

The Italian SPACs regulatory regime: an empirical analysis of AIM Italia SPACs

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Abstract

This Article firstly examines the regulatory landscape, particularly company law and securities regulation, that defines the incentive structure for a sample of 24 AIM Italia SPACs (Special Purpose Acquisition Companies) from 2011 to 2023. Our research secondly poses three empirical questions concerning the degree of participation by institutional versus retail investors in the secondary market of Italian AIM SPACs, the scale of their cost structure, and the long-term share price performance (over one, two, and three-year periods) of entities following the business combination from the effective merger date. Our findings reveal that retail investors, though excluded from SPAC IPOs, are actively engaged in SPAC share trading on the secondary market, but less so in warrant trading. The cost structure yields a net cash per share with an effective average of 8.26 Euro and effective median of 8.51 Euro, making AIM Italia SPACs less expensive than their U.S. counterparts. The long-term performance surpasses that of the U.S. SPACs. This Article then attempts to explain the results from a regulatory perspective and concludes with brief policy considerations.

Keywords: Italian SPACs, AIM Italia, MIV, investor protection, retail investors, institutional investors, business combination, SPAC-IPO, de-SPAC, regulation, costs, dilution, business combination, merger, reverse takeover

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27 MAY 2024

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1. Introduction

In recent years Special Purposes Acquisition Companies (SPACs) have become a widely used alternative to traditional Initial Public Offerings (IPOs) for indirectly listing companies in the United States,¹ owing to some apparent advantages such as the SPAC structure, the economic roles of SPAC sponsors and SPAC IPO investors.² At the same time, SPACs have raised regulatory concerns about their soundness and efficiency, because they are apparently used as a mechanism of regulatory arbitrage to avoid the more rigid rules governing normal IPOs in the United States.³ While more recently U.S. SPACs activity has slowed down,⁴ in January 2024 the SEC adopted new

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¹ The literature on (U.S.) SPACs is literally exploding; as very recent contributions and without any claims of completeness, see: Rodrigues and Stegemoller (2023); Clear (2023); Reddy (2023); D’Alvia (2023); Newman and Trautman (2022); Martin (2022); Paul (2022); Passador (2022); Klausner, Ohlrogge and Ruan (2022); Coates (2022); In Italian, see Romano (2022); Tasca (2020).

² As reported by Gahng, Ritter and Zahng (2023), p 3466, who add “Proponents of SPACs argue that private companies benefit by gaining an additional option for raising capital and listing, and that retail investors benefit by being able to invest in young growth companies that otherwise would be accessible only through venture capital partnerships” p 3464.

³ On regulatory arbitrage in general, see Fleischer (2010) who defines it as “the manipulation of the structure of a deal to take advantage of a gap between the economic substance of a transaction and its regulatory treatment” p 230 and notes that while “regulatory arbitrage is often privately beneficial and socially wasteful, the optimal amount of regulatory arbitrage is not zero. Whether a particular regulatory arbitrage technique is good or bad necessarily depends on a prior question of whether a particular regulation enhances social welfare” p 234; it is arguably possible to include this form of regulatory arbitrage in the regulatory-regime inconsistency type: “the same transaction receives different regulatory treatment under different regulatory regimes” p 244. Indeed, since the economic substance of the deal is to take public a non-registered company, in the comparison between the transaction costs of a normal IPO and of a SPAC, the question becomes the extent to which regulation of normal IPOs is efficient (i.e. socially beneficial) and the SPAC instrument is less efficient (i.e. socially non beneficial in comparison to a normal IPO). The existence of SPACs as a valid alternative to IPOs in making a non-registered company a public one, can be justified arguing that the two deals are not perfectly the same and the transaction costs of SPACs are different, for instance in terms of the kind of informational asymmetry between the target company and investors, due to characteristics of the target. On regulatory arbitrage of SPACs for several jurisdictions, see also Maupas and Paugam (2021). For the US, the pros and cons of SPACs in comparison to direct IPOs are provided by Kolb and Tykovova (2016) as well as Gahng, Ritter and Zhang (2023); Huang, Ritter and Zhang (2023); see also Touch and Seligman (2022) and Corrigan (2023), for a comparison of the regulatory regimes of normal IPOs and SPACs; Rose (2023), discussing the pro and con of IPOs and SPACs in relation to forward looking statements.

⁴ For the precise numbers between 2012 and 2023, see SEC (2024), p 14; Rodrigues and Stegemoller (2023), p 1765; D’Alvia (2023), p 15. As a reaction to the proposed SEC (2022) provisions and in particular to a possible exposition to Section 11 SA liability, on May 9, 2022 Goldman Sachs announced its recalibration on the SPAC-business: “We are reducing our involvement in the SPAC business in response to the changed regulatory environment, Goldman Sachs spokeswoman Maeve DuVally told

rules on SPACs on disclosure, use of projections and issuer obligations.⁵ The new SEC rules followed the recent debate surrounding U.S. SPACs (listed on national exchanges such as NASDAQ or NYSE).⁶ This debate has highlighted that the incentive structure for SPACs sponsors may potentially diverge from that of investors in SPACs-IPOs and in the secondary market. The legal instruments that try to align the different interests may be not optimal, especially for unsophisticated retail investors who seem to bear the structural costs of SPACs (particularly, dilution costs).⁷ It has recently been quantified that, due to the structural costs deriving from their institutional setting (as explained in Section 2), the mean and median SPAC, based on the typical SPAC-IPO share price of \$10, have respectively \$4.10 and \$5.70 in net cash per share outstanding at the time of the SPAC merger with the target company.⁸ These costs, which are largely borne by non-redeeming SPAC shareholders, decrease the net cash per share that the SPAC contributes to the merger. These costs, depending also on the redemption percentage, derive from: (i) the costs of dilution caused by the sponsor's 20% promote; (ii) the costs of dilution coming from the warrants and rights provided to IPO-stage (institutional) investors; (iii) the costs deriving from the SPAC-IPO (underwriting) fees and other expenses related to the business combination.⁹

SPACs are not a prerogative of the U.S capital market and a regulatory concern only for the SEC. At an international level, IOSCO published a Report on SPACs in May 2023.¹⁰ In Europe the situation with SPACs presents some divergences in the Member States.¹¹ ESMA started a

Bloomberg. Its policy could change if the SEC scales back guidelines", as reported in Goldman Sachs Is Exiting Most SPAC Work on Liability Concerns: Report (businessinsider.com). Notwithstanding the absence of Section 11 SA liability regime, for the type of litigation U.S. SPACs produced see the recent, legal and empirical study by Strauss (2023). For the judicial review of the merger, see Klausner and Ohlrogge (2021). The final rules by the SEC of 2024 did not imply underwriters' liability, on the point see Skadden (2024), p 6.

⁵ See SEC (2024). On the new rules, see the statements by Gensler (2024) and Uyeda (2024). See also Skadden (2024). The new rules followed the SEC (2022) Release of March 2022, but from late 2020 onwards, the SEC published some other statements on SPACs, see Rose (2023), p 1779 fn. 78 for a list.

⁶ Rodrigues and Stegemoller (2023), p 1762.

⁷ Spamann and Guo (2022).

⁸ These results refer to 47 SPACs mergers in the period January 2019 through June 2020 as conducted by Klausner, Ohlrogge and Ruan (2022). In a second paper, Klausner and Ohlrogge (2023), p 112, found for 243 SPACs mergers between July 2020 to December 2021 a mean value of \$6.40 and a median value of \$7.10.

⁹ See Klausner, Ohlrogge and Ruan (2022), p 246 and pp 252—253. Apparently, in the US the payment of the SPAC-IPOs underwriting fees are partially subordinated to the realisation of the business combination, see Martin (2022), p 1237.

¹⁰ See IOSCO (2023); IOSCO (2021). For the analysis of some jurisdictions, see the comparative survey by Romano (2022), p 957, p 983.

¹¹ For some European countries, see Maupas and Paugam (2021), p 28; D'Alvia (2023), p 20. For instance, in Germany SPACs (Luxemburg incorporated companies) have been relatively less common than in Italy, see Schalast, Geurts and Türkmen

discussion in July 2021 about possible regulatory intervention in relation to the SPAC-IPO Prospectus to be published according to Regulation (EU) 2017/1129,¹² while the European Commission acknowledged the existence of SPACs also in the European capital market and raised some questions on SPACs within the Listing Act Initiative of November 2021 for possible policy purposes.¹³

In Italy the development of SPACs has been constant and from 2011 until the end of 2023, 35 SPACs were listed.¹⁴ Italian SPACs appear to be a dynamic phenomenon and legal scholars have studied extensively several related legal aspects.¹⁵ In this Article, we fill the gap from a law and finance perspective, proposing three research questions related to AIM Italia SPACs,¹⁶ the trading venue where Italian SPACs have been mainly listed and which was renamed in October 2021 as Euronext Growth Milan (EGM).¹⁷ First, we empirically study a sample of AIM Italia SPACs to discover the extent of retail investors' involvement in the secondary market trading of shares and warrants of the typical AIM Italia SPAC.¹⁸ As AIM Italia SPAC-IPOs are open only to institutional investors, and retail investors can buy shares only on the secondary market, this first question is important at least for two reasons. We note that Italian legal scholarship usually assumes that also retail investors participate in AIM Italia SPACs, but to our knowledge we are the first to empirically analyze the question.¹⁹ Furthermore, it is important to know the composition of the investor base in the secondary market for possible regulatory purposes.²⁰ This

(2021); Eichhorn and Schanz (2021). According to AFME (2022), p 12, German company law is not favorable to replicate a typical SPAC structure, see also Eichhorn and Schanz (2021); Fuhrmann (2021), p 391. For the Netherlands according to Fuhrmann (2021), p 392, apparently a special kind of GmbH (limited liability company) is used. For the United Kingdom, see FCA (2021) on which see Reddy (2022); see also Reddy (2023) discussing also the Duch case. For Spain see Palà Laguna (2021) and Gimeno Ribes (2023).

¹² At the European level, ESMA published in July 2021 a document about investor protection in SPACs, on which see Fuhrmann (2021); D'Alvia (2023), p 19.

¹³ See European Commission (2021), questions on SPACs 84 to 91, p 57.

¹⁴ The first SPAC listed in Italy was listed on MIV on 27 December 2011, but it was a Luxembourg incorporated company and not an Italian one, Italy 1 Investment S.A. with Prospectus of 24 December 2010.

¹⁵ See e.g. Fumagalli (2014); Fumagalli (2018); De Biasi (2018); Garramone (2020); Tasca (2020).

¹⁶ While the first research question is somewhat new, the second and the third simply follow the seminal paper by Klausner, Ohlrogge and Ruan (2022), in order to have a comparative analysis with the U.S. SPACs.

¹⁷ Notwithstanding the recent change of name, we keep the traditional denomination of AIM Italia SPACs.

¹⁸ According to Paul (2022), p 40, referring to the *Financial Times*, in February 2021, retail investors accounted for 40% of all trading in US SPACs.

¹⁹ But see D'Alvia (2023), p. 30, arguing on the possibility that in Europe SPACs are mainly used by institutional investors.

²⁰ On this point see ESMA (2021) referring to the fact "... that SPAC transactions may not be appropriate investments for all investors due to their complexity because of factors such as the risks related to dilution, incentives issues for sponsors, the different way costs of underwriting fees may be borne by SPAC redeeming investors and remaining investors, as well as uncertainty as to the identification and, subsequently, the evaluation of target companies" p 2; European Commission (2021), p 58, asking two questions directly referred to the type of investor: "86. Do you believe that investing in SPACs, via an IPO or on

is particularly true with respect to the “dilution game” of SPACs, which can presumably be better understood by institutional and supposedly sophisticated investors, while retail investors may lack the (financial) skills necessary to properly assess it, so raising the question regarding the need for regulatory intervention.²¹ The second research question relates to the structure costs (in terms of net cash per share) for investors in AIM Italia SPACs (both for the IPO and the secondary market), generated by the “dilution game”, following the business combination.²² This research question is justified and carried out in order to provide an analysis of the costs structure of AIM Italia SPACs that is useful for comparisons both at the economic and legal levels.²³ Finally, the third research question analyses the long-run performance of the combined entity resulting from the business combination between the SPAC and the operative company.²⁴ Here too, this research question provides an analysis of the performance of AIM Italia SPACs that is useful for both economic and legal purposes.²⁵

Our empirical results (Section 4) regarding the first question suggest that retail investors do participate in the secondary market of AIM Italia SPACs: they trade in the post-IPO period before the business combination (BC) is announced, as well as after its announcement and before and after the BC takes place, while their trading in warrants is less pronounced. With respect to the second question, our results show that the structure of total costs of AIM Italia SPACs is less pronounced than that of U.S. SPACs, with an effective net cash per share of 8.26 Euro average

the secondary market, should be reserved to professional investors only? 87. In the case of investments in SPACs (whether on the primary or the secondary markets), would you see the need to reinforce some safeguards and/or to further harmonise the disclosure regime in the EU (please consider an investment open to professional only or to professional and retail investors)? Please put an X in the box corresponding to your chosen option(s).” See also Reddy (2023), p 3; Touch and Seligman (2022), p 340 for noting that the retail investors are potentially harmed by SPAC structures.

²¹ Reddy (2023), p 3 notes that “... Sophisticated investors are adequately protected via the contracting paradigm, with the regulatory paradigm largely redundant in that regard. A regulatory paradigm would be more justified if it targeted protections for unsophisticated investors who may not fully appreciate the incentives and mechanics of SPACs, by compelling the alignment of interests between those unsophisticated investors with more sophisticated investors”. On retail investors and their protection through regulation in the UK see also Paul (2022). On the empirical question of the effective participation of retail investors in U.S. SPACs at the time of the BC, see Rose (2023), p 1774, fn. 51 with some data and references, and p 1777 with the statement that dilution “may be too complex for unsophisticated investors to understand even if well disclosed” and p 1820 concluding that shares prices around de-SPAC mergers are possibly influenced by retail investors.

²² For the second research question follow the same analysis as Klausner, Ohlrogge and Ruan (2022), p 246.

²³ For the analysis of dilution caused by the conversion of the *azioni speciali*, see Ferretti and Castelli (2021), p 69. For descriptive data on Italian SPACs see Riva and Provasi (2019).

²⁴ Also for the third research question we follow Klausner, Ohlrogge and Ruan (2022), p 254, with some minor changes.

²⁵ We do not deal in this Article with a comparison in terms of costs between normal Italian IPOs and AIM Italia SPACs for the same period, i.e. we do not pursue in this paper a comparison in terms of relative efficiency between the two mechanisms to make a company public.

and 8.51 Euro median,²⁶ and theoretical (i.e., considering full exercise of special shares and warrants) of 7.53 Euro mean and 7.63 Euro median. With respect to the third question AIM Italia SPACs seem to perform considerably better than the U.S. ones.

It follows that, apparently, AIM Italia SPACs seem to be less costly than their U.S. “cousins” and present a better performance. We are aware that our empirical analysis does not imply causal inference and is based on a very small sample, but we tentatively attribute the different (better) empirical results of AIM Italia SPACs as compared to the U.S. SPACs, also to their partially different institutional setting in relation to the limit of about 1/3 of the redemptions (in the form of withdrawal rights) for approving the business combination and better disclosure. Furthermore, we observe that AIM Italia SPACs have not so far raised any kind of litigation.²⁷

We acknowledge that while the (incentives’) structure of a SPAC is functionally similar in the different jurisdictions, legal technicalities of arranging this incentive structure in each jurisdiction may diverge both in relation to company law and to securities regulation. This is the reason why we briefly describe in Section 2 the main characteristics of (U.S.) SPACs as alternative investment instruments and then in Section 3 the securities regulation and disclosure regime, as well as the company law rules of AIM Italia SPACs. Section 4 presents the empirical analysis of the three research questions based on a sample of 24 Italia AIM SPACs from 2011 to 2023, 18 of which achieved the business combination (while six were liquidated). Section 5 provides some short reflections on policy implications in terms of material rules and disclosure rules for the protection of retail investors, which seems to be the core element of the current international debate for policy purposes. Brief conclusions follow in Section 6.

2. The alternative nature of SPACs’ capital-raising

As it is now commonly understood, the “SPAC mechanics,” which is functionally similar across many jurisdictions,²⁸ involves sponsors with reputational capital certifying the quality of

²⁶ Compared to the 4.10\$ mean and 5.70\$ of Klausner, Ohlrogge and Ruan (2022).

²⁷ More precisely, we are not aware of any kind of litigation.

²⁸ Rodrigues and Stegemoller (2013) associate SPACs with a form of private equity for the benefits of non-institutional investors.

the endeavour.²⁹ They create the SPAC and list it as a non-operating shell company on a stock exchange via an Initial Public Offering (IPO), thereby raising funds from IPO investors.³⁰ The collected money is put in an escrow account, while sponsors look for a business combination (BC, also called de-SPAC transaction)³¹ with a target company in a period of 18-24 months after the IPO. The operational target company proceeds to the business combination (usually a merger) with the SPAC so that as a practical result the operational company becomes thereby listed. If there is no business combination with a target company the SPAC is liquidated, and the money of the escrow account is given back to the IPO investors.³²

Recently, U.S. scholars have pointed out the intrinsic dangers of the “U.S. SPAC model” for investors and, in particular, for retail ones.³³ To summarize briefly the major characteristics of their institutional setting, we observe that in U.S. modern SPACs:³⁴ (i) the sponsors’ promote is about 20% of the SPAC post-IPO shares;³⁵ (ii) units, composed by common shares and warrants/rights, are sold to IPO investors for \$10 and the included securities trade separately after a given period of time;³⁶ (iii) the money collected from investors by the IPO is put in an escrow account (and invested in treasury securities) that produces interest, which is either employed for the BC or given back to investors in case of liquidation;³⁷ (iv) SPAC’s shareholders sometimes have the possibility to decide on the BC (approving or rejecting it);³⁸ (v) SPAC’s shareholders can approve the BC and at the same time exercise the redemption right for their

²⁹ On the economic role of sponsors as certification instrument (as equivalent to private equity general partners and ad-hoc underwriters), see Gahng, Ritter and Zhang (2023), p 3470.

³⁰ To institutional investors and or/retail investors, depending on the legal dimension of the offering.

³¹ We use the terms business combination (BC) and de-SPAC transaction as synonyms.

³² In general, on SPACs see the useful introduction of Okutan Nilsson (2018).

³³ Klausner, Ohlrogge and Ruan (2022); Gahng, Ritter and Zhang (2023); Spamann and Guo (2022).

³⁴ These are the third generation SPACs (from 2009), as qualified by Klausner, Ohlrogge and Ruan, (2022), p 232; see also Reddy (2022), p 10. We describe briefly the typical modern U.S. SPAC solely for comparative purposes with our AIM Italia SPACs sample. For a more complete and detailed description, see Coates (2022), *passim* and p 41.

³⁵ Klausner, Ohlrogge and Ruan, (2022), p 236. Their consideration for this 20% is about only 3/4% of the IPO proceeds, Maupas and Paugam (2021), 10. Technically, Rose (2021), p 2 fn. 4, refers to the promote as a special class of common shares “‘Before the IPO, the SPAC’s sponsor will purchase, for a nominal amount, shares of a separate class of common stock (often referred to as ‘founder shares’), that gives the sponsor the right to receive, upon consummation of the de-SPAC transaction, 20% of the post-IPO common stock (often referred to as the ‘promote’).”’. For a history of the promote incentive structure, see Martin (2022), p 1256.

³⁶ Klausner, Ohlrogge and Ruan, (2022), p 236. For an overview of the financial theory of warrants in the IPO and SPAC contexts, see Romano (2022) p 939.

³⁷ Klausner, Ohlrogge and Ruan, (2022), p 237.

³⁸ Reddy (2022), p 11. According to Touch and Seligman (2022), p. 325, the business combination is usually a reverse triangular merger, where the SPAC absorbs the target.

shares;³⁹ (vi) there are no limits on the redemption rights,⁴⁰ so that they can be very high,⁴¹ thereby subtracting money from the SPAC for the BC; (vii) the target company requires and negotiates a minimum amount of resources for the BC,⁴² which can be provided in case of high levels of redemption by sponsors and/or by PIPE investors who serve a certification role of the quality of the BC.⁴³ Apparently, these main characteristics of the institutional setting of modern U.S. SPACs create the possibility of regulatory arbitrage versus IPOs and imply a substantial misalignment of incentives between sponsors and investors (with the former pushing also for non-efficient business combinations because it is in any case better for them due to the 20% promote). These characteristics produce the structural costs of SPACs that investors bear when investing in a SPAC. The mentioned incentives' problems and the resulting structural costs may justify regulatory intervention and the question becomes to what extent disclosure regulation or material regulation is needed.⁴⁴ In March 2022 the SEC proposed rules on SPACs,⁴⁵ followed in

³⁹ Spamann and Guo (2022), p 3; Ganor (2021), p 410. For the history of voting rights (and their relationship with redemption rights), see also Martin (2022), p 1258, p 1261 for the possibility for all shareholders to redeem.

⁴⁰ Early U.S. SPACs had a threshold for redemptions of 20%, so requiring 80% to vote for the business combination but this limit apparently produced the practice of greenmailing, i.e. shareholders would buy shares and threaten to redeem them if special favors were not provided; on the point see, Spamann and Guo (2022), p 3; Reddy (2022), p 11; Rodrigues and Stegemoller (2013), p 857; Rodrigues and Stegemoller (2022), p 40. More generally for a description of the evolution of redemption rights at the de-SPAC stage and of their distortive effect as a form of empty voting, see Rodrigues and Stegemoller (2021).

⁴¹ Redemption rates are very high, reaching also 50% or more, see Klausner, Ohlrogge and Ruan (2022), p 240.

⁴² Klausner, Ohlrogge and Ruan (2022), p 233 and 237.

⁴³ Klausner, Ohlrogge and Ruan (2022), p 238; on PIPE investors see also Gahng, Ritter and Zahng (2023), *passim*; Fagan and Levmore (2023). According to Touch and Seligman (2022), p 326 PIPE investors buy in a non-registered offer, then the SPAC registers the PIPE shares so that PIPE investors can sell their shares on the market.

⁴⁴ See Halbhuber (2022); Gennsler (2022); Tuch and Seligman (2023). Of course, we note that the more recent debate on the extent regulation of SPACs for the purposes of retail investor protection has to be granted in the United States, and eventually in which form, belongs to the traditional and old debate, typical of securities regulation, about the tension between capital formation and investor protection for new instruments/mechanism of investment; see Lombardo (2021). For the natural tension between the two dimensions from a policy perspective (attractiveness and competitiveness of the trading venue/market place vs investor protection) see Reddy (2022), p 34. Following the traditional literature on investor protection of La Porta *et al.* (1998), arguably an optimal investor protection regime improves the attractiveness and competitiveness of the trading venue/market place and results in an optimal retail participation to the capital market. The problem with SPACs is that the dilution cost is so complex with the danger that retail investors can be systematically exploited without being able to understand it.

⁴⁵ As already mentioned, the recent, very intense use of SPACs as an alternative to traditional IPOs to list non-reporting operative companies in the United States has raised concerns that SPACs are used as instrument of regulatory arbitrage in alternative to the more rigid regulatory regime for IPOs. It is useful to schematize and summarize the main regulatory proposals of the SEC report of March 2022: (i) improve disclosure about the sponsor, potential conflict of interests between the sponsor and investors and about dilution, as well as about disclosure for de-SPAC transaction including a fairness statement, see SEC (2022), pp 22-63 describing in detail the new subpart 1600 of regulation S-K; (ii) align de-SPAC transactions with IPOs by providing investors with information on the business combination before they vote and by extending liability for the de-SPAC transaction for underwriters, see SEC (2022), pp 64-100; (iii) improve the disclosure regime of projections used in de-SPAC transactions, see SEC (2022), pp 127-134. For an accurate legal discussion on U.S. liability for SPACs, see Touch and Seligman (2022), p 328 and p 332 for underwriters, as well as p 341 for the statements that SPAC-IPOs underwriters are also active in the BC phase and that the majority of SPAC-IPO underwriting fees are paid at the closing of the SPAC merger, so creating an incentive also for underwriters (and not only for sponsors) to push also for bad deals.

January 2024 with some modifications by the adoption on new rules. These new rules have the main objective of improving disclosure, increasing the liability level and eliminating the forward looking statement privilege, with the ultimate aim of eliminating the incentives for regulatory arbitrage with IPOs.⁴⁶ For the limited purposes of this Article, these new rules can be broadly schematized and summarized as follows:⁴⁷ (i) definition of the main notions such as SPAC, de-SPAC, sponsor, target company,⁴⁸ (ii) increased disclosure about sponsors, conflict of interests, dilution,⁴⁹ (iii) increased disclosure of the de-SPAC transaction,⁵⁰ (iv) board determination about the de-SPAC transaction,⁵¹ (v) qualification of the private operating, target company as co-registrant and the extension of the (strict) liability regime,⁵² (vi) elimination of de-SPACs forward looking statements privilege.^{53,54}

3. The regulatory framework of Italian SPACs

While in the U.S. there are three jurisdictions that must be coordinated for the regulation of SPACs,⁵⁵ the regulatory regime of Italian SPACs includes Italian company law and securities regulation, both of which are shaped by different degrees by European regulation, as well as Italian stock exchange rules.⁵⁶ It is necessary and useful to analyse this regime in detail, also from a comparative perspective with the U.S. one.⁵⁷

⁴⁶ For an introductory description see of the new SPAC regulation, see Skadden (2024)

⁴⁷ A more detailed analysis of the SEC regulatory solutions is outside the scope of this Article, being of course unable to forecast precisely the future development of these new rules on the U.S. SPAC market.

⁴⁸ See SEC (2024) pp 24-40.

⁴⁹ See SEC (2024), pp 40-117.

⁵⁰ See SEC (2024), pp 126-131.

⁵¹ See SEC (2024), pp 132-166.

⁵² See SEC (2024), pp 180-210.

⁵³ See SEC (2024), pp 232-256.

⁵⁴ An explicit Rule to extend underwriters liability to the de-SPAC stage was not implemented, see SEC (2024), pp 279-289.

⁵⁵ These jurisdictions are: the one of incorporation of the SPAC for company law, the jurisdiction of incorporation of the target company for company law purposes and finally the federal jurisdiction for securities regulation (disclosure) purposes, for which the SEC has provided regulatory proposals. Apparently, the vast majority of U.S. SPACs are incorporated under Delaware corporate law and the corporation resulting from the de-SPAC transaction is also mainly incorporated in Delaware, see SEC (2022), p 197. Coates (2022) qualifies SPACs law as complex and describes the several aspects.

⁵⁶ It is a consequence of the choice of our sample that the SPACs we are analysing (24 AIM Italia SPACs) are subject to one single jurisdiction for both company law and securities regulation, i.e. the Italian one. The first Italian SPAC was Italy 1 Investment, a Luxembourg incorporated company listed on AIM in January 2011. For the various aspects relating to the regulatory regime of Italian SPACs, see Donativi and Corigliano (2010); Chiomenti and Graffi (2010); Paoletti (2017); De Biasi (2018); Fumagalli (2018); Garramone (2020); Lombardo (2021); Fumagalli (2014); Gigante and Conso (2019); Tasca (2020).

⁵⁷ As was recently done for London and Amsterdam exchange rules by Reddy (2023).

3.1. The securities regulation and disclosure environment

The vast majority (25 out of 30) of Italian SPACs during the period under study (i.e. 13 years, from 2011 to 2023) have traditionally been listed in the AIM Italia,⁵⁸ which is an Alternative Trading Facility (ATF).⁵⁹ The listing of SPACs on AIM Italia includes a (relatively) less burdensome regulatory regime than that of a regulated market.⁶⁰ The SPAC-IPO is done on the basis of a *Documento di ammissione*, i.e. a disclosure document for investors which basically replicates a prospectus but does not have to be approved by the Public Authority (i.e. CONSOB) or Borsa Italiana s.p.a.. The *Documenti di ammissione* of the 24 AIM Italia SPACs we analyse have a high degree of standardization in relation to the format and the content of the information provided.⁶¹

⁵⁸ See Appendix 1. We decided to exclude GEAR 1 listed on 26.02.2019 that did the BC with Comer Industries spa, because the merger of this SPAC with the target company had already been decided before the SPAC-IPO. We also exclude from our sample the Digital Value listed in 2018 because this SPAC had the deal managed under the 'SPAC in Cloud' formula developed by ELITE (the international platform of London Stock Exchange Group to support SMEs) and Electa Ventures. This deal envisaged participation of an 'anchor investor' with a minimum commitment of 20% of the total offer before addressing the opportunity to have follow-on Investors. We believe this type of SPAC is not homogeneous with the others of our sample. We also note that a very small part of Italian SPACs (5 out of 30) has been listed on a dedicated segment of a regulated market, *Special Investment Vehicles* (SIV) of *Mercato Telematico degli Investment Vehicles* (MIV), which is not analysed in this Article. The listing of SPACs on SIV-MIV includes the typical regulatory regime of European regulated markets and is not object of the present analysis, because SIV-MIV is open only to institutional investors both during the IPO and then on the secondary market. Also for SIV-MIV SPACs it is common to emigrate after the business combination with the target company to another regulated market of Borsa Italiana, where also retail investors can buy shares. On MIV see Tasca (2020), p 132 and 138. The five SPACs listed on MIV are: Italy 1 Investment, 27.01.2011; Space, 18.12.2013; Space 2, 31.07.2015; Space 3, 05.04.2017; Space 4, 21.12.2017.

⁵⁹ AIM Italia was created as an Alternative Multilateral Facility by the principal Italian Stock Exchange (Borsa Italiana s.p.a.) and has traditionally been developed for the listing of SMEs, as a part and on the model of AIM of the London Stock Exchange, see Tasca (2020), p 130. Recently AIM Italia was renamed "Euronext Growth Milan" following the merger between Borsa Italiana spa and Euronext in 2021. For practical reasons we call and qualify our sample 2011-2023 as "AIM Italia SPACs". Apparently, one of the reasons for choosing AIM Italia is that after the business combination the listed target company does not have to publish the balance sheet according to the international accounting principles, see Fumagalli (2018), p 743. After a period of time, it is common practice to shift the listing from AIM Italia (today: Euronext Growth Milan) to the MTA regulated market of Borsa Italiana, See Appendix 2.

AIM SPACs are classified in the notion/group of *Società di investimento* (investment company). A *società di investimento* is an issuer of AIM Italia whose major activity or purpose is to invest its funds in financial instruments, commercial activities or assets of any types. The legal nature of the Italian SPAC could be associated to a particular kind of undertakings for collective investment, see Annunziata, Passador a Chisari (2021). The inclusion in the category of *società di investimento* implies that the SPAC has to: (i) collect with the IPO a minimum of €3 million (€30 million starting January 2018), (ii) define and pursue an investment policy and (iii) require the approval of the shareholder's meeting in order to modify its investment policy.

⁶⁰ For the statement, valid also for Italy, that SPACs are essentially the product of stock exchanges, see the considerations of Romano (2022), p 954. The regulatory regime of the 24 AIM Italia SPACs for the time period of the sample analysis (2011-2023) includes the application to AIM SPACs, as Italian registered/incorporated companies listed on this particular multilateral trading facility, of: (i) the market abuse regime with respect both to (a) the prohibition of insider trading and market manipulation as well as (b) the continuous disclosure provisions (Directive 2003/6/EC, Regulation EU 596/2014) (ii) the mandatory take-over regulatory regime typical of Italian companies listed on a regulated market (Directive 2004/25/EC), (iii) the shareholders transparency regime (Directive 2004/109/EC). See Annunziata (2020), p 254, for a review of the application of the details of the different regulatory provisions which derive from a mix between the inclusion of provisions in the charter (*statuto*) of the company and the regulations of Borsa Italiana s.p.a. As a point of reference, see Borsa Italiana, AIM Italia, *Mercato alternativo del capitale, Regolamento Emittenti*, 1 marzo 2012.

⁶¹ We expel from our sample of AIM Italia SPACs, the SPAC EPS2 which was created by way of division from the listed SPAC EPS in May 2018 and then delisted at the end of 2019.

During the IPO and for some time after,⁶² the SPAC is aided by a Nominated Advisor (NOMAD), a kind of gatekeeper (typically an investment bank or an investment firm, according to MiFID II)⁶³ which assists the SPAC and whose role is considered of essential importance in reputational terms for the proper working of AIM Italia.⁶⁴ At the SPAC-IPO stage, only institutional investors typically invest money in the AIM Italia SPACs, while retail investors are able to buy shares only in the secondary market after the IPO.⁶⁵ Indeed, a typical AIM Italia SPAC-IPO includes a share at an offering price of 10€ and is targeted to: (a) qualified investors as specified by the Italian/MiFIDII regulatory regime (meaning essentially institutional investors), and, in some cases, also institutional investors according to Regulation S of the Securities Act, as well as (b) other non-qualified investors, a category, including also wealthy retail investors, which does not require the application of the European Prospectus regime.^{66,67}

The disclosure rules of Italian SPACs on AIM Italia at the stage of the SPAC-IPO and the time of the BC (de-SPAC stage) are substantial.⁶⁸ The AIM Italia regulatory standard has indeed replicated the one provided for the regulated market where a prospectus is required at the stage

⁶² As in the U.S., AIM Italia SPAC-IPOs underwriting fees are usually partially subordinated to the realization of the BC.

⁶³ Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU.

⁶⁴ The Regulation of Borsa Italiana on Nomad provides the detail for its activity (see AIM Italia, *Regolamento Nominated Advisor*, 1° marzo 2012). In general, on Nomad see Tasca (2020), p 88, 144 and 181, stressing its relevance in terms of reputational factors and control over the listed company. The extent to which these functions differ and are more important for AIM Italia SPACs is difficult to assess and outside the scope of this Article.

⁶⁵ The contents of the text must be specified in legal terms. Indeed, according to Article 6 of *Regolamento Emittenti* AIM Italia (version July 2012) the minimum amount of shares requested for admission to trading (so-called *flottante*) is 10% of the company shares and the allotment of this 10% has to involve at least 5 institutional investors or at least 12 investors, 2 of which, institutional. See also Annunziata (2020), p 249 fn. 21. It has to be mentioned that for SPACs the requirement of 10% and the minimum amount of institutional investors is actually not needed, because the only condition is to make an offer of a minimum of 30 million Euros, see Tasca (2020), p 142.

⁶⁶ We take this point from the *Documento di ammissione* of the IPO of Archimede S.p.a. of May 2018. The *Documento di ammissione* which did not explicitly refer to the minimum amount of at least €100,000 were those of Industrial Stars of Italy 2013 and GreenItaly 1 2013, while the offer for Made in Italy 1 2011 was only for professional investors.

⁶⁷ Indeed, group (b) includes in theory also retail (not qualified) investors but with the important specification that the minimal amount of IPO shares to be acquired is of at least €100,000 (€100,000: €10 for share=10,000 shares). This means that these are/can be wealthy retail investors who, even if not qualified investors, do not need the protection of the Prospectus regime because are reasonably supposed to know what they are doing in investing such an amount of money in a single IPO. So, for instance the shareholding at the start of negotiations of Innova Italy 1 (listing on 19.10.2016), according to the press release of 07.06.2018 announcing the business combination, was: 32% private banking, 26% *casse di previdenza* of professionals and banking foundations, 22% banks, 16% asset managers, 4% insurance companies. For Crescita (listing 15.03.2017) the numbers, according to the press release 18.01.2018 of the business combination, were: 40% asset managers, 35% private banking, 13% banks and 12 insurance companies.

⁶⁸ As already mentioned, in Italy the major trading venue used for SPACs has been AIM Italia. This Alternative Trading Facility is not by definition a regulated market subject to prospectus disclosure but is only subject to the rules of Borsa Italiana S.p.A.

of the SPAC-IPO and a prospectus/document is required for the de-SPAC transaction.⁶⁹ For the SPAC-IPO stage, the document of admission to listing (*documento di ammissione*) voluntarily replicates, with some deviations, the content of a prospectus (as regulated for the sample period of this Article of 2011-2021 by Directive 2003/71/EC and Regulation (EU) 2017/1129), providing (detailed) disclosure of:⁷⁰ (i) risks related to the SPAC (*emittente*), to the market and to the offer; (ii) detailed information about the professional life of sponsors and directors, as well as of their possible conflicts of interest; (iii) related party transactions.⁷¹ Interestingly for U.S. comparative purposes, this admission document normally provides for a very detailed description of the dilution risks (including the dilution warrants), providing also a dilution picture on the basis of several levels of redemption rights (in the form of withdrawal rights) exercise, up to 30% or 33% (limits above which the BC is not possible).^{72,73} For the de-SPAC stage basically two possibilities are given, with the provision of a quite high level of disclosure about the BC.⁷⁴ In the first case, the business combination is done according to article 14 *Regolamento Emittenti* and the combined company deriving from the BC is basically an extension of the SPAC: in this case an

⁶⁹ The Italian legislator introduced in 2005 a set of rules to avoid a non-reporting company's merging with a reporting company without proper disclosure, with the introduction of a prospectus, see on the point De Biasi (2018), p 722, describing the legal regime. It as to be mentioned that after the introduction of the Prospectus Regulation (EU) 2017/1129, the issue is regulated at European level (see Article 1.4(g), 1.5(f) and 1.6ter, also where applicable by Commission delegated Regulation (EU) 2021/528, both in case of the SPAC-IPO and the de-SPAC transaction. ESMA (2021), p 3 has furnished a guidance for national Authorities for better disclosure of SPACs.

⁷⁰ See Scheda due *Regolamento Emittenti* (2012), p 16.

⁷¹ It is outside the scope of this Article to present a detailed and complete analysis of the IPO and de-SPAC informative documents produced by the SPACs of the sample with respect to the issues raised by ESMA (2021) and SEC (2022). Fuhrmann (2021), p 396, compares the prospectuses done for Germany (FWB-SPACs) and for the Netherlands (AEX-SPACs), according to the European rules (Regulation EU 2017/1129) with the guidelines proposed by ESMA (2021) and overall finds a positive state of the art with respect to risk factors, conflict of interests, dilution, decision processes, business strategy, etc.

⁷² See e.g. Industrial Stars of Italy (2013) *Documento di ammissione*, p 23. For German FWB-SPACs, Fuhrmann (2021), p 398, finds out a reasonable description of the dilution mechanics, while for Dutch AEX-SPACs a better one, with the provision of tables.

⁷³ We do not cover here the complex issue of prospectus liability in AIM Italia SPACs both at the IPO stage and at the de-SPAC stage. We simply note that since there is not a prospectus according to Directive 2003/71/EC or Regulation (EU) 2017/2019, on which see Boreiko and Lombardo (2019) and Giudici (2020), as AIM Italia is an alternative trading system, liability can be structured at least with general rules of Italian liability at both stages. We furthermore note that the general provision of the documents produced for the two stages (SPAC-IPO stage and de-SPAC stage) is that the company is liable.

⁷⁴ As mentioned, Italian legislation for regulated markets did not allow escape from disclosure regulation in the event of a merger of a listed company with an unlisted company and it seems that also for AIM Italia as an ATS this principle was accepted, with the consequence that at de-SPAC stage proper disclosure of the business combination is required. With respect to the company law aspects of the BC, they depend on the BC type. If the BC is done through a merger (*fusione*) as is typically the case, external independent experts have to provide two reports (one for each company) on the merger; see on this point Tasca (2020), p 289. An analysis of the content of these reports and of their suitability as tools of investor protection (particularly SPAC investors) is outside the scope of this Article, but for comparative purposes see Tuch (2023) with an extensive legal and empirical analysis for the U.S.

informative document (*documento informativo*) is produced before the meeting of the SPAC general assembly to provide SPAC's shareholders (and the market) with the proper information to decide about the business combination.⁷⁵ In the second case, the business combination is not covered by Article 14 *Regolamento Emittenti* and the resulting company is a new company which is listed by the way of an admission document (*documento di ammissione*) which voluntarily replicates the same information as in case of a IPO prospectus (basically a *documento informativo* for the new listing company).⁷⁶

3.2. The company law regime and the incentive structure

From a company law perspective, Italian SPACs are typical S.p.A. (*Società per Azioni*, stock corporations) whose regulation is mainly provided by the Italian *codice civile*.⁷⁷ Italian company law for S.p.A. is a complex mix between mandatory and default terms and its provisions give the necessary flexibility to permit the creation of a SPAC.⁷⁸ The contractual arrangement functional to pursuing the objective (i.e. the creation of the SPAC in order to reach the business combination with a target, operative company) seeks to align the particular interests of (i) the sponsors, (ii) the IPO investors (institutional investors), (iii) the secondary market investors (institutional investors and retail investors), (iv) the shareholders of the target company (who typically are a family or a limited number of persons).

According to the standard model, the typical AIM Italia SPAC collects money for the business combination only during the IPO, therefore excluding PIPE investors' participation.⁷⁹

⁷⁵ The *documento informativo*, which integrates as a securities regulation document for the market the documents provided from a company law perspective for shareholders/creditors (e.g. the merger project), provides detailed information about the de-SPAC transaction, in terms of description of the SPAC and the target company and of the resulting company. These *documenti informativi* do not report the detailed analysis of the dilution costs (deriving from *azioni speciali* and warrants) but just their general description; for the U.S., see Klausner, Ohlrogge and Halbhuber (2022), who propose the detailed disclosure of net cash per share at the time of the de-SPAC decision.

⁷⁶ Also in this case, the *documenti di ammissione* do not report the detailed disclosure of the dilution as proposed by Klausner, Ohlrogge and Halbhuber (2022).

⁷⁷ Tasca (2020), pp 95, provides a systematic introduction to the SPAC legal system. The *codice civile* requires and regulates the *atto costitutivo* (i.e the company's contract) as integrated by the *statuto* (charter) for the creation of the SPAC, as a normal company equipped with special characteristics functional to its purpose and by other regulation for the scope to be listed on AIM Italia.

⁷⁸ For a recent systematic introduction, see Bordiga (2021)

⁷⁹ Indeed, it is not common for AIM Italia SPACs to raise capital after the IPO in a secondary offer for particular institutional investors, as commonly happens in the United States, for PIPE (Private Investors Private Equity). As mentioned, PIPE in the U.S. can serve to replace capital subtracted by redemptions which can be very high (up to 74% on average for non-high-

This means that the financing of the AIM Italia SPAC mainly occurs in two moments: (i) at the creation of the company where sponsors collect about 3% of the financial resources, in order to establish and register the company and to grant its survival until the IPO, and (ii) at the stage of the IPO where the company collects money mainly from qualified, institutional investors and wealthy retail investors, while ordinary retail investors can buy shares (those sold by institutional investors that decide to exit their IPO investment) of the SPAC only on the secondary market after the IPO. To accommodate this institutional setting, from a company law perspective four elements are important. The first one is the creation of the SPAC as a company with its *statuto* (charter), while the second is the kind of financial instruments (shares and warrants) organised to finance the SPAC both at the initial stage (creation of the SPAC) and the second stage (the IPO). The third one is the business combination (de-SPAC transaction) with the target company, while the fourth is the right of withdrawal (the redemption mechanism in U.S.) for the shareholders who are contrary to the business combination.

At the stage of the company creation, an Italian SPAC is usually established with a high degree of standardization of the company contract and *statuto*.⁸⁰ Typically, a SPAC is created by some (3 to 5) persons (*promotori*, hereinafter sponsors/*promotori* to follow the U.S. qualification) with personal reputational capital to find a proper target company to ensure an optimal business combination. Their personal investment amounts to about 3-4% of the money collected with the IPO.⁸¹ The sponsors/*promotori* (i.e., the individuals) are usually also the directors (*amministratori*) of the listed SPAC, while at least one director (of the usually 3 to 5) must be independent (i.e. non being a sponsor/*promotore*) in compliance with Italian law on independent directors in listed companies.⁸² As regards the financial instruments provided for in a typical SPAC *statuto* (charter),⁸³ we can differentiate between financial instruments granted to the (i)

quality SPACs in the sample of Klausner, Ohlrogge and Ruan (2022), p 253. Fagan and Levmore (2023) discuss the extent to which the role of PIPE investors, which buy shares at a discounted price, signal the quality of the business combination.

⁸⁰ As described by Tasca (2020), p 309 they are quite standardized documents.

⁸¹ Sacco Ginevri and Pezzullo (2018). To be sure, usually they don't invest directly in the SPAC but create some private limited liability companies (*società a responsabilità limitata*, s.r.l.) that create (and invest in) the SPAC, so that the private investment and involvement of sponsors/*promotori* in the creation of the SPAC is indirect by ways of s.r.l.

⁸² According to the provision of the *statuto* referring to Article 148.3 and 147-ter.4 TUF as well as the *Codice di Autodisciplina*.

⁸³ It has to be mentioned that it is common that a first very simple *statuto* is modified/replaced before the IPO by a second *statuto* which detail the financial instruments for sponsors and IPO investors.

sponsors/*promotori* and (ii) IPO investors.⁸⁴ While in the U.S. the sponsors get about 20% of the post-IPO SPAC shares (the so-called sponsor promote),⁸⁵ the Italian solution to sponsors'/*promotori* compensation is functionally realized with the assignment to them of special shares (*azioni speciali*) of the SPAC. These special shares give the right to obtain common shares of the company resulting from the business combination. Indeed, with respect to sponsors/*promotori*, they get, before negotiation starts after the IPO,⁸⁶ SPAC special shares (*azioni speciali*) with the following characteristics:⁸⁷ (i) without voting rights in the company's shareholders meetings (in particular, regarding the decision on the business combination to signal that they do not influence this decision), (ii) impossibility to get dividends in case of distribution (in order to signal their commitment for the business combination, but with the disadvantage of possibly forcing a non-optimal business combination) and subordination to common shares in case of liquidation (again, to signal the commitment to the business combination, but with the disadvantage of pushing even a non-optimal one) (iii) intransferability for a given period of time.⁸⁸ The structure (in terms of rights and obligations) of the *azioni speciali* tries to align the sponsors'/*promotori* incentives to those of (the IPO and secondary market) investors signalling their reputational and professional capital, but its major objective is to remunerate the sponsors/*promotori* in the event of the business combination with the practical effect of possibly distorting the alignment factor.⁸⁹ This remuneration structure, which is fixed and disclosed in the *Documento di Ammissione* already at the time of the SPAC-IPO, occurs according to the conversion of *azioni speciali* in *azioni ordinarie* of the company resulting from the business combination, according to a complex rule, including a so-called *rewarding*

⁸⁴ For a review, see Fumagalli (2018); Tasca (2020).

⁸⁵ See Klausner, Ohlrogge and Ruan (2022), p 246.

⁸⁶ Typically, sponsors/*promotori* establish the SPAC getting common shares (*azioni ordinarie*). Before the IPO there is usually a capital increase reserved to them where they get new common shares. The old ones and the new ones are then transformed (converted) in *azioni speciali* before negotiation start on AIM after the IPO, so that sponsors/*promotori* own only *azioni speciali* of the listed SPAC.

⁸⁷ See e.g. Made in Italy 1, *Documento di Ammissione*, 2011, p 16; Innova Italy 1, *Documento di Ammissione* 2016, p 66; Archimede, *Documento di Ammissione*, 2018, p 104. The reform of Italian company law of 2003 has introduced the atypicality of shares so that different classes of shares can be freely issued, on *azioni speciali* see Giampaolino (2004).

⁸⁸ Fumagalli (2018).

⁸⁹ For a critic of the common alignment narrative and on earnouts see Klausner and Ohlrogge (2022).

multiplicative coefficient (RMC, *coefficiente moltiplicativo premiante*), a kind of earnout.⁹⁰ The RMC provides that sponsors/*promotori* get typically 5, 6 or 7 *azioni ordinarie* of the company resulting from the business combination for each *azione speciale* of the SPAC, but the mechanics of the conversion can be very complex in relation to its timing and conditions.⁹¹ Indeed, the conversion, after a first tranche conversion of 20% to 35% of the *azioni speciali* into *azioni ordinarie* at the time of the business combination, is usually sequentially staged and conditional on the share price reaching predetermined levels.⁹²

SPAC-IPO investors (as mentioned, mainly institutional investors) get (i) ordinary shares (*azioni ordinarie*) issued for the company's capital increase which have typically an offering price of €10 and (ii) warrants, which,⁹³ contrary to the U.S., are detached from ordinary shares and traded separately already from the first day of the shares' negotiations on AIM Italia after the SPAC-IPO. Warrants are commonly granted at two stages: (i) at the SPAC-IPO stage and (ii) at a second stage after the business combination.⁹⁴ They are granted based on a numerical

⁹⁰ The rewarding multiplicative coefficient can be quite complex in linking the sponsors/*promotori* remuneration to the performance of the listed company. With some differences it is similar to the remuneration schema (earnouts) described by Klausner and Ohlrogge (2022).

⁹¹ The *statuto* sometimes provides also the conversion of *azioni speciali* in *azioni ordinarie* on the basis of the RMC also in the case of removing directors as a way of avoiding hostile takeovers, see Fumagalli (2018), p 744.

⁹² This means that the conversion includes only a fraction of the *azioni speciali*, depending on the appreciation (in terms of thresholds) of the value of the shares of the listed company resulting from the business combination, so that sponsors/*promotori* are apparently incentivized to find a value-maximizing business combination, see Fumagalli (2018), p 744. For instance, in the case of Archimede (listing 21.05.2018), according to the data at p 105 of the *Documento di Ammissione*, the conversion was 7 *azioni ordinarie* for 1 *azione speciale* (100,000 *azioni speciali*) with the following timing: 30% (30,000 *azioni speciali*) after the business combination; 30% (30,000 *azioni speciali*) after 48 months after the business combination the share price has been more or equal than €11.5 for a specified period of time; 30% (30,000 *azioni speciali*) after 48 months after the business combination the share price has been more or equal than €13 for a specified period of time; 10% (10,000 *azioni speciali*) after 48 months after the business combination the share price has been more or equal than €15 for a specified period of time. As mentioned, this system is functionally similar and partially replicates the "earnout" mechanism as described by Klausner, Ohlrogge and Ruan (2022), p 247; for a critic on earnouts, see also Klausner and Ohlrogge (2022). We also note that in some cases the conversion rate changed depending on the time of conversion: for instance in the case of SPAXS (p 85 of *Documento di Ammissione*) 20% of the *azioni speciali* were converted at the time of the BC in a relationship of 6 *azioni ordinarie* for 1 *azione speciale*, while later on at the time of the BC it was decoded that, depending on same conditions, 80% of them were converted for 8 *azioni ordinarie* for 1 *azione speciale*.

Sometime sponsors/*promotori* get not only *azioni speciali* to be converted in *azioni ordinarie* of the company resulting from the business combination, but also some warrants. Furthermore, sometimes sponsors/*promotori* buy also *azioni ordinarie* on the secondary market after the SPAC-IPO and this is identified by the communication on internal dealing base on the Market Abuse Regime, because they are also directors/managers of the SPAC.

⁹³ In the case of SPAXS and REVO the financial instruments are not called warrant, but *diritti di assegnazione* (rights of attribution) with the same function of warrants.

⁹⁴ Second stage warrants seem functionally to replicate the rights (combined in an unit with shares and warrants) in the U.S., as described by Klausner, Ohlrogge and Ruan (2022), p 258, which are present in about one-third of their sample (p. 249), who write "Where rights were included in units, they allowed the holder to acquire one-tenth of a share at the time of the merger at no cost".

relationship with the subscribed *azioni ordinarie*, which can be different in the two stages (see Sect. 4.2.1. and Appendix 3 for more details).⁹⁵ The second assignment of warrants is postponed because warrants are distributed to encourage the approval of the business combination to non-dissenting shareholders, who vote in favour of it, in order to minimize the number of redemptions (in the form of withdrawal rights, i.e. *recessi*).⁹⁶ It has to be mentioned that retail investors who buy shares on the secondary market receive the warrants of the second tranche (de-SPAC stage warrants) if they do not exercise their redemption right and exit the SPAC but instead participate in the BC. To the extent that retail investors get warrants in the second tranche (de-SPAC stage) and do exercise them, the dilution effect of warrant is reduced for them. Indeed, both types of warrants (first and second stage) give the right (but not the obligation) for a period of time after the business combination (e.g., 5 years) to subscribe so-called *azioni di compendio* of the company resulting from the business combination (i.e. *azioni ordinarie* coming from the exercise of the warrant) which are issued to serve the exercise of the warrant. The exchange rate (so-called *rapporto di esercizio*, i.e. how many *azioni di compendio/ordinarie* for 1 warrant) can be fixed (e.g. 1 *azioni di compendio/ordinarie* for 1 warrant) or more commonly is variable.

As regards the business combination, it requires several steps. The first one is the announcement of the BC where the board of directors of the target company and of the SPAC publicly announce to the market the agreement and the major characteristic of the deal. The day after the announcement of the BC, negotiations on AIM are interrupted until the publication of the informative document in the event of a business combination according to Article 14 *Regolamento Emittenti*.⁹⁷ With respect to the mechanisms of the BC between the listed SPAC and

⁹⁵ So, for instance in the case of Made in Italy 1 (listed on 27.06.2011) warrants were granted only at the SPAC-IPO stage at a ratio of 1 warrant per 1 *azione ordinaria* subscribed; the same pattern was adopted in the case of GreenItaly1 (listed on 27.12.2013). In the case of GlenaltaFood (listed on 10.11.2015) in the stage of the IPO 1 warrant was assigned for 2 subscribed *azione ordinarie*, and in the BC stage 1 warrant was assigned for 2 owned (i.e. not redeemed) *azioni ordinarie*. In the case of Innova Italy 1 (listed on 19.10.2016) in the stage of the IPO 2 warrants were assigned every 10 subscribed *azioni ordinarie* while at the BC stage 3 warrants were assigned every 10 owned *azioni ordinarie*.

⁹⁶ In this case warrants are issued and assigned to the *azioni ordinarie* in circulation at the date around the effectiveness of the business combination. The SPACs in which de-SPAC warrants were not granted were e.g. MadeInItaly1 (2011) and GreenItaly (2013).

⁹⁷ See p 36 *Regolamento Emittenti*: we observe that this rule is rarely applied and negotiations of both shares and warrants continue after the announcement of the business combination. The same solution seems to have been adopted in the U.K. system, see Reddy (2022), p 13. See also Paul (2022), p 48 reporting that about 40% of listed UK SPACs have their trading suspended and p 47 for the FCAs' opinion that suspension of trading can be valuable in cases where the SPAC is unable to inform correctly the market about the deal but with the consideration, p. 49, that retail investors may profit from a rule of continuous trading because of the signals coming from the markets, based on the analysis of Jenkinson and Sousa (2011), p 41.

the target company, it can be realised in three ways:⁹⁸ (i) the purchase of the assets of the target company by the SPAC, (ii) the purchase of a shareholding in the target company by the SPAC,⁹⁹ (iii) but most commonly by a merger between the two companies which can be of two types with the same practical result of having the target company listed: (a) the target company merges into the listed SPAC (which is the most common practice)¹⁰⁰ or (b) the listed SPAC merges into the target company.¹⁰¹ The business combination is usually realised by way of a reverse takeover according to Article 14 *Regolamento emittenti* AIM Italia. The legal notion of reverse takeover is quite flexible and includes a substantial modification of the business activity of the SPAC.¹⁰² Most importantly, the application of the reverse takeover notion serves for the obligation to publish a particular disclosure document (*Documento Informativo*) which integrates, as a typical securities regulation disclosure instrument, the company law documents produced by the two companies to reach the business combination.¹⁰³

The role of redemption rights is played in Italy by withdrawal rights (*diritti di recesso*, functionally similar to redemption rights in the U.S. system).¹⁰⁴ Withdrawal rights for the *azioni ordinarie* in the AIM Italia SPAC context play a very important role because they are granted only to shareholders who do not approve the business combination,¹⁰⁵ and if they reach a given

⁹⁸ Partially similar De Biasi (2018), p 722.

⁹⁹ This was the case for EPS buying 100% of ICF: in this case the SPAC resources were granted to the selling shareholders and not to the target company. This was the case also for SPAXS buying about 91% of Banca Interprovinciale and then merging SPAXS in Banca Interprovinciale; REVO buying 100% of Elba Assicurazioni and remaining listed on AIM Italia.

¹⁰⁰ This was the case for Made in Italy 1 with Sesa; GreenItlay 1 with PrimaVera; GelenaltaFoodd with Orsero; Innovalta 1 with FineFood; Crescita with Cellulireline; Glenalta with CFT; Sprint Italy with Sicit; TheSpac with Franchi Umberto Marmi s.p.a.

¹⁰¹ This was the case for Industrial Stars of Italy with LuVE; Capital for Progress 1 with GPI; Industrial Stras of Italy with SIT; Industrial Stars of Italy 3 with Salcef; ALPI with Antares; Archimede with Net Insurance; Gear1 with Comer.

¹⁰² On the UK reverse takeover, see Reddy (2022), p 13.

¹⁰³ Where there is no reverse takeover and, as a consequence, there is no *Documento informativo*, there is another document called *Documento di ammissione*, which basically replicates the content of the *Documento informativo*. Of the 18 BCs of our AIM Italia sample, the *Documento di ammissione* was done for: Capital for Progress 1 BC with GPI, ISI2 BC with SIT and Archimede BC with NetInsurance.

¹⁰⁴ The redemption rights of the US system seem to resemble the *azioni redimibili* of the Italian system (Article 2437-*sexies codice civile*) but we use the English translation of the instrument used in Italian SPACs which is *diritto di recesso* (withdrawal right), according to Article 2437 *codice civile*. While the general rule is the *diritto di recesso* in some cases like Industrial Stars of Italy 4 (IPO 8 July 2021), there was a *diritto di recesso* (both *convezionale* and *statutario*) together with the *diritto di riscatto* (see *Documento di Ammissione*, p 10). The economic substance of withdrawn rights is, as for redemption rights, to subtract resources from the business combination giving them back to the exiting non-approving shareholders. We use the same term of “withdrawal right” as used by the communications in English to the market. On the system of Italian withdrawal rights, see Butturini (2021).

¹⁰⁵ This is an obligation coming from the charter of the SPACs, company law (Article 2364 *codice civile*) as well as capital market regulation (see Article 8 and 14 *Regolamento emittenti* AIM Italia). According to Reddy (2022), p 15, in the U.K. the rule is anchored to the trading venue and mixed providing for no approval in case of standard-listed SPACs to approval in case of AIM SPACs. In the U.S., the approval by the shareholder meeting is not an obligation but is sometime provided for.

percentage (30% or 33%),¹⁰⁶ the business combination cannot be realised.¹⁰⁷ This is contrary to the U.S. system where redemption rights can be very high without prejudicing the business combination and, as mentioned in Section 2, can be exercised also by those shareholders who vote in favour of the de-SPAC transaction.¹⁰⁸ Withdrawn shares are firstly offered in option to the other shareholders (*diritto d'opzione*),¹⁰⁹ and then, if not placed to them, are reimbursed by the SPAC (at a price generally between €9 and €10) and then nullified.¹¹⁰ We note that the fact that withdrawn shares are firstly offered in option to the other shareholders can operate as a mechanism to limit the diversion of financial resources useful for the business combination and provide approving shareholders, who have optimistic views about the BC (possibly also institutional investors), with an opportunity to increase their stakes in the company resulting from the BC.¹¹¹ Summarising, the Italian redemption mechanism (technically in the form of a withdrawal right) has the practical results of (i) blocking the business combination if larger than 30% or 33%, (ii) allowing only non-approving shareholders to have their shares reimbursed, (iii) subtracting financial resources (outside the exercise of the *diritto d'opzione*, up to 30% or 33% minus one share of the *capitale sociale*) from the escrow account of the SPAC, so diminishing the financial resources available for the business combination.¹¹²

¹⁰⁶ Most SPACs have a percentage of 30% while e.g. Crescita and Glenalta present a level of 33%.

¹⁰⁷ Withdrawn rights are granted because the SPAC changes *oggetto sociale*, as a result of the business combination according to Article 2437.1 *codice civile* and Articles 2437, 2437-bis and -ter *codice civile*; for a discussion see Donativi and Corigliano (2010), p 21. So, for instance, Capital for Progress 2 had a withdrawn percentage of 57,38 (3.729.949 shares) and no shares were offered in option. Consequently, the SPAC was liquidated. Industrial Stars of Italy 3 had a withdrawn percentage of 34.31% (5.146.806 shares) but 684.090 shares were optioned by the other shareholders so that the business combination with Salcef Group could be realized.

¹⁰⁸ See Klausner, Ohlrogge and Ruan (2022), p 240.

¹⁰⁹ According to Article 2437-*quater codice civile*. The price of the shares offered in option usually equals the price offered for the withdrawn shares.

¹¹⁰ Unfortunately, it is not possible to analyse the extent to which retail investors exercise their withdrawal rights more or less than institutional investors because the official *comunicati on diritti di recesso* provide only the aggregate value and do not differentiate among investors.

¹¹¹ It is not possible to provide here a complete picture of the relationship between withdrawn shares and withdrawn shares purchased through *diritto di opzione*, but we note for instance that in the case of Greenitaly 1 (IPO 2013) 945,200 shares (27% of the total *azioni ordinarie*) were withdrawn and 321,696 were purchased through *diritto di opzione* so that at the end only 623,504 (17.8% of the total *azioni ordinarie*) were withdrawn. The *comunicati* do not report the names of the shareholders who get the *azioni* purchased through *diritto di opzione*, but it is reasonable to assume that possibly also sponsors/*promotori* do buy them.

¹¹² While the cost structure of the business combination we analyse in the second research question is the same for all 18 AIM Italia SPACs (i.e. in terms of: *azioni speciali* dilution, warrant dilution, IPO and BC fees and finally redemption costs), we do not consider single contractual solutions that sometimes characterize single BCs. So for instance, in the case of Made in Italy 1 BC with Sesa spa also *azioni riscattabili* (particular shares ex Article 2437-sexies *codice civile* that give the company the right to redeem them from the shareholders) were provided for in the company resulting from the BC. In the case of the BC between Innovalta and FineFood *azioni a voto plurimo* were introduced according to Article 2351.4 *codice civile*. These contractual

4. The empirical analysis of Italian AIM SPACs

In this Section, we conduct the empirical analysis of Italian AIM SPACs running from 2011 to the end of 2023. After examining the empirical evidence of SPAC activity worldwide, we outline our data collection algorithm and proceed with a descriptive analysis of our constructed sample. Considering the extensive research on the topic, we focus on the debatable issues of SPACs' dilution costs, their long-run underperformance, and on the role of warrants, which are usually awarded to investors in SPACs at no extra cost.

SPACs first sparked interest among academics in the early 2010s. At that time, several papers examined the nascent sample of US SPACs, primarily analysing SPAC investor returns.¹¹³ Another paper studied a small sample of all 19 European SPACs from 2005 to 2010, providing initial evidence of their stock performance.¹¹⁴ These papers uniformly emphasized the considerable long-run underperformance of SPACs, raising questions about their efficiency in bringing private firms public.

As the number of SPACs increased dramatically in 2021-2022, this attracted renewed interest in the topic. Apart from re-examining evidence on the long-run underperformance,¹¹⁵ several studies closely scrutinized the role of sponsors and the considerable dilution costs impacting the value of SPACs and, with an updated sample, highlighted how the high dilution costs of average SPACs inflict losses on genuine investors who retain shares through the business combination with the target.¹¹⁶

Very few papers have examined the performance of SPACs outside the United States. Apart from an early paper already mentioned above,¹¹⁷ one paper analysed the performance of 153 Korean SPACs in Asia,¹¹⁸ while another looked at the foreign targets sample of the U.S.

solutions which integrate the BC serve the purpose of granting/protecting some interests but do not change the mechanic of the dilution coming from *azioni speciali* and warrants that we analyze.

¹¹³ See Jenkinson and Sousa (2011); Datar, Emm and Ince (2012); Cumming, Haß, and Schweizer (2014); Kolb and Tykhova (2016).

¹¹⁴ Ignatyeva, Rauch and Wahrenburg (2013).

¹¹⁵ Adami, Mathew and Sivaprasad (2023); Gahng, Ritter, and Zhang (2023); Klausner, Ohlrogge and Ruan (2022); Kiesel, Klingelhöfer, Schiereck and Vismara (2023); Feng, Nohel, Tian, Wang and Wu (2023); Burnett, Ghosh and Kong (2022).

¹¹⁶ Huang, Ritter and Zhang (2023); Klausner, Ohlrogge and Ruan (2022); Klausner and Ohlrogge (2023).

¹¹⁷ Ignatyeva, Rauch and Wahrenburg (2013).

¹¹⁸ Kang and Lee (2023).

SPACs.¹¹⁹ In the Italian setting, scholars analysed a sample of Italian SPACs from 2011 to 2020, with a focus on examining aspects of share value dilution and the short-run performance of firms involved in business combinations.¹²⁰ Another paper took a broader perspective, studying an international sample of global SPACs.¹²¹ Interestingly, this paper is the only one that confirms our findings of significantly better long-term, post-merger performance of SPACs in Europe.

4.1. Data collection and sample description

The empirical analysis aims (i) to examine descriptive statistics on the average-typical AIM Italia SPAC (Section 4.2) and, more interestingly, (ii) to analyse the extent of retail investor involvement in AIM Italia SPACs on the secondary market (Section 4.3), (iii) to provide a statistical analysis of the cost structure of AIM Italia SPACs, as indicated by (a) the dilution costs caused by special shares (i.e., the sponsor/*promotori* promote), (b) the dilution costs caused by warrants given to investors at the IPO stage and de-SPAC stage, (c) underwriting fees, and (d) BC fees, as possibly exacerbated by the exercise of withdrawal rights (i.e. functionally the U.S. redemption rights) (Section 4.4), and finally, (iv) to analyse the long-run performance of the listed legal entity resulting from the business combination (Section 4.5).

4.2. Descriptive statistics on the average AIM Italia SPAC

The targets of our analysis are pure SPACs that were listed in Italy under Italian legislation following the first one in 2011, successfully raised funds, and either acquired an operating company or were dissolved after the statutory period of existence. While solid statistics on SPAC activity are now available for the U.S. market,¹²² European coverage is either patchy or limited to the last several years only.¹²³ The majority of the articles use data from Refinitiv Global New Issue or M&A databases, and our initial attempt to collect data on Italian SPACs was based on all Italian "Blank Check Companies" contained in these databases.

¹¹⁹ Emm, Han and Li (2023)

¹²⁰ Ferretti and Castelli (2021).

¹²¹ Adami, Mathew and Sivaprasad (2023).

¹²² <https://spacinsider.com/stats/> or <https://www.spacresearch.com/> are the most known data sources for U.S. data.

¹²³ <https://www.whitecase.com/publications/insight/european-spacs-data-hub>.

Various sources indicate that the first SPAC in the U.S. went public in 1993 and raised \$12 million.¹²⁴ However, the Refinitiv database starts decent coverage of the deals only from 2004. Moreover, it contains only 22 Italian SPACs, with the first SPAC recorded in 2013. Nevertheless, a casual internet search clearly showed that some SPACs were listed in Italy prior to this year. Therefore, we decided to identify Italian SPACs through an internet search on the Italian Stock Exchange and main financial media, using Refinitiv data only for summary statistics on worldwide SPAC activity.

Our initial search indicated 35 potential SPAC deals from 2011. After excluding deals done under Luxembourg listing laws (1 deal), privately placed bonds (2 deals), private closed funds (1 deal), listing facilitating intermediaries (1 deal), spin-offs of previously listed SPACs (1 deal, we were left with 29 SPACs. To study the behaviour of institutional versus retail investors, we excluded 5 SPACs listed on the MIV market, leaving us with 24 AIM Italia SPACs. Although relatively small by scientific standards, this sample compares favourably to recent articles on SPACs and analyses the largest sample on Italian SPACs, one of the most active SPAC markets in Europe.¹²⁵

How does SPAC activity in Italy compare to other countries, particularly in Europe? Figure 1 illustrates that the vast majority of all listed SPACs originate from the U.S., with 66% of all deals and 80% of the total deal value concentrated in the United States. Less than a tenth of all deals have occurred in Europe. Intriguingly, the last two years have seen a significant decline in the predominance of U.S. deals. The data indicates that even though total SPAC activity has decreased in the post-Covid era, some countries, such as Canada and South Korea, have emerged as global leaders in SPAC listings. For instance, in South Korea, over 160 SPACs were listed in 2022-2023, compared to only 91 in the U.S. during the same period, and in contrast to just 153 SPACs listed in South Korea prior to 2022.¹²⁶

¹²⁴ <https://www.wsj.com/articles/they-created-the-spac-in-1993-now-theyre-reaping-the-rewards-11615285801>. Last accessed on 15/05/2022.

¹²⁵ For example, the seminal work of Klausner, Ohlrogge and Ruan (2022) studies only 47 US SPACs listed in 2019-2020 years.

¹²⁶ Kang and Lee (2023).

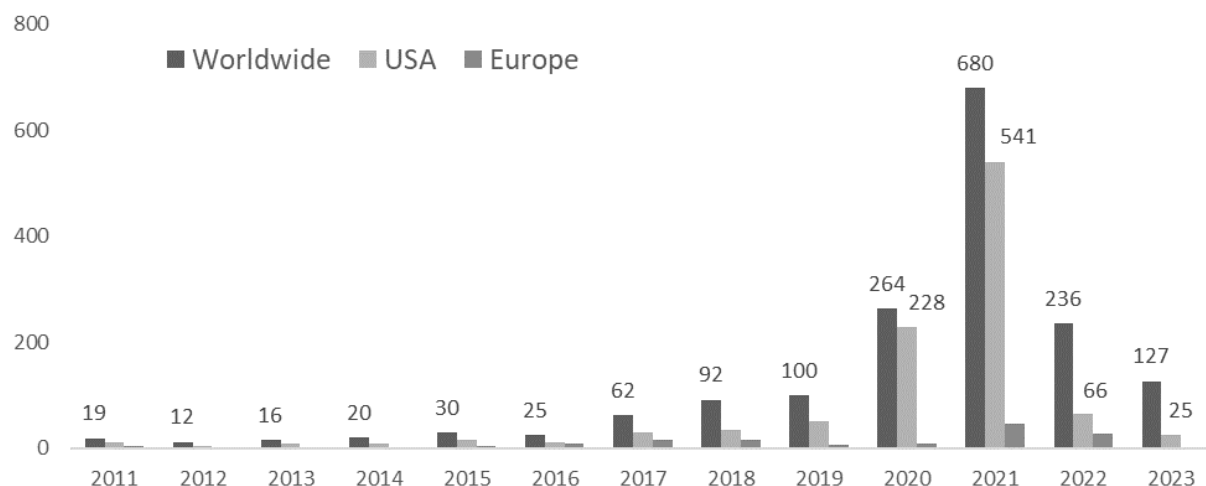


Figure 1. Number of completed SPACs listed worldwide and in US and Europe separately in 2011 - 2023. Data source: Refinitive Eikon and author's calculations.

Italy, with its 29 overall SPACs and 24 AIM Italia SPACs, is a relatively small SPAC market, accounting for only 1.5% of all worldwide deals by volume and 1% by value. However, compared to the European market, Italy represents 17% of all European SPACs by volume and 12% by value, with total proceeds raised by Italian SPACs amounting to \$3.5 billion. This makes it the second-largest SPAC market in Europe, trailing only the United Kingdom, where SPACs raised over \$10 billion in the studied period.

Figure 2 illustrates the relative sizes of the European and Italian SPAC segments by value and their dynamics over time. The data clearly shows SPAC waves, similar to IPO issuance trends, with local peaks of activity in 2007-2008, 2010-2011, and more recently in 2017-2021. Unlike in Europe, Italian SPAC activity appears to have been put on hold from 2018, with only 3 SPACs listed since then. This contrasts with the frenzy of SPAC listings in the U.S. and Europe in 2021. Notably, no SPACs were listed in Italy during the 2022-2023 period, coinciding with a considerable decline in worldwide SPAC activity during the same period.

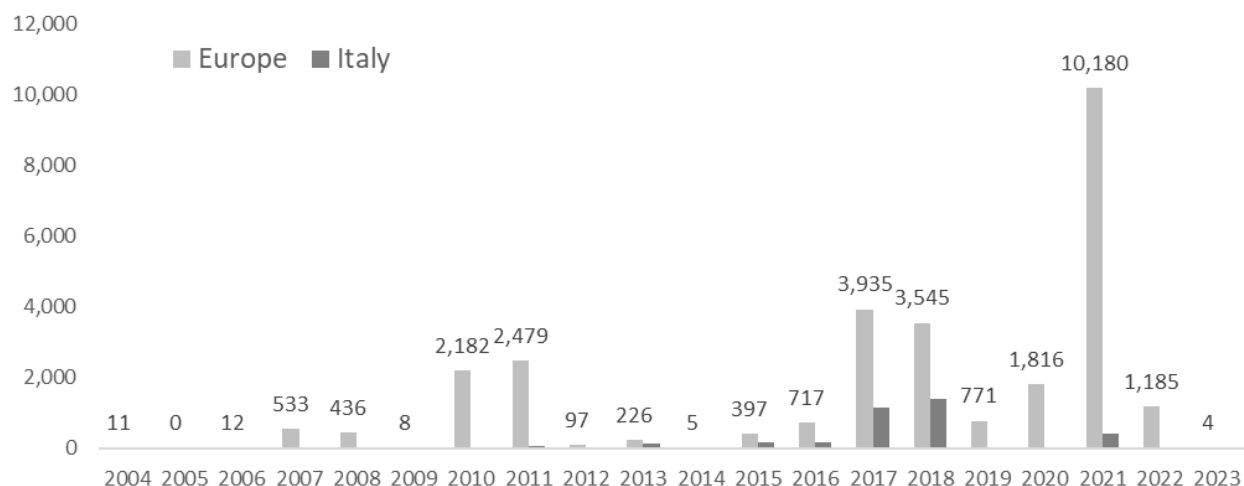


Figure 2. The funds raised by SPACs in Italy and Europe from 2004 to 2023 in millions USD. Data source: Refinitive Eikon and author's calculations.

In Table 1, we provide some descriptive statistics of our final sample of 24 AIM Italia SPACs across the years. In total, they have raised just under three billion Euro, with an average SPAC collecting 125 million Euro. This amount is slightly above 90 percent of the maximal target funds that each SPAC was aiming for.¹²⁷ The average size of AIM Italia SPACs has continuously grown over the years, increasing from an average of 50 million Euro collected in 2011 to an average of 169 million Euro in 2021. The flotation costs of SPACs are, on average, 1.6 percent of the raised funds, which is much lower than the average IPO costs of 7 percent in the U.S. or 4 percent in Italy.¹²⁸

The period of 2017-2018 appears to have been the golden era of AIM Italia SPAC activity, when two-thirds of all funds were raised in 9 SPACs. However, more than one-third of SPACs listed in these two years failed to find an acquisition target and were later dissolved. Interestingly, in all other years under study, the SPACs analyzed were successful in identifying and forming business combinations with selected targets.

¹²⁷ This information was sourced from the listing prospectuses.

¹²⁸ See, respectively, Chen and Ritter (2000) and Boreiko and Lombardo (2011). This figure however does not include the underwriters' commission for the services rendered at the stage of business combination. Such fees are not disclosed in the prospectuses but might represent a substantial additional cost.

Year	N	BC formed	Failure rate	Collected funds, €m	Average Targeted funds, €m	Average Funds collected, €m	Average Offering costs, €m
2011	1	1	0%	50.0	60.0	50.0	1.5
2013	2	2	0%	85.0	62.5	42.5	1.1
2015	2	2	0%	131.0	72.5	65.5	1.2
2016	2	2	0%	150.5	110.0	75.3	1.1
2017	8	5	38%	1,083.0	141.9	135.4	1.3
2018	7	4	43%	1,157.0	175.3	165.3	2.0
2021	2	2	0%	338.0	185.0	169.0	2.6
Total	24	18	25%	2,994.5	136.8	124.8	1.6

Table 1: SPAC Activity in Italy from 2011 to 2023. "BC Formed" refers to the number of SPACs that successfully acquired a target within the statutory timeframe. *Data source:* SPACs listing prospectuses and press releases.

Of the six AIM Italia SPACs that were dissolved and returned the money to investors, one was liquidated because the shareholders' meeting failed to reach the minimum required number of votes to approve the proposed target.¹²⁹ Three SPACs failed to locate targets deemed worth investing in,¹³⁰ and two SPACs were liquidated due to a high volume of share redemptions (in the form of withdrawal rights) by their shareholders.¹³¹

Legally speaking, the SPAC entity is typically created three to four months before the official listing, on average. However, this period can be as short as one month or extend up to eleven months, particularly for the very first SPACs between 2011-2015. On average, the 24 AIM Italia SPACs sought a target for around eleven months. The minimum period is one to two months,¹³² and the maximum is exactly two years — the official lifespan of a SPAC. The official shareholders' meeting that must approve the business combination typically follows the announcement within an average of two months (ranging from two weeks to five months). The final actual date of the merger is, on average, four months later, but it can be as distant as one and a half years.

¹²⁹ This SPAC is IDEAMI listed in 2017.

¹³⁰ These SPACs are VEI1, Life Care Capital and Gabelli Value for Italy all listed in 2018.

¹³¹ These SPACs are SPACTIV listed in 2017 where the redemptions were above the 30% limit: 43.50%, and Capital for Progress 2 listed in 2017 57.4% with a limit of 30%.

¹³² Archimede (2018) was listed with a potential target already identified, which it duly disclosed in the listing prospectus.

All auditing firms of the Big Four group participated to some extent in certifying the SPACs' financial documents. However, until 2017, only KPMG S.p.A. was actively involved in SPACs' business. Overall, it had the largest market share, being the auditor of 17 SPACs (70% of the total sample). PricewaterhouseCoopers S.p.A. was employed in the management of 5 SPACs, while EY S.p.A and Deloitte & Touche S.p.A. were the auditors of one SPAC each.

4.2.1. Warrants

As a standard procedure, the initial IPO investors in AIM Italia SPACs receive not only common shares but also warrants – financial instruments that grant the holder the right to acquire shares at a predetermined price (IPO-stage warrants). These warrants are freely detachable from the shares and represent a separate financial instrument that is also traded on the secondary market. The exercise price is set above 10 Euro, the initial price of a SPAC share, ensuring that the warrant, or the call option, is out-of-the-money and therefore not immediately exercisable. The standard practice for AIM Italia SPACs is to set the lifespan of the warrants at 5 years from the effective date of the business combination with the target. However, there have been exceptions; in one case, the lifespan was set to 2 years, and in another, the warrants had no time limit.

Warrant characteristics	Min	Average	Median	Max
Average lifetime, years	2	-	5	Infinite
Number of warrants granted	940,000	8,297,500	7,500,000	30,000,000
Total warrants per share	0.2	0.6	0.5	1.0
Total warrants per share granted at listing	0.1	0.31	0.2	1
Total warrants per share granted at BC	0	0.33	0.3	0.8
Warrant price at listing, Euro	0.47	1.07	1.00	1.75
Average warrant price, Euro	0.19	1.03	0.77	2.68

Table 2. AIM Italia SPAC warrants. Data source: SPACs listing prospectuses and Borsa d'Italia trading price data.

Table 2 presents some statistics about AIM Italia SPACs warrants. On average, investors receive 0.6 warrants per share, or 0.5 if we consider the median. In 30% of the cases, the number of issued warrants equals the number of issued shares. A key feature is that warrants are not distributed entirely at listing. Typically, investors receive only a fraction at the SPAC-IPO stage – around 40% of the total warrants, with the remainder being awarded in the event of a successful

business combination (de-SPAC stage warrants). This approach aims to incentivize the shareholders' meeting to approve the business combination.

At the start of listing, warrants are priced between 0.47 and 1.75 Euro (i.e., approximately 5% to 17.5% of the underlying SPAC share price), with the median value being exactly 1 Euro. The average price during the warrant's lifespan is also around 1 Euro. However, this average varies considerably across different SPACs, influenced by factors such as the target search process, post-merger performance of the share, calling of warrants by issuers in case of significant price increases, and other factors.

4.2.2. The role of sponsors/*promotori*

Many SPAC studies emphasize the critical role of sponsors in the success of SPACs. Sponsors are teams of professionals with a track record in successful mergers, industry experience, or capital raising, who invest risk capital and incur considerable expenses during the pre-IPO stage of each SPAC on various legal and general costs. In the Italian context, given the small number of overall SPACs in the last 10 years, it is noteworthy that 8 SPACs (exactly one-third of our 24 AIM Italia SPACs sample) were created by 3 groups of sponsors/*promotori*.¹³³ Some sponsors/*promotori* appeared to plan the launch of several SPACs, as indicated by names often containing the suffix “1,” though this has not materialized to date.¹³⁴

The offering costs of SPACs are significant - the average expense for setting up and listing a SPAC is 1.6 million Euro but can be as high as 4 million.¹³⁵ These costs are covered by the sponsors/*promotori*, who invest substantial amounts of their own capital in each SPAC. In return, they receive special SPAC shares (*azioni speciali*) that are not traded but are partially converted into ordinary shares of the company resulting from the business combination if successful. The remainder of the special shares is converted upon achieving specific business milestones,¹³⁶

¹³³ These sponsors/*promotori* launched a sequence of SPACs, as in the case of Industrial Stars of Italy team that launched 4 SPACs, Glenalta with 2 SPACs, and Capital for Progress with also 2 SPACs.

¹³⁴ Made in Italy 1, Greenitaly 1, Innova Italy 1, etc.

¹³⁵ Excluding additional fees of the underwriters that are in most cases are not disclosed in the prospectuses.

¹³⁶ So-called earnouts using the term of Klausner and Ohlrogge (2022).

typically substantial post-merger share price appreciation (see Section 3.2). Some statistics on sponsors' involvement are highlighted below:

- Sponsors set-up the SPAC legal entity with the initial share capital of around 125,000 Euro on average, and total range of 50 – 500 thousand Euro.
- Prior to IPO, the sponsors inject additional capital by means of a share capital increase, or, more often, by buying out all special shares of the SPAC. In 6 (25% of the total) SPACs, some of the sponsors also pledge to buy 5-10% of the ordinary shares to be sold to investors.
- Average sponsor teams' investment is above five million Euros (exactly 5% of raised funds in the IPO on average), though this sum varies from the minimum of one million to the maximum of 23.5 million Euro. Overall, the sponsors contribute from 2% to 24% of the funds raised by each SPAC.
- To align the interests of sponsors and general investors, similar to normal IPOs, it is a widespread practice for sponsors to lock-up their shares, once converted from the special ones.¹³⁷ The median period is one year, the average is 16 months, but it can be as long as 2 or 5 years in some SPACs.

4.3. SPACs' investment patterns between institutional and retail investors

Given the minimum investment size and the projected maximum offering sizes ranging from 47 to 600 million Euro, the size of the initial investors' pool in AIM Italia SPACs-IPO is relatively small, with a maximum of 500 to 1500 investors. This leads to three interesting research questions.

Firstly, to what extent is SPAC investment the domain of qualified investors (institutional investors and wealthy individuals), i.e., is there any participation by retail investors at all? Many authors note that SPAC investment is relatively profitable and low-risk, given the package of warrants distributed with shares in allocation. Do retail investors have an opportunity to participate and earn decent returns? It is known that they are generally excluded from the initial

¹³⁷ As for IPOs, see Boreiko and Lombardo (2013).

offering (IPO), but in the secondary market (AIM generally or STAR segment for some larger post-merger entities), the shares are freely traded, and retail investors are free to buy them. However, if retail investors are not active in the secondary market, it suggests a lack of interest on their part and the possibility that they would not have participated in the initial allocations even if given the opportunity, both points indicating no discrimination against retail investors. Therefore, our first hypothesis is:

H1: Retail investors do not participate in SPAC investment, both in the initial allocation and in the secondary market.

The share allocations in IPOs are often quoted as lucrative and profitable, given the average underpricing,¹³⁸ leading to excess demand for shares and rationing in the allocation process. Is the same observed in SPACs listings? If so, we would expect to see relatively high stakes of initial SPAC investors maintained until the business combination time and active buying of shares by investors who failed to get shares in the initial allocations. Our second hypothesis is:

H2: Institutional investors actively participate in SPACs' shares allocation process and actively buy shares in the secondary market.

A recent prominent article discusses a phenomenon of 'SPACs mafia' that actively participates in the majority of SPACs during the allocation stage.¹³⁹ We aim to analyze if a similar pattern exists in AIM Italia SPACs investments and posit our third hypothesis as follows:

H3: There is a group of institutional investors that dominate the Italian SPACs' shares allocations.

4.3.1. Retail investor participation

As previously mentioned, the initial IPO subscription for AIM Italia SPACs shares is open only to institutional investors or wealthy individuals. In our sample of 24 AIM Italia SPACs, the offering document explicitly stated that the subscription was open either to institutional investors (22 SPACs, with 2 prospectuses silent on this issue) or to wealthy retail investors (21

¹³⁸ See Boreiko and Lombardo (2011).

¹³⁹ Klausner, Ohlrogge and Ruan (2022).

SPACs, with 2 prospectuses silent on this issue, and one explicitly prohibiting retail investor participation). However, in most cases, a minimum investment limit was set. Three-quarters of all SPACs specified a minimum investment ranging from 50,000 Euro (1 SPAC) to 150,000 Euro (1 SPAC), with the rest setting an entry ticket of 100,000 Euro. One quarter of SPACs did not disclose the minimum investment threshold but stated that the offer is open only to ‘qualified investors’ according to European/Italian legislation (see Section 3.2). Therefore, we can conclude that ordinary (i.e., non-wealthy) retail investors are excluded from the initial share allocations of Italian SPACs. Given the mentioned minimum investment amounts, it appears that only wealthy retail investors participate in AIM Italia SPAC-IPOs. The question of whether ordinary, small (non-wealthy) retail investors buy shares in the secondary market is addressed below.

Since there is no comprehensive database containing all trades and the identities of buyers and sellers in public shares,¹⁴⁰ one can only use indirect evidence to gauge retail investor involvement in the SPAC investment process. Most trading exchanges collect anonymous trading statistics that disclose the time, size, and price of each trade in a particular financial instrument. We obtained such detailed trading data for our 24 AIM Italia SPACs from the listing date to the business combination or dissolution date (if no target was found) for the period from 2011 to April 2022 and analyzed the trade statistics across various periods of the SPACs’ lives.¹⁴¹ We hypothesize that the size of the trade is a proxy for the nature of the buyer – smaller trades are unlikely to be executed by institutions. By examining the average trading lot sizes and the percentage of trades below a certain threshold across various periods, we can infer the level of retail investor participation.¹⁴²

¹⁴⁰ Such data in theory is available but cannot be disclosed due to the personal data protection issues. On the contrary in cryptocurrencies investments, the ledger of all transactions and quasi anonymous identities of the traders is available for public inspection and would allow conducting the analysis of retail vs. institutional investors (Boreiko and Risteski 2020).

¹⁴¹ We are grateful to Borsa Italiana S.p.A. for making such data available to us for research purposes.

¹⁴² We are aware of the widespread use of algorithmic trading that in the U.S. takes up more than 60% of all the trade volume. Scheduled algorithmic trading strategies, such as *percentage of volume (POV) algorithms*, *volume-weighted average price algorithms*, and *time-weighted average price algorithms* split the large trades into smaller chunks and thus might create a problem for our analysis by concealing the institutional investor trades. Still, we believe that the extent of algorithmic trading in these infrequently traded SPAC stocks is small and does not invalidate our results.

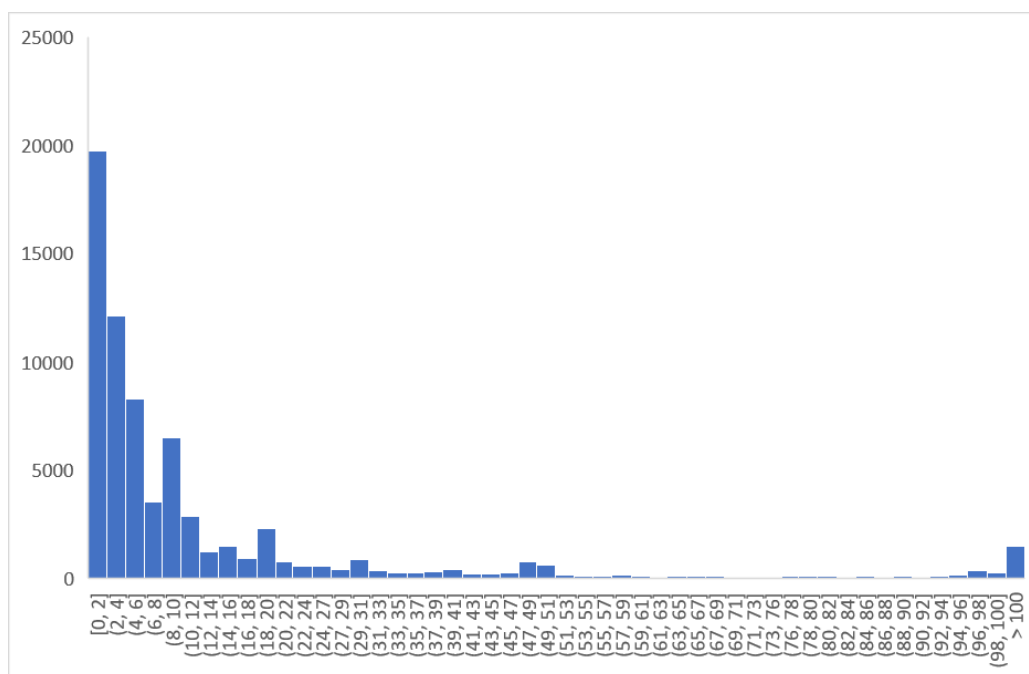


Figure 3. Distribution of trade lot sizes, '000 Euro. Data sample of trades is from 2011 to April 2022.

First, we aggregated all trades from our sample of 24 AIM Italia SPACs into one database to analyze their distribution. Since the shares of all SPACs start trading at 10 Euro, this creates a fairly uniform dataset, and we examined all the lots of shares (by value) bought or sold in the market (69,157 trades of 24 SPACs' shares from listing to forming a business combination in the period between 2021 and April 2022 inclusive). Figure 3 indicates that the sample is overwhelmingly dominated by smaller trades – more than 30% of all trades were below two thousand Euro, or approximately 200 shares per trade, and 45% of all trades were below four thousand Euro. Only 1,463 trades (around two percent of all) were above 100,000 Euro in size. This strongly suggests that trading on the secondary market in SPAC shares involves not only institutional investors, but also retail investors.

Table 3 presents the distribution statistics of the SPACs' shares turnover overall and across different periods in the lifecycle of a typical SPAC. We decided to divide the SPACs' life into several non-overlapping periods and analyze the trade sizes within these timeframes. Knowing that all shares in each SPAC-IPO are allocated to institutional investors (or very wealthy retail investors) and having quarterly shareholders data, we selected the quarter in which the SPAC shares began trading, denoted as the Listing Quarter. The full quarter following Q0 is denoted as

Q1 after listing. Another key event in the life of each SPAC is the official announcement of a proposed business combination (BC), if a target is found. We created a sub-period from the end of Q1 (or Q0 if the event occurs in the first quarter) to the announcement date, denoted as Before Announcing Target. The period between the announcement date and the general assembly date, where shareholders might reject the proposed merger, is denoted as Before Approval. If the deal is approved, there is some time from the general assembly date to the actual merger, when the new post-BC entity begins trading with a new ticker or continues trading under the old one; this period is denoted as Before BC. Alternatively, the time before the SPAC liquidation is denoted as Before SPAC Liquidation. Thus, we have six periods in total to analyze trade intensity and its quartiles.

	N of Trades	Min	First Quartile	Median	Average	Third Quartile	Max
Lot size, Euro							
All lifetime	69,157	6	1,981	4,875	16,421	10,750	10,000,000
Listing Quarter	14,349	19	2,024	4,136	10,470	9,975	2,864,880
Q1 after listing	5,381	9	2,000	5,200	13,412	10,714	1,631,443
Before announcing target	15,460	10	2,040	5,931	17,374	14,880	1,831,500
Before approval	12,384	10	2,070	6,860	27,170	19,400	10,000,000
Before BC	17,025	6	1,342	2,820	8,853	6,840	5,000,000
Before SPAC liquidation	4,558	630	2,910	9,650	34,541	43,120	764,360
N. of shares							
All lifetime	69,157	1	200	500	1,689	1,100	1,000,000

Table 3. Trading lot sizes in Euro for all SPACs across various lifecycle periods. Source: Borsa Italiana S.p.A. and authors' calculations. Data sample of trades is from 2011 to April 2022.

The trading statistics clearly demonstrate that retail investors are active participants in the secondary market. The median trading lot size is below five thousand Euro, and the average lot size is around 16,000 Euro. The data reveals that 75% of all trades are valued slightly above 10,000 Euro. Therefore, we can confidently refute the second part of Hypothesis 1 (H1) – retail investors are indeed actively participating in the secondary market, buying and possibly later selling shares from institutional investors who initially received them during the SPAC-IPO share allocation.

When examining the various periods in the lifecycle of the 24 AIM Italia SPACs, both the means and medians indicate that the trade size steadily grows from the listing quarter and then abruptly falls in the period between the business combination (BC) approval and the actual merger. This trend suggests that retail investors are most active at the beginning of the SPAC's lifecycle, purchasing shares from institutional investors. The increase in lot size could be due to more active participation of new institutional investors in the secondary market, a topic we will address in the next section. Finally, if the merger is not approved, the average trade lot sizes reach their maximum, likely indicating the sale of stakes by institutional owners.

4.3.2. Institutional investor participation

To investigate the involvement of institutional investors in SPAC investments, we took a different approach and obtained data on investment funds and firms' ownership of each AIM Italia SPAC from the Refinitiv Global Share Ownership database.¹⁴³ For each SPAC, we downloaded the list of institutions that reported holding a stake at the end of each calendar quarter. Similar to the previous section, we selected various cutoff points to analyze the involvement of institutional investors in each SPAC – Q0 (end of the quarter where secondary market trading started), Q1 and Q3 (the next and the third quarter, respectively), one quarter before the business combination (BC), and the quarter of the BC (Q_BC-1 and Q_BC).

We decided to examine the dynamics of shareholding of two samples of institutional investors – those who invested during the IPO allocation process or right at the start of public trading (and reported a non-zero stake at the end of Q0) and a larger sample of all investors that have ever reported a stake in a particular SPAC.

The first notable finding was the surprisingly low coverage of all the SPACs in the sample. For the total value of around three billion Euro raised in 24 AIM Italia SPACs, the Refinitiv database reported a total of less than 70 million Euro worth of stakes held at the end of the listing quarter. This accounts for only 2.5% of the value of the allocated SPAC shares. Given that we have

¹⁴³ Refinitiv claims to have the largest and most detailed dataset for majority of the traded instruments in all regions of the world. In fact, Refinitiv covers the ownership details of more than 36,000 investors for EMEA region. As such, we believe that if an institutional investor is active and reporting its holdings quarterly, it will be traced by Refinitiv.

data on the SPACs' share turnover in each quarter, we can rule out the possibility that institutional investors sold the majority of their stakes immediately after listing, leaving only residual stakes reported. The reported shareholding coverage is indeed extremely low, ranging from 0.5 to 11% across all SPACs, which merits further investigation. A casual comparison with the percentage of shares reported to be held by institutional investors of a sample of firms listed on AIM in 2017 with market capitalizations above 100 million Euro showed similarly low coverage. This raises questions about the validity and usefulness of the Refinitiv Shareholders database for this type of analysis. Nevertheless, for the purposes of studying the dynamics of institutional investors' shareholdings, we proceeded with the data at hand.

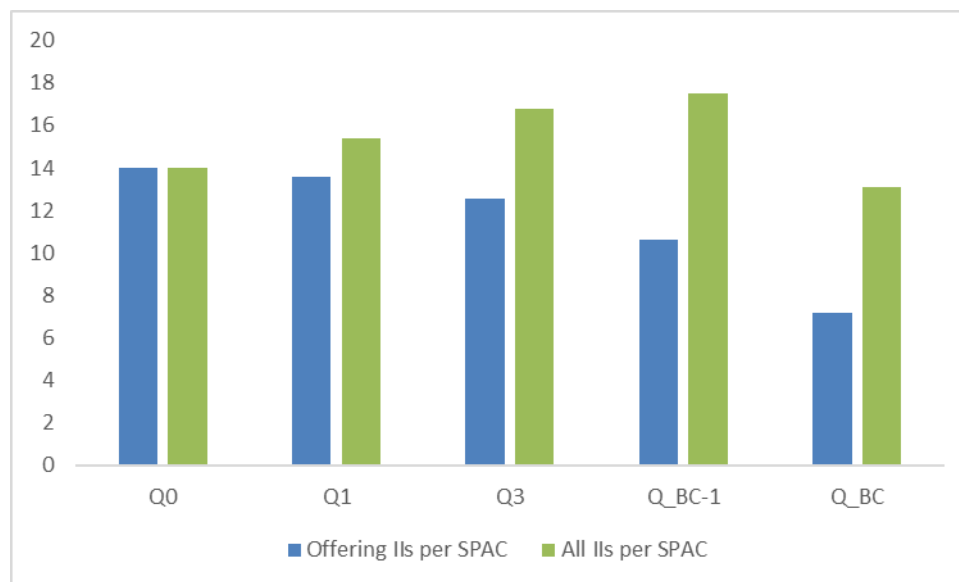


Figure 4. Average number of institutional investors at the end of the selected quarters. Source: Refinitiv Eikon Shareholder Reports and authors' calculations.

The average number of institutional investors reporting ownership stakes in SPACs at the end of the listing quarter is 14. This number is slightly higher, at 16, for SPACs listed from 2017 onwards, as the earlier years might have suffered from severe underreporting (with an average of 7 institutional investors per SPAC). Over time, the number of these institutional investors that were allocated shares in the IPO decreases, as they exit their SPAC investments (dropping to 10 in the quarter before the business combination and to 7 in the final quarter of the SPAC's lifetime). However, the total number of institutional investors holding SPAC shares displays an

opposite trend – it consistently increases, reaching a peak of 17 institutional investors per average SPAC at the end of the quarter prior to the business combination.

This preliminary analysis suggests that the number of institutional investors involved in SPACs is considerably higher than for peer IPOs that went public on AIM in the same period. This observation lends partial support to our second hypothesis (H2) that institutional investors not only invest at the offering stage, but also buy SPACs' shares in the secondary market. The growing involvement of institutional investors throughout the SPAC lifecycle indicates a sustained interest and active participation in the SPAC market, contrasting with the initial allocation at the IPO stage which tends to decrease over time.

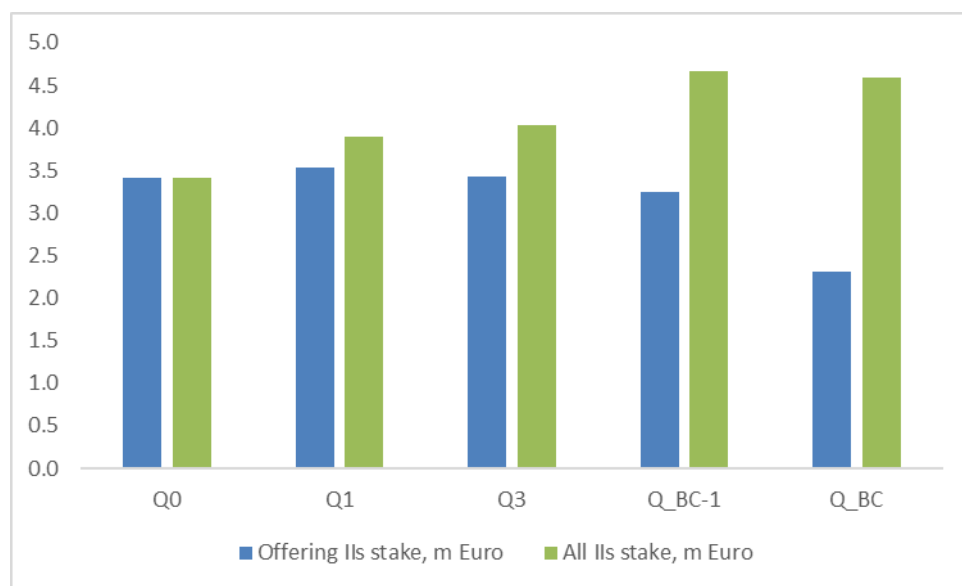


Figure 5. Average total value of Institutional investors SPACs' shareholdings at the end of the selected quarters.
Source: Refinitive Eikon Shareholder Reports and authors' calculations.

Figure 5 displays the total value of all institutional investor stakes at various quarters, differentiating between offering investors and all institutional investors. This figure underscores the findings from the previous analysis – while offering investors tend to reduce their stakes (by an average of 7%), overall institutional investors accumulate SPAC shares, increasing their stakes by 40% from the listing quarter to the quarter before the business combination (BC).

An interesting observation emerges when examining the 6 SPACs that did not form a business combination and were later dissolved. These SPACs exhibited a slightly higher number

of institutional investors and similar total stakes across all periods, suggesting that institutional investors are not able to differentiate *ex ante* between SPACs that will be successful and those that will fail. This lack of differentiation indicates that the decision-making processes and the criteria used by institutional investors in selecting SPACs might not effectively predict the success or failure of a SPAC's business combination efforts. This trend also suggests a more uniform approach to SPAC investment by institutional investors, regardless of the individual characteristics or prospects of each SPAC. From one perspective it might indicate that the institutional investors are not better informed about the quality of various SPACs or skills of sponsors behind them before SPACs actually fail to deliver the merger. From the other, given that the common shares (*azioni ordinarie*) are distributed with warrants at the IPO stage and the shareholders may redeem the shares, this significantly eliminates the risk of losing money on SPAC investments, unless there is large cash expropriation due to special shares conversion and/or high SPAC running costs.¹⁴⁴

The analysis above indicates that while institutional investors increase slightly their participation and holdings in SPACs, the overall numbers remain relatively low. The average stake held by all institutional investors at the end of the quarter preceding the business combination is only around 4%. Furthermore, considering the maximum *ex ante* size of the offerings and the funds raised, only 10 out of 24 AIM Italia SPACs raised funds at the maximum limit, with the average funds raised being 89% of the planned maximum. This suggests that SPAC investment, unlike hot IPO subscriptions, is not a highly lucrative and rationed business for institutional investors, who are not constrained to buy all SPAC shares in the secondary market. This observation lends additional support to the rejection of Hypothesis 1 (H1) regarding the non-participation of retail investors.

The final hypothesis (H3) concerns whether there is a group of investment funds dominating the Italian SPAC offerings. In contrast to the U.S., where a group of hedge funds reportedly buys an average of 70% of all shares in SPAC offerings,¹⁴⁵ our analysis presents a different scenario for the Italian market. Data on all institutional investors participating in SPAC

¹⁴⁴ See Klausner, Ohlrogge and Ruan (2022).

¹⁴⁵ See Klausner, Ohlrogge and Ruan (2022).

offerings reveals that seventy-seven institutional investors have taken part in at least one SPAC share allocation, with 10 of them investing in more than 10 SPACs. However, there is no significant market concentration or an Italian “SPAC mafia” – the top ten institutional investors account for only approximately one-third of all reported SPAC investments. The most involved institutional investor, Kairos Partners, holds an 11% market share by investing in 18 SPAC share allocations. Moreover, in the list no big international investment funds are observed, except for several Luxembourg- or Swiss-based funds with traceable Italian origin. Therefore, we reject Hypothesis 3 (H3), which posited the existence of a group of institutional investors dominating the AIM Italia SPAC market. This lack of domination by a few players indicates a more diversified and competitive landscape in the Italian SPAC market compared to the U.S. scenario.

Investment fund	N of SPACs	Total investment, m Euro	Share of all Institutional investors' investments
Kairos Partners SGR S.p.A.	18	8.13	11.6%
Lemanik Invest S.A.	18	0.79	1.1%
Momentum Alternative Investments SA	18	6.56	9.4%
Nextam Partners SGR S.p.A.	17	1.18	1.7%
Anima SGR S.p.A.	15	3.74	5.3%
Ersel Asset Management SGR S.p.A.	14	0.72	1.0%
ERSEL Gestion Internationale S.A.	13	0.58	0.8%
ARCA Fondi SGR S.p.A	12	2.91	4.2%
Pharus Management Lux SA	11	0.27	0.4%
Symphonia SGR Spa	10	1.03	1.5%
Top 10 Institutional investors	24	25.9	37%

Table 4. Top Ten Institutional investors by number of invested SPACs. Source: Refinitive Eikon Shareholder Reports and authors' calculations.

4.3.3. Warrants trading of institutional and retail investors

The institutional investors who subscribe to the IPO-SPAC shares also receive warrants for free, known as IPO-stage warrants. These warrants typically amount to around one fifth of the number of allocated shares. In addition, they may receive additional warrants in the event of a successful business combination, provided they do not sell their shares. These additional warrants are referred to as de-SPAC stage warrants. While both IPO-stage and de-SPAC stage warrants are freely traded in the secondary market, they have a longer lifespan compared to

SPAC shares. On average, the lifetime of these warrants is fixed at 5 years. We have gathered trading data for the warrants of 24 AIM Italia SPACs and analyzed a total of 55,251 transactions dating from the year 2011 to April 2022.¹⁴⁶

Do we notice comparable trends in the trading of warrants as we do in the trading of shares? Determining whether retail investors engage in purchasing warrants on the secondary market poses a challenging question. Firstly, warrants are considered more sophisticated financial instruments, and it is not common for retail investors, with a few exceptions, to possess the expertise required to effectively construct and manage portfolios involving derivatives like warrants. Secondly, the significantly lower average number of monthly warrant trades (422) compared to SPAC shares (591) suggests that retail investor participation in warrant trading is minimal, if at all existent.

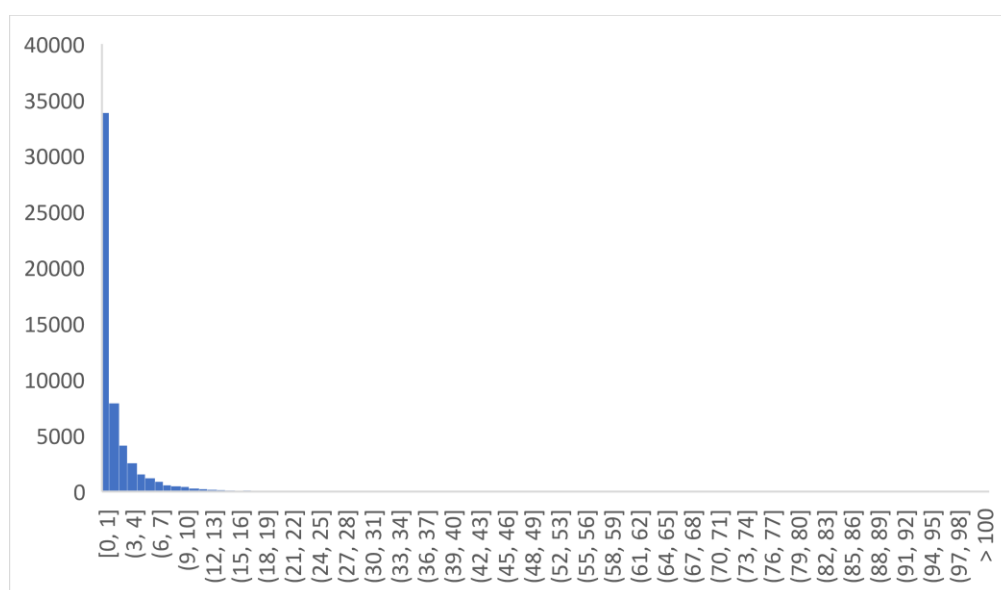


Figure 6. Distribution of warrant trade lot sizes, '000 Euro. Source: Borsa Italiana S.p.A. and authors' calculations. Data sample of trades is from 2011 to April 2022.

Figure 6 and Table 5 provide clear evidence of the relatively smaller size of the warrants market. The median trade size for warrants is 600 Euro, which is significantly lower (8 times) than that of SPAC shares. A substantial 75% of all warrant transactions are valued at less than two

¹⁴⁶ One SPAC issued two traded warrants to investors.

thousand Euro each. The distribution of trading lot sizes further demonstrates that the majority of deals involve relatively small amounts of turnover.

However, it's worth noting that when considering the number of warrants traded, the average and median values are three times higher than the corresponding statistics for common shares. Given that the number of warrants typically ranges from 20% to 50% of the corresponding shares, this indicates that warrant trades are bigger in size when measured as a percentage of all outstanding warrants. This observation might suggest that warrant trading is predominantly conducted by institutional investors.

Warrants	N of Trades	Min	First Quartile	Median	Average	Third Quartile	Max
Lot size, Euro	55,251	1	168	600	1,991	1,982	434,913
N. of shares traded	55,251	1	240	700	1,822	2,000	160,000

Table 5. Warrants trading lot sizes in Euro for all SPACs during the lifetime of warrants. Source: Borsa Italiana S.p.A. and authors' calculations. Data sample of trades is from 2011 to April 2022.

4.4. The cost structure of AIM Italia SPACs

As previously mentioned, our second research question involves a statistical analysis of the cost structure of SPACs, which includes:

- a) Dilution costs caused by the *azioni speciali* (i.e., the sponsor promote).
- b) Dilution costs caused by warrants given to investors at the IPO stage and de-SPAC stage.
- c) Underwriting fees and BC fees costs, which are estimated in the SPAC-IPO admission document.

These costs (a+b+c) may be further influenced by the extent to which redemption rights (in the form of withdrawal rights) are exercised at the BC time, effectively reducing the funds available to the BC company. We refer to this reduction as costs (d).¹⁴⁷ In Appendix 3, we provide

¹⁴⁷ We follow the same cost structure as Klausner, Ohlrogge and Ruan (2022).

a general explanation of the mechanics of the cost structure, along with an application to the case of "THE SPAC" SPAC for better understanding.

4.4.1. Statistics on AIM Italia SPACs cost structure

A similar analysis, as demonstrated in Appendix 3 for "THE SPAC" SPAC, was conducted for all 24 AIM Italia SPACs in our sample. We calculated their cost structure in terms of (a) + (b) + (c), taking into account the exercise of redemption rights (d). This allowed us to assess the costs faced by SPAC investors under the different regulatory regime of AIM Italia SPACs and to address the question of hidden costs that may be encountered by naive SPAC investors.

Table 6 presents the actual and potential impact of the three cost components (a + b + c) along with share redemption costs (in the form of withdrawal rights) (d). Our analysis reveals that the total actual costs (a + b + c + d) under Italian SPAC regulation are relatively modest, with a mean of 17.4% and a median of 14.9%. It's important to note that these figures account for all the SPACs in our sample, including those with outstanding special shares and warrants. In contrast, the theoretical full total structural costs are approximately 50% higher, with a mean of 24.7% and a median of 23.7%. This suggests that while there are costs associated with AIM Italia SPACs, they are less severe than those observed in the U.S. context.¹⁴⁸

Taking into account the final distribution of warrants to all owners of the SPAC shares before the actual business combination (which constitutes approximately 60% of all issued warrants on average), we consider that the first figure (mean of 17.4% and median of 14.9%) is a more representative estimate of the true hidden dilution costs. These costs primarily stem from two components within AIM Italia SPACs' cost structure: warrants exercise (5.5% actual or 8.4% full potential dilution) and the net promote (special shares of the SPAC for the sponsors converted into ordinary shares of the company resulting from the business combination at a high conversion rate, less their cash contribution at the SPAC's setup and listing – actual dilution of 8.9% and full potential dilution of 13.0% by the mean). It's important to note that these dilution components are activated only when the share price appreciates considerably, usually at

¹⁴⁸ As reported by Klausner, Ohlrogge and Ruan (2022).

milestones such as 20% and 30% price appreciation, partially or completely compensating the investors for these costs.

	Average net share value, Euro	Average total dilution, %	Average incremental dilution, %	Median net share value, Euro	Median total dilution, %
Actual cost structure dilution as at 31/12/2023					
Not diluted share value	10			10	
Only (c) dilution	9.70	3.0%	3.0%	9.73	2.7%
(c)+(d) dilution	9.67	3.3%	0.3%	9.71	2.9%
(c)+(d)+(a) dilution	8.78	12.2%	8.9%	8.85	11.5%
Full dilution (a)+(b)+(c)+(d)	8.26	17.4%	5.5%	8.51	14.9%
Full potential cost structure dilution					
Not diluted share value	10			10	
Only (c) dilution	9.70	3.0%	3.0%	9.73	2.7%
(c)+(d) dilution	9.67	3.3%	0.3%	9.71	2.9%
(c)+(d)+(a) dilution	8.37	16.3%	13.0%	8.42	15.8%
Full dilution (a)+(b)+(c)+(d)	7.53	24.7%	8.4%	7.63	23.7%

Table 6. Actual and full potential dilution of SPAC shares. The table illustrates the average and the median values of total dilution effects and of each component separately. *Actual dilution* takes into account only the special shares and warrants converted into ordinary shares as at 31/12/2023. *Full potential dilution* assumes full potential conversion of special shares and outstanding warrants assuming the highest conversion rates possible. *Average and median total dilution* show the cumulative effect of various components, *average incremental dilution* shows the net effect of each additional dilution component. *(a) dilution* stands for the dilution costs caused by the *azioni speciali* (i.e. the sponsor promote), *(b)* is the dilution costs caused by warrants given to investors at the IPO stage and de-SPAC stage, *(c)* is the dilution due to underwriting fees + BC fees costs. *(d)* is the redemption rights component (in the form of withdrawal rights).

Examining the total cost structure (a+b+c+d) in greater detail, when a typical AIM Italia SPAC investor purchases a share for 10 Euro, all the cash is initially kept for potential acquisition. In this scenario, the costs would be zero. However, SPACs have various costs associated with their setup, ongoing operations, and underwriting (type (c) costs), which are covered using the funds collected from sponsors and investors. On average, this cost component accounts for 3.0% of the total cash balance, meaning that an investor who holds one share effectively owns only 9.7 Euro of the SPAC's net cash position.

As mentioned, an integral component of the cost structure, as outlined in (a) + (b) + (c), involves the redemption of shares (in the form of withdrawal rights) by shareholders who choose not to participate in the business combination, denoted as (d). According to regulations, the SPAC

is obligated to redeem the tendered shares at a price determined by the SPAC itself. The AIM Italia SPACs' framework provides a partial alleviation of this cost by offering the redeemed shares to existing shareholders through the "*diritto d'opzione*" mechanism, typically priced at around 10 Euro per share. In many SPACs, these redeemed shares are indeed bought out by existing shareholders utilizing this option. However, it's important to note that the reduction in the net cash position resulting from this process is a cost that must be absorbed by the existing shareholders.

Based on our calculations, this cost amounts to an average of just 0.3%. When factoring in this cost, the net cash position for investors stands at 9.67 Euro. Our statistical analysis reveals that, among 20 AIM Italia SPACs that successfully identified their target companies, an average of 15.3% of ordinary shares were redeemed by shareholders. After accounting for partial repurchases of shares by other shareholders, this average redemption rate decreases to 13.0%. In two instances, the net redemptions exceeded the statutory limit of 30%, with redemption rates (in the form of withdrawal rights) reaching 57% and 44% of all SPAC shares, ultimately leading to the business combinations not proceeding. Looking at the 18 AIM Italy SPACs that successfully completed their business combinations, the average initial redemption rate was 11.4%, and the net redemption rate dropped to just 8.9%.

The sponsors/*promotori*, in exchange for their financial investments and the time dedicated to managing the SPAC and facilitating its business combination, receive special shares (*azioni speciali*) of the SPAC. These special shares are not publicly traded in the market and are intended to be converted into ordinary shares of the company resulting from the business combination. Approximately 26.6% of all special shares, on average, are converted around the time of the business combination. This conversion percentage can vary, with a minimum conversion rate of 0% and a maximum of 35%. Additionally, some of these special shares are subject to conversion only when specific milestones are achieved by the resulting company.¹⁴⁹

As previously mentioned, the conversion structure in AIM Italia SPACs typically involves 3 to 4 tranches. The initial tranche is usually executed right after the successful business

¹⁴⁹ Earnouts in the classification of Klausner, Ohlrogge and Ruan (2022), p 7.

combination, while the subsequent tranches are tied to the post-merger entity's share price performance. In the earlier half of SPACs, during a bullish market and with successful target identification, post-SPAC share prices saw substantial growth, leading to the complete conversion of special shares. However, in the case of later SPACs, achieving significant price appreciation was difficult, resulting in the persistence of outstanding special shares by the end of December 2023. These outstanding special shares can potentially dilute the net cash position per share.

Notably, sponsors/*promotori* do not receive these shares for free. Instead, they acquire them in exchange for covering the initial costs of the SPAC and often for contributing additional cash resources during the IPO or by directly purchasing ordinary shares in addition to their special shares allocation. This actual dilution cost component, categorized as type (a) costs, averages 8.9% (but ranges from -1% due to antidilution measures to as high as 20% in extreme cases). As a result, SPAC investors possess 8.78 Euro of net cash for every 10 Euro share they hold, after considering this dilution cost.

The second component of dilution cost is related to the exercise of warrants, categorized as type cost (b). As mentioned previously, AIM Italia SPACs typically issue warrants both during the IPO stage and the de-SPAC stage. On average, one warrant is issued for every 2 ordinary shares. If the average monthly share price exceeds the strike price (usually in the range of 9 to 10.5 Euro), warrant holders have the right to convert them into a fraction of a share at a nominal purchase price of 10 cents. The higher the average monthly market price, the fewer warrants are required to exercise the right to purchase one share. However, sponsors often include an acceleration clause in warrant agreements, which mandates the conversion of warrants if the market price surpasses a predetermined threshold (usually set at 13 Euro). This means that when retail investors purchase shares, they should be aware that the net cash position of the firm may be divided into more shares issued due to potential warrant conversions.

In the case of Italian SPACs, we estimate the average dilution cost related to warrants to be 5.5%, resulting in a net cash ownership of 8.26 Euro for shareholders. Assuming full conversion of outstanding special shares and of all the warrants, the total potential dilution costs are 24.7% on average and 23.7% median. The actual mean cost per share comes to 8.26 Euro, with a median

of 8.51 Euro. When considering the full exercise of special shares and warrants, the theoretical mean cost per share is 7.53 Euro, and the median is 7.63 Euro.

4.5 The long-run performance of the listed entity resulting from the business combination

Even though SPAC investors suffer from the dilution of their stake value due to various costs, they might later be compensated by an increase in post-merger share price if the combined entity performs well and grows rapidly in size and profitability. For instance, the average annual return of the S&P 500 US stock market index was around 9.8 percent from 2011 to 2023,¹⁵⁰ which suggest it could take less than two years for the share price to increase in value, fully compensating for the dilution costs typical of Italian AIM SPACs.¹⁵¹ However, it has been demonstrated that the long-run post-merger performance of SPACs is highly negative, exacerbating investor losses due to dilution, even at the one-year horizon after the merger.¹⁵² This remains true even after accounting for the generally negative market performance of newly listed entities.¹⁵³

In this section, we have compiled data on the post-BC share price performance of the merged entities. This performance is tracked over one-, two-, and three-year periods, subject to the data availability for SPACs that merged towards the end of our sample period. In line with the approach of the seminal article,¹⁵⁴ we have utilized both raw and adjusted buy-and-hold returns for our analysis.¹⁵⁵ To gather this data, we used the Refinitiv Eikon DataStream database.

¹⁵⁰ Authors' elaboration of data from <https://www.officialdata.org/us/stocks/s-p-500/1900>.

¹⁵¹ In the case of Italian stock market, the investment period is around 4 years considering the FTSE MIB30 index annual average return of 4.5 percent over the period under study.

¹⁵² Klausner, Ohlrogge and Ruan (2022).

¹⁵³ See Ritter (1991) and Schulz (2003) and many others.

¹⁵⁴ See Klausner, Ohlrogge and Ruan (2022).

¹⁵⁵ On the basis of a recent sample, Klausner, Ohlrogge and Ruan (2022) were able to calculate only twelve-month returns starting from the announcement date, whereas we are able to study the long-run performance over a much longer time period. Unlike them, we study the returns from the date of the effective business combination, and not from the announcement date as is the common practice in long-run performance studies. Moreover, merely announcing the business combination does not necessarily lead to merger – in our sample of 24 Italian AIM SPACs 4 SPACs announced the BC which was cancelled later on due to high share recession or shareholder disapproval. Our data show a median SPAC share price of 9.8 Euro at the announcement date and 9.7 Euro at the date of business combination, which translates into a 1% difference. Therefore, we believe that our results are directly comparable to one-year returns reported by Klausner, Ohlrogge and Ruan (2022) for U.S. SPACs and they are listed in the Table alongside our results.

This allowed us to obtain the total return index for each SPAC, considering not only the price return but also the dividend yield, to calculate the buy-and-hold raw returns (BHRs).

To determine whether the target returns of SPACs align with benchmarks, we selected two indices for comparison. One common method for assessing abnormal return is to compare it against the general market index return, which can be passively earned by investing in a fund that tracks a general index. For this purpose, we selected the FTSE MIB 30 index, commonly used as a proxy for the performance of the Italian stock market.¹⁵⁶ The difference between raw SPAC returns and corresponding market return we termed as the market-adjusted return.

However, as mentioned earlier, newly listed firms generally underperform compared to the broader stock market. Consequently, it is more appropriate to compare SPACs' returns with those of a portfolio of recently listed peers. The seminal article uses the Renaissance Capital IPO Index, an index of U.S.-listed IPOs, for its analysis.¹⁵⁷ However, we believe this index is not well-suited for the Italian market, which has shown mediocre performance compared to many other national stock markets over the last decade. Other existing proxies, such as the FTSE Renaissance Global (IMEA) Index Series, focus on broader stock markets and are also inappropriate for our purpose.

Therefore, we turned to the Refinitiv Eikon DataStream database to obtain detailed return and market cap data on all Italian equities. Using this data, we constructed a synthetic IPO-portfolio index. This index tracks the market-value-weighted returns of firms listed on all segments of the Italian stock market (excluding SPACs) within a three-year period, starting from the fifth day after listing.¹⁵⁸ The results of the long-run performance of the SPACs, analyzed in this manner, are presented in Table 7 below.

¹⁵⁶ Klausner, Ohlrogge and Ruan (2022) use Nasdaq Index to that purpose.

¹⁵⁷ Klausner, Ohlrogge and Ruan (2022).

¹⁵⁸ The synthetic daily IPO index is market-cap weighted and has 72 IPOs on average at each point of time over the whole period, with the maximum number of 101 and minimum of 24 on each particular day.

	N of firms	Average	Median	Max	Min	% of positive	USA SPACs median return
<u>1-year returns</u>							
Raw BC return	16	-2%	-8%	35%	-58%	44%	-78% ~ -12%
Market-adjusted BC return	16	-5%	-7%	22%	-62%	38%	-63% ~ -24%
IPO-index adjusted BC return	16	-7%	-1%	29%	-48%	44%	-88% ~ -21%
<u>2-year returns</u>							
Raw BC return	16	11%	2%	151%	-68%	56%	-12%
Market-adjusted BC return	16	1%	-11%	136%	-65%	38%	-37%
IPO-index adjusted BC return	16	2%	-17%	143%	-71%	44%	-
<u>3-year returns</u>							
Raw BC return	16	11%	-3%	90%	-56%	44%	-23%
Market-adjusted BC return	16	-2%	1%	85%	-72%	50%	-
IPO-index adjusted BC return	16	13%	15%	122%	-73%	56%	-

Table 7. Long-run performance of Italian AIM-listed SPACs over one, two, and three-years periods following the date of the effective business combination with the target. The starting date is one month after the listing to avoid the initial effects of price volatility. The raw buy-and-hold returns are reported along the adjusted returns for the performance of the general Italian stock market (represented by FTSE MIB 30 proxy) and returns adjusted by the performance of the synthetic IPO portfolio of Italian newly listed firms within the three-year period. USA SPACs data report the ranges of estimated underperformance from Klausner et al (2022), Klausner and Ohlrogger (2023), and Kiesel et al. (2023).

Although our small sample size limits the ability to statistically analyze the significance of SPACs' long-run returns, we can still observe some clear patterns. Firstly, post-business combination (BC) returns of SPACs vary highly. Some SPACs lose half of their market value in the first year after listing, and almost three-quarters within three years, as indicated by the minimum values. Conversely, others show substantial growth, increasing by one-third or even doubling in value in the same time intervals, as seen in the maximum values. Overall, approximately forty percent of SPACs earn a positive return within one year, with this proportion increasing to fifty-four percent over three years.

Secondly, the long-run performance is generally negative, averaging around minus ten percent when considering both raw and abnormal returns. This contrasts starkly with the more negative performance reported for the U.S. SPACs.¹⁵⁹ Furthermore, Italian AIM SPACs demonstrate the poorest performance within the first two years post-listing. However, the data

¹⁵⁹ As reported in detail by Klausner, Ohlrogger and Ruan (2022), p 256.

for the third-year period indicates a shift towards positive long-run market performance, particularly when looking at market- and IPO-index adjusted returns.

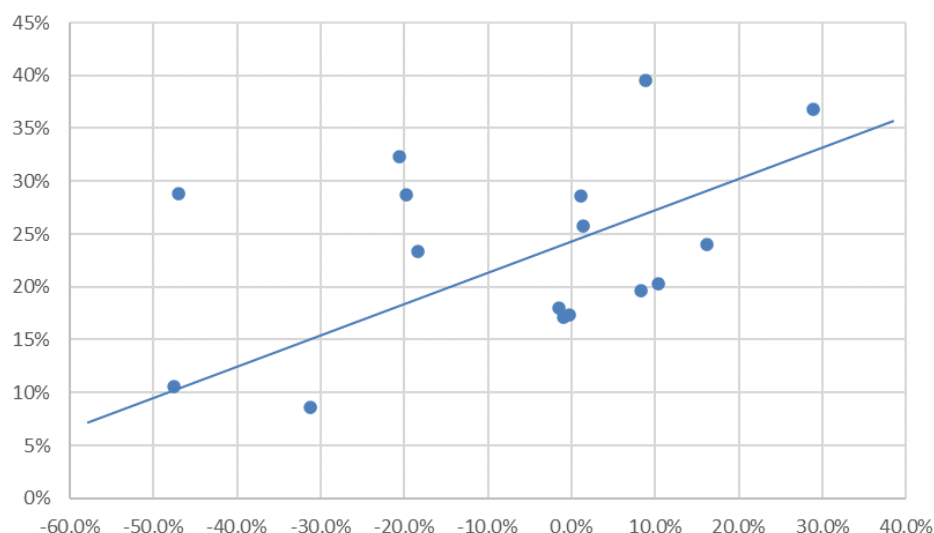


Figure 7. Actual share value dilution (vertical axis) against the IPO-index adjusted abnormal 1-year return for the sample of 18 Italian AIM SPACs that formed the business combination with a target and had one year of return data.

An interesting research question arises: does the special shares' dilution mechanism function as intended, with investors experiencing significant dilution costs primarily in SPACs that subsequently compensate them through substantial share price appreciation in the post-business combination (BC) period? In Figure 7, we plot the IPO-index adjusted one-year returns of 18 Italian AIM SPACs that completed a business combination and were not delisted within one year. The analysis reveals a positive relationship, as evidenced by a correlation coefficient of 38%, which is significant at the 5% level. This implies that higher dilution is positively correlated with better market performance, thereby mitigating the overall impact of dilution on SPAC investors.

As observed in Table 7, the three-year abnormal IPO-index-adjusted return stands at 20%, while the average full dilution amounts to 24%. Consequently, the net return to investors is calculated as $[(1-24%)*(1+20%)-1]$ resulting in a net loss of only -9%. This suggests that long-run investment returns on the shares partially offset the losses due to dilution.

5. Some short policy reflections between material and disclosure rules

The empirical results of Section 4 can be summarised as follows. With respect to the first research question, the analysis shows that the SPACs' shares trading is dominated by smaller trades – more than 30% of all trades were below two thousand Euro or approximately 200 shares per trade, and 45% of all trades were below four thousand Euro. Only around two percent of all trades are above 100,000 Euro in size. This is quite strong evidence that trading on the secondary market in SPAC shares is conducted not only by institutional investors, but also by retail investors, who actively trade since the median lot size is below five thousand Euro, with more activity in the listing quarter (buying shares from institutional investors who have participated in the offering) and in the period after the merger's approval, but before the actual business combination.¹⁶⁰

As regards warrants trading, our analysis indicates that this market is predominantly navigated by institutional investors rather than retail investors. This observation is supported by the complexity of warrants as financial instruments, which generally require a level of expertise beyond the scope of most retail investors. Further evidence comes from the comparison of trading volumes: with an average of 422 monthly trades for warrants versus 591 for SPAC shares, retail participation appears minimal. Moreover, the relative trading volume of warrants, which is three times higher on average compared to common shares, and the fact that warrants usually account for 20% to 50% of the shares, highlight the significant role of institutional investors. This data underscores the institutional investors' predominant presence in the warrant trading landscape, suggesting a market largely influenced by those with specialized knowledge and resources.

With respect to the second research question, AIM Italia SPACs seems to be more efficient (i.e. less costly) than their U.S. "regulated" cousins in terms of structural costs. To be sure, while the core mechanics of SPACs generate the same structural costs (in terms of *azioni speciali* dilution, warrant dilution, IPO and BC fees and redemptions), their value results less pronounced

¹⁶⁰ Furthermore, our data shows that SPAC investment, unlike hot IPOs subscription, is not a very lucrative and rationed business for institutional investors; looking at the maximum ex-ante size of the offering and actually raised funds, we see that only in 10 out of 24 SPACs the raised funds were at the maximum, with the average raised funds being at 89% of the planned one. This lends additional support to the conjecture about active participation of retail investors in the secondary market for SPACs' shares.

in Italy than in the U.S.: 8.26 Euro effective mean and 8.51 Euro effective median,¹⁶¹ and theoretical (i.e. considering full exercise of *azioni speciali* and warrants) of 7.53 Euro mean and 7.63 Euro median. While IPO and BC cost and redemption costs are limited, the average dilution costs related to *azioni speciali* are €0.89 effective and €1.3 theoretical, while for warrants the amounts are €0.55 and €0.84.

As regards the long-run performance of post-SPAC entities, our findings contrast starkly with the available US data.¹⁶² Although the share price dynamics are negative, they are considerably less so, within the range of ten percent when examining both raw and abnormal returns. Furthermore, Italian AIM SPACs demonstrate the poorest performance within the first two years, with the third-year period indicating an even positive long-run market performance. In addition, we find a positive correlation between higher dilution costs and the market performance of SPAC shares, indicating a much lower overall burden of dilution on SPAC investors.

The comparative literature on SPACs has recently applied the dyad regulatory paradigm vs contracting paradigm also to SPACs.¹⁶³ The theory of optimal contracting in law and economics analyses the ability of parties to reach Pareto-efficient contractual equilibria,¹⁶⁴ and the extent to which market failures (in the forms of externalities, public good, market power and informational asymmetries) impede it.¹⁶⁵ Regulatory intervention in the form of material regulation or disclosure regulation is required to restore Pareto-efficient results, given the costs of regulation.¹⁶⁶

The empirical results from Section 4 can be analysed based on the regulatory regime under which AIM Italia SPACs work to try to interpret their comparative better efficiency with U.S. SPACs. We are clearly aware that it is not possible to establish any kind of causal inference between our empirical results and the regulatory/contractual regime of AIM Italia SPACs. This is

¹⁶¹ Compared to the \$4.10 mean and \$5.70 median of Klausner, Ohlrogge and Ruan (2022).

¹⁶² As reported by Klausner, Ohlrogge, and Ruan (2022).

¹⁶³ Reddy (2023)

¹⁶⁴ For the different types of firms, see Hansmann (1996).

¹⁶⁵ We keep the traditional analyses of law and economics, based on perfect rationality of all actors. For a behavioral economics approach to the regulatory environment of SPACs, see Corrigan (2023).

¹⁶⁶ For a recent review, see Zamir and Ayres (2020).

the reason of why the following analysis has to be considered solely as an attempt to try to explain the better performance of AIM Italia SPACs when compared to the U.S. ones.¹⁶⁷ At the same time, we note that some of the regulatory proposals coming from the U.S. resemble some of the regulatory and contractual aspects of AIM Italia SPACs, so that our legal analysis of the empirical results analysis can be supported at least by the comparison with the proposed/reformed U.S. regulatory regime.¹⁶⁸

In essence, the SPAC incentive structure can be fruitfully analysed with respect to three main subjects, i.e. (i) the sponsor, (ii) institutional investors (i.e. sophisticated investors), (iii) retail investors, and in relation to at least two stages (a) IPO-stage, (b) de SPAC-stage. It is possible to apply the typical analytical paradigm contract vs regulation to the SPAC incentive structure by enumerating the following statements (in an apodictical, simple way).

Firstly, it is reasonable to assume that both sponsors and institutional investors know what they are doing both at the IPO stage and at the de-SPAC stage. This means that at the IPO-stage institutional investors can correctly price (and possibly discount) the contractual terms sponsors are proposing (in particular, the “dilution game”) and that at the de-SPAC stage institutional investors are also able to correctly price the terms of the BC.¹⁶⁹ Instead, the extent to which retail investors can correctly price the contractual terms at both stages is less reasonable. Retail investors are likely to suffer problems of asymmetric information at both stages. It follows that retail investors (i) at the IPO-stage, to the extent that retail investors are permitted to participate, should be able to also understand the dilution game sponsors are proposing, (ii) while at the de-SPAC stage they should be able to understand the merits of the BC proposal.

¹⁶⁷ Together with the factors discussed in the text, we furthermore suggest for further analysis other aspects that may influence the better empirical results of AIM Italia SPACs: (i) the role of independent directors in deciding about the business combination, (ii) the role of the Nominated Advisor (Nomad), (iii) the reputational element of Italian sponsors particularly for repeated SPACs, (iii) the two stages attribution of warrants as a balance between the blank check at the IPO stage and loyalty bonus at the de-SPAC stage.

¹⁶⁸ We refer to the limit of redemption rights as proposed by Rodrigues and Stegemoller (2021).

¹⁶⁹ We do not discuss the question of the necessity to provide mandatory disclosure at the IPO stage and at the de-SPAC stage, or in other words whether mandatory disclosure is necessary to protect in general investors and also sophisticated investors; on this question, see Corrigan (2023), p. 3.

In other contexts of securities regulation, before regulation is invoked to correct the market failure given by asymmetric information, the analysis points to the possible alignment of interest between institutional investors and retail investors. In other words, the question becomes the extent to which the action/behaviour of institutional investors causes a positive externality in terms of protection of retail investors: retail investors can free ride on this positive externality that protects them instead of regulation. For normal companies, this is typically the case both, (i) in normal IPOs where institutional investors price the IPO company in the bookbuilding procedure and retail investors can free ride on this pricing activity,¹⁷⁰ and (ii) in the secondary market where the pricing activity of sophisticated investors continuously incorporate new information through the ECMH and retail investors can free ride this pricing activity through the Fraud on the Market Theory.¹⁷¹ In these cases, disclosure regulation is supposed to be sufficient to solve the agency problem between the company/managers and institutional investors, so that retail investors free ride on institutional investors because their interests are (almost) aligned.

The SPACs context differs both at the IPO stage where the share price is always fixed (e.g. \$10 or €10) so that institutional investors cannot influence the price but can adjust only their demand,¹⁷² and at the de-SPAC stage where the share price in the secondary market fluctuates around the IPO offering price (depending on the redemption rights conditions, i.e. the cost/price of exit).¹⁷³ Furthermore, the typical alignment of interests between institutional investors and retail investors proper of normal listed companies at both stages may be not present, so that institutional investors can be a further problem for retail investors, who can be exploited both by the sponsors and by institutional investors. The question arises of what kind of regulation (material or disclosure) is required to solve the double agency problem retail investors can be subject to.¹⁷⁴

¹⁷⁰ Together with direct investor protection, this form of indirect protection is mentioned also by Corrigan (2023), p 6 and p 39.

¹⁷¹ In general, see Gohsen and Parchomovsky G (2006); Spamann (2022).

¹⁷² Given quantity and price of the shares at the IPO stage, since institutional investors cannot modify the price, they can only adjust their demand, so signalling their evaluation of the SPAC.

¹⁷³ The share price on the secondary market of a SPAC usually does not decrease under the price of redemption.

¹⁷⁴ Of course, this is not the place to analyze this extremely complex question. We furthermore note another possibility of protection for retail investors in terms of the rules on the conduct of business (in terms of suitability, appropriateness, conflict

With respect to the more limited object of this Article, a legal and law and economics analysis based on the current debate about possible solutions to the probable distort incentive structure of SPACs, shows for AIM Italia SPACs that material factors as well as disclosure rules seem to better align the incentive of sponsors and of investors: both institutional investors and retail investors, and that also the interest of institutional investors are better aligned with those of retail investors.

To begin with material factors, the following are important: (i) the condition of SPAC shareholders' approval of the business combination and that the sponsors/*promotori* do not participate in this voting, (ii) the limitation of around one third of exercisable redemption rights (in the form of withdrawal rights) as a condition for the business combination, (iii) the redemption value which is lower, equal but never higher than €10, as well as (iv) the fact that only non-approving shareholders can redeem their shares, are elements that differentiate the AIM Italia SPACs from the modern U.S. one.¹⁷⁵ In particular, the redemption right limit (up to about 1/3) and its availability only for non-approving shareholders appear to be a disciplining instrument which is invoked also by some U.S. scholars.¹⁷⁶ The redemption design probably is also useful for making institutional investors who participate in the SPAC-IPO in some way responsible for the validity of the proposed business combination, thereby forcing them to make a clear decision:¹⁷⁷ either voting against the BC and exercise the redemption right or vote in favour, signalling and certifying its quality.¹⁷⁸

of interests and product governance) as provided for by the complexity of the MiFIDII regulatory regime, which is outside the scope of this analysis.

¹⁷⁵ Looking at the 18 AIM Italia SPACs that have done BC, the average initial redemption was 10%, and the net redemption (after the exercise of the *diritto di opzione* by existing shareholders) only 6.8%. The combination between voting rights on the business combination, the unavailability for opposing shareholders to redeem their shares and the limit to redemption for the BC make the voting rights of shareholders "strong" as in the terminology of Martin (2022), p. 1258.

¹⁷⁶ Rodrigues and Stegemoller (2021); Rodrigues and Stegemoller (2022), p. 40 in relation to the upper limit to redemption to permit the business combination. See also Reddy (2022), p. 35 for the UK.

¹⁷⁷ Redemptions higher than the permitted limit of about 30% were the reason of liquidation for Capital for Progress 2 listed in 2017 and SPACTIV listed in 2017.

¹⁷⁸ We assume that institutional investors take part in the shareholders meeting as active and decisive (and pivotal) shareholders because their transaction costs are lower than for retail investors who are generally apathic. We do not analyse in this Article the post-merger market and operational performance of the company resulting from the business combination so that the certification role of institutional investors can be only *ex ante* presumed but not *ex post* verified, as Rodrigues and Stegemoller (2022), p. 38, find positive premiums for SPACs with redemptions up to 25%. Ganor (2021), p. 411 analyzes the pros and cons of institutional investors behaviour in the decision about the de-SPAC transaction and its interrelation with retail investors' behaviour.

Retail investors can share the benefits of institutional investors' signalling and certification contribution of the business combination, so that their interests are presumptively better aligned at least with respect to the dilution coming from the sponsors' share (the conversion of *azioni speciali* of the SPAC into *azioni ordinarie* of the company resulting from the BC).¹⁷⁹

A different conclusion can be reached with respect to IPO-stage warrants where we hypothesize that they are more retained by institutional investors. In this case, the interests of institutional investors (both those voting against and those voting in favour of the BC) who convert their warrants into *azioni ordinarie* of the company resulting from the BC may no longer be aligned with those of retail investors who are subject to the warrant dilution: retail investors' losses are institutional investors' gains.¹⁸⁰ On the contrary, de-SPAC stage warrants (that characterize AIM Italia SPACs) to incentivise the approval of all investors (institutional and retail) of the business combination do not create a dilution effect and are favourable also to retail investors to the extent that they also exercise them.¹⁸¹

The extent to which disclosure regulation is able to solve the problems of SPACs (i.e. the dilution problems in terms of *azioni speciali* and IPO warrants to institutional investors) that do not permit a perfect alignment of interests between institutional and retail investors is difficult to assess.¹⁸² With respect to AIM Italia SPACs being an Alternative Trading Facility not subject to European prospectus rules, the only way to increase disclosure is to mandate more disclosure for regulated markets (as ESMA 2021 is suggesting), hoping that the same level of disclosure is then replicated also in ATF in a sort of emulating effect by mandated regulation. To be sure, also in the IPO Italian context it has been shown that the offering mechanism, sometimes creates misalignment of interests between the two categories.¹⁸³

¹⁷⁹ Spamann and Guo (2022).

¹⁸⁰ See for the mechanics of warrants Reddy (2022), p 21; Gahng, Ritter and Zhang (2023).

¹⁸¹ For the efficiency of a functionally similar warrant structure at the de-SPAC stage, see Martin (2022), p 1248.

¹⁸² Spamann and Guo (2022), p 7, are skeptical about the SEC (2022) proposals to increase disclosure about the "dilution mechanic" as an effective investor protection tool.

¹⁸³ On claw back clauses in Italian IPOs, see Boreiko and Lombardo (2011) and Giudici and Lombardo (2012).

Even if both dilution mechanisms of SPACs are quite precisely explained by the different AIM Italia SPACs documents provided by regulation and praxis,¹⁸⁴ the extent to which retail investors are able to effectively understand them can be at least doubted.¹⁸⁵ The interests of retail investors and institutional investors are more aligned with respect to the dilution coming from the *azioni speciali* in favour of the sponsors/*promotori* because of the cap to redemption necessary to approve the business combination as a major (positive) characteristic of AIM Italia SPACs.

There are basically two possible solutions to the separate trading of *azioni speciali* and the IPO warrants problem (granted only to institutional investors and less traded on the secondary market) that create the dilution of retail investors in favour of IPO institutional investors. The first solution would be to prohibit the separate trading of warrants,¹⁸⁶ while the second solution would be in terms of MiFIDII product governance, by limiting the trading of SPAC shares only to particular retail investors who are presumably aware of the dilution mechanism (the one coming from sponsors' *azioni speciali* and the one coming from institutional investors IPO-SPAC warrants) and who would trade also in IPO warrants to cover the risk of the second dilution.¹⁸⁷

6. Conclusions

This Article has provided a comparative (to their U.S. "cousins") picture of the regulatory framework of AIM Italia SPACs, answering three empirical questions, i.e. the institutional vs retail participation to SPACs, the SPACs cost structure and finally the long run performance of the listed entity resulting from the BC. Our results show that retail investors participate on the secondary market trading mainly on SPACs shares and to a lesser extent also in warrants. The cost structure

¹⁸⁴ But not as to include the calculation of the dilution in terms of net cash per share as proposed by Klausner, Ohlrogge and Halbhuber (2022).

¹⁸⁵ The literature on (prospectus) disclosure regulation points out this dimension, see Ben-Shahar and Schneider (2011). The extent to which narrative economics, on which see Maupas and Paugam (2021), p 17 influences retail investors, is also difficult to assess.

¹⁸⁶ See also Reddy (2022), p 36.

¹⁸⁷ The product governance solution is one of the several as proposed by ESMA (2021). See also Rodrigues and Stegemoller (2022), p 44 for retail investors' qualification to buy only particular financial instruments in the U.S.

of AIM Italia SPACs results less burdening and the long run performance is better than the U.S. one. Short reflections for policy implications are provided for material rules and disclosure rules.

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Appendix 1

The following SPACs were listed on AIM Italia and proceeded either to a Business Combination (BC) or were liquidated:

- Made in Italy 1 listed on 27.06.2011 BC with SESA spa;
- Industrial Stars of Italy listed on 22.07.2013 BC with LuVe spa;
- GreenItaly1 listed on 27.12.2013 BC with PrimaVera spa;
- Capital for Progress 1 listed on 04.08.2015 BC with GPI spa;
- GlenaltaFood listed on 10.11.2015 BC with Orsero spa;
- Industrial Stars of Italy 2 listed on 27.05.2016 BC with SIT spa;
- Innova Italy 1 listed on 19.10.2016 BC with Fine Foods spa;
- Crescita listed on 15.03.2017 BC with Cellularline spa;

Glenalta listed on 19.07.2017 BC with CFT spa;
Sprint ITALY listed on 21.07.2017 BC with SICIT spa;
EPS listed on 01.08.2017 BC with ICF spa;
Capital for Progress 2 listed on 04.08.2017 liquidated;
SPACTIV listed on 27.09.2017 liquidated;
Industrial Stars of Italy 3 listed on 19.10.2017 BC with Salcef spa;
IDeaMI listed on 11.12.2017 liquidated;
SPAXS listed on 01.02.2018 BC with Banca Interprovinciale;
ALP.I listed on 01.02.2018 BC with Antares Vision spa;
VEI 1 listed on 27.02.2018 liquidated;
Life Care Capital listed on 07.03.2018 liquidated;
Gabelli Value for Italy listed on 20.04.2018 liquidated;
Archimede listed on 21.05.2018 BC with Net Insurance;
THESPAC listed on 02.08.2018 BC with FranchiUmberoMarmi spa;
REVO listed on 26.05.2021 BC with Elba Assicurazioni spa;
Industrial Stars of Italy 4 listed on 08.07.2021 BC with Sicily by Car.

Appendix 2

Made in Italy 1/Sesa spa moved to MTA on 22.10.2013;
Industrial Star of Italy/LuVE on 21.06.2017;
Capital for Progress 1/GPI on 28.12.2018;
GlenaltaFood/Orsero on 23.12.2019;
Industrial Stars of Italy 2/SIT spa on 28.11.2018;
Innova Italy 1/Fine Food Pharmaceutical on 12.07.2021;
Crescita/Cellulireline on 22.07.2019;
Sprint Italy/Sicit 2000 on 15.06.2020;
Industrial Stars of Italy/Salcef Group on 22.12.2020; SPAXS/Banca Illimity on 05.03.2019;
ALP.I/Antares Vision on 14.05.2021.
N.B. Glenalta/CFT was delisted on 22.03.2021.

Appendix 3

1. Dilution of value of SPACs' shares: what it is

The recent SPACs frenzy has attracted a lot of attention and has created a general opinion that investing in them is an ever-winning strategy. Like cryptocurrency investments, the media creates a picture of potential spectacular low risk returns. Indeed, the SPAC investor can buy the share in the secondary market and, should the business combination come off, become an investor in the new public company whose shares possibly appreciate. Should something go wrong, investors can redeem the shares at their nominal value, and as a result protect themselves against downside risks. Moreover, in Italy, in the case of a successful business combination, investors who have not redeemed the shares also receive some additional warrants (namely de-SPAC warrants) that will be converted into common shares (*azioni ordinarie*) and more profit.

This rosy picture of a free lunch was heavily criticized recently by some scholars who claimed that those investors who keep the SPAC shares may end up with losing more than one half of their investment.¹⁸⁸ For their sample, they showed that the net cash value of a ten-dollar SPAC share of the investor who keeps it beyond merger is merely 4.10 mean and 5.70 median dollars. How is it possible to have the value of the share that is traded at a price around 10 dollars but in reality to be backed only by 4.10 dollars of cash in the company account on average? Let us look at a simplified example. We will hypothesize that there is a SPAC with 100 shares, each allocated at the IPO stage to investors who each paid 10 Euro. As an owner of one share, the investor owns one percent of SPAC's assets worth 1000 Euro, or 1000 Euro divided by 100 shares equals to 10 Euro. In this baseline case we have no dilution whatsoever.

The dilution might come in two ways: first, the assets of the firm might be reduced due to costs and expenses – in this case the upper part of the ratio (1000 Euro) goes down. If the costs of listing SPAC and merging with a target are 50 Euro, then the net cash value of a share will not be 10 Euro, but $(1000-50)/100$ or 9.5 Euro. Here the investor suffers the loss of 50 cents per share, or a dilution of 5%. The assets of the SPAC might go up due to cash contribution by other parties, such as sponsors, who at the start of the SPAC invest their capital. If sponsors contribute 20 Euro without receiving shares, then the net cash value per share is higher – $(950+20)/100$ or 9.7 Euro and net dilution, correspondingly, is lower – 3% only.

¹⁸⁸ See Klausner, Ohlrogge and Ruan (2022).

Second, even though there might be no expenses or costs, the dilution might still occur if the SPAC issues additional shares (shares dilution) and our investor participates in these capital issues. If the SPAC issues shares to sponsors for free, let's say 20 shares, then the net cash value per share will be $1000/(100+20)$ or 8.34 Euro and there is a dilution of 16.6%. A similar thing happens if the SPAC has not only the shares, but also the warrants outstanding (warrants dilution), that give the right to the owners to buy the shares at nominal amount. Assuming the SPAC has issued 50 warrants and 100 shares and that each 5 warrants can be and will be converted into 1 share at a price of 10 cent per share, the owner of only one share and no warrants will see the net cash value per share to go down to $(1000+10*0.1)/(100+10) = 9.1$ Euro or dilution of 9%.

Third, the investors in the SPAC can redeem their shares at 10 Euro before the merger. Per se, *ceteris paribus*, there is no dilution in this case because if 30 shares are redeemed at 10 Euro each, the cash assets of the firm go down to 700 Euro, but the outstanding shares number goes down to 70 and net cash value per share is still $700/70 = 10$ Euro. However, if there are other dilution components of the first (shares dilution) or second type (warrant dilution), then share redemption does have an effect. Assuming the same 30 per cent share redemption and SPAC costs of 50 Euro, the net cash value per share will be $(1000-50-300)/70$ or 9.29 Euro or 7.1% dilution. Compared to pure costs dilution of 5%, share recession redemption amplifies it considerably.

2. A concrete example: the costs structure of the 'The SPAC' SPAC

The average AIM Italia SPAC of our sample has all three of the dilution structure cost components (a+b+c) plus redemption costs (in the form of right of withdrawal) (d), which together might have a considerable impact on the value of the share bought by an inexperienced retail investor. Before reporting the average cost structure dilution statistics of the SPACs in our sample, we look at a recent AIM Italia SPAC in Italy – the firm with a characteristic name 'The SPAC' that was listed in 2018, raising 60m Euro and in 2020 merged with Franchi Umberto Marmi S.p.A. To analyze the SPAC cost structure (a+b+c+d) we employ a payoff chart often used in studying derivative financial instruments. Such a chart shows the value of the share on the

horizontal axis and the corresponding payoff (in our case the net cash value per share) on the vertical axis.

If there are no structural costs whatsoever, the net cash value per share is always 10 Euro and in Figure 7 this is shown by a horizontal line crossing the vertical axis at 10 Euro – ‘The SPAC’ has collected 60m Euro and issued 6m shares (60/6). The first cost component [(c)] we analyze here is given by the fees and expenses of listing the SPAC, finding the target and merging with it. The admission prospectus says that the estimated sum of such expenses and fees are 2,0325m Euro and they are the same whatever happens to the SPAC’s share price. The net cash value per share with the cost of type (c) is a horizontal line crossing the vertical axis at $(60 - 2.0325)/6 = 9.66$ Euro or total costs of 3.4%.

As mentioned, the cost structure of a SPAC can be exacerbated by the exercise of redemption rights which subtract money from the SPAC at the disposal for the BC (type cost (d)). Prior to merging, the SPAC communicated that the total of 1,622,700 shares were submitted by investors to be withdrawn at a fixed price of 9.9 Euro. Some shares were bought by existing shareholders (*diritto di opzione*) and the net withdrawn shares equaled 1,601,675 (26.7%) at 9.9 Euro or 15.857m Euro and these were returned to the shareholders. The numerator of the net cash value per share is reduced by this amount and the denominator by the number of withdrawn shares. As a result of the fees and expenses (c) and share recession redemption (d) components, the net cash value is 9.62 Euro or total costs of 3.8%.

Another component of costs is given by the dilution which occurs from compensation to the sponsors for setting up the SPAC and taking on all organizational risks albeit aware of the realistic possibility of not finding the right target, of not having the deal approved, and of losing their initial investment [special shares dilution costs, i.e. type (a) costs]. Sponsors invest initial SPAC capital and, in many cases, contribute resources alongside the IPO SPAC investors. As mentioned, to compensate for their costs and demonstrate their commitment to bring the SPAC to a successful merger, the sponsors buy special shares of the SPAC that are not traded, are locked-up and cannot be alienated. These special shares can be converted into common shares (*azioni ordinarie*) of the company resulting from the business combination, only following the successful merger and conditional on certain share price appreciation. Such a conversion is not

dilutive if special shares are converted at a rate of one-to-one. However, such a conversion is usually the safety net if the business combination is not successful as manifested in the depressed share price of the new combined entity. The sum of funds invested less potential share dilution due to conversion (a) is the first cost component, called 'net promote'.¹⁸⁹ Important to note that the sponsors sometimes participate in the IPO by also buying the common shares (*azioni ordinarie*). In this case there is no dilution, and the investment does not impact net cash value of the SPAC (IPO and secondary market) investors. For example, the sponsors together buy 800,000 ordinary shares in our case for 10 Euro each or subscribe to the 13.3% of the IPO funds collected by the SPAC.

Apart from buying the ordinary shares, the sponsors have contributed 100,000 Euro to the initial share capital of the SPAC and have bought 201,000 special shares at 10 Euro each. As a result, the sponsors have invested 2,110,000 Euro that are the funds added to the net cash value per share whatever the price of the SPAC shares will be in the future. In return they receive 211,000 special shares of the SPAC that are converted into ordinary shares of the merged entity by tranches.¹⁹⁰ In our case, there are 4 tranches, and the sponsors convert 35% of all special shares *each into six ordinary ones* (one-to-six conversion rate) if the merger is successful (i.e. around the time of the BC),¹⁹¹ 25% - if the average monthly price is above 10.99 Euro, 20% more if the price goes above 12 Euro, and the remaining 20% if the price will be above 13 Euro. If within 36 months these milestones are not met, the special shares are converted into ordinary ones without dilution or one-to-one. In the case of 'The SPAC' the merger came through on 1st October 2020, but the share price has never gone above 11 Euro to be converted and there are still 10 months to wait to see whether the share price will go above any of the milestones¹⁹². As a result, the sponsors have converted 73,500 special shares into 443,100 common shares (*azioni ordinarie*) and still have 137,150 special shares outstanding. However, Figure 7 is a theoretical picture of potential dilution if the share price reaches the abovementioned milestones, and

¹⁸⁹ See Klausner, Ohlrogge and Ruan (2022).

¹⁹⁰ As earnouts in the classification of Klausner, Ohlrogge and Ruan (2022), p 47.

¹⁹¹ The usual period is after seven days after the effectiveness of the BC. According to the *documento di ammissione* of The SPAC (p 79), 35% of the azioni speciali are converted after 7 days of the date of effectiveness of the BC, "nella misura di un numero di Azioni Speciali pari al 35% del loro ammontare complessivo nel caso di perfezionamento dell'Operazione Rilevante e decorso il 7° (settimo) giorno di borsa aperta successivo alla data di efficacia dell'Operazione Rilevante".

¹⁹² As at 31 December 2023.

therefore for each share price we plot the dilution resulting from the exercise of the relevant tranches. The numerator is increased by 2,110,000 Euro and for the share price up to 11 Euro, the denominator goes up by 443,100 shares, by 759,600 for the share price up to 12 Euro, and by 1,012,800 up to 13 Euro, and by 1,266,000 shares in case of the full conversion when the average monthly share price reaches 13 Euro.

The last cost component is the potential dilution due to warrant exercise (b). As mentioned, AIM Italia SPACs typically provide for IPO stage warrants as well as de-SPAC stage warrants to incentivize the approval of the business combination by the shareholders' meeting. On average considering both the IPO and de-SPAC stage, which characterize our 24 AIM Italia SPACs, one warrant is issued for each 2 ordinary shares and if the average monthly share price is above the strike price (normally around 9 – 9.5 Euro), then the owner has the right to convert it into a fraction of the share for the nominal purchase price of 10 cents. The higher is the average monthly market price, the fewer warrants are needed to have the right to buy one share. However, the sponsors limit the potential gains of warrant owners and almost always provide for an acceleration clause that forces the conversion of the warrants should the market price go above a threshold (usually 13 Euro). If a retail investor buys a share, he should be aware that the net cash position of the firm might be divided into many more shares that will be issued under potential warrant conversion. The situation is alleviated by the fact that the owner of the SPAC shares receives 60% of all warrants issued to him if he owns the SPAC share at the time of the business combination (de-SPAC stage warrants). Therefore, the long-term retail investors in SPACs do not face such a drastic dilution as those who buy the shares after the business combination.

'The SPAC' strike price is 10.5 Euro and so far, the monthly average price has not reached this figure so meaning no warrants can be converted into ordinary shares. However, the potential dilution is not zero and, if, for example, the average price reaches 11 Euro, the warrants can be exercised and the investors can buy one share at 0.1 Euro each by submitting 29.79 warrants (the conversion rate is usually determined by the formula $(\text{Average price} - \text{strike price}) / (\text{average price} - 0.1)$). Given that this SPAC has issued 1,200,000 warrants at the time of the IPO (IPO-stage warrants: 0.2 warrants for each SPAC share) and 1,319,498 warrants after the business

combination (de-SPAC stage warrants: 0.3 warrants for each SPAC share outstanding net of redeemed shares) at the price of 11 Euro, a maximum of 115,645 shares could be issued and 11,564.5 Euro received by the SPAC if all warrants are converted, at the price of 12 Euro – 317,584 shares, and at the price of 13 Euro – 488,275 shares. If the average share price goes above 13.5 Euro (acceleration price), then the warrants are forcefully converted and non-submitted warrants are cancelled. Therefore, for any price above 13.5 Euro, the maximum number of shares that can be issued is 564,116 shares.

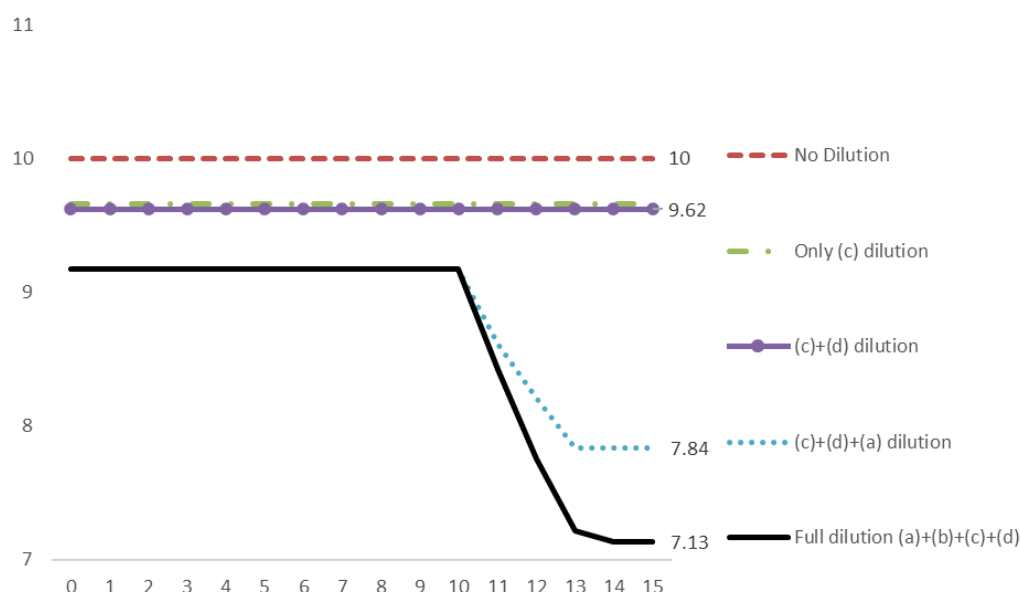


Figure 1. SPAC share dilution and structural costs for various levels of the share price. (a) is the dilution costs caused by the *azioni speciali* (i.e. the sponsor promote), (b) is the dilution costs caused by warrants given to investors at the IPO stage and de-SPAC stage, (c) is the dilution due to underwriting fees + BC fees costs. (d) is the redemption rights component.

Figure 1 shows for 'The SPAC' that the main structural costs are given by the two dilution components, namely the 'net promote' of the sponsors [i.e. costs (a), *azioni speciali* of the SPAC converted into *azioni ordinarie* of the company resulting from the BC] and warrants conversion [costs (b)]. The minimum dilution is 8.26% when the 'The SPAC' share price does not break through 11 Euro and the maximum dilution is 28.67% when the price goes above 13.5 Euro. Loss of almost one third of the net cash position might seem an excessive burden for a retail investor, however this happens only when the share value appreciates considerably, thus compensating

the investor for potential dilution losses. In other words, the dilution effect of the *azioni speciali* and the warrants is alleviated by the increase of the share price. Figure 2 plots the value of the share with and without full dilution to see the relative effect for investors. The figure shows that the sponsors and warrants owners ‘expropriate’ all the benefits when the ‘The SPAC’ share appreciates in value. Considering the full possible costs of dilution, retail investors in ‘The SPAC’ shares break-even on their investment only if the price goes above 14 Euro (40% gain).



Figure 2. SPAC share dilution for various levels of the share price.

Summing up, the cost structure for ‘The SPAC’ as qualified in terms of (a) the dilution costs caused by the *azioni speciali* (i.e. the sponsor promote) + (b) the dilution caused costs by warrants given to investors at the IPO stage and de-SPAC stage + (c) underwriting fees + BC fees costs + (d) redemption costs, we reach the following results – the effective net cash per share (the value that remains after accounting for total costs) is 9.17 Euro,¹⁹³ while the full theoretical (i.e. considering full exercise of *azioni speciali* and warrants) net cash per share is 7.13 Euro.

¹⁹³ Compared to the \$4.10 mean and \$5.70 of Klausner, Ohlrogge and Ruan (2022).

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