestricted assets. To sum up, revenue diversification is only a means to an end and low overhead ratios may create more severe damage than a clear investment strategy acknowledging that the future growth needs higher expenditures in the present. In that sense, we comply with Froelich (1999): “The ultimate goal is continued pursuit of the charitable mission” (p. 263).

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