

The Development of the Proper-Stock Repurchases in France: Role of the Stock-Option Plan

YOSRA MELLOULI

Ecole Supérieure de Commerce Electronique
Campus Universitaire de la Manouba – 2010, La Manouba, Tunisia

Email : yosra_mellouli@yahoo.fr

Tel : (216) 71 602 919 / Fax : (216) 71 602 662

WIDED KHIARI

Institut Supérieur de Gestion
41, Rue de la Liberté, Cité Bouchoucha 2000 Le Bardo, Tunis –Tunisia

Email : khiariwided@yahoo.fr

Tel (216) 71 588 514 / Fax (216) 71 588 487

Abstract

This study aims to analyze the effect of employee and management stock-options on actual share-repurchases. We used a sample of 634 French firms belonging to the SBF 250 index during the period between 1999 and 2002. Our results show a strong correlation between stock options with the repurchases. Therefore, it appears that the stock options provide firms with incentives to repurchase shares in order to avoid the earnings dilution that could be caused by option exercise. However, we do not find a strong negative relationship between increase in dividends and management stock options. It seems that management options do not create an incentive to substitute repurchases for dividend growth, although the payment of dividends reduces the value of options held by managers.

Key Words: Share Repurchases, Dividend Policy, Stock-Options, Management, Employee.

Introduction

The studies that have examined the company motivations conducting stock repurchases are numerous. Most of them show that companies repurchase their proper stocks mainly to benefit from an under evaluation of the stock (Vermeelen, 1981; Comment and Jarrell, 1991; and Ginghinger and L'Hev, 2006), or to distribute the excess cash to the stockholders (Nohel and Tarhen, 1998 ; Grullon and Michaely, 2004 ; Oswald and young, 2008 and Oded, 2012). Other studies are interested more particularly in setting up stock-option plans (Jolls, 1998; Fenn and Liang, 2001; Weisbenner, 2000; Kahle, 2002; Bens and al., 2003; Albooy and Horris, 2006; Babenko, 2009). These studies show that the development of the stock option plans, since the beginning of the 1990s, has been considered as one of the explanations of the growth of the stock repurchase programs.

The link between the development of the stock option plans and that of repurchase programs has especially been tested in the American context. We propose in this paper to study this link in the French context. The French context turned out to be interesting, more particularly over the period that has followed passing the law of 1998. In fact, as far as we know, none of the studies specifically devoted as the link between the stock repurchase programs and the stock options has been realized on the French market. Also, the French regulations as regards repurchasing stocks were strongly relaxed in July, 1998. The years which have

preceded that law had known the most successful repurchases. According to the Financial Market Authority (FMA) estimations, between 1998 and 2002, the number of French companies having announced a repurchase program went up from 49 to 380. Whereas, the stock repurchases of the 58 biggest companies decreased between 2003 and 2009 nonstop, the stock repurchases decline by about one third. In 2009, the companies almost stopped repurchasing their stocks. Besides, the growth of the repurchases between 1999 and 2002 was associated with an important development of the stock option plans. Our sample, which covers 634 French companies that were members in the SBF 250 index from 1999 to 2002, show that almost 80% of the companies set up a stock option plan. Yet, in 1984, only around twenty French companies allocated the stock options to their employees (Arnould and Jarger, 1990).

This paper is organized as follow. In the first section, we present the hypothesis underlying the link between the stock repurchases and the stock options. The second one describes the data sources and the variables. Finally, the third one presents and analyzes the results.

Theoretical Approach and Development of the Hypothesis

This section intends to explain two hypotheses underlying the link between the stock repurchases and the stock options. The first hypothesis is about the connection between the stock repurchases and the dilution linked to exercising stock options. The second one is interested in the impact of the managers having the stock options concerning modifying this parameters of the remuneration policy (purchase of shares or dividend)

The Stock Repurchase and the Dilution Linked to the Stock Options

According to Desbrières and *al.* (2000), “the plans of options can harm the stockholders because they lead to a dilution of their rights to the created wealth and their rights of voting”. The dilution linked to the policy of stock options could thus put the property of the stockholders in jeopardy, especially if the exercise price was very low and if the options concerned a big part of the capital. The firms should then manage the problem. For that reason, they should initialize the repurchase programs for, at least, two reasons:

- Either to repurchase all or part of the shares that have been recently created following the exercise of the subscription options (stock options which are within the scope of the stock subscription plans).
- Or to deliver the shares at the time exercising the repurchase options (stock options that are part of the stock purchase plans).

The studies testing the effect of the dilution linked to exercising the stock options on the repurchases are not very numerous (Weisbenner, 2000; Kahle, 2002; Bens et al., 2003, Albouy et Morris, 2006 and Babenko, 2009). The results of these studies completely highlight a positive link between the importance of the stock options and the stock repurchases. On a sample of 712 American companies having conducted stock repurchases from 1992 to 1997, Kahle (2002) reveals a positive and significant relationship between the stock repurchases and the stock options exercised during the years of repurchasing.

Kahle (2002) uses the outstanding stock options and exercisable ones as measurements of the stock options that will be exercised in the near future. She detects a positive and statically significant correlation between these two indicators and the stock repurchases (decision of repurchase and amount of the repurchased shares. Kahle (2002) confirms that the companies increase their repurchases before the effective exercises of the stock options. She concludes then that the will to avoid the dilution linked to the exercise of the stock options is a plausible explanation of the resort of the American companies, from 1994 to 1999. Weisbenner (2000) detects a positive and statistically significant relationship between the stocks repurchases and the stock options allocated during the 3 or 4 years that precede the stock repurchases. According to Weisbenner (2000), this latter variable represents a good approximation of the number of stock options that will be exercised just before the repurchase period, since the period of fiscal unavailability of these options varies

between 3 and 4 years. Contrary to these two latter authors, Bens and *al.* (2003) directly test the link between the stocks repurchases and the dilution of the Earning Per Share (EPS) related to the exercise of the stock options. The results of this study support those found by Kahle (2002) and Weisbennen (2000). Thus, Bens and *al.* (2003) show that the companies are prompted to carry out the stock repurchases when their EPS level is below threshold wanted by the managers. They conclude that the will to increase the EPS after exercising the stock options can justify the resort of the companies to the repurchases. More recently, Bebenko (2009) over the 1996-2002 period, has reinforced the positive link between the stock repurchases and the options exercised in the firm and shows that the favorable reaction further to the repurchase advertisements is stronger when the incentive remuneration is considerable.

Hypothesis 1: *The firms whose employees exercise a big number of stock-options are encouraged to carry out stock repurchases.*

The Repurchase of Remuneration Policy and the Stock-Options

The managers possess in the stock options favor the payment of funds via the stock repurchases. Likewise, many studies (Yermack, 1995; Palia, 2001) show that the stock-options policy is a means allowing living the interests of the managers up with those of the stockholders. The managers having the stock-options are therefore prompted to act in the interest of the stockholders, potentially through the intermediary of the stock repurchases;

The managers possessing the stock options can have an influence on the parameters of the remuneration policy otherwise. So, most of the option contracts do not foresee the adjustment of the exercise price at the time of detaching the dividend. The dividend payment comes thereby to reduce the value of stock options and consequently to reduce the wealth of option holders. On the contrary, the dilution absence thanks to the repurchased shares and the potential adjustment of the prices following the announcements of the repurchase programs increases the value of the stock options. Consequently, the managers having the stock-options, who tend to take the decisions that put the value of their options up and to avoid those that reduce it (Desbrières, 1997), lead the companies to substitute the stock repurchases for the increases in dividends (Lambert and *al.*, 1989).

Empirically, the results of the studies testing the link between the stock options and the substitution of the repurchases for the dividends are sometimes contradictory. The results found by Weisbenner (2000) do not allow confirming the link between the substitution of the repurchases for the dividends and the stock options. This author brings out a negative correlation between the options allotted to the 5 better-paid managers and the stock repurchases. According to this author, the managers who have the stock-options push the companies to limit the distribution of profits so that this distribution can be carried out in the form of dividend or stock repurchase. Nevertheless, on a sample of 97 announcements of raising dividends and 27 ones of repurchases that were realized in 1993, Jolls (1998) shows that the managerial stock options favor the operations of the stock repurchases.

By conducting a comparative study between a sample of companies having carried out repurchases and another one of similar companies having increased dividends, Fenn and Liang (2001) and kahle (2002) prove the conclusion found by Jolls (1998). Using a sample of 1100 non financial companies, from 1993 to 1997, F- Fenn and Liang (2001) reveal a statistically negative relationship between the managerial stock-options and the distribution of dividends. They show, afterwards, a positive relationship between these stock options and the stock repurchases. They also find that the link between the stock repurchases and the stock options is particularly important for the companies which are characterized by the latent interest conflicts. Khale (2002) find that the ongoing and exercisable stock options (wage and managerial) are twice as large as for the firms having conducted the stock repurchases. This author adds that the probability of the stock repurchases is positively and significantly linked to the managerial stock options, whether being

exercisable or not. On the other hand, once the decision of the stock repurchase is taken, only the wage stock options are taken into account for determining the amount of repurchases.

***Hypothesis 2:** The firms whose managers hold a big number of stock options are encouraged to substitute the repurchase for the increases in dividends.*

Materials and Methods

Presentation of the Sample

The data related to the stock repurchases have been taken from the FMA (www.Amf-france.org) site. The data that concerns the plans of stock options allocated in France have been collected manually (from the annual reports of the companies). Finally, the accounting and financial data have been extracted from the worldscope data base.

The initial sample consists of all the companies making up the SBF 250 index over the years 1999, 2000, 2001 and the year 2002. We have chosen the period that followed the law 1998, which knew the keenest interest of the French companies in the repurchases. To avoid the survivor bias, it is not necessary that the retained companies have complete data on the study period available. The initial sample is therefore “unrolled” and consists of 1000 couples (companies, years).

The financial companies (the banks and the insurance companies) have been excluded from the sample because their financial characteristics and the structure of their balance sheet are different from those of the non financial companies. In total, 148 (out of 1000 observations) observations related to the financial companies have been deleted. The 36 observations corresponding to the foreign companies have been also removed from our sample because these companies can be subject to accounting norms different from the French ones. Thus, our study sample is limited to the industrial and commercial companies, that is to say 816 observations (companies-years).

The companies whose accounting data have been unavailable (43 observations) in the Worldslope Database have been moved aside, too. Furthermore, the absence of the annual reports of 42 observations has reduced the size of the sample into 731. Out of 731 consulted annual reports, 34 do not supply any information related to the stock options, 64 provide very little information on the stock options, 127 make clear that these companies do not allocate any stock options, and 507 indicate that these companies allocate the stock-options and provide in a more or less detailed way the information related to the stock options generally granted to the employees (whether being managers or not). Among these 507 latter reports, 297 provide also the information related to the stock options specifically granted to the managers.

The stocks repurchases on the French markets were greatly used during the retained study period (1999-2002). From January 1999 to December 2002, 316 observations (companies-years) carried out the stock repurchases, namely almost half of the companies of the sample, for an amount of €24,796 million. The allotment of the amount of the repurchases per year shows that the year 2001 is the most active one. So, the amount of the repurchases in 2001 came to €9,882 million, to wit nearly 40% of the repurchases carried out during the study period (see Table 1 and Figure 1 in the Appendix). This is explained by the high growth of the French companies in repurchases just after the crash of September 11, 2001.

Table 1 and Figure 1 show equally that the stock options knew a very high rise during the study period. According to Table 1, from 1999 to 2002, 79% of the companies of our sample allot the stock options. Moreover, the average annual number of outstanding stock options in 2000 (around € 4 million) is 2 four times as important as that observed in 1999 (around € 1 million).

Table 1. Stocks Repurchases and *stock-options* of the companies sample between 1999 et 2002

Years	1999	2000	2001	2002	Total
Number of companies	148	160	162	164	634
Stock repurchases					
- Companies number	46	78	98	94	316(49%)
-Repurchases amount : Sum (millions €)	2 488	5 287	9 882	7 112	24 769
Moyenne (millions €)	16,81	33,04	61	43,36	39,06
Stock-options					
-Companies number	107	128	132	140	507(79%)
-Stock-options (Number) : Sum (million)	141	338	550	638	---
Mean (million)	0,95	2,11	3,39	3,89	---

Note : Tableau 1 presents the annual characteristics of the companies of the sample concerning the stock repurchases and the *stock-options*.

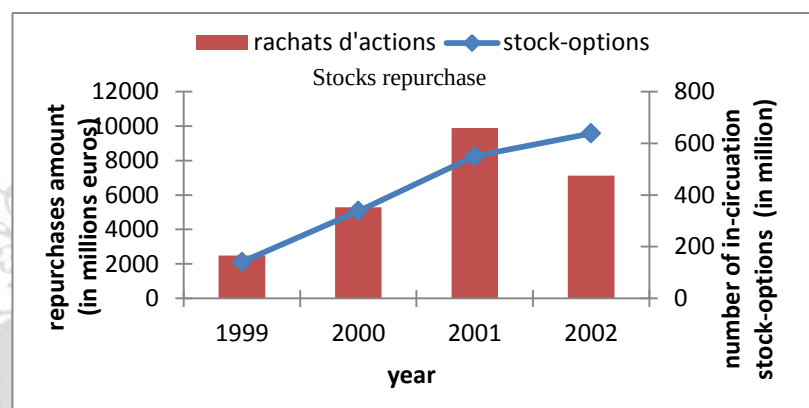


Figure 1. Stocks repurchases and *stock-options* of the companies of the sample between 1999 and 2002

Variables Definition

All the variables used in this study are presented in the Table 2.

Table 2. Definition of the retained variables

Variables	Codes	Definitions
Dependent Variables	REPURC	Binary Variable which takes « 1 » if the company conducts during the year the stock repurchases beyond 1% of its market capitalization and « 0 » if not.
	INC-DIV	Binary Variable which takes « 1 » if the company increases the payments of the dividends during the year and « 0 » if not
	R-REPURC	The ratio between the repurchases annual amount and the market capitalization.
Principal Variables	SO-OUTST	The ratio between the number of wage stock options outstanding at the date of exercise and the number of shares outstanding.
	SO-EXABLE	The ratio between the number of exercisable wage stock options and the number of shares outstanding.
	SO-M-OUTST	The ratio between the number of managerial stock options outstanding at the date of exercise and the number of shares outstanding.
	SO-M-EXABLE	The ratio between the number of exercisable managerial stock options and the number of shares outstanding
	SO-M-ATT	The ratio between the numbers of stock options granted to managers and the number of shares outstanding.

Controle Variables	FCF	The difference between operating income and investment expenses relative to total assets.
	BM	The "Book to Market" ratio defined as the ratio between the book value of equity and market capitalization.
	LTD	The ratio between long-term debt and total assets.
	SIZE	Logarithm of the market capitalization of the company.

Model Presentation

In order *to test the first hypothesis*, we propose to conduct the following logistic regressions:

$$\text{REPURC}_{i,t} = \alpha_{i,t} + \beta_{1i,t} \text{SO-OUTST} + \beta_{2i,t} \text{FCF} + \beta_{3i,t} \text{BM} + \beta_{4i,t} \text{LTD} + \beta_{5i,t} \text{SIZE} + \varepsilon_{i,t} \quad (1a)$$

$$\text{REPURC}_{i,t} = \alpha_{i,t} + \beta_{1i,t} \text{SO-EXABLE} + \beta_{2i,t} \text{FCF} + \beta_{3i,t} \text{BM} + \beta_{4i,t} \text{LTD} + \beta_{5i,t} \text{SIZE} + \varepsilon_{i,t} \quad (1b)$$

To determine the factors likely to explain the amount of the repurchases, we suggest using the Tobit Model and we hold as a dependent variable the repurchase rate (R-REPURCHASE):

$$\text{R-REPURC}_{i,t} = \alpha_{i,t} + \beta_{1i,t} \text{SO-OUTST} + \beta_{2i,t} \text{FCF} + \beta_{3i,t} \text{BM} + \beta_{4i,t} \text{LTD} + \beta_{5i,t} \text{SIZE} + \varepsilon_{i,t} \quad (2a)$$

$$\text{R-REPURC}_{i,t} = \alpha_{i,t} + \beta_{1i,t} \text{SO-EXABLE} + \beta_{2i,t} \text{FCF} + \beta_{3i,t} \text{BM} + \beta_{4i,t} \text{LTD} + \beta_{5i,t} \text{SIZE} + \varepsilon_{i,t} \quad (2b)$$

A Tobit Model is used in the case of the suppressed data. This model can simultaneously deal with the null values and the positive continuous ones. Furthermore, it takes into account the qualitative distinction performed by the Logit model, that the model of the Ordinary Least Squares (OLS) does not allow. The Tobit model can be applied in our case in order to analyze the rate of effective repurchase. Thus, the dependent variable, which is the rate of the effective repurchases according to the program announced during the year and the market capitalization of the initiating company (R-REPURCHASE), cannot be lower than zero and there exist many observations whose value is null (the case if the companies that did not carry out the proper-stock repurchases).

In order *to test the second hypothesis*, we resort to the following Logistic regressions models:

$$\text{REPURC}_{i,t} = \alpha_{i,t} + \beta_{1i,t} \text{SO-M-OUTST} + \beta_{2i,t} \text{FCF} + \beta_{3i,t} \text{BM} + \beta_{4i,t} \text{LTD} + \beta_{5i,t} \text{SIZE} + \varepsilon_{i,t} \quad (3a)$$

$$\text{REPURC}_{i,t} = \alpha_{i,t} + \beta_{1i,t} \text{SO-M-EXABLE} + \beta_{2i,t} \text{FCF} + \beta_{3i,t} \text{BM} + \beta_{4i,t} \text{LTD} + \beta_{5i,t} \text{SIZE} + \varepsilon_{i,t} \quad (3b)$$

$$\text{REPURC}_{i,t} = \alpha_{i,t} + \beta_{1i,t} \text{SO-M-ATT} + \beta_{2i,t} \text{FCF} + \beta_{3i,t} \text{BM} + \beta_{4i,t} \text{LTD} + \beta_{5i,t} \text{SIZE} + \varepsilon_{i,t} \quad (3c)$$

$$\text{R-REPURC}_{i,t} = \alpha_{i,t} + \beta_{1i,t} \text{SO-M-OUTST} + \beta_{2i,t} \text{FCF} + \beta_{3i,t} \text{BM} + \beta_{4i,t} \text{LTD} + \beta_{5i,t} \text{SIZE} + \varepsilon_{i,t} \quad (4a)$$

$$\text{R-REPURC}_{i,t} = \alpha_{i,t} + \beta_{1i,t} \text{SO-M-EXABLE} + \beta_{2i,t} \text{FCF} + \beta_{3i,t} \text{BM} + \beta_{4i,t} \text{LTD} + \beta_{5i,t} \text{SIZE} + \varepsilon_{i,t} \quad (4b)$$

$$\text{R-REPURC}_{i,t} = \alpha_{i,t} + \beta_{1i,t} \text{SO-M-ATT} + \beta_{2i,t} \text{FCF} + \beta_{3i,t} \text{BM} + \beta_{4i,t} \text{LTD} + \beta_{5i,t} \text{SIZE} + \varepsilon_{i,t} \quad (4c)$$

$$\text{INC-DIV}_{i,t} = \alpha_{i,t} + \beta_{1i,t} \text{SO-M-OUTST} + \beta_{2i,t} \text{FCF} + \beta_{3i,t} \text{BM} + \beta_{4i,t} \text{LTD} + \beta_{5i,t} \text{SIZE} + \varepsilon_{i,t} \quad (5a)$$

$$\text{INC-DIV}_{i,t} = \alpha_{i,t} + \beta_{1i,t} \text{SO-M-ATT} + \beta_{2i,t} \text{FCF} + \beta_{3i,t} \text{BM} + \beta_{4i,t} \text{LTD} + \beta_{5i,t} \text{SIZE} + \varepsilon_{i,t} \quad (5b)$$

$$\text{INC-DIV}_{i,t} = \alpha_{i,t} + \beta_{1i,t} \text{SO-M-EXABLE} + \beta_{2i,t} \text{FCF} + \beta_{3i,t} \text{BM} + \beta_{4i,t} \text{LTD} + \beta_{5i,t} \text{SIZE} + \varepsilon_{i,t} \quad (5c)$$

Concerning the variables that are retained and related to the stock-options, they are classified into two groups, according to the nature of the option holders.

- Two variables related to the wage stock-options: SO-OUTST and SO-EXABLE
- Three variables related to the managerial stock-options: SO-M-OUTST, SO-M-EXABLE and SO-M-ATT

Besides, the operation of stock repurchases can be influenced by the financial characteristics of the firm. Four central variables are consequently, integrated in our models:

- The distribution of Free Cash Flow (FCF) to the stockholders can justify the resort of the companies to the effective repurchases. Therefore, the payment of available funds to the stockholders in the form of repurchases restricts the funds to the disposal of the managers and reduces, as a result, the risk of financing the inadequately profitable projects. This helps to resolve the agency conflicts between shareholders and managers, that are cost generators (Jensen, 1986). Based on these analyses, the variables relating to the FCF should positively influence the rate of effective repurchase. As part of this study, we have used two FCF measurements namely the FCF and the book to market (BM) ratio. The FCF and BM variables are supposed to be positively linked to the rate of effective repurchase (R-REPURCHASE).
- The under debt situation can also be an element that characterizes the companies conducting the stock repurchases. Thus, the companies indebted are obliged to steadily pay the disposal of the manager while imposing on him a stricter management (Jensen, 1986). The indebtedness allows reducing the distribution of cash to the stockholders and so limiting the stock repurchases. We use the connection between the long –term debts and the total assets, which are noted as LTD in the following of this study. This indebtedness ratio is supposed to negatively connect with the rate of effective repurchase (R-REPURCHASE).
- The importance of the size of the big companies prevents these latter from quickly investing in the new projects and consequently reduces their growth opportunities. Following this reasoning, the big companies are more interested in investing in their proper shares. We can then anticipate that the companies which repurchases are characterized by a big size. In this study, the size is measured by the algorithm of the market capitalization of the company SIZE; it is supposed to be positively linked to the rate of affective repurchase.

Results and Discussion

We study, first of all, the characteristics of the companies that conduct the stock repurchases. Then, we examine the impact of the wage stock options on the repurchase decision and on the amount of the repurchased shares. Finally, we check the effect of the managerial stock-options on the stock repurchases and on the rises in the dividends.

Characteristics of the Companies Conducting the Repurchases

Are the operations of proper stock repurchases influenced by the characteristics of the initiatory company, particularly those related to the stock-options plans? To answer this question, we split the sample up into two sub-samples. The first one brings together the companies who carried out, during that year, the repurchases beyond 1% of their market capitalization (active companies). The second one consists of the other companies of the sample (inactive companies). Afterwards, we conduct a univariate comparison between the two sub-samples based on the variables specific to the stock-option plans (SO-OUTST, SO-EXABLE, SO-ATT, SO-D-OUTST, SO-M-EXABLE and SO-M-ATT) and on the classic financial variables (FCF, BM, LTD and SIZE). Table 3 presents the principal characteristics of the two sub-samples.

The results of the means test show that the outstanding and exercisable wage stock-options are on average significantly higher for the active companies. The SO-OUTST and SO-EXABLE present, respectively, an average of 3.855% and 0.949% for the active companies, against 3.039% and 0.658% for the inactive companies. This result is coherent with that of Kahle (2002) who finds that the number of outstanding wage stock-options is almost twice as high as for the companies carrying out the stock repurchases. Our results are, as well, coherent with those of Kahle (2002) while revealing that the outstanding (SO-M-OUTST), exercisable (SO-M-EXABLE) and attributed (SO-M-ATT) managerial stock options are on average significantly higher for the active companies.

Moreover, according to the predictions of the agency theory, Table 3 shows that the size of the company, measured by the logarithm of the market capitalization, presents an average of 6.114 for the first sample, against 5.909 for the second one. Furthermore, the “Book to Market” ratio appears significantly higher for the companies conducting the repurchases. In addition, for the sample of the active companies, the mean of the FCF variable is equal to 0.017, while the companies belonging to the second sub-sample have a statistically weaker FCF level, amounting to -0.0019.

Table3. Descriptive Statistics and Mean Differences Test

	Sub-sample (I) Active Companies			Sub-sample (II) Inactive Companies			T Test
	N	Mean	Standard deviation	N	Mean	Standard deviation	
SO-OUTST (%)	118	3,855	3,354	516	3,039	3,225	2,338*
SO-EXABLE (%)	118	0,949	1,344	516	0,658	1,289	2,191*
SO-ATT (%)	118	1,121	1,527	516	0,854	1,287	2,666*
SO-M-OUTST (%)	61	0,757	1,082	236	0,519	0,759	1,945*
SO-M-EXABLE	61	0,130	0,269	236	0,066	0,217	1,918*
SO-M-ATT (%)	61	0,249	0,614	236	0,141	0,141	2,056*
R-REPUR (%)	118	2,386	1,151	516	0,101	0,204	----
FCF	118	0,017	0,052	516	-0,0019	0,098	2,068*
BM	118	0,657	0,387	516	0,512	0,424	3,410*
LTD	118	0,149	0,099	516	0,151	0,136	-0,204
SIZE	118	6,114	0,924	516	5,909	0,755	2,541*

Note : Significativity level at 10% (*), 5% (**), or 1% (***).

Repurchase Decision, Amount of Repurchases and Wage Stock-Options

The results related to hypothesis 1 are given by Table 4 (see the Appendix). According to the equations (1a) and (1b), the ratio of outstanding stock-options (SO-OUTST) and the ratio of the exercisable stock options (SO- EXABLE) are positively related, in a significant way, to the dependent variable (REPURCHASE).

Table 4. Decision of stocks repurchases, repurchases amount and wages sotck-options

	Expected sign	Logit Model		Tobit Model	
		(1a)	(1b)	(2a)	(2b)
CONSTANT		-6,022 (-6,13)***	-6,91 (-6,07)***	-4,669 (-6,37)***	-4,68 (-6,43)***
SO-OUTST	(+)	0,053 (1, 88)*		0,024 (1,03)	
SO-EXABLE	(+)		0,180 (2,49)**		0,179 (2,95)***
FCF	(+)	3,705 (2,33)**	3,608 (2,28)**	4,207 (3,66)***	4,222 (3,68)***
BM	(+)	1,117 (4,19)***	1,122 (4,19)***	1,054 (4,83)***	1,050 (4,83)***
LTD	(-)	-0,451 (-0,51)	-0,515 (-0,58)	-0,819 (-1,17)	-0,768 (-1,10)
SIZE	(+)	0,588 (4,13)***	0,575 (4,03)***	0,628 (5,76)***	0,615 (5,65)***
Chi-sq p-value	---	0,000	0,000	0,000	0,000
-2Log-likelihood	---	138	138	374	372

The extent of exercising the stock options has a positive impact on the decision of the stock repurchases. Nevertheless, the results of the Tobit Model Equations (2a) and (2b), which fall on the link between the amount of the repurchases and the exercise of the stock options, slightly depend on the implemented indicator. Therefore, the coefficient of the outstanding stock options ratio (SO-OUTST) is positive, but it is not statistically significant at the conventional thresholds (Equation 2a); has a positive and statistically significant coefficient at a threshold of 1% (Equation 2b). These two latter ratios are used like the approximate measurements of the stock-options which will be exercised in the near future. Yet, a significant number of outstanding options have been recently allocated and can be exercised only after their period of fiscal non-availability stock-option measure more subtly future and near exercise of the wage options rather than that of the outstanding stock-options. Consequently, validating the first hypothesis mainly depends on the link between the exercisable stock-options and the stock repurchases. The coefficient of the variable (SO-EXABLE) is positive and significant at the threshold of 1%, which allows validating the existence of a positive link between the exercise of the stock-options and the amount of the repurchases.

Eventually, the exercise of the stock-options is positively related to the repurchase activity (repurchase decision and amount of repurchases). Our results corroborate those of Kahle (2002), Albouy and Morris (2006) and Bens and *al.* (2003).

Besides, results (Equations 1a, 1b, 2a and 2c) show that the stock repurchase is connected with the characteristics of the company in the direction predicted by the agency theory. The decision of repurchasing shares and the amount of repurchased shares are positively linked to the size of the company. Indeed, in all the equations, SIZE variable has a positive and statistically significant coefficient at the threshold of 1%. The FCF level is positively related to the repurchase activity (decision and amount), too. So, the two FCF indicators (FCF which is the difference between the operational result and the capital expenditure related to the total assets and the BM ratio defined by the connection between the book value of the proper funds and the market capitalization) have the positive and statistically significant coefficients.

Stock Repurchases /Increase in the Dividends and Managerial Stock Options

The results related to the hypothesis 2 are summarized in Table 5. According to Table 5, it appears that the extent of granting the stock-options to the managers promotes the stock repurchase (repurchase decision and amount of repurchases shares). Thus, the managerial stock-options are positively and significantly associated with the repurchase decision. According to Equations (3a), (3b) and (3c), the indicators measuring the stock-options given to the managers, such as the ratio of the outstanding managerial stock-options (SO-M-OUTST), the ratio of the exercisable managerial stock options (SO-M-EXABLE) and the ratio of the attributed managerial stock-options (SO-M-ATT), are connected positively and significantly with the dependent variable (REPURCHASE). A similar relationship is spotted between the managerial stock-options and the amount of repurchases. According to Equations (4a), (4b) and (4c) the three indicators concerning the stock-options granted to the managers are statistically and positively related to the dependent variable (R-REPURCHASE). However, the possession of the stock-options by the managers does not seem to have an impact on the decision of increasing the dividends. In fact, the three variables (SO-M-OUTST), (SO-M-EXABLE) and (SO-M-ATT) are not associated significantly with the dependent variable (INC-DIV), as shown by Equations (5a), (5b) and (5c).

The results show that the managers who possess a substantial number of stock-options leads the companies to conduct the stock repurchases. Nevertheless, they do not show, as well, that the stock-options of the managers have a negative impact on the decision of increasing the dividends. The link between the stock-options for the managers and the substitution of the repurchases for the dividends is not confirmed. So it seems that the managers do no favor the substitution of the repurchases for the increases in the dividends, though the dividend payment reduces the value of their options.

Table 5. Stocks repurchases /Increase in dividends and managerial stock-options

	Dependent Variable: REPURC			Dependent Variable: R-REPURC			Dependent Variable: INC-DIV		
	Equation (3a)	Equation (3b)	Equation (3c)	Equation (4a)	Equation (4b)	Equation (4c)	Equation (5a)	Equation (5b)	Equation (5c)
CONSTANTE	-5,185 -3,67***	-5,253 -3,70***	-5,095 -3,65***	-5,135 -4,61 ***	-4,823 -3,85 ***	-5,163 -4,69***	0,020 -0,02	0,058 0,06	0,325 0,32
SO-M-OUTST	0,355 2,14**			0,338 2,34**			0,022 0,15		
SO-M-EXABLE		1,124 1,87*			1,540 2,70***				0,666 1,08
SO-M-ATT			0,856 2,23**			0,817 2,70***		0,068 0,21	
FCF	7,770 2,67 **	7,718 2,62**	7,595 2,59**	4,911 2,34**	4,171 1,87*	4,668 2,26**	3,136 1,82*	2,992 1,76*	3,259 1,85*
BM	1,326 2,67***	1,393 2,91***	1,246 2,65***	1,292 3,35***	1,285 2,98***	1,300 3,40***	0,161 3,71***	0,164 3,75***	0,141 3,24***
LTD	-0,445 -0,31	-0,262 -0,19	-0,270 -0,19	0,082 0,07	0,285 0,23	0,292 0,26	-,75777 -0,67	-0,744 -0,67	-1,163 -1,04
SIZE	0,414 2,07 **	0,434 2,17**	0,422 2,12**	0,624 3,85***	0,548 2,92 ***	0,643 4,01***	0,156 0,97	0,145 0,90	0,082 0,48
Chi-sq p-value	0,0036	0,0021	0,0060	0,0000	0,0004	0,0000	0,0009	0,0008	0,0022
-2Log-likelihood	64	64	65	175	176	176	87	88	81

Our results go along with those obtained by Poulain-Rehm (2003) who shows that, on the French market, the dividends distribution policy is not very affected by the setting of the stock-option plan. In contrast, they come up to be against those obtained, on the American market, by Weisbenner (2000). The latter highlights that the managers, who hold a considerable number of stock-options push the companies to limit the distribution of benefits. Our results are also very different from those obtained by Kahle (2002), Jolls (1998) and Fenn and Liang (2001) in the American context. Joll (1998), Fenn and Liang (2001) and Babenko (2009) reinforce the second hypothesis. Kahle (2002) confirms, too, the existence of a link between the managerial stock-options and the repurchase decision. However, the stock-options do not have significant effect on the amount of repurchases.

Conclusion

The goal of this work is to analyze the link between the development of the stock-option plans and that of the repurchase programs, through distinguishing between the stock options given to all the employees (whether being managers or not) and those specifically granted to the managers. The used sample covers 634 French companies, members of the SBF 250 index from 1999 to 2002. The main results reveal, first of all, a positive link between the exercise of the wage stock-options and the stock repurchases. The will to avoid the dilution connected to exercising the stock-options can be thus one of the motives for the effective repurchases. The results show, then, a positive and statistically significant link between the stock-options of the managers and the stock repurchases (repurchase decision and repurchase rate or amount). Nevertheless, they do not confirm, as well, the inverse link between the stock-options of the managers and the decision of increasing the dividends. We cannot, consequently, confirm the link between granting the stock-options to the managers and substituting the repurchases for the dividends. Although, the dividend payment decreases the value of the options of the managers, these latter do no push the firms to substitute the repurchases for the increases in the dividends.

The stock repurchases seem also to be related to the characteristics of the company, in the way predicted by the agency theory; they are positively related to the size of the company and to the level of the Free-Cash-Flow.

In the end, it will be interesting to study further the financial specificities, the stock-option policy and the stockholding structure of the company in order to examine the motives of the proper stock repurchases in a more general context.

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