



# ***Successor Selection in family firms: a game theory approach***

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## ***Presentation Outline***

- Introduction and aim of the paper
- Activist founder approach model
- Reactive founder approach model
- Results discussion
- Conclusions



## *Introduction and aim of the paper*

- Family firms is an area of research which has drawn rising interest given the impact and influence that such firms have on the economy worldwide (70%-90% of global GDP):
  - USA: over 80% contributing in 40% to GNP
  - UK: over 70% contributing in more than 50% employment
  - Portugal and Spain: 70% and 75% of all firms
  - EU: over 65% contributing over 40% employment.



## *Introduction and aim of the paper*

- The family is the underlining denominator of the family firm.
- The overlapping spheres of the family and business coexist in family firms (*familiness* concept – Habbershon and Williams (1999)).
- Founder's decision making is influenced by both these spheres and emotional values and noneconomic goals are present (such as family harmony/conflict and intergeneration continuity issues).



## *Introduction and aim of the paper*

- The ultimate challenge of the governance of family firms is the succession process, passing control from one generation to the next (Miller, Steier & Le Breton-Miller, 2003) – only 3 out of 10 family firms survive to the second generation and only 10% -15% live on to the third (Kets de Vries, 1993).



## *Introduction and aim of the paper*

- On the critical moment of the governance challenge of management succession in family firms, it is essential to secure intergenerational continuity and avoid jeopardizing family stability and harmony.
- Several instances of family conflict: Reliance Industries (India), Pritzker family (US),...



## *Introduction and aim of the paper*

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- Successor selection is a strategic decision making process characterized by the interdependence of both founder and potential successors. Two possible approaches:
  - Activist Approach (Michael-Tsabari and Weiss (2013)): founder proactively starts the succession process
  - Reactive Approach: founder reacts to the children's decision



## *Introduction and aim of the paper*

- Therefore, it is essential to adopt a methodology which accentuates an integrated strategic vision of successor selection, considers the role and interplay of the various factors influencing the successor selection (such as emotional factors) focusing on different founder's governance approaches and highlights the existent interdependencies.





## *Introduction and aim of the paper*

- Game theory makes it a forefront strategic tool to study the complex decision-making process related to successor selection since the outcome of a family member is dependent on the actions of the other family members.



## *Introduction and aim of the paper*

- Basic game theory concepts:
  - Players: family members
  - Strategies: action or decisions of the family members
  - Payoffs: family members utility and preferences
  - Perfect and Complete Information
  - Sequential games: backward induction technique
  - Non-cooperative games



## *Introduction and aim of the paper*

- The use of game theory is not novel in family firm succession analysis but is still at an embryonic stage (see Blumentritt, Mathews & Marchisio (2013); Michael- Tsabari & Weiss (2013); Mathews & Blumentritt (2015); Lee, Lim & Lim (2003); Burkart et al. (2003) and Bjuggren and Sund (2001), Jayantilal, Palacios and Jorge (2015 and 2016)).



## *Introduction and aim of the paper*

- This paper aims to extend the use of game theory in the field of family firm succession considering the non economic factors related to continuity and conflict (emotional benefits and costs are variables in the model) and governance approaches.
- Two succession games are modeled and the perfect Nash equilibrium outcomes attained under the two different founder's governance approaches.



**Research Strategy  
and Results**

## *Model and perfect Nash equilibrium*

- For the succession game we consider three players: the Founder/Father of the family firm (F), the Elder child (E) and the Younger child (Y).

**Research Strategy  
and Results**

# Model and perfect Nash equilibrium

- Payoff functions variables:

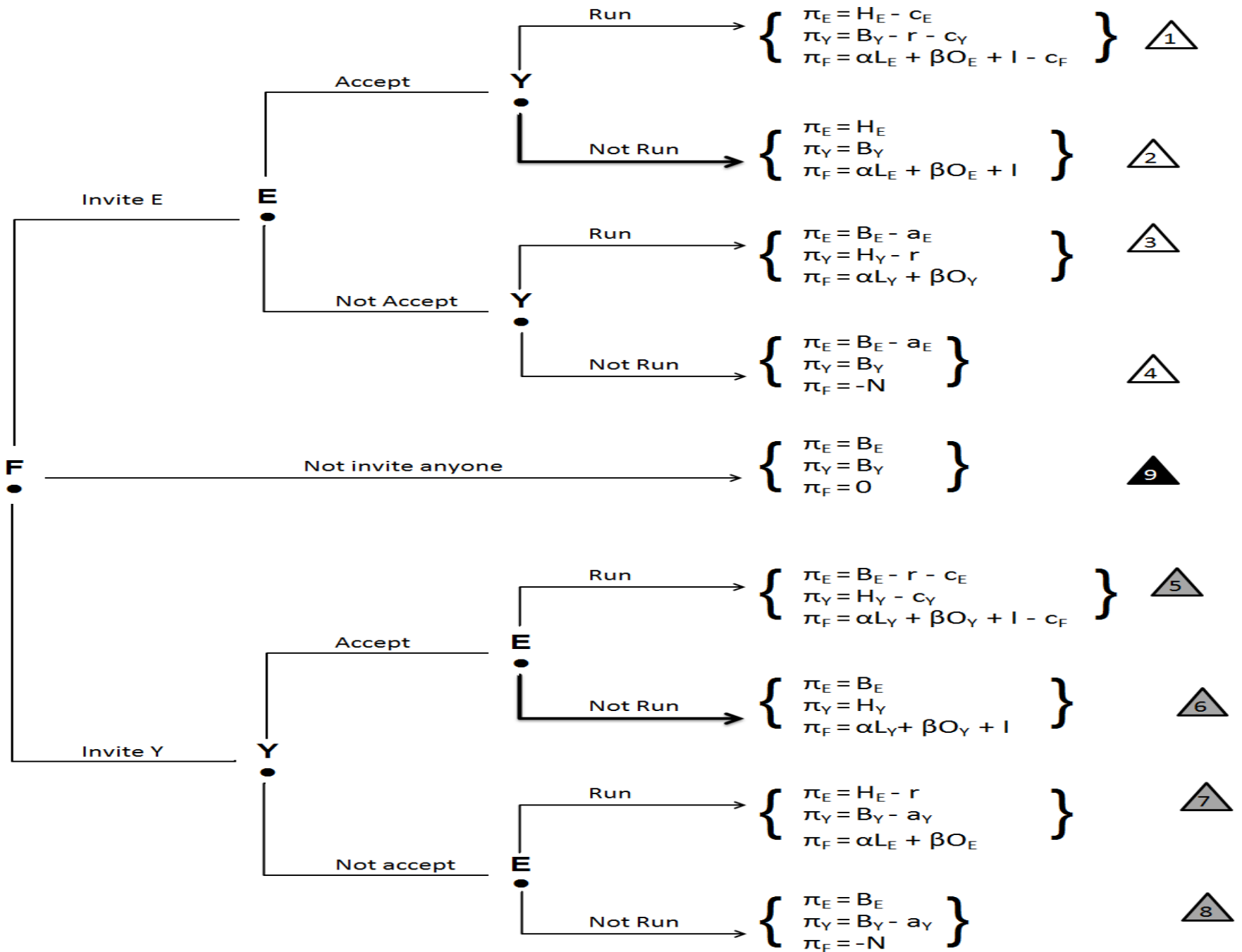
Variables	Represents	$i = \{E, Y\}$ $j = \{F, E, Y\}$	Conditions
$L_i$	Leadership Skills - Child's ability to head the family firm		$L_i > 0$
$O_i$	Family Orientation - Extent child values family serving attribute of the firm		$O_i > 0$
$\alpha$	Degree Father values the business sphere of the family firm		$\alpha > 0$
$\beta$	Degree Father values the family sphere of the family firm		$\beta > 0$
$H_i$	Value the child places in becoming successor and heading the family firm		$H_i > 0$
$B_i$	Value the child places in his best career option outside the family firm		$B_i > 0$
$c_j$	Emotional cost resulting from sibling rivalry		$c_j \geq 0$
$I$	Emotional benefit father has when the child he invites accepts		$I > 0$
$a_i$	Emotional cost child incurs for declining the father's invite		$a_i > 0$
$N$	Emotional cost father incurs when he proactively wants to move forward with the succession but none of the children are available		$N > 0$
$r$	Cost of running for top position		$H_i > r \geq 0$



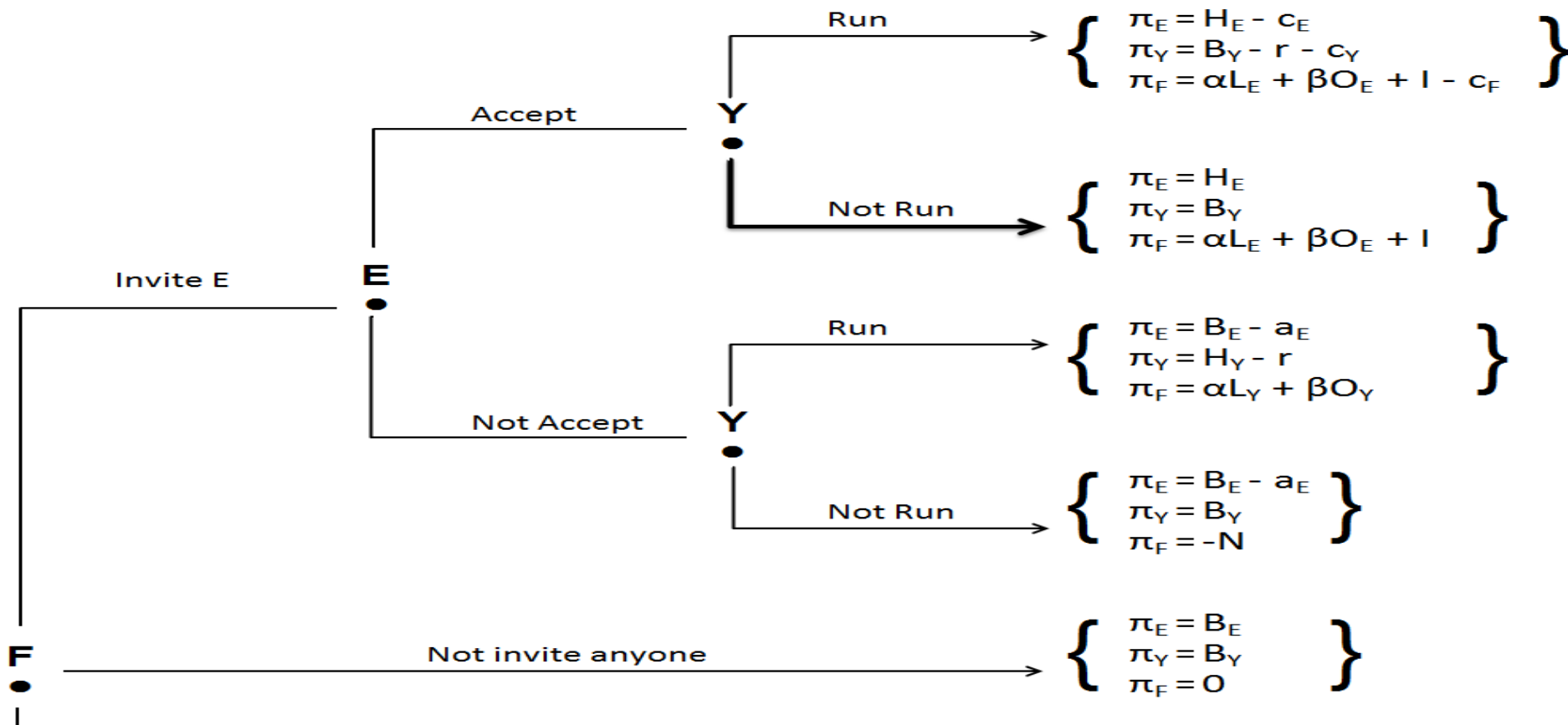
**Research Strategy  
and Results**

## *Activist Approach and perfect Nash equilib.*

- We setup a game where the Founder of the family firm (F) decides to invite or not his children, and then the Elder child (E) and the Younger child (Y) decide sequentially if they accept. If the child invited don't accept, the other child may decide to run or not for the succession. Therefore nine paths are possible.

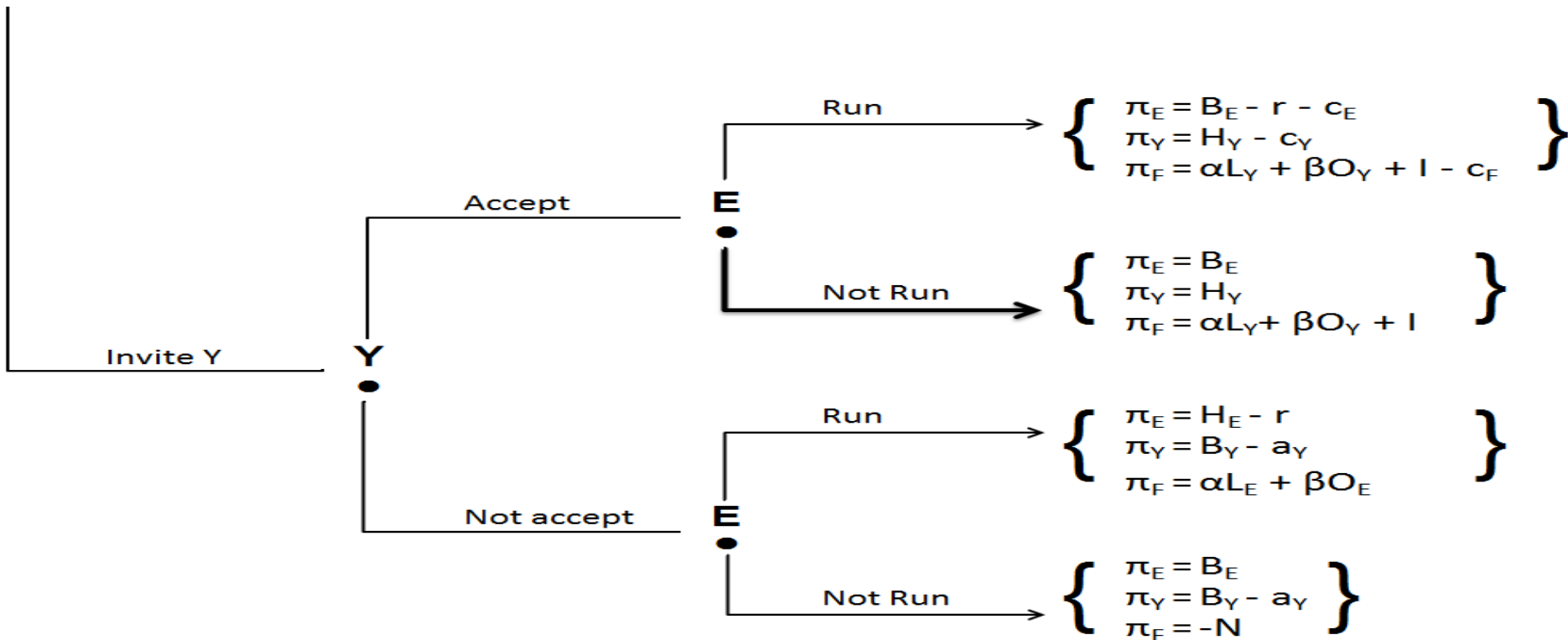








F

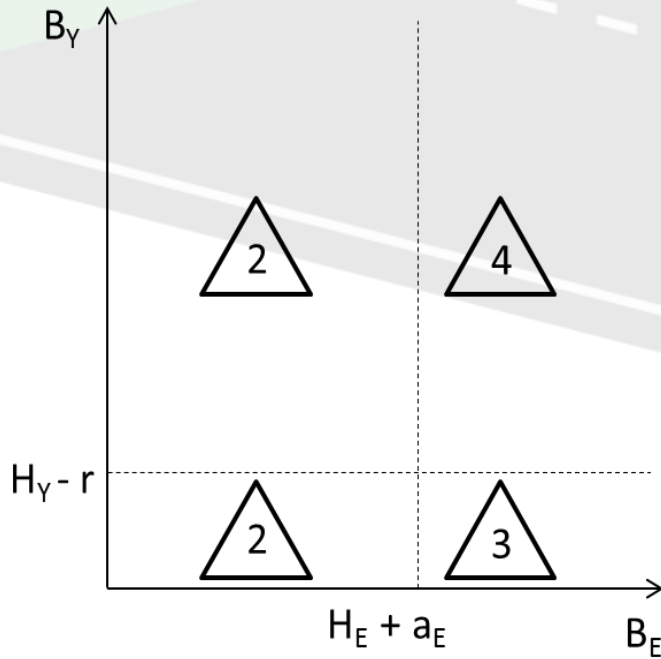




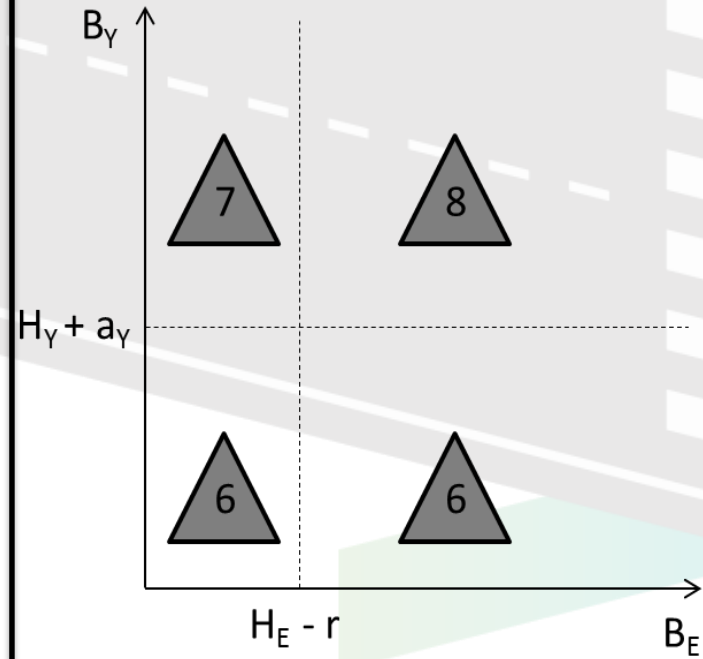
**Research Strategy  
and Results**

*Activist Approach and perfect Nash equilib.*

E decision after being invited:



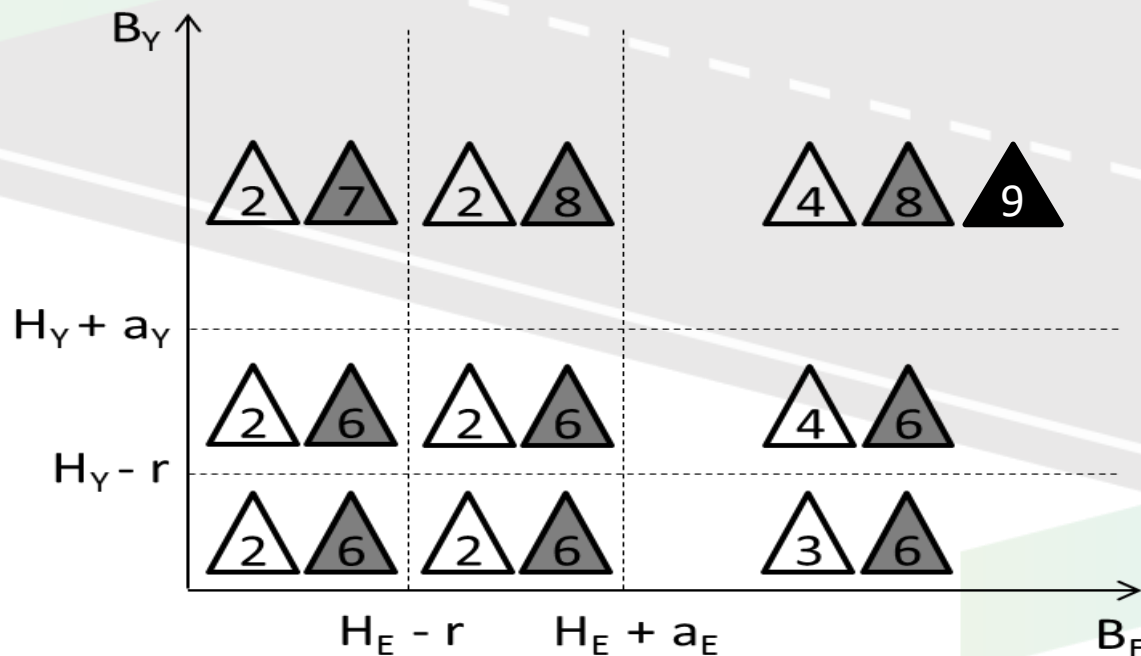
Y decisions after being invited:



**Research Strategy  
and Results**

*Activist Approach and perfect Nash equilib.*

- F faces:



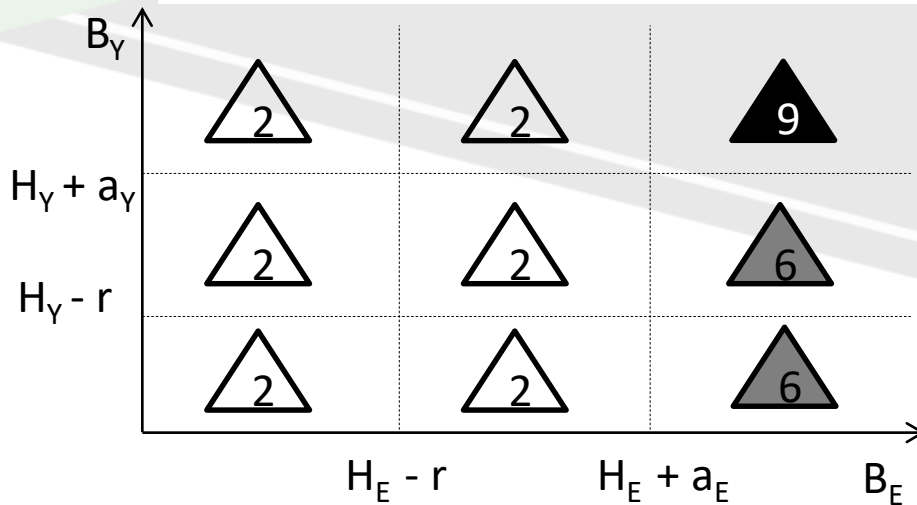


**Research Strategy  
and Results**

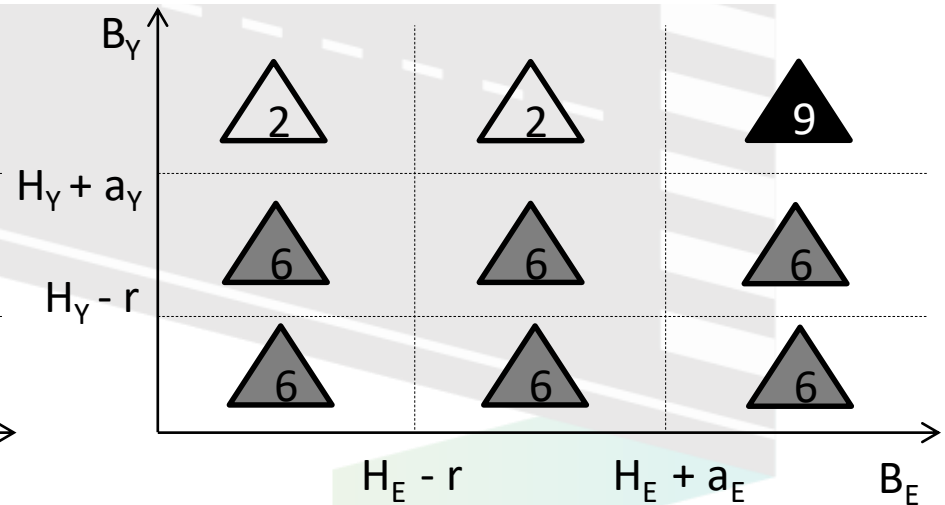
*Activist Approach and perfect Nash equilib.*

- F decisions:

Founder prefers business dimension



Founder prefers family dimension

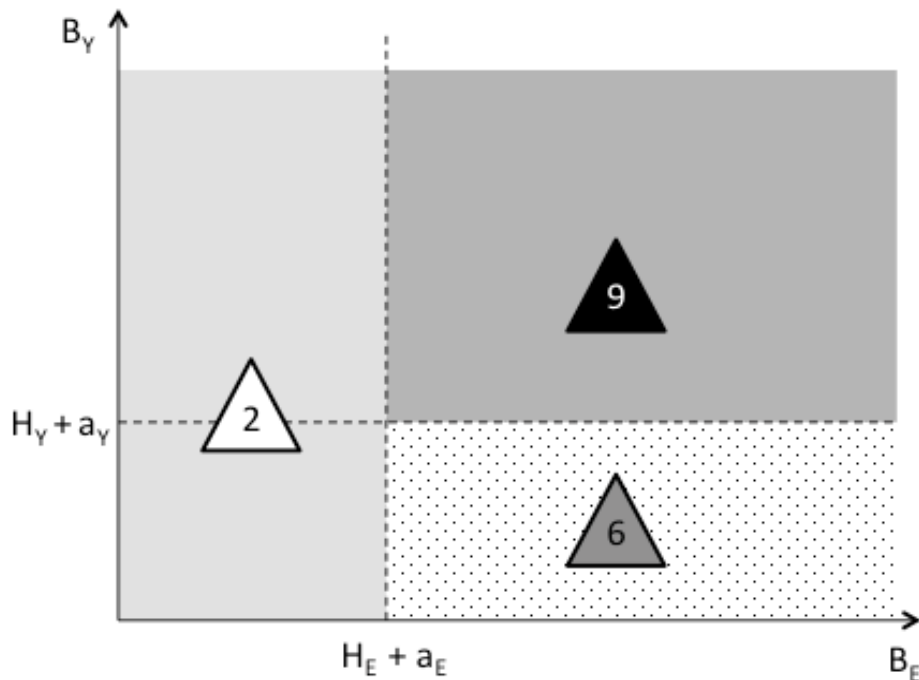




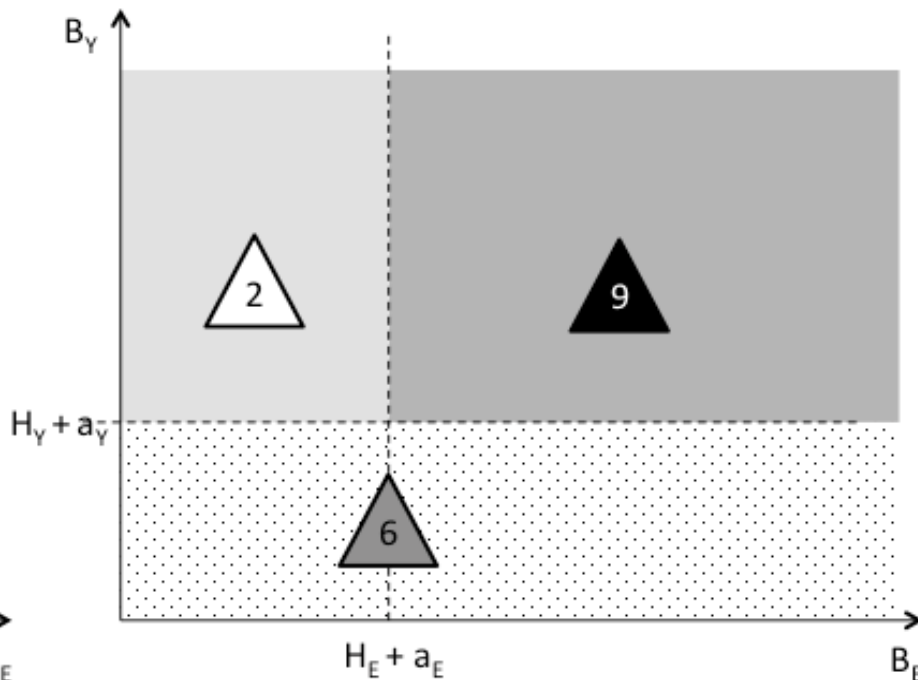
**Research Strategy  
and Results**

*Activist Approach and perfect Nash equilib.*

Founder prefers business dimension



Founder prefers family dimension



Elder appointed successor

Younger appointed successor

No intergenerational succession

Where Founder prefers business dimension:  $\alpha(L_E - L_Y) > \beta(O_Y - O_E)$ .



**Research Strategy  
and Results**

*Activist Approach and perfect Nash equilib.*

- For  $B_i > H_i + a_i$  → there's no intergenerational succession
- For  $B_i < H_i + a_i$  → both children interested  
→ succession depends of the founder valuations

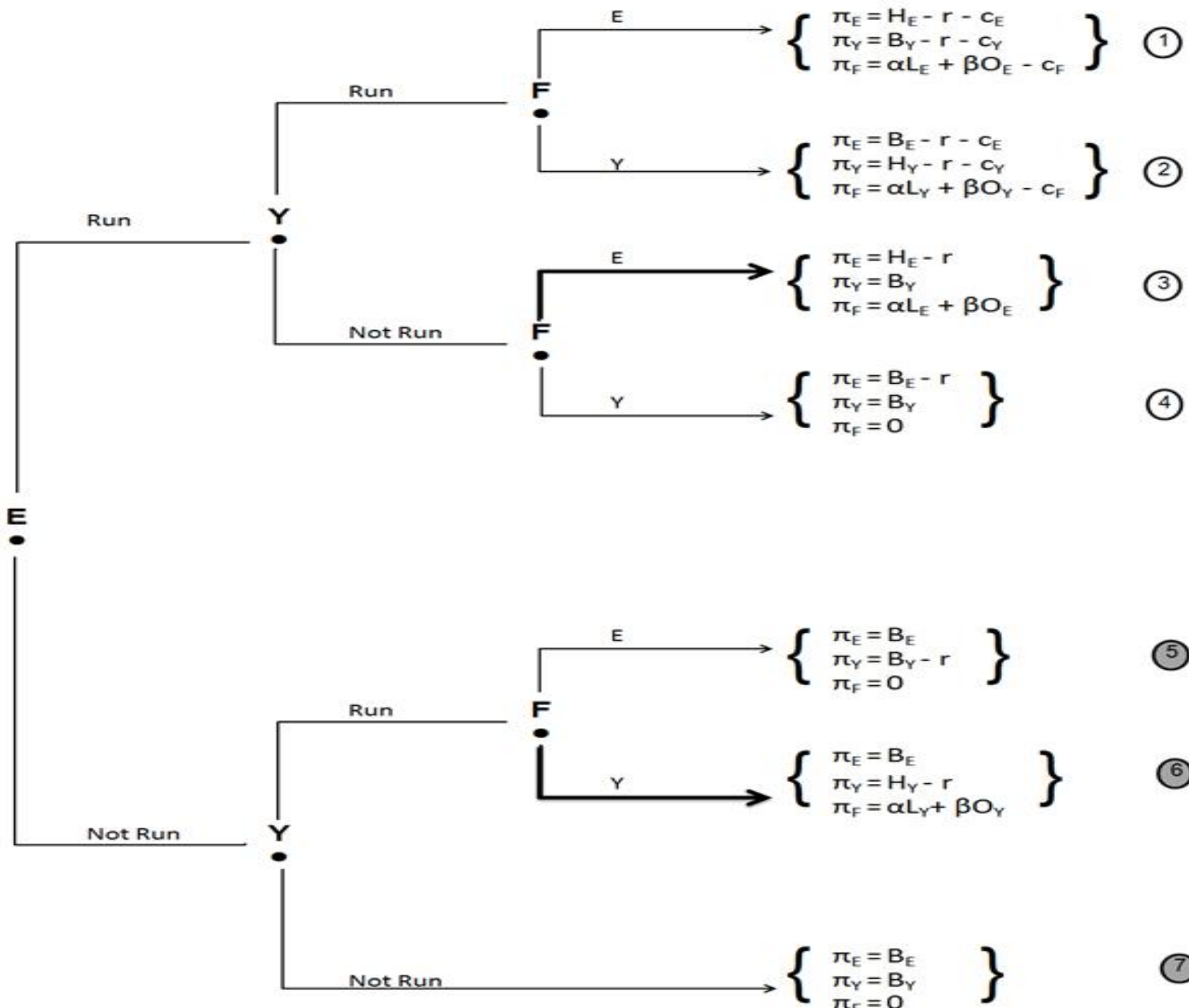


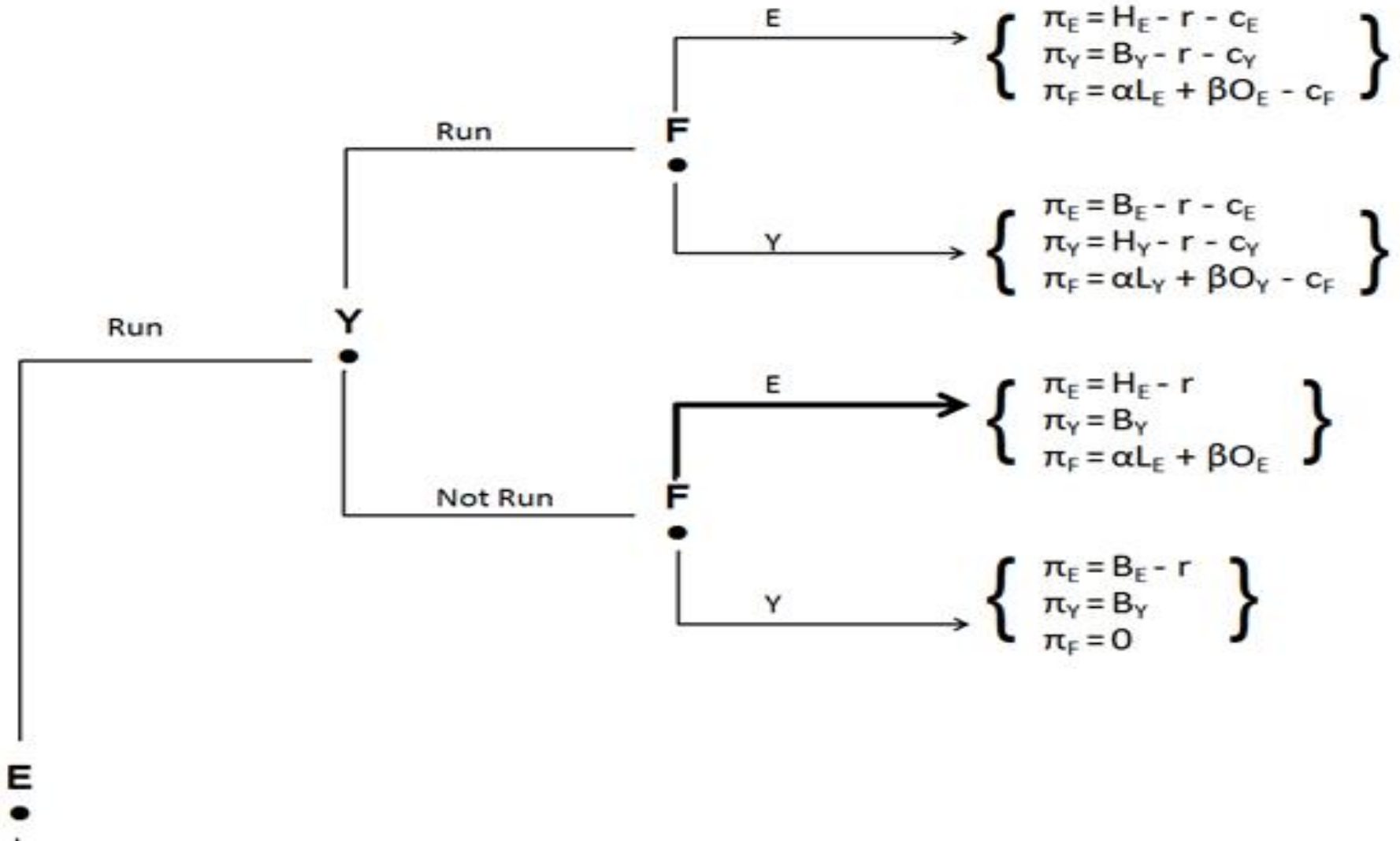
**Research Strategy  
and Results**

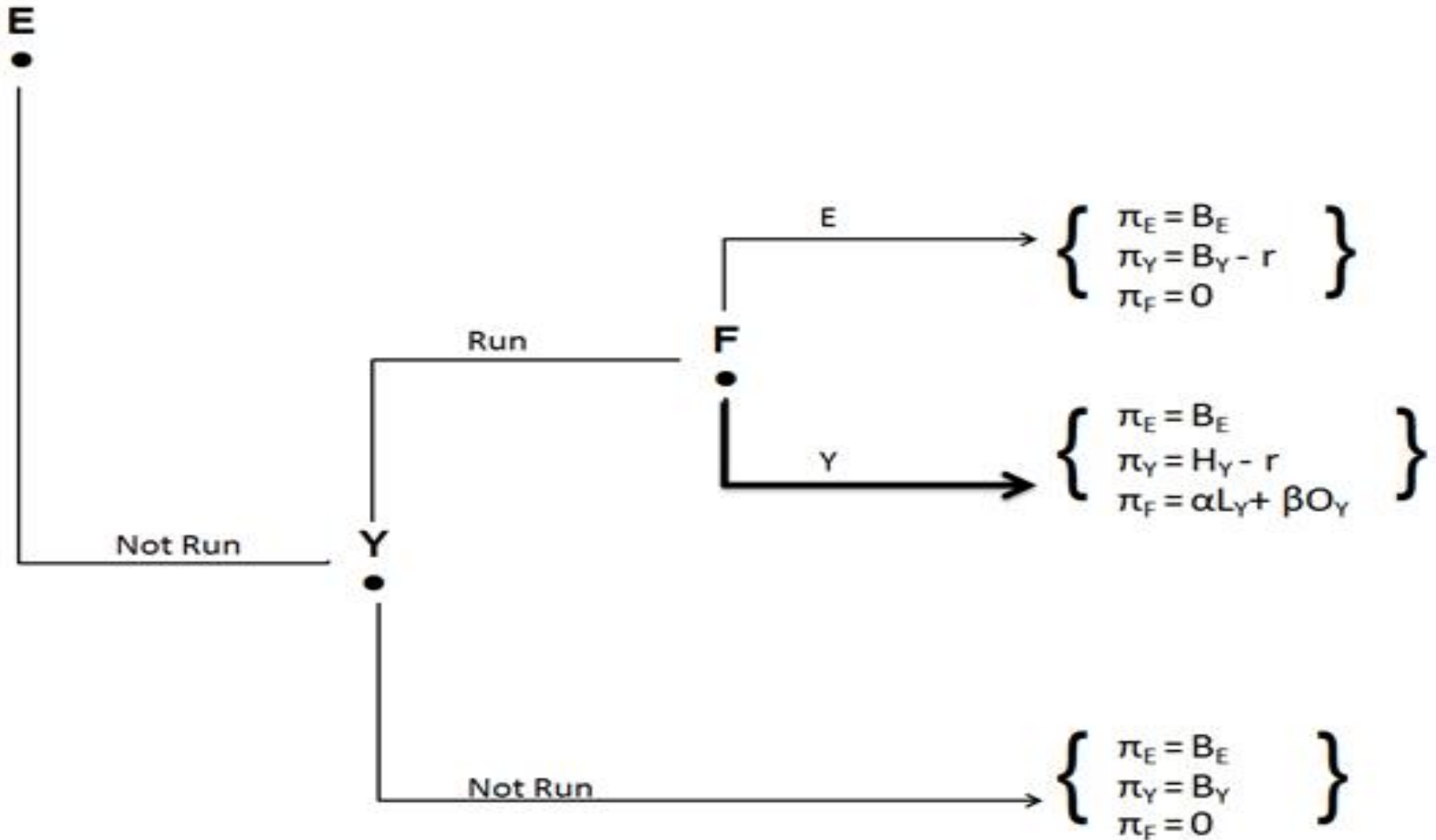
## *Reactive Approach and perfect Nash equilib.*

- We setup a game where the Elder child (E) decides to run or not to succession, and then the Younger child (Y) decides to run or not (they may both run). Lastly the Founder of the family firm (F) decides who will be the successor. Therefore seven paths are possible.







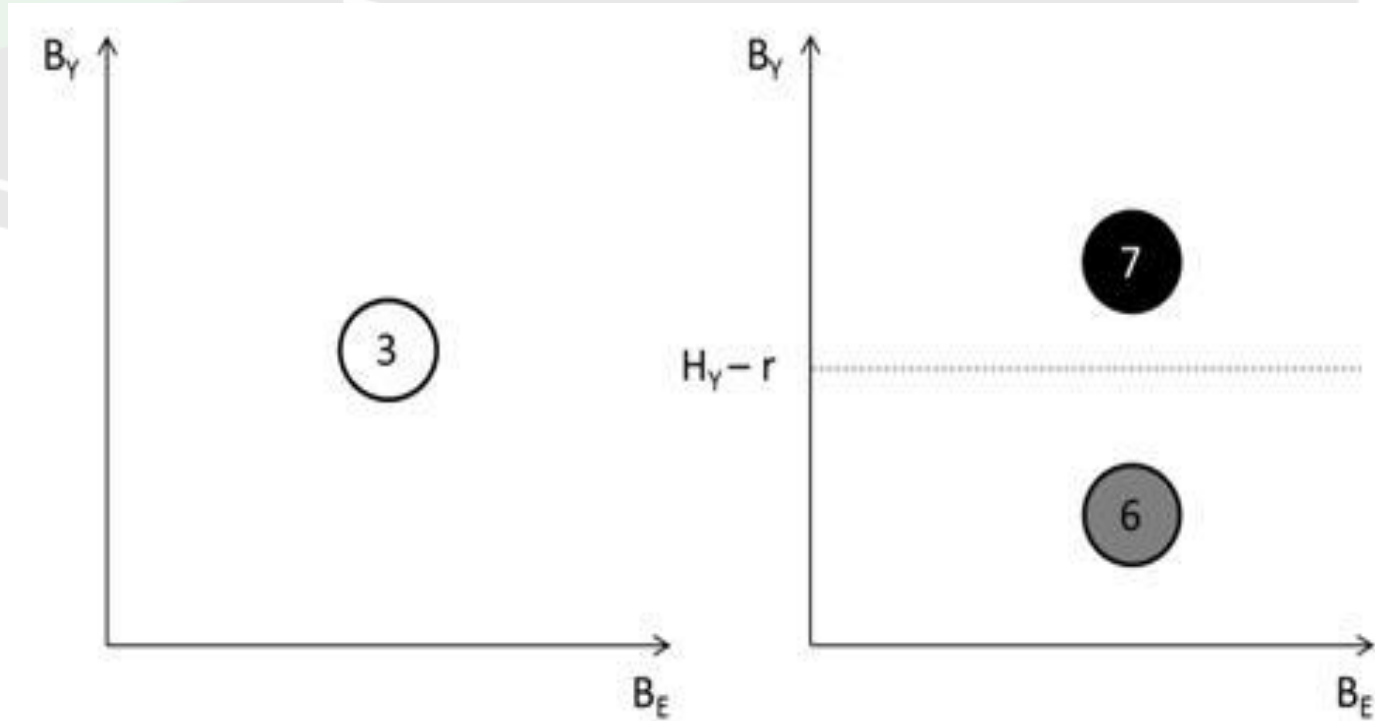




**Research Strategy  
and Results**

# *Reactive Approach and perfect Nash equilib.*

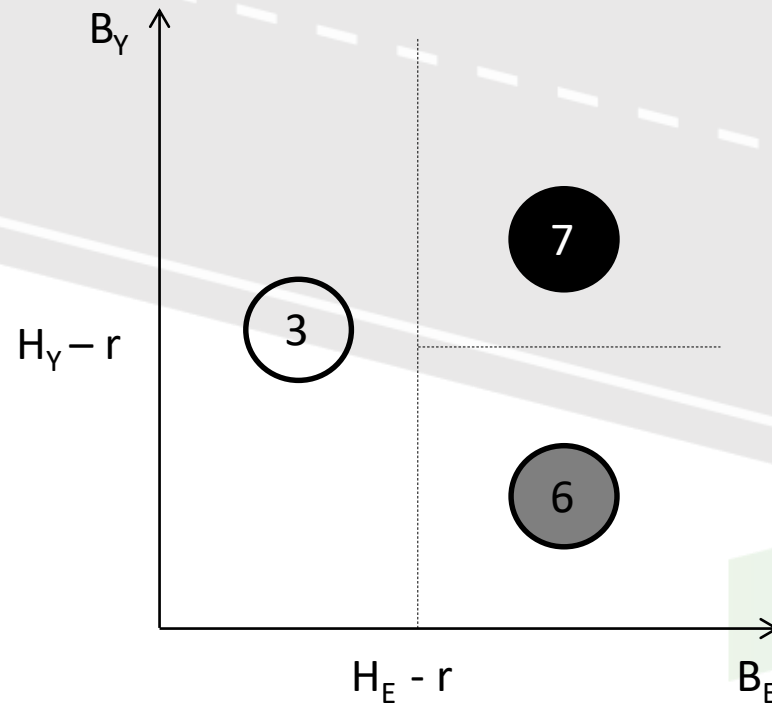
- Y decisions when the founder prefers business dimension:



**Research Strategy  
and Results**

*Reactive Approach and perfect Nash equilib.*

- E decisions when the founder prefers business dimension:

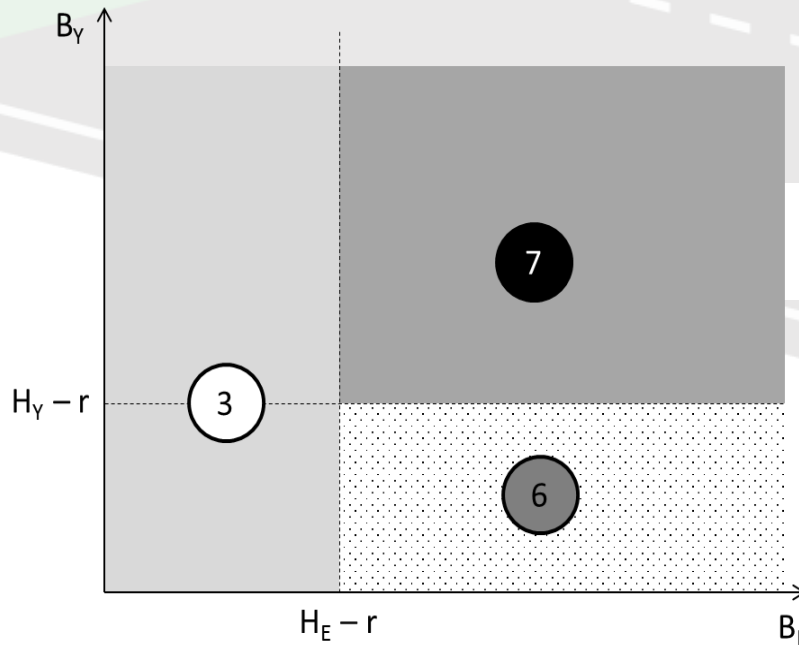







**Research Strategy  
and Results**

# *Reactive Approach and perfect Nash equilib.*

Founder prefers business dimension



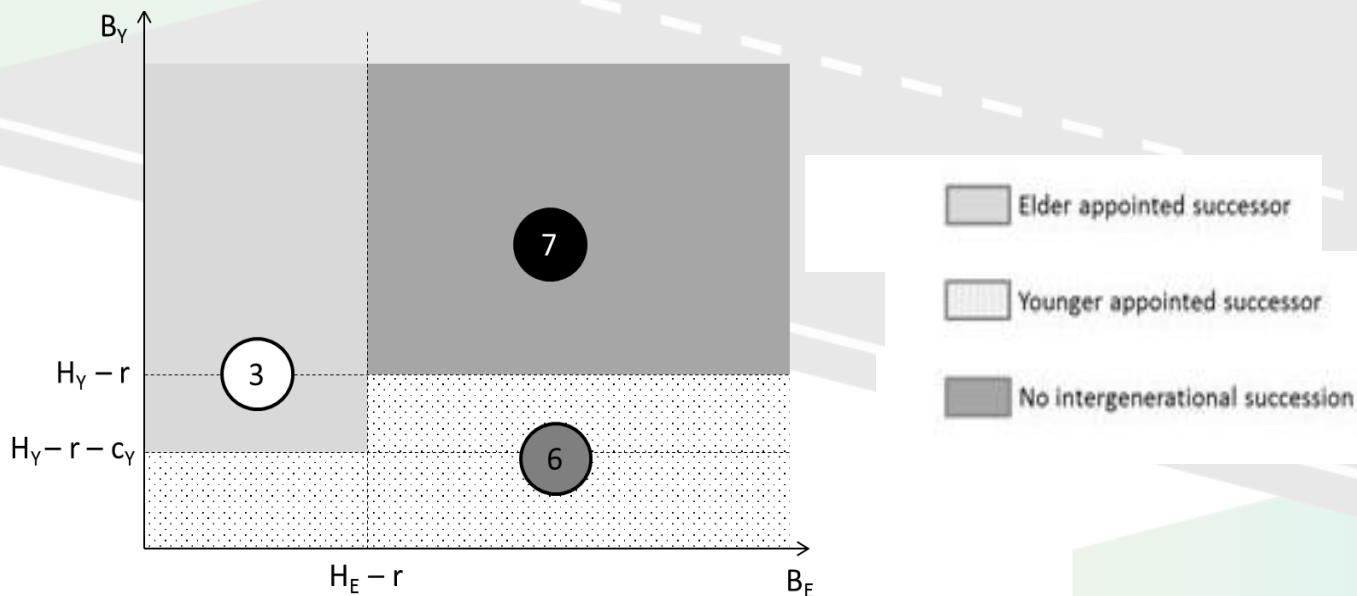
-  Elder appointed successor
-  Younger appointed successor
-  No intergenerational succession



**Research Strategy  
and Results**

*Reactive Approach and perfect Nash equilib.*

Founder prefers family dimension





**Research Strategy  
and Results**

*Reactive Approach and perfect Nash equilib.*

- For  $B_i > H_i - r$  → there's no intergenerational succession
- For  $B_i < H_i - r$  → both children interested
- succession depends of the founder valuations





## *Results discussion*

➤ Activist founder approach model

**VERSUS**

➤ Reactive founder approach model

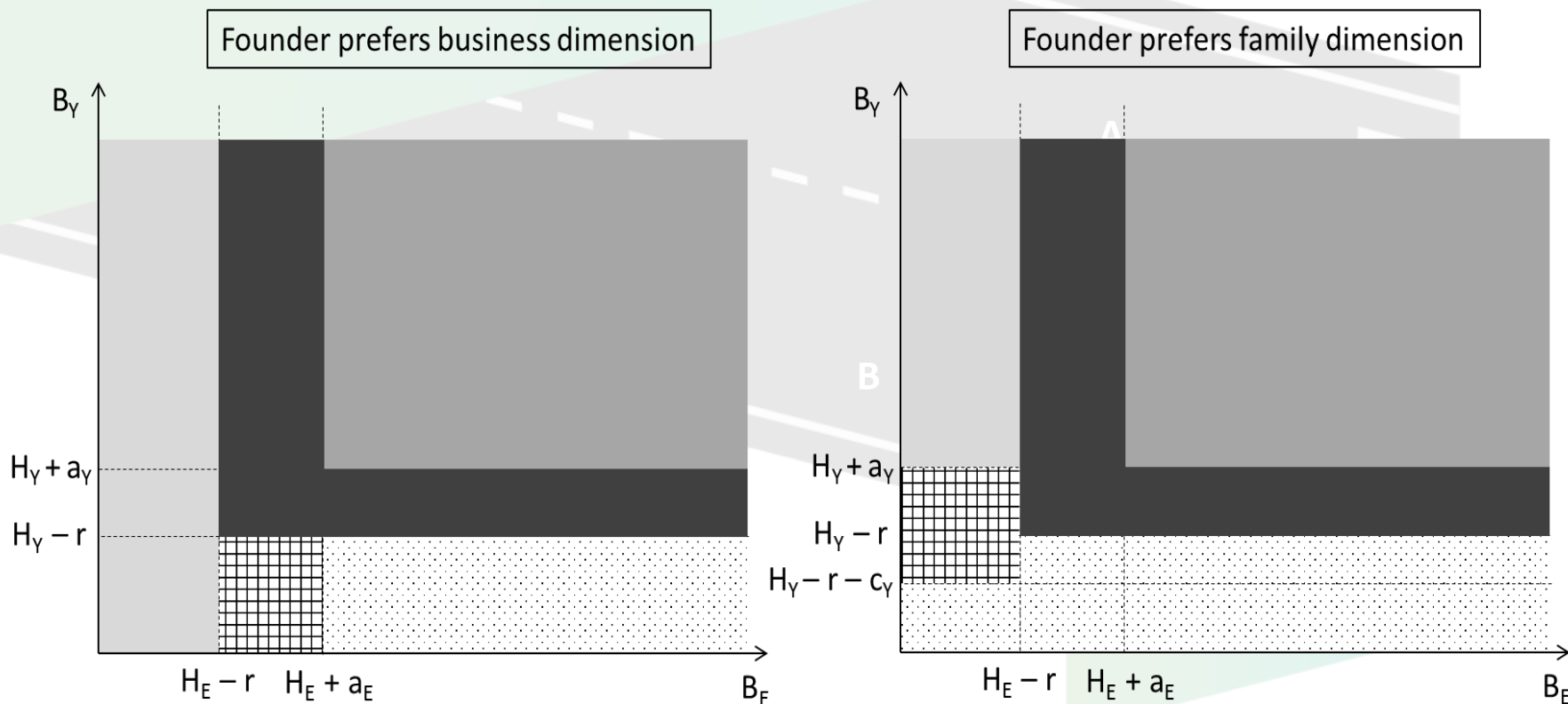



## *Results discussion:* role of the emotional factors

- For higher levels of  $a_i$  → greater the propensity of intergenerational succession
- For higher levels of  $c_i$  → higher propensity of E being appointed successor




# Results discussion: impact founder's governance approach



 Elder appointed successor

 Younger appointed successor

 No intergenerational succession



## Results discussion: impact founder's governance approach

- Activist Approach Model → greater the propensity of the intergenerational succession
- For higher levels of  $a_j$  → even greater the propensity of intergenerational succession
- Activist Approach Model → greater the propensity of the preferred successor being appointed



## *Conclusions*

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- The theoretically predicted Nash outcomes are determined for different founder's governance approaches and emotional factors play a central role on successor selection.
- Both models equilibria show that emotional factors are determinant in terms of the successor choice and intergenerational continuity.



## *Conclusions*

- Our results show the importance of the founder adopting a more proactive governance approach to succession.
- The founder's governance activist approach increases the propensity that ensures firm continuity as well as the propensity that guarantees that his preferred successor is indeed appointed successor.



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