Abstract—In recent years, crowdfunding has experienced accelerated growth around the world, and it has become a new form of social and financial innovation for new businesses ideas that might be unable to get traditional financing. As a social capital for innovations, crowdfunding has led to the creations of new funding models and business logic for startups. Currently, the major types of crowdfunding models encompass rewards, donation, equity, and debt/leading models. The boom of crowdfunding could be attributed to the emergence of the collaborative economy.

Despite its popularity in practice, crowdfunding needs further academic research to fill its research gap. Hence, this paper conducts a cross-national comparison of the equity crowdfunding mechanisms and focuses on regulatory environments by analyzing several equity crowdfunding platforms respectively in the U.S., the U.K., Israel, China, and Taiwan. Through secondary qualitative study, the result reveals that three of the five countries we study (the U.K., Israel, and Taiwan) authenticate the equity crowdfunding to the general public whereas this type of investment is still limited only to accredited investors in the U.S. and China. It is concluded that equity crowdfunding is an alternative capital raising model that will grow and is beneficial for social innovation in the future.

I. INTRODUCTION

Entrepreneurship is one of the major forces to advance the progress of the economy and society. When an entrepreneur attempts to turn an idea of business into reality, one of the resources he may need to obtain from others is capital for establishing and growing the business. Traditional financing sources include funds from 3Fs (family, friends, and fools), bank loans, and venture capitals investments, and so on. But the realities are that banks are often reluctant to lend money to startups and that the chance to raise capital from venture capitalists is quite low. To fill this gap, crowdfunding appears to increase the opportunity for an entrepreneur to raise capital for their ideas by campaigns without the use of traditional financial intermediaries [1].

The concept of crowdfunding is to use small amounts of capital from a large number of individuals to finance new startups, and it is regarded as a form of alternative finance. In recent years, crowdfunding has experienced accelerated growth around the world, and it has become a new form of social and financial innovation for new businesses ideas that might be unable to get traditional financing, such as loans or venture capital investment.

According to 2015CF–Crowdfunding Industry Report [2], global crowdfunding experienced accelerated growth in 2014, reaching $16.2 billion raised, and is expected to achieve $34.4 billion. The strong growth was partially due to the rise of Asian crowdfunding, which grew by 320% and reached $3.4 billion raised. Asia has become the second-biggest region by crowdfunding volume, slightly ahead of Europe, while North America was the lead in crowdfunding volume, growing by 145% and raising a total of $9.46 billion.

Currently, the major types of crowdfunding models encompass rewards, donation, equity, and debt/leading models. The boom of crowdfunding could be attributed to the emergence of the collaborative economy. Despite its popularity in practice, crowdfunding needs further academic research to fill its research gap. Hence, this paper conducts a cross-national comparison of the development of equity crowdfunding respectively in the U.S., U.K., Israel, China, and Taiwan.

II. LITERATURE REVIEW

Crowdfunding is a new form of financing in recent years and its definition still varies. According to the Security Exchange Commission (SEC), crowdfunding is defined as “a new and evolving method to raise money using the Internet.” Crescenzo and Pichler [3] further identify three essential features of crowdfunding: (i) a business idea/project that requires funding; (ii) many investors, or backers, willing to contribute to realize the business or project; and (iii) the online platform should connect investors/backers and entrepreneurs. To sum up, crowdfunding is an intermediary platform that links the investors and entrepreneurs to act as an alternative financial form for a startup or project.

Crowdfunding has become a new form of social and financial innovation for new business ideas, and currently it can be distinguished between equity-based, credit-based, donation-based, and reward-based crowdfunding [4]. Kuti and Madarasz [4] further identify the advantages and disadvantages of crowdfunding, claiming that while crowdfunding can act as not only a platform for funding but also social media and communication with potential customers or audience, the benefits of crowdfunding could be impaired by information asymmetry between supporters and clients. This is especially obvious in the case of equity-based crowdfunding and thus its disclosure and regulation are often challenging.

Equity-based crowdfunding is a form of financing in which entrepreneurs sell a specified amount of equity or bond-like shares in a company through the Internet, to attract small investors who typically do not have the ability to research and assess potential investments [5]. There are several issues regarding the mechanism of equity crowdfunding. First of all, the existence of information asymmetry still prevails between entrepreneurs and investors, and this should be ameliorated by the platform. Second, the
motivation that drives entrepreneurs and investors to use equity crowdfunding over other resources is not clearly understood yet. Third, some think there could be opportunities for fraud activities in the equity crowdfunding platform, but Freeman [6] argues that “the influence of community” would reduce the rate of fraud because of crowd wisdom. Finally, Thomas [7] indicates that equity crowdfunding allows unaccredited investors to participate in an exempt offering from those ventures that require capitals, and this enables small firms to raise external capital besides traditional financing.

According to Freeman [6], the objectives of the crowdfunding intermediary platform include (i) to unite entrepreneurs with investors, (ii) to announce equity offerings and disclose risks and deal terms, (iii) to enable potential investors to collaborate with one another on deal selection and due diligence, and (iv) to facilitate investment transaction. Freeman further illustrated the regulatory transformation in the United State, and from his study it can be found that the US government has been reducing the restrictions on security transaction since 2013, with Rule 506(c), Regulation A, Intrastate Equity Crowdfunding, and Title III Equity Crowdfunding, and it should be noted that equity crowdfunding is not fully legalized in the United States yet. The issues concern equity crowdfunding mainly consist of the amount of raise limit per year, investor status (accredited only or all investors), investment limit, and the requirement of intermediary. Noticeably, Title III Equity Crowdfunding specifies the requirement of online portals as the intermediary, and this highlights the importance of delicate design of the online transaction mechanism.

Equity crowdfunding differs from traditional financing models such as angel investors and venture capital investment since transactions are intermediated by an online platform, and the platform might play either an active or passive role regarding screening and evaluating startups, the process during investment, and post-investment stages [8]. The role of the online platform is critical because the risks involved in the early-stage investment. Crowd investors might lack the expertise and skills to perform adequate due diligent and to perform company valuation. Furthermore, equity investment might require tailored contracts to align the interests of the entrepreneur to those of the investor, so it could be an issue for the online portal to offer such customized contracts.

Based on Wilson and Testoni’s study [8], we conclude that equity crowdfunding could be analyzed from the perspectives of crowd investors, the online intermediary platforms, and the entrepreneurs/businesses, under the constraint of regulatory environment, shown as Figure 1. The key issues for the three entities are summarized in Table 1.

<table>
<thead>
<tr>
<th>Role</th>
<th>Key Issues</th>
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<tbody>
<tr>
<td>Crowd Investors</td>
<td>• Incentives for investment</td>
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<td></td>
<td>• Rate of return and success</td>
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<td></td>
<td>• Information asymmetry</td>
</tr>
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<td></td>
<td>• Illiquidity of the investment</td>
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<tr>
<td>Online Platforms</td>
<td>• Enough amount of good businesses for investment</td>
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<td></td>
<td>• Suitable operational costs</td>
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<td></td>
<td>• The number of users</td>
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<td></td>
<td>• Competition between platforms</td>
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<tr>
<td>Entrepreneurs</td>
<td>• Incentives to disclose business ideas</td>
</tr>
<tr>
<td></td>
<td>• Protection of intellectual properties</td>
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<td></td>
<td>• The capital structure and controlling power</td>
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<td>of the startup</td>
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</table>

Source: Adapted from Wilson and Testoni [8]

In this article, it should be noted that equity crowdfunding refers to a mechanism or platform of private equity investment that is open to the general public, not just to accredited investors. Accredited investors are those investors who are financially sophisticated and have a reduced need for the protection provided by certain government filing. The principal purpose of the accredited investor concept is to identify persons who can bear the economic risk of investing in these unregistered securities [9]. Moreover, different countries have their own regulatory criteria for the definition of accredited investors. Accredited investors already exist in the conventional private equity (PE) market, so we don’t regard a platform catering only to accredited investors as an equity crowdfunding platform. Namely, an equity crowdfunding platform should be accessible to the general public.

III. CROWDFUNDING IN THE GLOBE

A. The United State

The market for private investment on equity has been active and popular in the United State, but the non-accredited crowdfunding platform is still not legalized by the Securities and Exchange Commission (SEC) [10]. Currently, only the licensed platform is permitted and it allows individual who may claim $200,000 per annum in salary or $1 million in net worth beyond their residence. Licensed platforms have begun flourish in the United States because of the technology deployed to solicit accredited investors and the ability to advertise (referred to as “general solicitation”). Examples of accredited platforms include CrowdFunder, FundersClub, SeedInvest, RockThePost, and CircleUp, etc. Several key
points of the Jumpstart Our Business Startups Act (JOBS Act) consist of the following [11]:

- A company will be able to crowdfund up to $1 million over a 12-month period.
- Individuals with annual income or net worth of less than $100,000 may invest up to $2,000 or 5 percent of their annual income or their net worth, whichever is greater, over a 12-month period. Individuals with annual income or a net worth of $100,000 or more may invest up to 10% of annual income or net worth, capped at $100,000 maximum aggregate amount, over a 12 month period.
- Investors can fund one company or several companies as long as they remain within these annual limits.
- Minimum Review & Checks: Companies that seek to crowdfund a securities-based round must have background checks done on all principles with 10% or greater ownership in the company and provide full and adequate disclosures with a business plan and a full description of their ownership and capital structure.
- Crowdfunding portals must, alongside the legally required background checks, must do a full review of the company, disclosures and the raise in order to approve a company prior to fundraising.
- An investor must wait a minimum of 12 months before selling her/his securities unless the sale is to a family member, the issuing company, or an accredited investor, in addition to other restrictions normally placed on the transfer of securities.

B. The United Kingdom

The equity crowdfunding is regulated in the United Kingdom. For the investment-based crowdfunding platform, it was regulated like any broker-dealer and must be licensed. The regulation puts limitation on equity crowdfunding platforms with regard to promotion and requires that platforms have a compliance director [12]. The company seeking funds must release a public prospectus, and no prospectus is required for investments up to € 5 million that involved fewer 150 non-qualified investors and any number of qualified investors or for investment that does not exceed €100,000 [11]. Under the regulation after 2014, those investors who certify in writing that the have not and will not invest more than ten percent of their net asset in a 12 months period can contribute their investment through the platform. The regulation in the U.K. achieves the objectives of risk disclosure and the expanded pool of investors.

In the United Kingdom, the equity crowdfunding is primarily dominated by two platforms—Crowdcube and Seedrs [13]. Despite their similarities as equity crowdfunding platforms, the two platforms still differ in two aspects. First of all, Seedrs focuses more on startup businesses to lower the amount raised while Crowdcube targets both startups and later-stage businesses. Second, Seedrs takes the nominee approach to hold the shares for the investors, representing the shareholder’s interests, whereas Crowdcube acts as just the intermediary role in that investors hold and control the shares and the relationship with the platform has ended upon the completion of a successfully crowdfunding offering. Both platforms have benefits from the tax subsidy of the UK government, which aims to stimulate the local economy, increase jobs, and to generate additional tax revenue.

C. Israel

Israel has become known as the Startup Nation and one of the most active entrepreneurial countries in the world due to a combination of a highly educated population, amenable tax laws, and its global approach in fostering its creative ecosystem [14]. Its Interim Report of the Committee for the Promotion of Investment in R&D Public Companies was published in 2013 and included a crowdfunding section. The main points related to equity crowdfunding contain the followings [15]:

- Issuer may raise up to NIS 2 million in 12 months in a crowdfunding campaign.
- Each investor may invest up to NIS 20,000 in 12 months and up to NIS 10,000 in a single investment.
- An individual with annual income over NIS 750,000 can invest up to 5% of his annual income, and up to NIS 15,000 in a single investment.
- An individual with annual income over NIS 1,500,000 can invest up to NIS 20,000 in a single investment, with maximum annual investment equal to the higher of 5% of his annual income or NIS 100,000.
- “Lead Investor” participation is required for at least 10% of investment amount.

One of the prominent equity crowdfunding platforms in Israel is OurCrowd. It is built for accredited investors to provide venture capital funding for Israeli startups, and membership in the community is vetted and offered only to people who meet the stringent accreditation criteria [14]. OurCrowd aims to offer a solution to the withering venture capital funds in early stage investment, to help investors avoid large management fees and carries generated from investing in venture capital funds, and to improve the efficiency of angel investments.

D. China

Crowdfunding in China is not mature compared with other relative mature markets mainly because of its lack of regulation, resulting in especially hard promotion on equity crowdfunding. Though the policy and regulation of equity crowdfunding remain uncertain in China, the China Securities Association issued tentative draft regulations on equity-based crowdfunding for discussion in December 2014 [16]. In this draft, the definition of “accredited investors” meets the following criteria:

- Investing at least RMB 1 million in a single project or
- Possessing net assets of RMB 10 million or

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invites accredited investors and they have to meet its criteria, they differ in some features. For example, AngelCrunch only invites accredited investors and they have to meet its criteria, while ziben365.com adopts a different business model that allows common people to invest in the project after an assessment process.

### E. Taiwan
Taiwan is the second country in Asia to implement the equity crowdfunding. To encourage the development if startups and small enterprises, the financial authority in Taiwan, Financial Supervisory Commission (FSC), passed related regulatory structure for equity crowdfunding in 2015. For the security broker who runs the intermediary platform, the minimum capital requirement is TWD 50 million with TWD 10 million as the deposit, and thus a license will be issued from the authority as permission for operation. The profit models of platforms are also limited to procedure fee from issuers and other services fee from issuers and investors. For companies to do fundraising, their criteria include: (i) the capital amount of the company is under TWD 30 million and (ii) the fundraising on all crowdfunding platforms in Taiwan is no more than TWD 15 million [17]. For non-accredited investors, the maximum investment for per project is TWD 50,000 and the maximum of investment in per platform is TWD 100,000 every year. To date, there are three equity crowdfunding platforms in Taiwan and the industry is still not very active.

### VI. ANALYSIS & DISCUSSION
Equity crowdfunding could be the most sophisticated form compared with other types of crowdfunding. It concerns issues regarding the information asymmetry between investors and entrepreneurs, the regulatory environment as either a supportive or constraint for its development, and the operational costs for the crowdfunding platform. These issues are intertwined, and thus it requires the government to establish the game rules and to coordinate the different interests among different parties. The regulatory structures of each country presented in this paper are summarized as Table 2. The complexity of equity crowdfunding results in the requirement of sophisticated design of regulatory structures to protect investors, but at the same time these regulations might increase the overall costs for equity crowdfunding and thus impede its development.
TABLE 2. THE COMPARISON OF REGULATORY STRUCTURES OF THE COUNTRIES

<table>
<thead>
<tr>
<th>Types of Investors</th>
<th>U.S.</th>
<th>U.K.</th>
<th>Israel</th>
<th>China</th>
<th>Taiwan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accredited investors only</td>
<td>• Accredited investors only</td>
<td>• Open to the general public</td>
<td>• Accredited investors only</td>
<td>• Open to the general public</td>
<td></td>
</tr>
<tr>
<td>Platforms</td>
<td>Licensed</td>
<td>Licensed</td>
<td>Licensed</td>
<td>Licensed</td>
<td>Licensed</td>
</tr>
<tr>
<td>Full review of the</td>
<td>Full review of the fundraising</td>
<td>Requirement of a</td>
<td>Capital requirement</td>
<td>Capital requirement &gt; TWD 50 million</td>
<td></td>
</tr>
<tr>
<td>company prior to</td>
<td>company prior to fundraising</td>
<td>compliance director</td>
<td>&gt; TWD 50 million</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fundraising</td>
<td>Limitation on promotion</td>
<td>Limitation on promotion</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fundraising Companies</th>
<th>U.S.</th>
<th>U.K.</th>
<th>Israel</th>
<th>China</th>
<th>Taiwan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 1 million over 12 months</td>
<td>• Up to 1 million over 12 months</td>
<td>€5 million every 12 months</td>
<td>NIS 2 million in 12 months</td>
<td>No more than 200 shareholders</td>
<td>Capital &lt; TWD 30 million</td>
</tr>
<tr>
<td>Amount of fundraising &lt; TWD 15 million</td>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

Note: Adapted from Steven (2014), Zhao (2015), Chen (2015), and U.S. SEC.

this trend will lead to the situation that people are able to invest in the innovation that is catering to their needs or that is able to improve their quality of life, and therefore equity crowdfunding could be regarded as a new social innovation tool that shapes the different landscape of economy in the future.

REFERENCES