Individual labor disputes: A game theory approach to explain the failure of Previous Conciliation systems in Brazil

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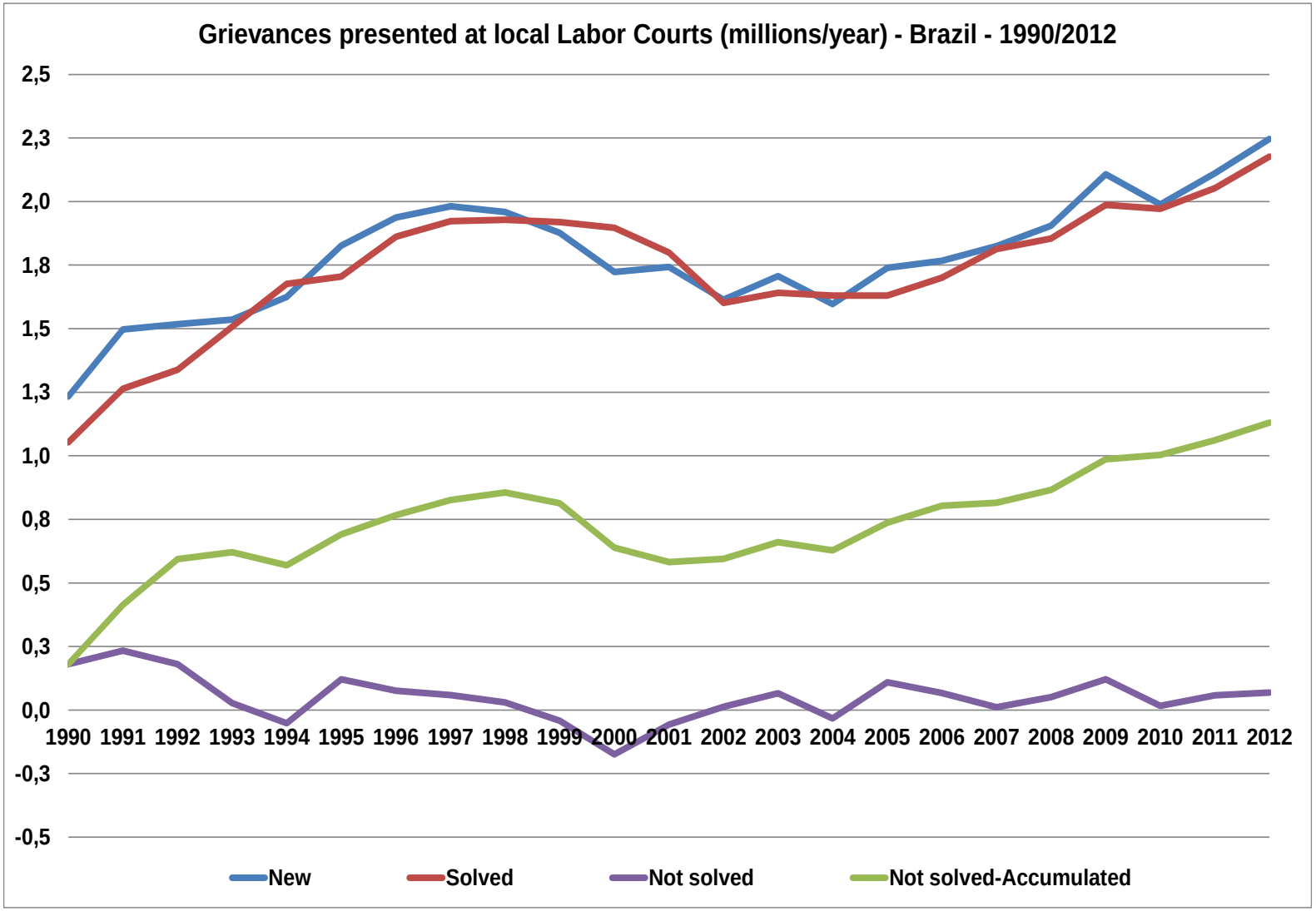
Introduction: Individual labor conflict in Brazil

- **There are no mechanisms to solve disputes at the plant level (no worker's voice)**
- **Grievances presented at the Labor Courts, after termination (exit)**
- **Until 1998, Labor Courts monopoly to solve individual disputes**
- **Previous Conciliation introduced in 1998 (alternative mechanism) – end of LC monopoly**
- **Failure of Previous Conciliation**
- **Research question: Why?**


Grievances presented at local Labor Courts (millions/year) - Brazil - 1990/2012
2,5
2,3
2,0
1,8
1,5
1,3
1,0
0,8
0,5
0,3
0,0
-0,3
-0,5
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012
New
Solved
Not solved
Not solved-Accumulated

Players and strategies

4 players: Union (u) (representative or not), Management (e), Worker (w) and Labor Court (biased or not) (j)

m – amount of money received by the worker by the end of the dispute
t – time spent until the end of the dispute

Strategies:

- Union (UU and UR): Agree or Oppose in the PC
- Management: Agree or Oppose in the PC
- Worker: Accepts or Declines the PC agreement
- Biased Labor Court: Either it maintains the PC agreement (maintains *m* as defined in the PC); or Changes the PC Agreement in favor of the worker (increasing *m*)
- Unbiased Labor Court: sets *m* to average always

Assumptions

- Two kinds of unions: representative (UR) and unrepresentative (UU)
- No legal costs at the Previous conciliation
- Two situations regarding legal costs at the Labor Courts:
  - Legal costs (lawyers) paid only by workers (LGW)
  - Legal costs (lawyers) paid by both worker and management (LGWM)
- Two kinds of attitude by Labor Courts:
  - Unbiased (LCU)
  - Biased in favor of workers (LCB)
- Time dimension: three periods
- Pay dimension: three values

Payoff Functions

Biased Labor Court (wants to maintain its monopoly):

$$\begin{cases} P_j = 1 \; if \; the \; dispute \; reaches \; the \; Labor \; Court \; and \; increses \; m \\ P_j = 0 \; if \; the \; dispute \; does \; not \; reach \; the \; Labor \; Court \\ P_j = -1 \; if \; the \; dispute \; reaches \; Justice \; but \; it \; does \; not \; change \; the \; m \; of \; the \; PC \; agreement \end{cases}$$

Unbiased Labor Court: $\begin{cases} P_j = 1 \; if \; the \; dispute \; reaches \; the \; Labor \; Court \\ P_j = 0 \; if \; the \; dispute \; does \; not \; reach \; the \; Labor \; Court \end{cases}$

Representative union: $P_u = P_w$

Unrepresentative Union (wants to solve as quick a it can): $P_u = e(t)$ with

$$\begin{cases} e(t) = -1 \; if \; t \; achieved \; in \; PC \; is \; high \\ e(t) = 0 \; if \; tachieved \; in \; PC \; is \; average \\ e(t) = 1 \; if \; t \; achieved \; in \; PC \; is \; low \end{cases}$$

Payoff functions (continued)

Worker:

$P_w = a(t) + b(m)$, with

$$\begin{cases} a(t) = -1 \; if \; t = high \\ a(t) = 0 \; if \; t = average \\ a(t) = 1 \; if \; t = low \end{cases} \text{ and } \begin{cases} b(m) = 1 \; if \; m = high \\ b(m) = 0 \; if \; m = average \\ b(m) = -1 \; if \; m = low \end{cases}$$

Management:

$P_e = c(t) + d(m)$, with

$$\begin{cases} c(t) = 1 \; if \; t = high \\ c(t) = 0 \; if \; t = average \\ c(t) = -1 \; if \; t = low \end{cases} \text{ and } \begin{cases} d(m) = -1 \; if \; m = high \\ d(m) = 0 \; if \; m = average \\ d(m) = 1 \; if \; m = low \end{cases}$$

PS: Payoff functions implicitly (and conservatively) assume all players value money and time equally.

Legal Costs: a fixed amount discounted from the final payoff:
$P_i = p(t, m) - LC$, for $i = w, e$. We assume that LC equals 0,5, but it could be anything between 0 and 1, without changing the results.

Additional assumptions:

Regarding the dynamics of *t:*

- If both players “oppose” at the PC, one extra period of time is spent
- If at least one of the players “agree” at the PC, the minimum amount of time is spent at the PC
- One extra period of time is spent when the worker decides to take the dispute to the court
- Once the game reaches the Court, time will not change from this moment on (i.e. time is independent of the Court’s course of action)

Regarding the dynamics of *m:*

- When the Union opposes, it increases m by one unit.
- When the Management opposes, it reduces m by one unit.
- i.e., when both players oppose, m is set to average (until this point of the dispute)
- When the worker decides to accept the PC agreement, he does not change the amount of m agreed at the PC.
- Labor court changes m as previously described.

Scenarios

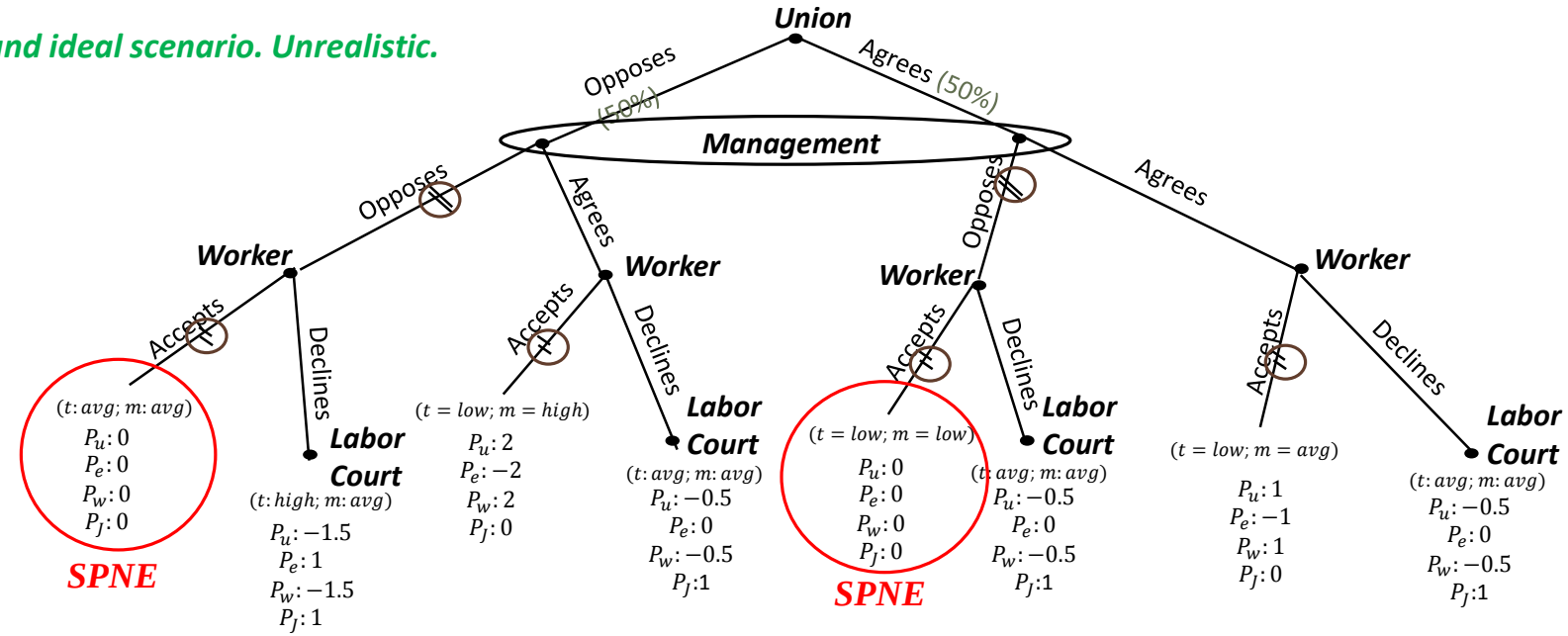
Eight scenarios were examined

3. LEGAL COSTS PAID BY THE WORKER, REPRESENTATIVE UNION, UNBIASED LABOR COURT

Union \ Management	Opposes	Agrees
Opposes	0 , 0	2 , -2
Agrees	0 , 0	1 , -1

This scenario leads to an efficient PC outcome because the worker avoids legal costs, as the LC's small increase in payment is compensated by the small increase in time spent.

Desired and ideal scenario. Unrealistic.

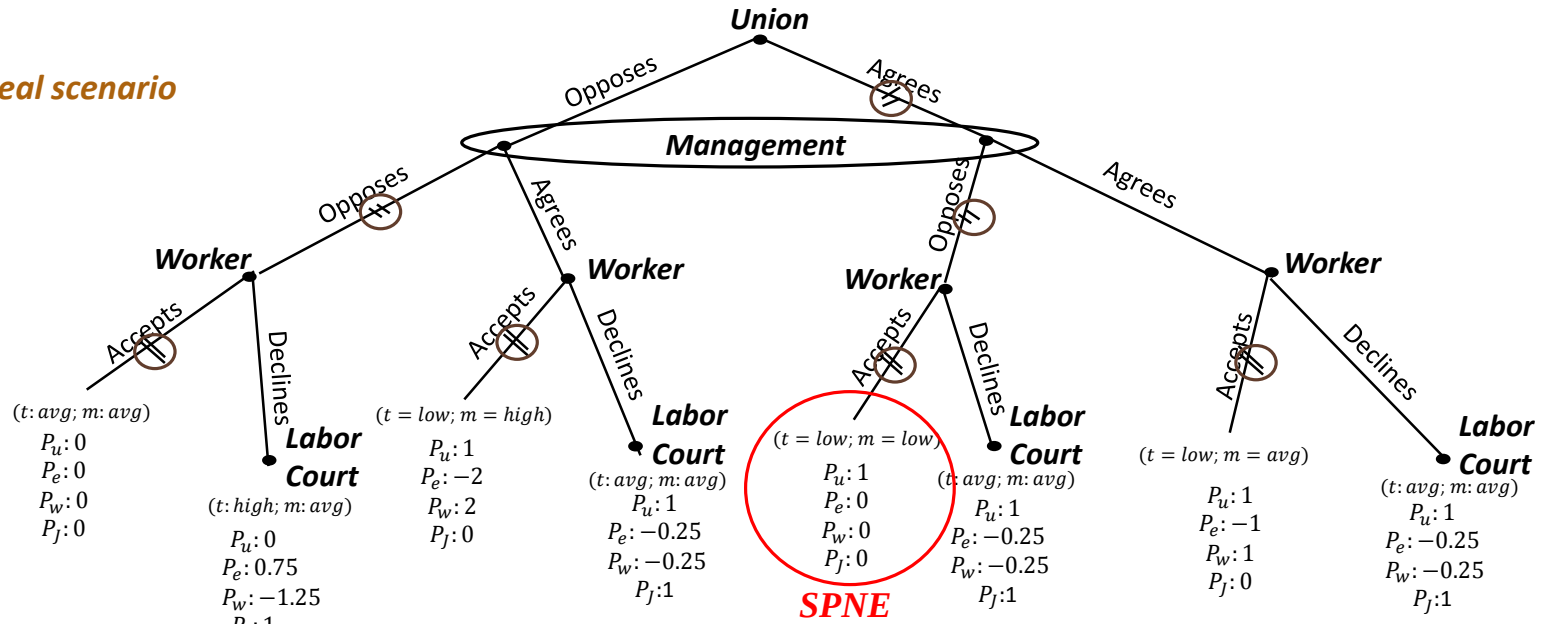


4. LEGAL COSTS PAID BY THE WORKER, UNREPRESENTATIVE UNION, UNBIASED LABOR COURT

Union \ Management	Opposes	Agrees
Opposes	0 , 0	1 , -2
Agrees	1 , 0	1 , -1

Here the efficient outcome is achieved despite the non-representativeness of the union… But this would change to a LC equilibrium if the worker valued money relatively more than time.

Almost ideal scenario

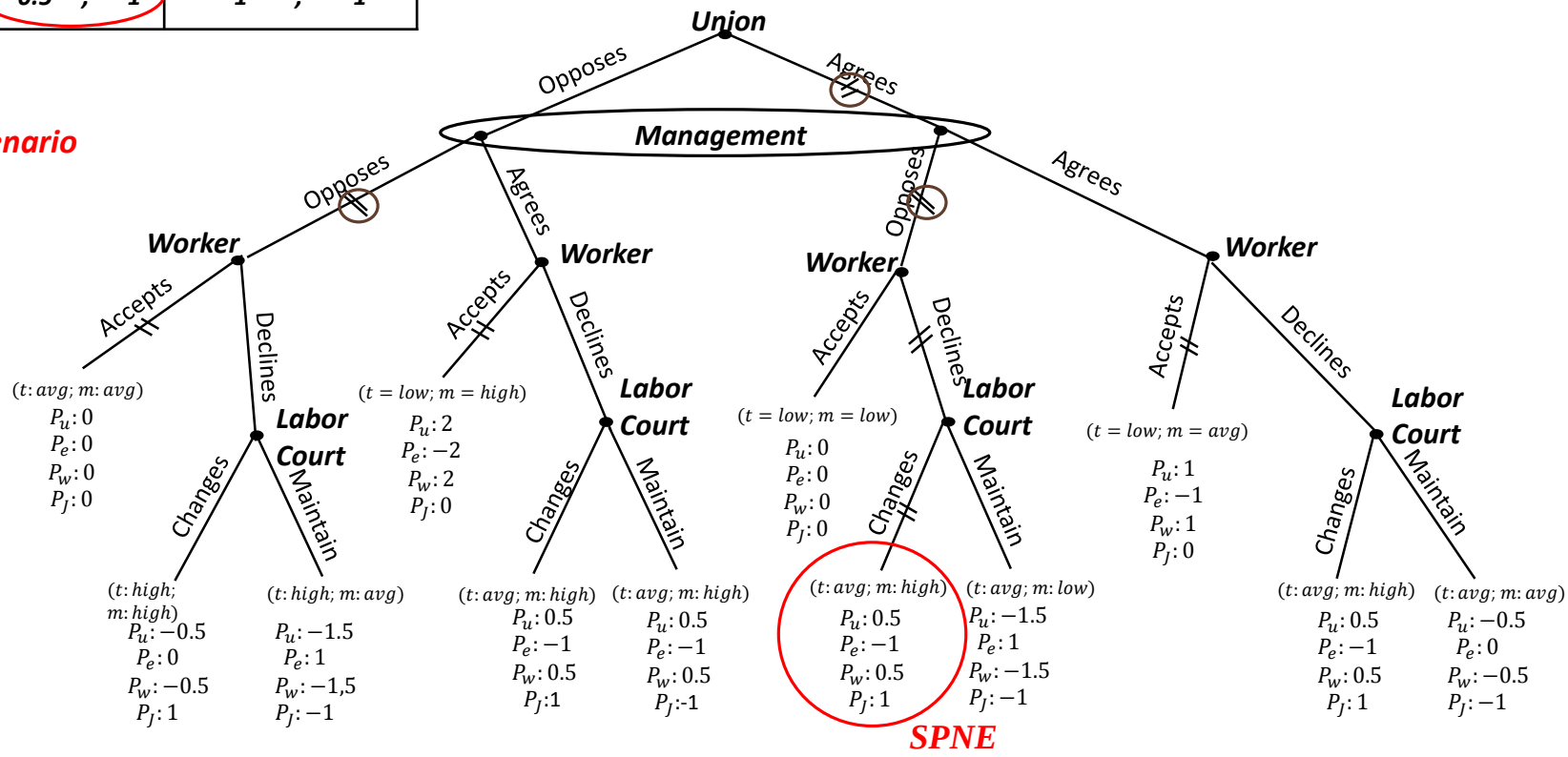


2. LEGAL COSTS PAID BY THE WORKER, REPRESENTATIVE UNION, BIASED LABOR COURT

Union \ Management	Opposes	Agrees
Opposes	0 , 0	2 , -2
Agrees	0.5 , -1	1 , -1

This scenario leads to an inefficient resolution in the LC, despite the representative union. Here LC overpays the worker sufficiently to more than compensate his legal costs plus the payoff that he would obtain by being quickly underpaid in the PC agreement….

Realistic scenario

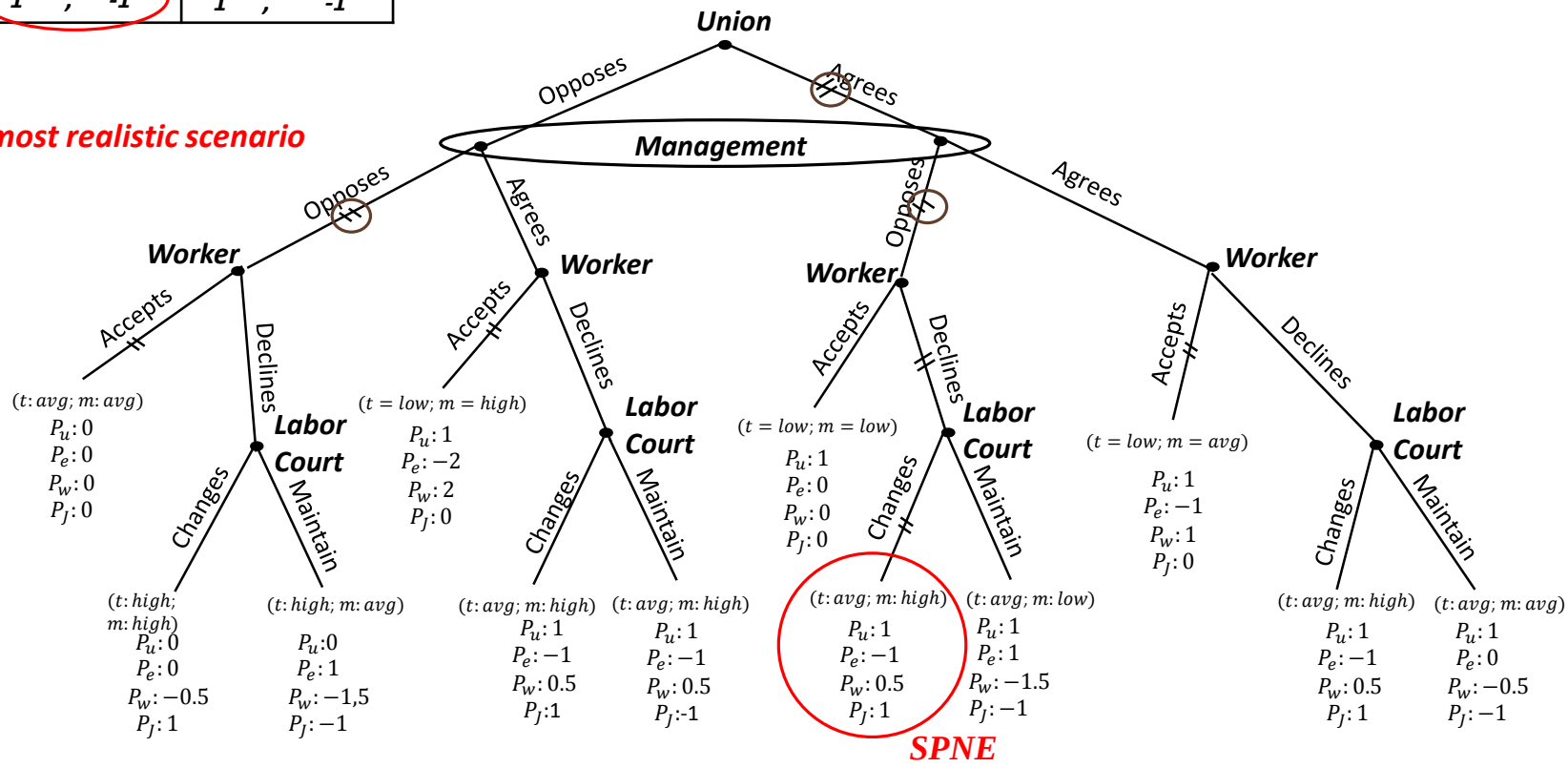


1. LEGAL COSTS PAID BY THE WORKER, UNREPRESENTATIVE UNION, BIASED LABOR COURT

Union \ Management	Opposes	Agrees
Opposes	0 , 0	1 , -2
Agrees	1 , -1	1 , -1

This scenario leads the worker to take the dispute to an inefficient resolution in the LC, even with legal costs being paid by the worker. This happens because LC decision overpays the worker sufficiently to more than compensate the payoff that he would get with PC, where he would save the legal costs and would be quickly underpaid.

Prevalent and most realistic scenario



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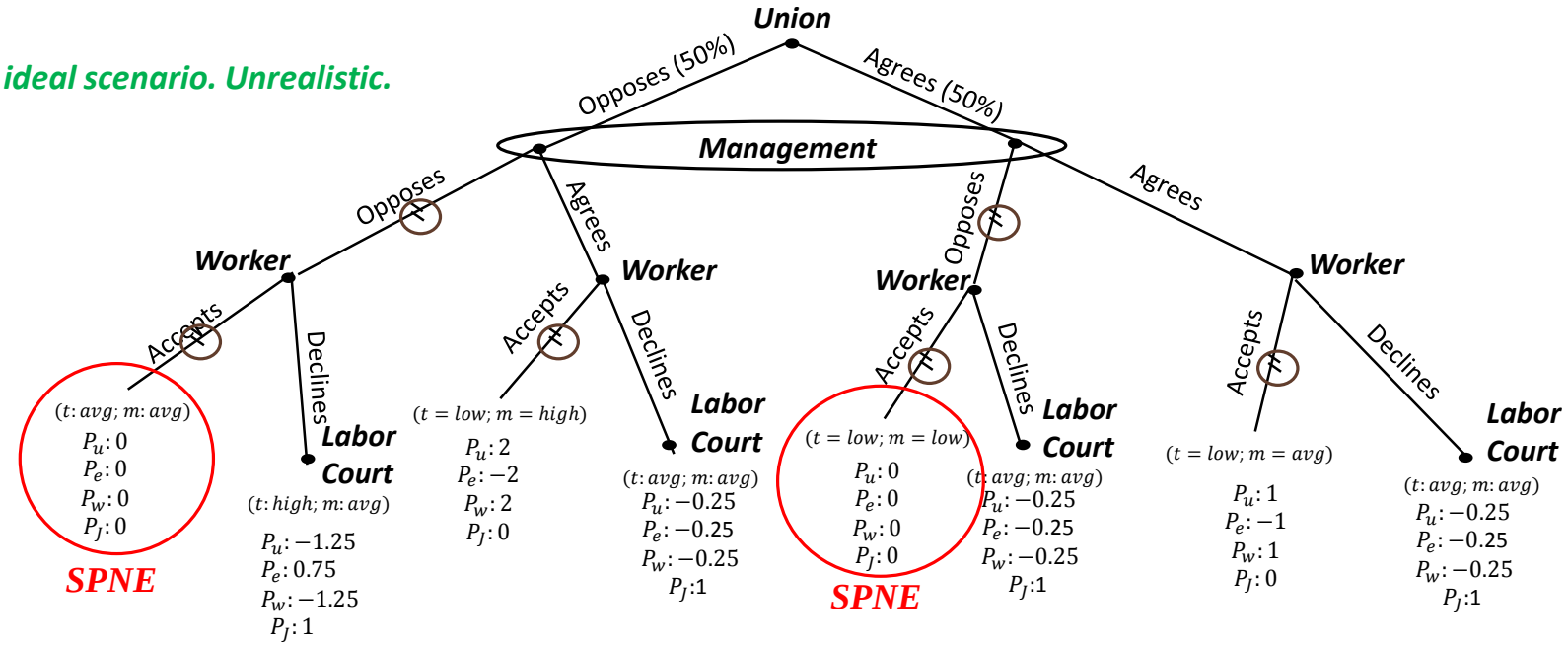
7. WORKER AND MANAGEMENT PAY LEGAL COSTS, REPRESENTATIVE UNION, UNBIASED LABOR COURT

Union \ Management	Opposes	Agrees
Opposes	0 , 0	2 , -2
Agrees	0 , 0	1 , -1

This scenario leads to an efficient PC outcome because the worker avoids legal costs, as the LC small increase in payment is compensated by the small increase in time.

Desired and ideal scenario. Unrealistic.

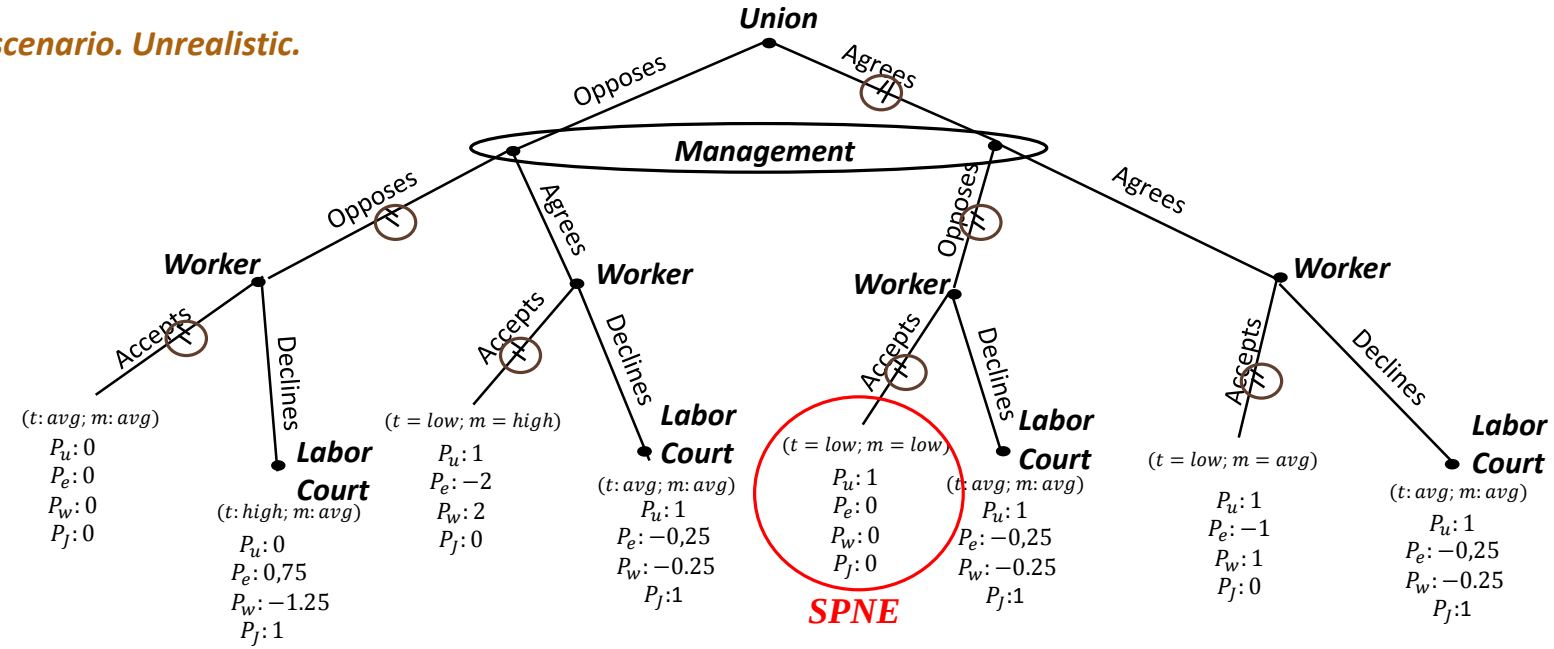


8. WORKER AND MANAGEMENT PAY LEGAL COSTS, UNREPRESENTATIVE UNION, UNBIASED LABOR COURT

Union \ Management	Opposes	Agrees
Opposes	0 , 0	1 , -2
Agrees	1 , 0	1 , -1

Here the efficient outcome is achieved despite the unrepresentativeness of the union…. But this would change to a LC equilibrium if the worker valued money relatively more than time.

Almost ideal scenario. Unrealistic.



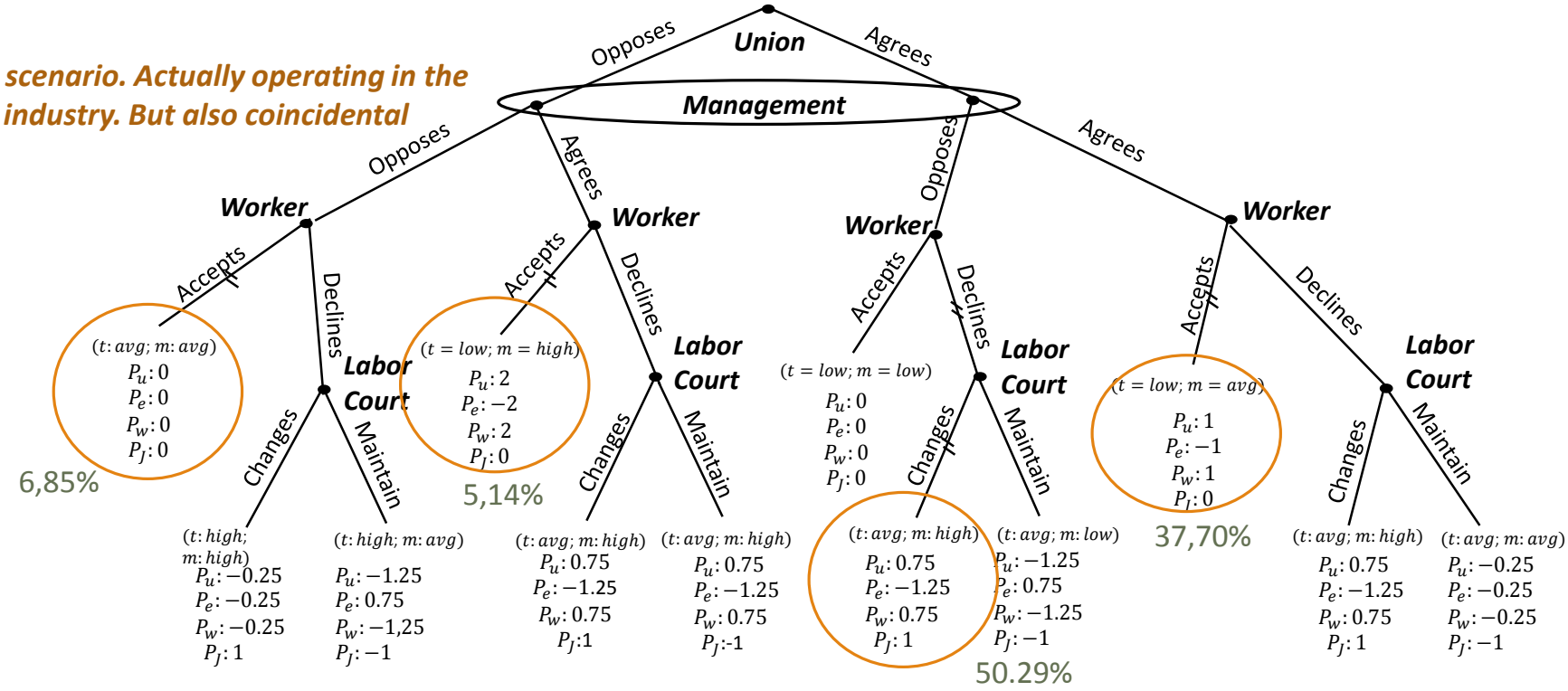
6. WORKER AND MANAGEMENT PAY LEGAL COSTS, REPRESENTATIVE UNION, BIASED LABOR COURT

Union \ Management	Opposes	Agrees
Opposes	0 , 0	2 , -2
Agrees	0.75 , -1.25	1 , -1

In this scenario there is no pure strategy Nash equilibrium. Under mixed strategies, the probabilities associated to PC or LC agreements are about 50% and 50%.

PS: If the bias of LC was larger, the equilibrium would be achieved at the LC.

Realistic scenario. Actually operating in the Banking industry. But also coincidental

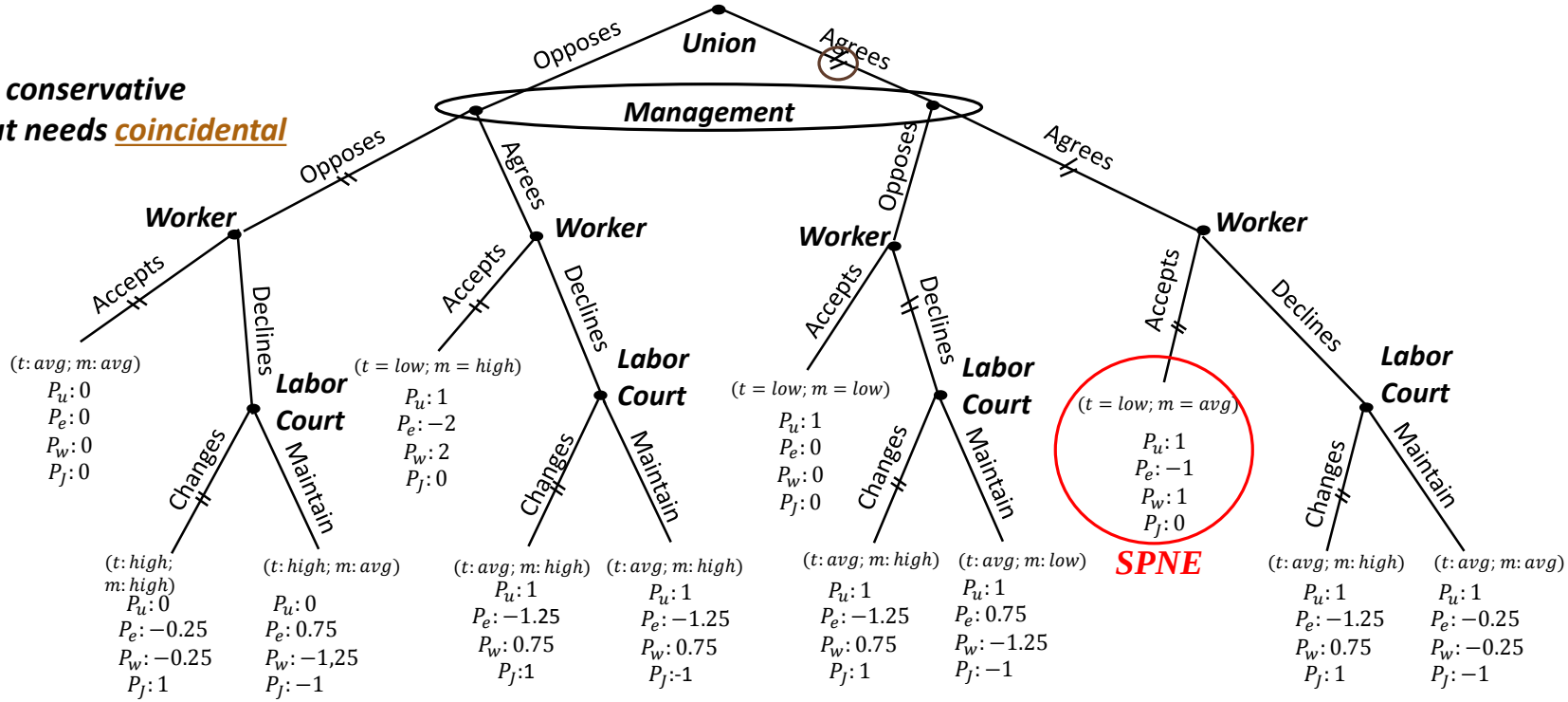


5. WORKER AND MANAGEMENT PAY LEGAL COSTS, UNREPRESENTATIVE UNION, BIASED LABOR COURT

Union \ Management	Opposes	Agrees
Opposes	0 , 0	1 , -2
Agrees	1 , -1.25	1 , -1

In this scenario, an efficient outcome is achieved as the manager agrees at the PC to avoid a lower payoff at the LC.
PS: If the bias of LC is larger, the equilibrium would be achieved at the LC. Also, this would change to a LC equilibrium if the worker valued money relatively more than time.

Realistic and conservative scenario… but needs coincidental conditions



Conclusions

- **If Labor Court is unbiased, than Previous Conciliation prevails**
- **If Labor Court is biased, than Previous Conciliation might prevail if there are legal costs for management (coincidental conditions)**
- **If there are no legal costs for the management, then union representativeness does not interfere on the resolution mechanism (either LC or PC)**
- **The more the worker values money over time, the higher the need of an unbiased LC: coincidental conditions for the PC prevalence would become less likely.**
- **<u>Main message:</u> the critical factor for the prevalence of Previous Conciliation is the attitude of the Labor Court (biased x unbiased), and the representativeness of the union is only important when there are (marginal) legal costs for the management.**

Thank You!

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