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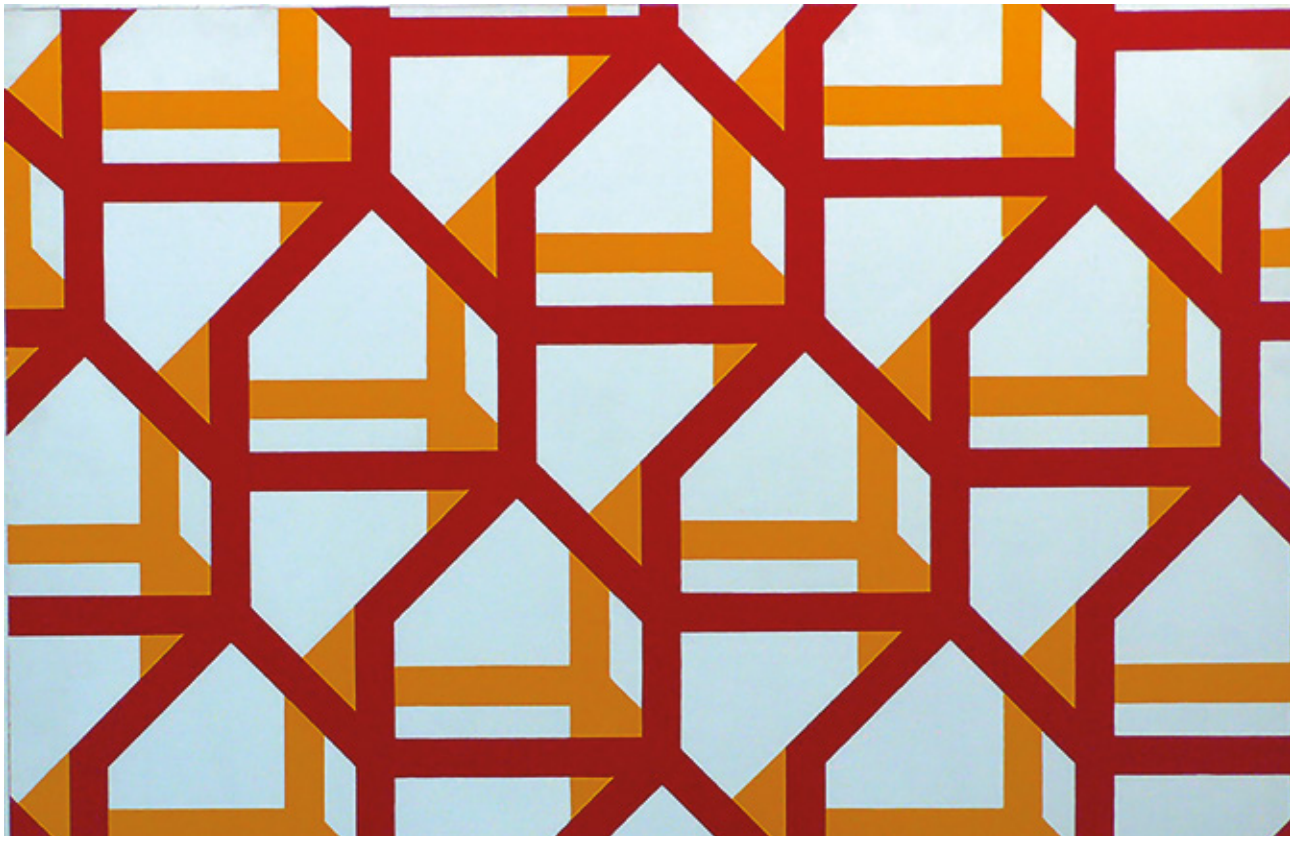

The Conditional Performance Evaluation Of The Colombian Collective Portfolios

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THE CONDITIONAL PERFORMANCE EVALUATION OF THE COLOMBIAN COLLECTIVE PORTFOLIOS

LA EVALUACIÓN DEL DESEMPEÑO CONDICIONAL DE LAS CARTERAS COLECTIVAS EN COLOMBIA

A AVALIAÇÃO DO DESEMPENHO CONDICIONAL DE PORTFÓLIOS COLETIVOS NA COLÔMBIA

L'ÉVALUATION DE LA PERFORMANCE CONDITIONNELLE DES PORTEFEUILLES COLLECTIFS EN COLOMBIE

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RESUMEN

El presente artículo evalúa la gestión de las carteras colectivas en Colombia tras la entrada en vigor del Decreto 2175 de 2007, que transformó radicalmente la industria de la inversión colectiva en Colombia en términos de la cuantía de activos gestionados, así como en la orientación hacia productos negociados en mercados regulados. En particular, el artículo analiza la gestión de 8 carteras colectivas de renta variable durante el período 2008-2011, tanto con una metodología incondicional, como condicional, que incorpora información pública en la gestión de las carteras. Se utiliza además una evaluación de la gestión dinámica, como complemento a la tradicional única y estática. El artículo da a conocer, primero, que las carteras colectivas de la muestra han sido gestionadas en forma muy satisfactoria durante el período de estudio, aunque sin apreciar diferencias relevantes entre la evaluación incondicional y la condicional.

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PALABRAS CLAVE:
carteras colectivas, desempeño condicional, desempeño no condicional.

CLASIFICACIÓN JEL:
G18; G23; K22.

ABSTRACT

The aim of this study is to evaluate the performance of the Equity mutual funds in Colombia. The Colombian mutual fund industry underwent a severe transformation after the Decree 2175/2007. Since then, the increasing asset volume managed and the market oriented investments are in line with the trends in this sector for the most financially developed markets. The study is focus on eight certainly Equity fund portfolios, and covers the period 2008-2011. We apply the unconditional versus the conditional evaluation methodology in order to assess the relevance of the public information in the delegated portfolio management in Colombia. For each fund portfolio, both, a unique and a rolling time performance estimation are obtained. The paper concludes, firstly, that performance has been largely significantly positive for the sample and period considered. It also finds that the differences in performance evaluation attained with both methodologies are negligible. Thus, conditioning information seems not to have been relevant in the Colombian Equity mutual fund industry.

Keywords: Colombian mutual funds, conditional performance, unconditional performance.

JEL Classification: G18; G23; K22.

RESUMO

Este artigo avalia a gestão de portfolios coletivos na Colômbia após a entrada em vigor do Decreto 2175 de 2007, que transformou radicalmente a indústria do investimento colectivo na Colômbia em termos de montante dos activos sob gestão, bem como orientação para produtos negociados em mercados regulamentados. Em particular, o artigo analisa a gestão de oito carteiras coletivas de renta variável durante o período 2008-2011, com uma metodologia incondicional e uma metodologia condicional, que incorpora a informação pública na gestão dos portfólios. É usado também uma avaliação da gestão dinâmica, como complemento para o tradicional, única e estática. O artigo salienta, em primeiro lugar, que as carteiras coletivas da amostra foram gerenciadas da forma muito satisfatória durante o período de estudo,

mas não são apreciados grandes diferenças entre a avaliação incondicional e a condicional.

Palavras-chave: carteiras coletivas, desempenho condicional, desempenho não condicional.

Classificação JEL: G18; G23; K22.

RÉSUMÉ

Cet article évalue la gestion de de portefeuilles collectifs en Colombie après l'entrée en vigueur du décret 2175 de 2007, qui a radicalement transformé l'industrie de placement collectif en Colombie en ce qui concerne le montant d'actifs sous gestion, ainsi que l'orientation vers des produits négociés sur les marchés réglementés. En particulier, l'article analyse la gestion de huit portefeuilles collectifs des actions au cours de la période 2008-2011, avec une méthodologie inconditionnel et une conditionnel, qui intègre l'information publique dans la gestion des portefeuilles. Également il est utilisé une évaluation de la gestion dynamique, en complément de la traditionnelle, unique et statique. L'article souligne, tout d'abord, que les portefeuilles collectifs d´échantillon ont été gérés de façon très satisfaisante au cours de la période d'étude, mais ils ne voient pas différences majeures entre l'évaluation inconditionnelle et la conditionnelle.

Mots clés: portefeuilles collectifs, performance conditionnelle, performance non conditionnelle.

Classification JEL: G18; G23; K22.

INTRODUCTION

The performance evaluation of mutual funds has become a very relevant issue to study, because of the global volume managed by this financial vehicle. According to the World Bank statistics, in August of 2011, 28.5 trillion USD where invested in 181,988 mutual funds subscribed in the entire world. 51% of the global amount invested was in the US market, 33% in Europe and 6% in Latin America. In September 2011, near 45% of the global GDP where invested in mutual funds. In Colombia, according with the Colombian Financial Supervisor (Superintendencia Financiera de Colombia), 193 mutual funds were found at the year-end of 2011, and the volume invested represented 7.8% of its GDP. One of the most analyzed questions regarding this topic is about the way that mutual fund performance should be measured[1].

The Capital Asset Pricing Model (CAPM), proposed originally in Sharpe (1964), is the starting point for the unconditional performance measure introduced by

[1] See Caporin et al. (2014) for an excellent survey of alternative performance measures.

The Capital Asset Pricing Model (CAPM), proposed originally in Sharpe (1964), is the starting point for the unconditional performance measure introduced by Jensen (1968), called Jensen-α. This measure might be understood as the portfolio excess returns once the market risk is considered. Thus, it is usually termed as a risk-adjusted fund return. Assuming that the portfolio market beta is constant along the estimation period, this approach allows us to identify if the portfolio has obtained higher or lower returns than the ones implied by the model.

Jensen (1968), called Jensen-α. This measure might be understood as the portfolio excess returns once the market risk is considered. Thus, it is usually termed as a risk-adjusted fund return. Assuming that the portfolio market beta is constant along the estimation period, this approach allows us to identify if the portfolio has obtained higher or lower returns than the ones implied by the model. Under this methodology, empirical research on mutual fund performance evaluation has found performance to be negative more often than positive. These findings conclude a negative or poorly fund performance. Such conclusion is shown, among others, in Malkiel (1995), Fama and French (2010) for the US industry, and in Otten and Bams (2002) for a relevant set of European mutual fund markets.

However, this methodology has been hardly questioned because of the assumption of constant risk beta over the entire evaluation period. The changing market conditions make this assumption very disapproving. Thus, international empirical research has shown that expected returns and beta risks are time variant.[2] These findings led to important on asset pricing models and on conditional performance evaluation measures. In particular, the appropriate performance measure should incorporate this time variable information. Indeed, these dynamic patterns in asset returns and risk have been shown to be predicted by interest rates, dividend yields and some other variables. As this information is publicly available, investors and managers can use it to forecast their returns.

Otherwise, Ferson and Schadt (1996) realized that gains on investment given by an optimal market forecast based on public information should not be considered as superior performance by the manager.

In particular, Ferson and Schadt (1996) propose a model where the market beta is a linear function of monthly public information with a one period lag. These public variables are, of course, those which have predictive power of the future stocks returns and risk. Thus, they conclude that under the conditional performance measure the managers

2 See, for instance, Fama and French (1989) and Ferson and Harvey (1991, 1999).

3 Avramov and Wermers (2006) highlight the implications for mutual fund performance evaluation when the time variation in beta risk is not properly considered. See also Chiang (2015).

The main contribution of this paper is to bring these unconditional and conditional performance evaluation methodologies to a country where the financial market is still very young. In particular, the Colombian mutual fund industry underwent a rigorous transformation after the Decree 2175/2007. In fact, it can be said that such regulation represents the starting point of the modern Colombian fund industry. Nowadays, the structure and evolution of this sector in Colombia are in line with the evolution in the most financially developed markets.

have better performance that under the unconditional equivalent[3]. Similar results can be also found in Coggings et al. (2009), and Gubellini (2014) for the US mutual funds, Foran and O'Sullivan (2014) for the UK, Leite and Cortez (2009) for the Portuguese market, Benson and Faff (2006) for the Australian industry, Gallefoss (2015) for the Norwegian mutual funds, and Bessler et al. (2009) for the German market. More recently, Das (2015), Goo et al. (2015) and Baek and Park (2015), among others, have implemented conditional fund measures.

The main contribution of this paper is to bring these unconditional and conditional performance evaluation methodologies to a country where the financial market is still very young. In particular, the Colombian mutual fund industry underwent a rigorous transformation after the Decree 2175/2007. In fact, it can be said that such regulation represents the starting point of the modern Colombian fund industry. Nowadays, the structure and evolution of this sector in Colombia are in line with the evolution in the most financially developed markets. So, we consider it is now time to develop a rigorous performance evaluation analysis of the Colombian fund industry. To the best of our knowledge, this is the first article analyzing this issue and we believe that it can provide new empirical evidence in this regard. Thus, the empirical information regarding the performance of the collective portfolios is clearly in the interest of the large community of mutual fund investors. It is also of interest to management companies, in making them aware of the extent of the competitive environment in the mutual fund industry, since this directly affects their profitability. Finally, regulators could also gain from a better understanding of the performance in the industry.

Our main findings could be summarized as follows. First, the selected sample of Colombian Equity collective portfolios attained a significantly positive performance during the period considered. Second, the conditional evaluation does not improve significantly the performance results. In our opinion, both conclusions have been shown to be robust to alternative methodological implementations. At the end, they are also very relevant from the economic and financial point of view, and we hope the current analysis would increase the interest of investors, regulators and academic community for this sector.

The reminder of the article is organized as follows. Section 2 presents the main characteristics and quantitative information regarding the mutual fund industry in Colombia. Section 3 describes the data context and the sample used. Section 4 introduces the two alternative methodologies used in the performance evaluation. Section 5 presents the predictability power of the macroeconomic variables, and the results for each methodology used to measure the performance. Finally, Section 6 resumes the main findings and presents some conclusions.

2. COLLECTIVE PORTFOLIOS IN COLOMBIA

This section presents briefly the financial context of the country the article is focus on. This is particularly relevant in the case of Colombia, where the financial market is far from being considered as consolidated. So, findings should be carefully stated and understood in this particular time-country circumstances.

Colombia has the fourth largest GDP in Latin-America, according to the International Monetary Fund (IMF) estimations in 2011. The annual reports of the Colombian Stock Market indicate that shares that quoted in this stock exchange (BVC, Bolsa de Valores de Colombia) in 2008 were only 78, while in 2012 quotes 87 shares. It should be highlighted that the largest traded volume in the Colombian financial market is on the fixed-income assets. Thus, in 2009, 80% was traded in public debt and only 2.01% was invested in national equity assets. These figures changed in 2011, where the equity market traded volume increased to 12.74%, and the public debt decreased to 65%. So, a considerable shift in the investment vocation is recently undergone in the Colombian stock exchange.

Investing in mutual funds has become a very attractive alternative for investors worldwide. Investors could find attractive to invest their capital in a mutual fund before investing directly in the market because of its financial advantages. Some of the most prevailing benefits are the lower transaction costs, the possibility of choosing the appropriate

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Investing in mutual funds has become a very attractive alternative for investors worldwide. Investors could find attractive to invest their capital in a mutual fund before investing directly in the market because of its financial advantages. Some of the most prevailing benefits are the lower transaction costs, the possibility of choosing the appropriate risk profile, and the opportunity to be advised by a professional fund manager that has the leading information, the technological tools and the skills to straightforwardly access to the market. So, the fund portfolio is well diversified and it also has advantages in financial and income taxes. In addition to that, the investor can withdraw his money at any time, so the mutual funds warrantee liquidity independent of the market situation.

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In the Colombian market, the mutual funds are known as collective portfolios and they are supervised and monitored by the Colombian Financial Supervisor. As it has been previously pointed out, the Colombian mutual fund industry underwent a severe transformation after the Decree 2175/2007. Before the current regulation, the Colombian delegated portfolio industry suffered serious problems in terms of definition of portfolio property rights, regulatory asymmetries, information requirements to investors, risk profiles definition, and valuation of the portfolio assets, between others[4]. The Decree 2175/2007 modified strictly the delegated investment industry in Colombia. Since then, an increase in the asset volume managed and a more market- oriented investment vocation have been two of the main pertinent characteristics of this industry. Nowadays, the structure and internal organization of the sector is very similar than the most financially developed markets ones.

The Colombian collective portfolios can only make investments in financial instruments that are subscribed in the national register of securities and issuers (RNVE, Registro Nacional de Valores y Emisores), securities issued by foreign firms and subscribed in known stock markets, bonds issued by any corporate creditor, foreign governments or public entities, shares in foreign funds and in other national collective portfolios, currencies (limited by the exchange regime), real-estate, derivatives (limited) and saving accounts. The participants must be pertinently informed about their investment

[4] In fact, the terms "fondos comunes ordinarios", "fondos comunes especiales", "fondos de inversión" and "fondos de valores" represented different investment alternatives. See Ramírez-Córdoba (2012) for an excellent analysis of the Colombian collective portfolio industry's relevance.

through public media such as the fund prospect, extracts, the web, semiannual reports and business advisors.

According to the current Colombian regulation, there are three different types of collective portfolios, in terms of the investment redemption availability.

The Open collective portfolios are those whose units can be redeemed at any time, although a minimum permanence period can be agreed. The Staggered collective portfolios' units are nominative and can be redeemed only in particular moments determined in the settlement contract (with a minimum permanence of 30 days). The Closed collective portfolios can only be totally redeemed at the end of the collective portfolio life, although partial redemptions can also be agreed.

In addition to that, some Special collective portfolios are also allowed by the current Colombian legislation. The Monetary portfolios are open collective portfolios, but are allowed to invest only in high qualify fixed-income financial instruments, such as sovereign debt. The maximum weighted average term to maturity of the assets in the portfolio must be lower than 365 days. The Real-estate special collective portfolios invest at least 60% of its asset volume in Colombian or foreign real-estate assets. They are allowed to invest in mortgage or real-estate securitization or assets alike. The Leverage collective portfolios are defined for dynamic and high risk profile investors. Because of the elevated leverage, it is required for the investors to have wide financial market knowledge. This investment vehicle is susceptible of losing the entire capital invested. In addition, investors need to keep available resources in order to maintain the required warrantee capital, e.g. maintain a position in derivatives requires a percentage of the nominal value per contract in the clearinghouse at the settlement of the contract and later when the position value decrease. In the Hedge or speculative portfolios, like the Leverage collective portfolios, the investor can lose the entire capital invested due to the exposure to the market, credit and liquidity risks. The minimal capital invested

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per participant must be 55,260 USD.[5] The Stock exchange special collective portfolios invest in assets that compose an index. The investors are not allowed to redeem their shares in money. There exist equivalence between the number of shares and an integer quantity of the assets in the portfolio. Finally, the Private capital funds are closed collective portfolios where two-thirds of the capital is invested in assets not subscribed to the RNVE.

The regulation also establishes other restrictions on the management and investors participation. Thus, the minimal asset volume for a collective portfolio necessary to establish participations is 718,400 USD.[6] At least 10 investors must be participants in the Open and Staggered collective portfolios, but only two investors are necessary for the Closed collective portfolios and the Private capital portfolios. By law, any individual investor in Open or Monetary collective portfolios cannot hold more than 10% of the portfolio asset volume.

The collective portfolios can only be managed by Trust companies, Brokerage firms and Investment Management companies.

Aggregate figures of this industry confirm that the Colombian fund industry is in a growth stage, as we can see in Table 1. According to the last statistics of the Latin American Federation of Investment Funds (Federación Iberoamericana de Fondos de Inversión, FIAFIN), Colombia is the fourth Latin-American market in terms of number of funds, asset volume and investors in mutual funds.[7] At the end of the first semester of 2012, the aggregate asset volume was 22,958 million USD, with almost one million of investors, and 236 mutual funds. Since the new regulation set up in the Decree 2175/2007, the increasing trend is constant over the last years. Thus, the asset volume in 2012 is almost three times the figure in 2008, which accounts proximately 8% of the Colombian GDP.

Table 1. Evolution of the Colombian collective portfolio industry

This Table shows the number of collective portfolios, the aggregate asset volume managed in millions USD and the number of investors, from 2007 to 2012, in the Colombian collective portfolio industry.

	2007	2008	2009	2010	2011	2012*
Number of Collective Portfolios	341	157	199	199	231	236
Assent Volumen (Millions USD)	7,450	8,555	13,229	15,702	18,747	965,546
Number of investors		554,501	702,708	837,414	850,589	965,546

Source: Latin American Federation of Investment Funds (Federación Iberoamericana de Fondos de Inversión, FIAFIN).

* Second trimester

5 This was calculated with the exchange rate COP/USD for December 31th 2011. In Colombian pesos this must be 200 times the current legal minimum wage (CLMW).

6 Equivalent to 2,600 times the CLMW. However, this requirement is only 165,800 USD (600 times the CLMW) for the Private capital funds.

7 Only Brazil, Chile and Mexico have a mutual fund market more developed than the Colombian one.

The quantitative information about the Colombian collective portfolios was obtained from the Colombian Financial Supervisor, the institution that governs and inspects Colombian Stock Markets, and therefore mutual funds. Although collective portfolios data are available since 1st of July 2005, we decided to start our study after the Decree 2175/2007. For each collective portfolio we have daily data about: the participation value, the portfolio value, the daily (or 30 and 180 days) returns in percentage, the number of investors for some of them, and the amount of shares.

3. DATA

Next, we describe the dataset used in the empirical analysis, separately for the Colombian mutual funds and for the macroeconomic variables used as conditioning information.

3.1 MUTUAL FUNDS

The quantitative information about the Colombian collective portfolios was obtained from the Colombian Financial Supervisor, the institution that governs and inspects Colombian Stock Markets, and therefore mutual funds. Although collective portfolios data are available since 1st of July 2005, we decided to start our study after the Decree 2175/2007. For each collective portfolio we have daily data about: the participation value, the portfolio value, the daily (or 30 and 180 days) returns in percentage, the number of investors for some of them, and the amount of shares.

The sample period considered goes from May 13th 2008 to December 31th 2011, for a total of 889 daily observations.

We will focus our interest on the collective portfolios with an unambiguous Equity investment objective. Both, the unconditional and conditional performance evaluation methodologies, are mainly suitable to the portfolios focus on equity assets. So, in spite of the scarce presence of risky investments in the aggregate Colombian financial industry, we decided to analyze only the collective portfolios mainly concentrated on equity assets. We are fully aware

The sample period considered goes from May 13th 2008[9] to December 31th 2011, for a total of 889 daily observations.[10]

[9] The sample starts at May 13th of 2008 because it was not able to find the yield to maturity of the sovereign debt further back.

[10] We found that the portfolios have value unit for the entire year, including the non-trading days, so we took the unit value for the trading days and then we compute the daily returns. The returns do not include fees.

We will focus our interest on the collective portfolios with an unambiguous Equity investment objective. Both, the unconditional and conditional performance evaluation methodologies, are mainly suitable to the portfolios focus on equity assets. So, in spite of the scarce presence of risky investments in the aggregate Colombian financial industry, we decided to analyze only the collective portfolios mainly concentrated on equity assets. We are fully aware that this is, of course, a specially restraining choice for the Colombian fund industry. According to the Colombian Financial Supervisor, at the year-end of 2011 the percentage of the total volume managed by collective portfolios is 85% fixed-income, and only 6% is invested in equity based portfolios.[11] However, apart from the methodology suitability, our election is based on the apparent tendency to an increase in the weight that equity investments are coming across in the Colombian financial market.

In order to properly select Equity-based collective portfolios, we firstly look at the fund objective, as compulsory described in each prospect. This sample selection confirmed that the Colombian collective portfolios are mainly focused on fixed-income assets. In fact, many portfolios proclaiming an Equity investment objective showed a very little relationship with the stock market. Accordingly, we interpret it as an indication of a negligible equity market focus, and we decided to skip these portfolios from the sample to study. Thus, our sample is initially reduced to ten (10) portfolios.
In order to confirm the true fund objective, we additionally estimate for each collective portfolio and for the entire period the following daily market model:[12]

$$R\_pt = a_p + \beta_p R_{mt} + \varepsilon_{pt}$$

(1) where,
R_pt : Portfolio returns in t,
R_mt : Market returns of the Colombian stock exchange (IGBC, Índice General de la Bolsa de Colombia) in t,
β_p : The so-called systematic risk, or market beta of the portfolio.

According to our fund selection criteria, we only consider the collective portfolios with high market betas and high *R^2*, traduced in grater explanatory power by the market returns. These results are summarized in Table 2.

This table summarizes the estimation results from model 1:

$$R_{pt} = a_p + \beta_p R_{mt} + \varepsilon_{pt}$$

It shows, for each collective portfolio, the a_p and β_p estimations as well as the R-squared. The Global Significance Test (GST) is made with the significance level $\alpha = 0.05, F_{(\alpha, 1, 888)}$. The indication 1 reject the null hypothesis. z
The collective portfolios and its corresponding management companies are:

A: Collective Portfolio Seguridad Bolivar, Seguridad Compañía Administradora De Fondos De Inversion S.A.

B: Open Equity Collective Portfolio Suramericana, Administradora De Carteras Colectivas Suramericana S.A.

C: Open Collective Portfolio Índice IGBC (IGBC Index), Asesores En Valores S.A. Comisionistas De Bolsa.

D: Acciones BYR, Bolsa Y Renta S.A. Comisionista De Bolsa.

E: Acción, Corredores Asociados S.A. Comisionista De Bolsa,

F: Serfinco Acciones, SERFINCO S.A. Comisionista De Bolsa.

G: Closed Collective Portfolio Tiesgo Petrolero FIDUCOR. FIDUCOR S.A.

H: Open Collective Portfolio Acciones Sistema de Valor Agregado, HELM TRUST S.A.

I: Open Collective Portfolio Indeacción, FIDUCOLOMBIA.

J: Open Collective Portfolio Fiducoldex. FIDUCOLDEX S.A.

[11] According to a recent report on the European fund industry (Lipper, 2013), the investment in Equity assets at December 2012 in the aggregate European marketplace accounts 35% of the total. In United Kingdom, Germany and Sweden, for instance, Equity investments exceed fixed-income assets.

[12] All the models in the article are estimated with the Ordinary Least Squares methodology, and the significance test includes the Newey-West (1987) variance estimator.

Table 2. Market model results

	A	B	C	D	E	F	G	H	I	J
^{a}p	0.0437	0.0132	0.0025	0.0316	0.0114	0.0232	**0.0566**	0.0451	0.0252	**0.0195**
^{B}p	0.5443	0.7297	0.9414	0.8054	0.8314	0.7067	**-0.0595**	0.9667	0.7264	**0.0006**
R^2	75.45	72.60	89.82	81.56	85.29	83.15	**1.83**	57.98	83.44	**0.13**
GST	1	1	1	1	1	1	**1**	1	1	**0**

Also we plot in Figure 1 the histograms from the 10 series of portfolio returns; so, we can identify which of them have the behavior related to equity investment funds. From previous analysis, we decided to eliminate portfolios G and J because they have low *R^2*, close to zero ***β***_p and the histograms show no equity behavior whatsoever. At the end, we determined to consider only eight (8) Colombian Equity collective portfolios, which appear to be undoubtedly focused on equity assets.

Figure 1. Histograms Comparison

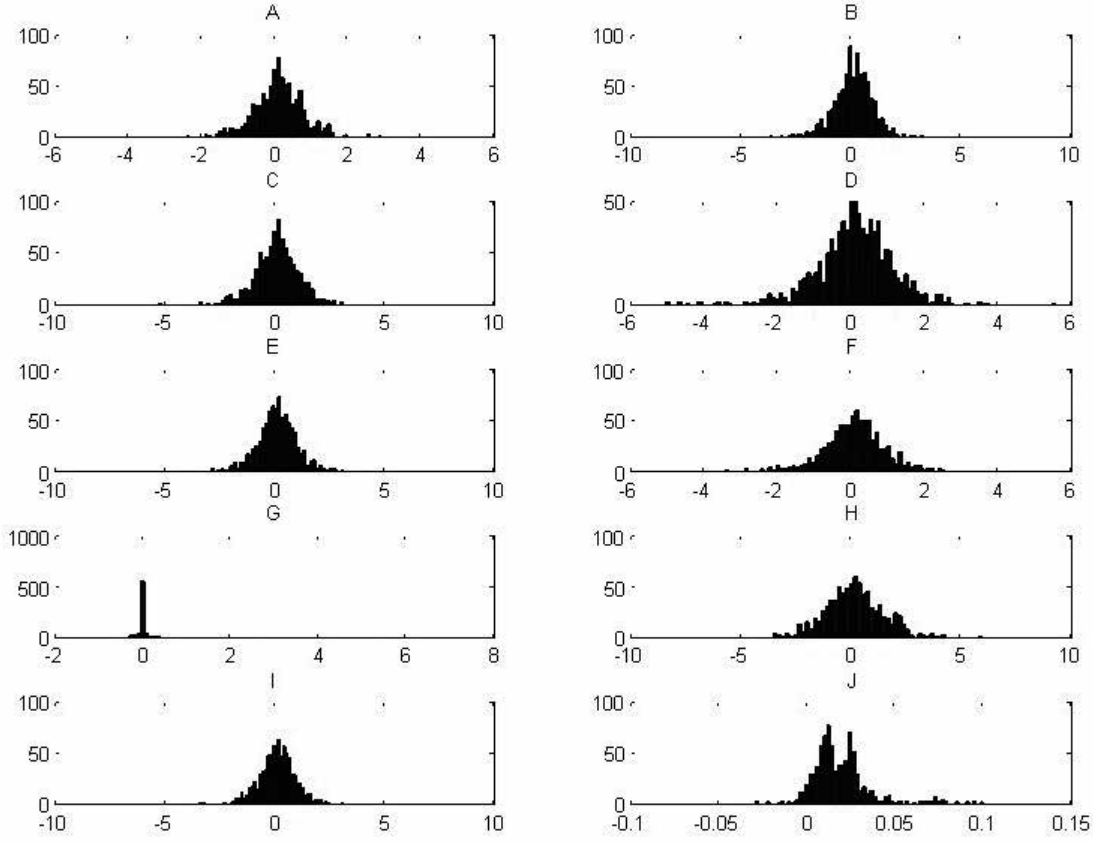

Table 3 summarizes the main time series descriptive statistics of the daily returns during the entire sample, separately for each collective portfolio. The mean daily fund returns are very high for all the collective portfolios, ranging from 0.0776% to 0.0342%. We also find very relevant differences in the standard deviation of returns. Thus, the risk of portfolio G doubles the one corresponding to the portfolio A, which is the lowest of this group; while the rest of the portfolios have standard deviations very close to 1. We can also see in the Table that all the funds have negative skewness, and high kurtosis, as expected in Equity portfolios. Finally, the results of the Jarque-Bera test (1987) show that the null hypothesis of Normality for the distribution of the fund excess returns (over the risk free rate) is rejected for all the collective portfolios in the sample.

Table 3. Descriptive statistics of the collective portfolios sample

This Table summarizes the main descriptive statistics of the daily returns in % of the eight collective portfolios selected. It also shows the mean time series of the Asset volume (in millions of local currency), the Unit value and the number of investors.

The collective portfolios and its corresponding management companies are:

A: Collective Portfolio Seguridad Bolivar, Seguridad Compañía Administradora De Fondos De Inversion S.A.

B: Open Equity Collective Portfolio Suramericana, Administradora De Carteras Colectivas Suramericana S.A.

C: Open Collective Portfolio Índice IGBC (IGBC Index), Asesores En Valores S.A. Comisionistas De Bolsa.

D: Acciones BYR, Bolsa Y Renta S.A. Comisionista De Bolsa.

E: Acción, Corredores Asociados S.A. Comisionista De Bolsa,

F: Serfinco Acciones, SERFINCO S.A. Comisionista De Bolsa.

G: Open Collective Portfolio Acciones Sistema de Valor Agregado, Helm Trust S.A.

H: Open Collective Portfolio Indeacción, FIDUCOLOMBIA.

Table 3. Descriptive statistics of the collective portfolios sample

	A	B	C	D	E	F	G	H
Mean	0.0620	0.0378	0.0342	0.0587	0.0394	0.0469	0.0776	0.0496
S.D	0.7986	1.0915	1.2660	1.1365	1.1474	0.9877	1.6180	1.0135
Min	-4.8014	-7.8370	-8.0411	-5.0614	-7.7342	-4.8676	-8.3242	-5.7972
Max	5.0581	8.4809	8.8445	5.5519	6.7640	5.8834	9.9136	6.2182
JB Stat	1,191.07	2,979.06	2,009.02	344.20	2,014.46	579.35	788.57	1,032.55
Skewness	-0.3478	-0.3748	-0.4865	-0.5139	-0.6627	-0.2664	-0.0271	-0.3580
Kurtosis	8.6277	11.9366	10.3000	5.8698	10.2545	6.9188	7.6136	8.2309
Asset Volume (millions)	233,377	23,774	4,204	67,752	55,415	44,344	41,910	16,969
Unit Value	89,129.82	10,757.43	10,560.66	14,303.49	10,183.27	54,370.44	6,044.13	7,507.62
Nº of investors	13,960.95	2,764.39	171.94	480.16	2,215.58	1,276.00	NA	NA

The 8 collective portfolios chosen show considerable differences in size, according to the asset volume managed and the number of investors. The biggest, Portfolio A, manages a mean volume of 233,377 millions of Colombian pesos, for 13,961 investors; whereas Portfolio C only manages 4,204 millions of Colombian pesos, for 172 investors.

3.2 MACROECONOMIC VARIABLES

As in related literature, we propose four macroeconomic variables in order to condition the market returns. These variables are the most commonly used for this type of analyses in other countries and we believe that they also could determine the Colombian market.

The first one is a liquidity premium, measured as the yield to maturity spread between the 10-year and the two-year Colombian government bond; second, we consider the net aggregate dividend yield of the IGBC Index; the book-to-market ratio of the IGBC Index is also used as conditioning variable; and, finally, the COP/USD exchange rate. The risk-free rate is approximated by the two-year public bond debt, and the market portfolio returns are those of the liquidity-weighted index IGBC. The daily information of these variables was obtained from Bloomberg.

Table 4 shows, in the first panel, the descriptive statistics for all these conditioning macroeconomic variables, and the Colombian market excess return in the first column. We can see that the exchange rate presents the higher standard deviation, followed by the excess market returns with 1.275% and the liquidity premium has the lowest with 0.002. These differences among variables volatilities are an important issue to stand out because they will have relevant consequences on the significance test of the effects of these variables on market returns.

The second panel reports the correlation matrix of all the conditioning variables considered. It can be seen that some of the variables do present high lineal relation among them. The highest correlation is between the dividend yield and the exchange rate with 0.697, followed by the book-to-market and liquidity premium with 0.672. It is important to analyze this issue in order to avoid multicollinearity among the explanatory variables; so, this high linear relation will give us an idea of the pairs

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Table 4. Descriptive statistics of the Conditioning Macroeconomic Variables

This Table summarizes the main descriptive statistics of the macroeconomics variables considered as conditioning variables (liquidity premium, dividend yield, book to market and the COP/USD exchange rate). In the second panel, the Table shows the correlation matrix of these variables.

	Market Excess Returns	Liquidity Premium	Dividend Yield	Book to Market	COP/USD
Mean	0.034	0.000	0.000	0.000	0.000
S.D	1.275	0.002	1.017	0.328	199.328
Min	-8.685	-0.005	-1.388	-0.677	-322.961
Max	9.194	0.010	2.302	0.596	620.999
JB Stat	1,873.996	165.443	76.787	39.564	248.576
Skewness	-0.334	-0.817	0.339	0.020	1.227
kurtosis	10.081	4.341	1.730	1.967	3.829
	Correlation Matrix				
Market Excess Returns	1	0.051	0.058	0.031	0.036
Liquidity Premium	0.051	1	-0.073	0.672	-0.248
Dividend Yield	0.058	-0.073	1	-0.521	0.697
Book to Market	0.031	0.672	-0.521	1	-0.633
COP/USD	0.036	-0.248	0.697	-0.633	1

Source: Bloomberg

4. METHODOLOGY

In this section we describe the main methodological characteristics of the empirical application. We start, firstly, with the unconditional performance evaluation; next, we continue with the conditional performance evaluation, and the choice of the appropriate set of conditioning macroeconomic variables.

4.1 UNCONDITIONAL PERFORMANCE EVALUATION

The unconditional methodology for the portfolio performance evaluation was developed by Jensen (1968), and it is known as Jensen-α. Since then, it, certainly, has become the most employed portfolio performance measure in the empirical applications. Based on the empirical version of the unconditional CAPM, it finds the market risk-adjusted returns of a portfolio, and it is the intercept (α_p^J) of the following expression:[13]

$$R_{pt} r_{ft} = \alpha_p^J + \beta_p (R_{mt} - r_{ft}) + \varepsilon_{pt} \quad (2)$$ where,

$R_{pt} - r_{ft}$: Portfolio excess returns (over the risk free asset, *rf) in t,*

$R_{mt} - r_{ft}$: Market excess returns (over the risk free asset, rf) in t,

β_p : The systematic risk (beta) of the portfolio,

ε_{pt}: Error term with $E(\varepsilon_p)=0, cov(\varepsilon_p, R_m)=0, cov(\varepsilon_p, \varepsilon_q)=0 \quad \forall\ p \neq q$

[13] Model (2) is usually extended to include the size and book-to-market factors of Fama and French (1993), and the momentum factor of Carhart (1997).

When a statistically significant positive Jensen-α is obtained for portfolio p it indicates a good portfolio performance, traduced in superior management given the market risk assumed. On the contrary, if we obtain a statistically significant negative Jensen-α, it would indicate poor portfolio performance and inferior portfolio management. In other words, the expected Jensen-α of any portfolio passively managed (and whose returns are computed before transaction costs, fees and taxes) should be zero. This way, when an active portfolio management obtains a positive Jensen-α, we are able to say that the portfolio has superior performance.

In our empirical application to the Colombian collective portfolios, Equation (2) will be estimated according to two alternative methodologies. Firstly, we estimate it once, in order to obtain one unconditional alpha, α_p^J, for each portfolio p for the entire period evaluated. Alternatively, we will estimate the same equation under a rolling regression with a bandwidth of 246 (one year) observations, obtaining α_pt^J for each portfolio p in t. As a consequence, we lose the first year of the sample period in order to compute the first unconditional alpha (α_p1^J) for each portfolio. Thus, at the end, we have for each portfolio a series of α_pt^J , for t=1,2,…644 days.

4.2 CONDITIONAL PERFORMANCE EVALUATION

The main idea behind the conditional performance measure is that the unconditional one does not consider that risk and expected returns could vary with the economic cycle. If the risk-return portfolio exposure can be predicted according to the economic cycle, and the manager does have high forecast capability, the traditional approach will confuse the management performance with the higher manager capability of forecasting. However, only the managers that use private and public information properly can be considered successful managers.

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The framework that allows us to make conditional performance evaluation has been proposed by Ferson and Schadt (1996) and Christopherson et al. (1998), and is based on the conditional CAPM:

$$E(R_{pt+1} - r_{ft+1} \mid Z_t) = \beta_{pt}\, E(R_{mt+1} - r_{ft+1} \mid Z_t) \qquad (3)$$

where,
$R_{pt+1} - r_{ft+1}$: Portfolio excess returns (over the risk free asset, *rf) in t+1*,

$R_{mt+1} - r_{ft+1}$): Market excess returns (over the risk free asset, *rf*) in *t+1*,

Z_t: Set of macroeconomic variables in the information set available in *t*,
and the portfolio conditional beta on *t* is

$$\beta_{pt} = \frac{cov(R_{pt+1}, R_{mt+1} | Z_t)}{var(R_{mt+1}\, Z_t)}$$

The empirical estimation is then,

$$R_{pt+1} - r_{ft+1} = \beta_{pt}\,(R_{mt+1} - r_{ft+1}) + \varepsilon_{pt+1} \qquad (4)$$

where,

$E(\varepsilon_{pt+1} \mid Z_t = 0,\ E[\varepsilon_{pt+1}\,(R_{mt+1} - r_{ft+1}) | Z_t] = 0,$ *and* $cov(\varepsilon_{pt+1}, \varepsilon_{qt+1}) = 0 \ \forall\ p \neq q$

In this conditional context it is required to understand that shocks on Z will make the portfolio conditional betas vary with this set of informative variables. Bearing this in mind, Ferson and Schadt (1996) propose that the portfolio beta in t is a linear function of public information available at *t-1*, so

$$\beta_{pt} = b_{0p} + B_p' z_{t-1} \qquad (5)$$

where,

b_{0p}: Average beta of portfolio p, equivalent to the traditional CAPM beta.

B_p': Sensitivity vector of the portfolio beta to the set of public information variables (we obtain one beta for each macroeconomic variable).

z_t: The difference between the realization of the macroeconomic variables and their unconditional averages $[Z_t - E(Z)]$.

Including (5) in(4), we obtain the Ferson and Schadt (1996) model:

$$R_{pt+1} - r_{ft+1} = \alpha_p^{FS} + b_{0p}\,(R_{mt+1} - r_{ft+1}) + B_p'[z_t(R_{mt+1} - r_{ft+1})] + \varepsilon_{pt+1} \qquad (6)$$

In this framework, α_p^{FS} is the conditional alpha, which represents the performance achieved by portfolio p assuming that the manager takes into account the information available in *t-1*. Under the null hypothesis that active management of portfolio p does not provide better performance that the market average $(H_0: \alpha_p^{FS} = 0)$, a significantly positive (negative) αz_p^{FS} suggests that active management of portfolio p achieves performance that is better (worse) than that of the average investor or manager.

Then, we adapt the Ferson and Schadt (1996) model to the Colombian collective portfolios. One relevant issue in the empirical application of the conditional models is related with the delay for which the portfolio conditional betas react to the set of informative variables. Given the daily availability of the dataset, it makes no sense to consider the conditioning information with only one (day) lag. Assuming that the macroeconomic information takes more time to be incorporated in the portfolio management decisions, we will consider the 22-days lag of the set of conditioning macroeconomic variables. Moreover, instead of taking directly the data for this lag, we will compute the unconditional average of the previous 22 days, $E(z\_t)$[14]. Thus, equation (6) can be rewritten as:

$$R_{pt+1} - r_{ft+1} = \alpha_p^{FS} + b_{0p}\,(R_{mt+1} - r_{ft+1}) + B_p'[E(z_t)(R_{mt+1} - r_{ft+1})] + \varepsilon_{pt+1} \qquad (7)$$

[14] Alternative time delays were considered in the empirical implementation; however, the best results in terms of explanatory power on the portfolio betas in equation (5) were obtained with the average of the 22 previous days.

where $(E(z_t) = \left(\frac{1}{22}\right)\sum_{t-1}^{t-22} z_t)$. This way, we consider that the managers have the information of the previous 22 days, and use them in order to reallocate assets in the portfolio to gain greater returns.

Similar to the unconditional performance measure estimation, we will estimate equation (7) according to two alternative methodologies. The first one allows us to obtain a unique α_p^{FS} , for each portfolio *p*, for the entire period evaluated; the second one reports for each portfolio, *p*, a series of conditional alpha α_{pt}^{FS} , for t=1,2,…622 days, through a rolling regression with a bandwidth of 246 observations.

Finally, and given the possible multicollinearity problems derived from the high figures in the correlation matrix shown in Table 4, we have to decide the appropriate set of macroeconomic variables employed as conditioning information in our sample. This will give us the starting point for the conditional measure.

In order to investigate and to choose the set of macroeconomic variables which better explain the β_p, for each portfolio, we estimated equation (5) with alternative subsets of the macroeconomic variables considered (liquidity premium, dividend yield, book-to-market and exchange rate), and for the average of the 22 previous days $E(z_t) = (1/22)\sum_{t-1}^{t-22} z_t$. The resulting R^2 for each set of variables, and the results of the significance test of each individual variable is resumed in Table 5.

As it can be seen, the results across alternative models are similar in terms of explanatory power. Regarding to the statistical significance of the variables for each model, Table 5 indicates it with a 1 for the statistically significant variables, being 0 for the non-statistically significant variables. As can be seen, model 5, which includes dividend yield and book-to-market as explanatory variables, has the best results. This way, for further calculations we use the dividend yield and the book-to-market as the conditioning variables.[15]

	A	B	C	D	E	F	G	H
Model 1	54.50	80.43	74.40	78.33	13.02	87.09	13.32	54.50
DY	0	0	0	0	0	0	0	0
LQP	0	0	0	0	0	0	0	0
Model 2	55.04	80.73	74.43	78.62	14.41	87.86	14.25	55.40
DY	0	0	0	0	0	0	0	0
LQP	0	0	0	0	0	0	0	0
COP/USD	0	0	0	0	0	0	0	0
Model 3	41.62	42.17	36.28	36.80	10.45	52.00	14.30	36.38

[15] Note the reader that Model 5 has a poor adjustment for betas of portfolios E and G. In spite of this, and in spite of the high correlation coefficient of -0.521 between both macroeconomics variables, we decided to choose them as conditioning information.

Table 5. Conditioning information on the Macroeconomic Variables

This Table reports the R2 and an indication of the result of the significance test for each explanatory variable in the estimation of the next equation for each portfolio: $\beta_{pt} = b_{0p} + \mathrm{B}_p' E(z_t)$

Where $E(z_t) = (1/22)\sum_{t-1}^{t-22} z_t$.

Each model uses a different set of macroeconomic variables; DY: dividend yield, LQP: liquidity premium, BTM: book-to-market, COP/USD: exchange rate. The indication is 1 for the statistically significant variables, and 0 for the non-statistically significant ones.

LQP	0	0	0	0	0	0	0	0
BTM	0	0	0	0	0	0	0	0
Model 4	47.73	62.03	47.73	57.00	13.84	67.59	15.93	45.24
LQP	0	0	0	0	0	0	0	0
BTM	0	0	0	0	0	0	0	0
COP/USD	0	0	0	0	0	0	0	0
Model 5	55.57	86.64	67.01	84.19	1.83	87.18	5.20	54.25
DY	1	1	1	1	0	1	1	1
BTM	1	1	0	1	1	1	1	1
Model 6	55.74	87.74	67.03	85.18	2.91	88.08	6.62	54.85
DY	0	0	0	0	0	0	0	0
BTM	0	0	0	0	0	0	0	0
COP/USD	0	0	0	0	0	0	0	0
Model 7	53.05	79.94	67.01	78.59	2.61	87.86	5.08	54.17
DY	0	0	0	0	0	1	0	0
COP/USD	0	0	0	0	0	0	0	0

5. RESULTS

This section presents the estimation results regarding the performance evaluation of the Colombian Equity collective portfolios. The unconditional and the conditional performance measures are reported separately, each of them with the two estimation methodologies considered.

5.1 UNCONDITIONAL PERFORMANCE EVALUATION

Table 6 summarizes the estimations of the unconditional alpha for the eight Colombian collective portfolios considered in the sample.

The Table reports the estimation results of the model

$$R_{pt} - r_{ft} = \alpha_p^J + \beta_p(R_{mt} - r_{ft}) + \varepsilon_{pt}$$

where, $R_{pt} - r_{ft}$ is the portfolio excess returns, $R_{mt} - r_{ft}$ is the market excess returns, β_p is the systematic risk (beta) of the portfolio, and α_p^J is the unique unconditional alpha for the entire period evaluated.

The individual significance test is made with α = 0.05. The global significance test (GST) is made with the significance level α=0.05, $F_{(\alpha,1,888)}$. The indication 1 reject the null hypothesis.

Table 6. Unconditional Performance Measure
Unique unconditional alpha for the complete sample

	A	B	C	D	E	F	G	H
$\hat{\alpha}_p^J$	0.0345*	0.0078*	0.0013*	0.0277*	0.0080*	0.0172*	0.0444*	0.0196*
$\hat{\beta}_p$	0.5443*	0.7298*	0.9415*	0.8054*	0.8315*	0.7067*	0.9667*	0.7264*
R^2	75.47	72.61	89.83	81.57	85.30	83.17	57.99	83.45
GST	1	1	1	1	1	1	1	1

Time-variant unconditional alpha with a rolling 246 observations bandwidth

This Table reports the estimation results of the same model under a rolling regression with a bandwidth of 246 (one year) observations, obtaining α_{pt}^J, for each portfolio in t =1,2,...622 days.

We show the number (and percentage over the total) of significantly positive and negative unconditional alphas.
The individual significance test is made with α=0.05. The global significance test GST is made with the significance level α=0.05, $F_{(\alpha,1,244)}$. The indication 1 reject the null hypothesis.

	A	B	C	D	E	F	G	H
$\alpha_{pt}^{J\,*} >$ %	432 67.08%	470 72.98%	297 46.12%	538 83.54%	418 64.91%	465 72.20%	548 85.09%	309 47.98%
$\alpha_{pt}^{J\,*} >$ %	159 24.69%	48 7.45%	233 36.18%	80 12.42%	118 18.32%	121 18.79%	34 5.28%	298 46.27%
α_{p2011}^J GST	-0.02815* 1	-0.01034* 1	-0.00036* 1	-0.03358* 1	-0.01432* 1	-0.00843* 1	0.05177* 1	-0.01434* 1

The first panel of the Table shows for each collective portfolio the unique performance measure for the complete sample.

The betas estimated show that all the portfolios returns have a tight relation with the market movements; they all move in the same direction as the market does and with a relationship close to one.[16] The high R2 of all the individual empirical regressions highlights the explanatory power of the market index on the fund portfolios selected.

As for the unconditional alpha, we reject the null hypothesis H_o: α_p^J =0 of the individual significant test with a significance level of 5% for the eight fund portfolios. Moreover, also the global significant test (GST) null hypothesis H_o: $\alpha_p^J = \beta_p$ =0 is rejected. More important, all the individual unconditional alphas are significantly positive. This shows us that according to the unconditional framework, the Colombian collective portfolios have obtained a performance higher than the one predicted by the model, once the (constant) market risk has been taken into account.

The second panel of the Table summarizes the rolling regression results. As we have a time series of 644 unconditional alphas observations, α_{pt}^J for t=1,2,…644 days, we are able to compare the number and percentage of the positive and negative significant unconditional alphas for every portfolio. Accordingly with the aggregate results in the first panel, the number of significantly positive daily alphas is clearly bigger than the negative ones. In fact, all except portfolios C and H have a percentage of positive alphas superior to 50% of the 644 observations. In particular, portfolio G (D) has 85.09% (83.54%) of the unconditional alphas significantly positive, and only 5.28% (12.42%) are significantly negative.

Thus, the overall unconditional performance of the eight Colombian Equity collective portfolios has been positive along the sample period considered, May 13th 2008 to December 31th 2011. Moreover, the

The betas estimated show that all the portfolios returns have a tight relation with the market movements; they all move in the same direction as the market does and with a relationship close to one.[20] The high R2 of all the individual empirical regressions highlights the explanatory power of the market index on the fund portfolios selected.

[16] So, we are able to confirm that the eight collective portfolios chosen are all Equity oriented.

high values of these alphas allow us to conclude that the performance of the Colombian collective portfolio was very positive during the period of study. This is a very interesting and promising conclusion for the Colombian industry, given that the usual mutual fund unconditional risk-adjusted performance in the international literature is not positive, or even negative. Thus, the portfolio management seems to have added value to the Colombian fund's investors for the sample and period analyzed.

The last row in Table 6 reports the time series average of the rolling alphas only for the year 2011. As it can be seen, we obtain all significantly negative unconditional alphas except, again, for the portfolio G. These results show that during the 2011, a year characterized by a global financial crisis, the overall performance of the Colombian Equity funds was negative according to this unconditional methodology.

5.2 CONDITIONAL PERFORMANCE EVALUATION

Table 7 shows the results for the conditional performance evaluation methodology. Firstly, when we obtain a unique conditional alpha (α_p^{FS}) for each portfolio during the entire period evaluated, the Table reports similar results than with the unconditional estimation: all the conditional alphas are significantly positive. However, only three of the fund portfolios (B, C and G), have a better performance under this methodology compared to the unconditional measure. However, in all the cases we obtain better explanatory power.

Table 7. Conditional Performance Measure
Unique conditional *alpha* for the complete sample

The Table reports the estimation results of the model
$R_{pt+1} - r_{ft+1} = \alpha_p^{FS} + b_{0p}\,(R_{mt+1} - r_{ft+1}) + \mathrm{B}_p'[z_{t-1}(R_{mt+1} - r_{ft+1})] + \varepsilon_{pt+1}$

where, $R_{pt+1} - r_{ft+1}$ is the portfolio excess returns, $R_{mt+1} - r_{ft+1}$ is the market excess returns, b_{op} is the average beta of the portfolio, B_p' is the sensitivity vector of the portfolio returns to the set of public information variables, and z_t is the difference between the realization of the macroeconomic variables and their unconditional averages. Finally, α_p^{FS} is the unique conditional alpha for the entire period evaluated.

The individual significance test is made with α=0.05. The global significance test GST is made with the significance level α=0.05, $F_{(\alpha,3,864)}$. The indication 1 reject the null hypothesis.

Table 7. Conditional Performance Measure
Unique conditional *alpha* for the complete sample

	A	B	C	D	E	F	G	H
$\hat{\alpha}_p^{FS}$	0.0333*	0.0095*	0.0070*	0.0237*	0.0056*	0.0156*	0.0504*	0.0162*
$\hat{b}_{op}$	0.5550*	0.7878*	0.9421*	0.8520*	0.8375*	0.7403*	0.9493*	0.7473*
$\hat{\beta}_{p\ DY}$	0.00065	0.0063*	0.0353*	0.0353*	0.0095*	0.0141*	0.0129*	0.0222*
$\hat{\beta}_{p\|BTM}$	0.1094*	0.5981*	0.0689*	0.4021*	0.0245*	0.3144*	-0.1791*	0.1722*
R^2	76.13	78.10	90.22	83.83	85.59	85.17	58.29	84.43
GST	1	1	1	1	1	1	1	1

Time-variant conditional alpha with a rolling 246 observations bandwidth.

This Table reports the estimation results of the same model under a rolling regression with a bandwidth of 246 (one year) observations, obtaining α_{pt}^{FS} for each portfolio in t =1,2,…622 days.

We show the number (and percentage over the total) of significantly positive and negative conditional alphas.
The individual significance test is made with α=0.05. The global significance test GST is made with the significance level α=0.05, $F_{(\alpha,3,244)}$. The indication 1 reject the null hypothesis.

	A	B	C	D	E	F	G	H
$\hat{\alpha}_{pt}^{FS^*} > 0$ %	383 61.58%	439 70.58%	327 52.57%	489 78.62%	478 76.85%	446 71.70%	410 65.92%	286 45.98%
$\hat{\alpha}_{pt}^{FS^*} < 0$ %	192 30.87%	37 5.95%	208 33.44%	75 12.06%	59 9.49%	88 14.15%	44 7.07%	267 42.93%
$\hat{\alpha}_{p2011}^{FS}$ GST	-0.02435* 1	-0.01822* 1	-0.00027 1	-0.03640* 1	-0.01189* 1	-0.00628* 1	0.04655* 1	-0.00849* 1

Looking into the rolling regression results summarized in the second panel of the Table, we again obtain a bigger number of positive conditional alphas than negative for all the eight portfolios. So, empirical analysis showed that also conditioning to public financial information the Colombian collective portfolios have been positively managed. This conclusion, along with the excellent financial environment favored by the Decree 2175/2007, makes Colombian collective portfolios industry a very promising and profitable sector for the Colombian and international investors.

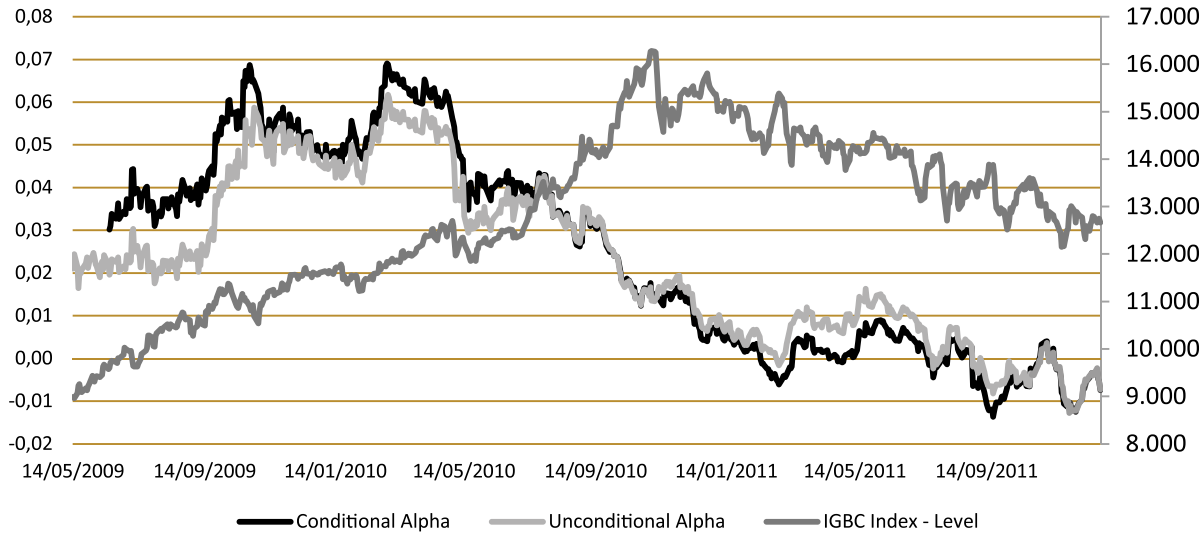
In comparison to the unconditional performance measure only two portfolios, C and E, improve their performance under this conditional methodology. In contrast, portfolios A and G have a bigger number of significantly negative conditional alpha. Thus, differently to the international literature, conditional evaluation of the Colombian collective portfolios seems not to improve the unconditional one. A rigorous analysis of the reasons of such a surprising result is beyond the scope of this study;

however, of course, exploring if the Colombian fund managers does not properly receive reliable public financial information, or if, on the contrary, they incorrectly interpret it would be an issue of great interest for the academic, professional and regulator community.

Again, taking the last rolling regression that measures the conditional performance during 2011, four of the seven significant conditional alphas are less negative than the unconditional equivalent. However, for portfolios B and D the conditional alpha is more negative than the unconditional one. Moreover, the portfolio G, which has the higher performance during 2011 under both methodologies, obtained better results under the unconditional methodology.

Finally, we compute the cross sectional average of the resulting unconditional and conditional rolling alphas. This way we obtain a time series of mean alphas under both methodologies. The Figure 2 shows their evolution during the sample period.

Figure 2. Comparison between the cross sectional average of the unconditional and conditional rolling alphas



The secondary axis corresponds to the IGBC Index level.

Two clear patterns appear. Firstly, both series behave almost identically. So, unconditional and conditional measures, as it has been previously showed, do not present relevant differences in terms of performance evaluation. In fact, when we test the difference between the cross sectional average under the Jensen (1968) approach and under the Ferson and Schadt (1996), we are not able to reject the null hypothesis $H_0: \widehat{\alpha}_p^J = \widehat{\alpha}_p^{FS}$ with a significance level α=0.05; so, it can be concluded that these series have statistically the same mean.

Second, the portfolios analyzed had a better performance during the last months of 2009 and the first half of 2010, when the IGBC Index had a bullish tendency. After that, during 2011 their performance has been worse, coinciding with the more volatile IGBC Index segment. Looking at the Figure, it could be identified a light better performance under the conditional model during the bullish market tendency; on the contrary, in the second part of the sample period, when the portfolio performance is inferior, the conditional performance is more negative that the unconditional one. However, such visual differences are not statistically significant.

6. CONCLUSIONS

In this study we analyze the performance of the Colombian Equity collective portfolios under the unconditional and conditional methodologies, for the period from May 13th 2008 to December 31th 2011.

For each fund portfolio, we obtain two groups of results under each approach: a unique alpha, based on a full sample regression, and a time series of alphas, based on a rolling regression.

In order to condition to the available information, we use the macroeconomic variables that better explained the CAPM beta of the portfolios (dividend yield and book-to-market) and have better explanatory power. The conditional model takes the mean of the conditional information with a lag of 22 days.

We conclude that, during the sample period, the Colombian Equity collective portfolios selected achieved an overall significantly positive performance. Anyway, it can be said that the Colombian managers have better performance in bulling than in volatile scenarios, being the

conditional measure more positive in bulling stages than the traditional and more negative in the bearish stages.

Also, we conclude that the Colombian collective funds do not improve significantly their performance results under the conditional evaluation; only a slight improvement is observed in some portfolios during some stages in the period evaluated. The similarity found in this study under both methods could be a reason for further investigation on this topic in the Colombian case.

Finally, authors would like to highlight the increasing relevance in asset volume managed by the Colombian collective portfolios industry. In our opinion, both, the good management reported in this article and the favorable environment created after the Decree 2175/2007 has combined to attain such a volume figures. A substantial reform in the regulation of this industry is nowadays under discussion by the Colombian financial authorities. The collective portfolios (collective mutual funds, as they will be called in the forthcoming regulation) will be classified according to the composition of its portfolio. The objective of this reorganization is to broaden this type of investment to the small Colombian investor, and to facilitate the inception process. We approve such a transformation, and we consider it will contribute to the expansion of the Colombian portfolio investment industry.

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