

## Positive and negative effects of rank–order Tournaments with large vertical pay gaps on skill acquisition, performance, and talent retention

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People are certainly motivated to obtain money. Money helps them to take care of their families, but also attain social status and wealth. Nevertheless, it can create a lot of competition and can often lead to deception and fraud. It was hypothesized that **large vertical pay gaps** would motivate the best performers to aspire to top positions, but that's often not the case. Managers that stimulate internal competition cause a lot of harm too. Let's have a look.

### *Key words*

Internal competition, vertical pay gaps, pay differences, rank-orders, employee development.

### **What is the rank–order tournaments theory and vertical pay dispersion about?**

*Tournament Theory* is inspired by the widespread belief that people are motivated by internal competition. This theory proposes taking things one step further than the *piece-rate pay* scheme where workers are paid a fixed amount per produced piece or the *beat-the-standard* pay scheme, which awards people for beating the standard. In **rank-order payment schemes, the employee's relative position counts** and so those people who produce most are paid an extra prize. You have winners and losers and the pie stays the same for all the 'contestants' together.

Economists Lazear and Rosen (1981) developed *tournament theory*, basically contending that organizations should create **rank-order tournaments**, for example by paying high wages at the top of the organization. Thus, employees are viewed as competitors and are **evaluated on the basis of relative performance** rather than objective performance. Indeed, they wrote that if a vice-president rises to the rank of president (CEO), she or he could easily triple their salary even though this doesn't mean that her or his skills have tripled also overnight. Rather, **it is the prize they get for winning the contest**.

In order to stimulate competition, they contended that firms should create **wide pay gaps**, even for small differences in actual contribution. In their opinion, this pay-gap would serve several purposes such as **(1) avoiding shirking and (2) creating a sorting effect** because 'prizes' would attract and retain the most talented workers, but also get rid of the 'losers' (it is predicted they will leave the organization).

The **central propositions** of their theory were that:

- (1) pay-for-level-of-output is better than pay per hour because input-wage schemes without good effort monitoring often invite shirking;
- (2) '*competitive lotteries*' are sometimes even better: the people *in the game* are uncertain about how much they will earn, as the payment scheme follows a rank-order: the best performers get paid more ('*a prize*');
- (3) large salaries for executives will provide incentives for employees who are willing to work hard to reach the 'coveted top positions'—this is called **the prize spread**. It is predicted that *each* worker's effort level will increase with the spread between the 'winning and the losing' prize;

- (4) if the salaries of the other executives in the Top Management Team (TMT) are substantially lower than that of the president or CEO—e.g. 1/3 of the CEO salary<sup>203</sup>—this will provide skill acquisition incentives for executives—this is called **the vertical CEO-TMT pay gap**;
- (5) in general, the prize does not reflect current productivity, but past effort to perform well and **to acquire the necessary skills** during the time workers occupy more junior positions;
- (6) people (*'players'*) who are risk-averse will select themselves out, while risk-seeking people will select themselves in, even if only a few win large prizes. It seems the authors viewed this as a benefit.

To build their propositions, the authors based themselves on the Cournot-Nash<sup>204</sup> assumptions that each player in a contest will try to optimize their personal benefit.

The theory has been used to create all kinds of internal competitions and rank order effects, such as the forced ranking of employee appraisal scores.

### ■ Executive Summary

#### Theory

The central idea of Rank-Order Tournament Theory is that competition for resources such as money and status will automatically select the best *relative* performers. These performers will, in turn, boost organizational performance. Thus, tournament theorists propose the creation of rather large *vertical* pay gaps, i.e. large pay gaps between different hierarchical levels. Moon et al. (2016) summarize the central characteristics as follows:

- (1) *"who will win is uncertain;*
- (2) *winning is based on relative performance;*
- (3) *there are large pay differences between the payoffs for winners and losers."* (p. 171)

#### The truth:

People not only cooperate within their in-group, they also compete within that group for status, mates, and trust. There is also competition between different groups. Competition is a constant reality in nature and in human life.

#### The lies/what is missing:

Competition is not our main or sole drive. We are a social species and our relative success on this planet is mainly due to cooperation. Individuals benefit from cooperation. Cooperation leads to protection and to labor division. The latter has resulted in high levels of specialization, in turn leading to innovative tool development.

<sup>203</sup> Although other researchers later argued that the gap must be extraordinarily large to compensate for the 'no tomorrow' perspective as the CEO is the final stage in one's career (e.g. Shen, Gentry & Tosi, 2010).

<sup>204</sup> John Forbes Nash was the famous mathematician who made major contributions to game theory and was depicted in the now famous movie *A Beautiful Mind*.

With regard to money, Tournament Theory contradicts predictions and findings of evolutionary biology and evolutionary psychology: if people consider pay gaps to be unfair, they will reduce their effort. We are conditional collaborators and will only contribute if others put in as much effort as we do, and we get a fair share out of it. Evolutionary theory and game theory predict that there will always be defectors in a group of cooperators, but natural selection has favored cooperation over defection through several mechanisms (e.g. kin selection, direct and indirect reciprocity). Observing how people who receive far more resources from a group effort than can be explained by their contribution as defectors is another way to look at the very few who win the ultra-big prizes.

### Empirical Findings

The problem is that almost all research findings are (a) correlational in nature, and (b) based on a database that is likely backfilled with selective data (ExecuComp). There is however one point of consensus in the field: horizontal pay gaps (paying people differently for the same or similar jobs) have zero relationship with company performance. They are considered detrimental. Tournaments invite men, more than women, to lie and cheat (e.g. Nieken & Dato, 2016).

### The truth

The only positive **correlations** that can be found are related to **the vertical CEO-TMT pay gap** or the gap between CEO pay and the pay of the other Top Management Team members:

- they show longer tenure;
- this CEO-TMT gap shows positive correlations with company performance in the United States and some other countries, but not all countries. These positive correlations are only found if certain control mechanisms are installed, such as independent boards with sufficient independent board members.

There is a significant lack of systematic reviews such as meta-analyses.

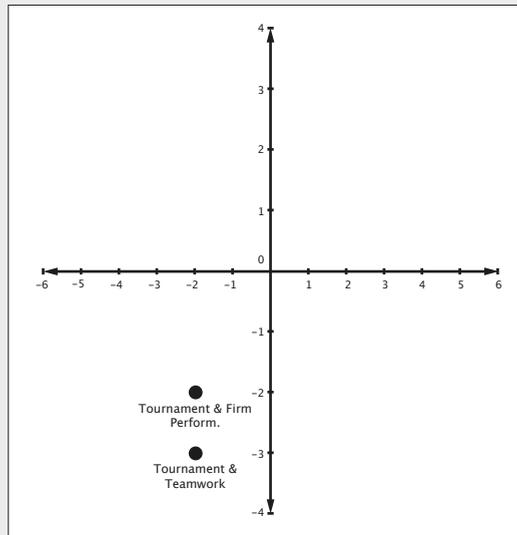
### The lies/what is missing:

These are the correlations that are found most often:

- big pay gaps in complex, well-paid jobs ('talent jobs') relate to higher turnover rates in the best paid people (who are supposedly your best performers);
- big pay gaps relate to decreased turnover rates of lower paid jobs ('no talent needed jobs'). This is the complete opposite of what the theory predicts;
- for CEO pay, there is only a weak relationship with accounting-based profits and mixed findings with regard to stock market performance. There is no link with competence. This is also contrary to the predictions of the theory;
- several correlations are found with 'undesired' effects, such as reduced information sharing, reduced quality, sabotage, etc.;
- the majority of the research findings show **negative correlations** between cross-level **vertical pay gaps** and **long-term firm performance**.

I found no evidence that tournaments lead to skill development.

## The theoretical/empirical grid



### Conclusion

There is only a smidgen of provisional truth in Tournament Theory. Rewards *do* have an impact on employee and CEO behavior, but it is often not in the expected direction. In other words, we sometimes don't obtain the kind of behavior we wish to see. Incentives that stimulate internal competition often result in (1) destructive internal competition and (2) fraud, are likely to (3) create long-term demotivation, and feelings of (4) unfairness, (5) stress, etc.

### Moral Assessment

Based on the evidence, Tournament Theory only benefits the happy few: shareholders and CEOs. When we use People, Planet, and Profit as three criteria to assess 'success,' that is when Tournament Theory becomes a problem. Perhaps we shouldn't use it as a guideline due to moral reasons, as hypercompetition causes people harm: a lot of people suffer both physically and psychologically because of it. Hyper competitive corporations often commit accounting fraud, meaning they are stealing from the community.

A reward system that potentially creates so much stress, unsound internal competition, and social comparison is immoral because it can cause real harm. Every leader has a responsibility not only to optimize productivity but to take into consideration the well-being of the people under her/his leadership. Good leadership nowadays is viewed as leadership that optimizes People, Planet, and Profit (Elkington, 1999; Savitz and Weber, 2014). It is quite clear by now that only a few people seem to benefit from hypercompetition (with CEO to median worker pay ratios of 35 4:1), while the Planet suffers in its own way from this immoral competition (just think of the plastic waste in the oceans).

### **Discussion**

**Horizontal pay dispersion** means that employees are paid different salaries or bonuses for doing the same or similar jobs. **Vertical pay dispersion** is the spread of salaries across organizational levels. I will not discuss horizontal pay gaps, as a meta-analysis by Park and Sung (2013) confirmed that **horizontal PFP and pay dispersion have no direct effects on organizational performance** ( $d = -0.01$ ). This finding is not contested by the proponents of PFP, like Jason Shaw (2015), although many **hypothesized** that organizational performance can be affected **indirectly**:

- Pay compression (low horizontal pay dispersion) will lead to good performers quitting sooner.
- Pay dispersion will lead to poor performers quitting sooner.

However, some research efforts such as Shaw's study of grocery shops (2015) also showed no relationship between pay dispersion and organizational performance. Nevertheless, it is possible that pay dispersion might have bigger effects for more complex and high-level jobs, where 'star performers' could make a difference.

**This evaluation is about applying rank-order tournaments (and vertical pay dispersion) to create internal competition.** I don't address sports tournaments or tournaments organized by organizations to select a best supplier. I also do not discuss external industrial tournaments, where CEOs try to outcompete other CEOs from different companies (the research is very limited and premature in my view). In general, in economic contests, the payoffs of a certain level of competition have yielded innovations and improved products and services. However, these innovations often built on the knowledge of others and are the result of strong internal collaboration. Others have also criticized the fact that economic contests have resulted in environmental problems and the risk of depleting the planet's natural resources.

### **The curious case of... rising CEO pay**

In 2001, the average increase in remuneration from TMT member to TMT CEO was 60% in the United Kingdom (in 2001) and 140% in the United States (in 1993!). Understandably, due to cultural habits and government intervention, in China increases are only around 20% (Chen et al, 2011).

But what about the CEO to average worker pay ratio, or the CEO to lowest paid worker pay ratio? It seems some CEOs in some countries have taken the advice to create big pay gaps quite literally. The most striking example (for us Europeans) can be found in the United States where the ratio of the salary level of the average CEO compared to the level of pay of the *median* employee has increased from 40:1 in 1982 to a staggering 331:1 in 2013. **The CEO-to-minimum-wage-worker pay ratio was 774:1 in 2013 (AFL-CIO, 2014) and is still rising.** To cite Connelly et al. (2013): "**Many top managers earn more on the year's first workday than the average employee in their organization earns for the entire year**" (p. 879, bold emphasis my own). U.S. Congress adopted the Dodd-Frank Act, obliging companies to disclose their CEO to median employee pay as of 2016.

Below is some global data from *The Globalist* on the 2012 ratio of CEO pay to *median* employee pay:

United States 354:1

Germany 147:1

Japan 67:1

Norway 58:1

The problem is that people *do* care about their relative rank on the social ladder and within their organizations (though not everyone to the same degree). I will further explain this in Part V in the chapter on meta-motives. People make comparisons in *any* situation and, according to the well-known *social comparison theory* (Festinger, 1954), tend to make upward comparisons. This has a strong influence on pay satisfaction, as a recent study showed. It was found that (1) people who clearly receive lower pay than people in the levels above them are least satisfied with their pay; (2) people whose pay level is congruent with the level above them are most satisfied and (3) people who receive more income than they should, based on this comparison, are slightly dissatisfied, although not as much as the people who feel underpaid, of course (Harris, Anseel & Lievens, 2008). We shouldn't however exaggerate the effects of this comparison, as these feelings might very well be temporary (for example at the time of filling out the questionnaire).

Jonathan Kelley and Mariah Evans investigated the causal link between inequality and subjective well-being using over two hundred thousand people across 68 cultures (Kelley & Evans, 2017). Especially in developing countries, the presence of inequalities provides people with hope, not despair. **Most people even prefer inequality: if they feel that the difference is fair, they have no problem with it.** For example, few people envy successful writers like J. K. Rowling (author of the Harry Potter books) or people like Bill Gates. Most understand that luck, guts, and hard work can sometimes lead to exceptional financial returns for very few people. Even hunter-gatherer societies valued inequalities, keeping slaves which they kept in poverty (Pinker, 2018). As Steven Pinker notes, if a countries' average wealth dramatically increases, almost all inhabitants will improve their wealth and well-being, but despite that, the absolute inequality or the difference between the richest and poorest will also likely grow. I agree that inequality is far less of a problem than poverty. Still, I believe the CEO-to-minimum-wage-worker pay ratio is a crying shame, because most CEOs did not create their company, were not lucky creators or inventors, but rather climbed their way up in the organization in ways that I find hard to accept. I deal with that later, but let me say that it does not reflect their competence, nor their contribution to their companies' financial success.

To conclude, let me remind you of the curious cases of Jack Welch (previously of General Electric) and Jeff Skilling (previously of Enron). Under the *reign* of Jack Welch, 10% of the employees were fired annually. The employees that were fired were at the bottom of the ranking system, hence the term '**rank and yank.**' It was a clear case of rank-order tournament competition. Jeff Skilling thought he could do even better and on top of that, misinterpreted Darwin's survival of the fittest theory (which he interpreted as the 'strongest'), and annually fired the bottom 20%. These former CEOs share at least two common features: first, they both used subjective, unilateral performance ratings and forced the ratings into a Gaussian distribution, even for small teams. Second, they were both condemned for disclosure failures (Welch) and fraud (Skilling), with Jeff Skilling serving a long prison sentence.

### **What else is wrong with this stuff?**

The 1981 paper by Lazear and Rosen was written at a time when economists thought people were rational agents trying to maximize their wealth. The authors seemed not to realize that the big prizes in particular would attract people who prefer risk-taking, which could pose a serious problem for the organization. Heightened rivalry is also likely to result in unethical behavior—a probable effect that was not considered. Uninformed by evolutionary psychology, they also seemed not to realize that this kind of overt and even aggressive competition would deter women from participating in the competition. Nor did they consider the other 'psychological games' that people play: deception and derogation of competitors, for example.

The authors made some unsubstantiated assumptions such as “*Salesmen, whose output level is easily observed, typically are paid by piece rates*” or “*a person’s productivity as chief executive officer is measured by his effect on the profitability of the whole enterprise*” (p. 848). These are gross oversimplifications as I can easily demonstrate: if you put a salesperson (for example a medical representative) in another region where the context is very different (for example with a doctor who is an important *opinion leader* that influences the prescribing behavior of neighboring doctors, but who promotes your competitor’s drug), that salesperson’s success or output level will drop dramatically. Maybe there isn’t much they can do about it. Sales results depend on skill, context, and sheer luck. As for the claim that CEOs have a large effect on the profitability of the whole enterprise: show me some sound evidence.

Nor did economists at the time seem to care too much about side effects such as demotivation, reduced effort from the people who found the wage gap unfair, or reduced productivity. To his credit however, Lazear (1989) nuanced his views after receiving criticism from organizational psychologists and even wrote:

*“The main point of this analysis is that wage compression is optimal under competitive circumstances. Further, average productivity is lower in a firm of competitive individuals.”* (p. 578)

*“The argument by union leaders and personnel managers that pay dispersion leads to disharmony is correct.”* (p. 579)

He also acknowledged that energy might be wasted on making opponents<sup>205</sup> look bad and a reluctance to share their secrets, even resulting in reduced output. But why didn’t he think of this in the first place—you don’t need psychological research to understand that.

### ■ Theoretical soundness

The apparent dualism between cooperation and competition has been well documented (e.g. Boehm, 1999; Hogan, 2006). Healthy people try to strike a balance between these two meta-motives throughout their lives. Some individuals lose this balance by behaving too selfishly, and sooner or later are corrected by the other group members. Take, for instance, the Western indignation of the culture of greed among top managers at banks when the financial crisis hit in 2008—clearly a result of the exaggeration of the need for agency or the urge to beat the competition.

On the other hand, it cannot be denied that competition for high prizes seems to work, especially in sports. One only need look at sports like golf, tennis, or Formula 1 racing, to understand how people become motivated to reach the top. Often, in sports, the competitors with the highest skill reach the top and win the highest prizes. Of course, people also often game the system by cheating. One of the most famous recent cases was Lance Armstrong, who admitted he had won the Tour de France seven consecutive times by doping. Experimental research has revealed that under tournament pay structures, not PFP pay structures, men tend to lie significantly more than women to maximize their outcomes (Nieken & Dato, 2016).

### What does my Champions League of experts say?

Creating internal competition is considered a dangerous strategy. Cooperation and belonging to a group (i.e. *belongingness*) gave mankind an evolutionary advantage. This was

<sup>205</sup> *Derogation of competitors* is what evolutionary psychologists call this.

our ancestors' most important meta-motive. This thesis is also confirmed by most (behavioral) biologists like Richard Dawkins or Robert Trivers, as well as by psychologists like Steven Pinker or mathematicians who use game theory like Robert Axelrod.

Daniel Kahneman won the 2002 Nobel Memorial Prize in Economic Sciences for his work on behavioral economics. He co-developed Prospect Theory with Amos Tversky and showed that 'Expected Utility Theory' was wrong: people are not rational optimizers, for example. They make (economic) decisions using all kind of heuristics and biases. Loss aversion, framing effects, anchoring, etc. all result in real-life choices that are neither rational nor optimal.

### **What does the majority of the field of experts think?**

There is no consensus in the field as two opposing camps are still fighting each other over the impact of financial rewards and pay gaps. One camp holds a kind of materialistic, individualistic, and extrinsic view. They believe that people try to maximize their personal interests at all times. The other camp has criticized the predominantly American emphasis on money as a motivator. Both camps have reached different conclusions based on their own research, but sometimes also based on the same data. It is very probable that *both* camps have conducted biased research, so I had to assess the empirical research too, to reach my own final verdict about the theory.

**The score for Tournament Theory in general: - 2.** Although internal competition *might* sometimes create some beneficial effects (e.g. higher initial effort), evolutionary psychology *retrodicts* that heightened internal competition will reduce collaboration and group productivity.

### **■ Empirical findings**

#### **What is the level of evidence for rank-order tournaments?**

Some studies have found positive effects of rank-order tournaments on individual performance in sports such as golf, tennis, and car racing (e.g. Becker & Huselid, 1992; Ehrenberg & Bognanno, 1990; Gilsdorf & Sukhatme, 2008), although it was found in racing that safety was also diminished when the prize spread was very large. But of course, these are sports where individuals compete against each other. This cannot be considered evidence for the contention that internal competition through vertical pay dispersion will result in better firm performance. Sports and business are not the same, and individual sports and collaborative firm performance are not the same either.

What strikes me is that there is a large divide between the conclusions drawn by psychologists and the conclusions drawn by economists. Generally speaking, quite a number of economists are supportive of Tournament Theory, especially when it comes to judging Executive Rank-Order Tournaments, where the pay gap between the CEO and the other TMT members is large. Psychologists, on the other hand, are skeptical of the idea that one can actually conduct field research that can prove how one aspect (e.g. the CEO-TMT wage gap) would cause better firm performance. The two main reasons for this are that (a) there are many variables that likely influence firm performance and (b) correlation is not causation. Maybe high-performing teams can pay higher CEO wages.

From the previous paragraphs, we learned that, theoretically, cooperation is more important than internal competition in almost any setting and that internal competition might create adverse and harmful effects. In their initial theorizing, Lazear and Rosen did not predict such negative effects. Edward Lazear and Sherwin Rosen (who died in 2001) were two U.S. economists, though Lazear later specialized in human resources. Probably due to

their lack of a background in psychology, their 1981 paper did not reflect the probable effects such as levels of *stress* or reduced *motivation*. I checked their paper for these words: they do not appear even once. **The field of psychology is particularly bad at looking at possible negative side effects (in contrast to medical research, where such research is obligatory, especially for drug approval), and the world of economists does not seem to do any better.** So, has any harm been detected? The simple answer is yes.

More than 30 years after the publication of the seminal paper on rank-order tournaments, Connelly et al. (2014) reviewed the scientific literature related to tournament theory and produced a long list of negative effects due to big pay gaps. They needed five pages (pp. 24–29) to present their Table 2. I hereafter present some findings in their list:

- Prize spread is associated with likelihood of turnover (Messersmith et al., 2011).
- Prize spread may lead to undesirable levels of conflict between actors if they have reason to believe they should receive similar prizes (Fredrickson et al., 2010).
- Prize spread is negatively related to organizational performance, particularly when it is greater than can be justified (Fredrickson et al., 2010).
- Prize spread effects are greater on proximal outcomes (e.g., productivity) than on distal outcomes (e.g., firm performance) (Kepes et al., 2009).
- Prize spread is more detrimental to firms that require collaboration (Bloom, 1999; Siegel & Hambrick, 2005).
- Tournaments may foster aggressive and competitive behavior (Siegel & Hambrick, 2005).
- Prize spread between the top actor and the next level is negatively related to performance (Carpenter & Sanders, 2004).
- Greater prize spread is associated with lower individual and group performance for jobs in which interdependencies are important (Bloom, 1999).
- The greater the prize spread, the lower the actors' satisfaction and productivity—and the less likely it is that actors will collaborate to increase productivity (Pfeffer & Langton, 1993).
- Tournaments with large prize spreads can motivate higher effort but also may unwittingly promote counterproductive behavior (Henderson & Fredrickson, 2001).
- Under-rewarded employees behave less cooperatively and more selfishly while over-rewarded actors behave more cooperatively (Harder, 1992).

The above list reflects only about 15% of the negative findings of the Connelly review. The effects on stress were absent in this paper, which is a surprise, as I expect that such competition can lead to heightened and chronic levels of unhealthy stress.

Two other findings not listed in this review are also noteworthy. First, in contests like the ones created by rank-order competitions, **people often resort to sabotaging other 'contestants'** (Bose et al., 2010; Lazear,<sup>206</sup> 2000; Main et al., 1993). As I mentioned in the first chapter, when competition for money is very high, we will see people committing fraud in order to win the contest. Once again, think of Lance Armstrong<sup>207</sup> or Jerome Kerviel (bank fraud). The heightened risk for fraud was clearly not considered when the theory was concocted.

<sup>206</sup> For the watchful reader, this is indeed the same economist who launched the rank-order tournament theory and who revised his opinion in 1989!

<sup>207</sup> Psychologist and skeptic Michael Shermer (*The Moral Arc*, 2015, p. 48–51) worked out the game matrix dynamics of why professional athletes such as Lance Armstrong use performance-enhancing drugs. The payoffs for winning are so great that the incentive to use banned substances is very powerful. Once a few elite athletes defect from the rules, the other competitors feel the need to defect as well, leading to a cascade of defection through the ranks. This is exactly the same effect we can expect by creating internal competition thanks to Tournament Theory.

Second, **women in general shy away from overt competition** and they are demotivated by competition (e.g. Niederle et al., 2007).

### **What is the level of evidence for the beneficial effects of large pay gaps?**

As predicted by evolutionary psychology, large pay differences generally lead to less cooperation, lower performance and lower quality. Reicher et al. (2007) conducted an experiment that demonstrated that **as the inequality of the rewards increased, employee performance declined**. They were not the only ones to reach this conclusion. The experiments confirmed previous analyses from real life. Bloom (1999) found (to his surprise) that large pay differences do not lead to increased competition among the most competent employees to belong to the top group, but rather the smaller the pay differences, the better the individual *and* company performance. He also found that large internal pay differences led to **greater turnover**. This 'sorting' is considered a positive effect by some 'salary experts' because it allows the company to attract competitive people, even though there are numerous studies that show cooperation is far more beneficial than internal competition. These salary experts are people who only look at the income generated by the top performers, but don't look at what money is spent or lost by average and low performers. Typically, they fail to realize that the star talents cannot achieve superior performance without a large number of supporting colleagues.

In 2017, Anthony McDonnell and his colleagues reviewed 88 papers on talent management from 1998 to 2013 and concluded that most research revealed that pay did not help retain talent. With regard to pay, some of the reviewed research suggests that organizations would be better off not deviating too much from the market pay rates. They propose that the main ingredients for successful retention are (1) the company being perceived as socially responsible, (2) responsible leadership, (3) company purpose, (4) company culture, (5) the brand, and (6) opportunities provided to employees. They too conclude that **"it is a mistake to assume that high levels of individual performance automatically aggregate to organizational performance"** (p. 119, bold emphasis my own).

Another study of 102 business departments concluded that the greater the difference in pay between the *lower employees* (how condescending...) and top management (how flattering...), **the worse the product quality** (Cowherd & Levine, 1992). A meta-analysis of 39 studies also showed that there is no relationship between performance pay and quality. Performance pay only succeeded at keeping people at work for boring manual labor (!), which led the authors to conclude that this was probably regarded as frustration pay by the employees (Jenkins et al., 1998). In contrast to the findings of Jenkins et al., Garbers and Konradt (2013) found positive correlations between performance pay and performance quality (i.e. a behavioral indicator such as accuracy, although they admit the quality measures may have been unreliable). But upon closer inspection, they also found that **team-based rewards had greater positive effects than individual-based rewards on performance**—a finding that also supports the view that cooperation is better.

Johnson et al. (2006) also showed that if people have been in a competitive reward structure and switch to a cooperative reward structure, they face difficulties: they demonstrate what they call *cutthroat cooperation*, marked by **faster decision making but lower team decision accuracy and reduced information sharing**. Furthermore, two studies proved that *profit sharing and stock rewards* improve cooperation and enhance feelings of belongingness (Coyle-Shapiro et al., 2002; Kuvaas, 2003).

High-Performance Work Systems (HPWSs) are often considered to be 'best practices' by I/O psychologists. Motivation-enhancing practices consist of performance evaluations, pay-

for-performance plans, above market compensation plans, etc. Skill-enhancing practices mostly consist of selective staffing (recruiting the best), training, and coaching. Opportunity-enhancing practices consist of participative decision making, job rotation, granting a lot of job autonomy, etc. They aim at unlocking autonomous motivation. Two out of the three HPWS-practices seem to have a negative interaction effect with vertical pay dispersion (VPD). VPD is not a substitute for motivation and skill-enhancing practices—these practices show negative correlations with firm performance if combined with VPD. Only opportunity-enhancing practices seem to be complementary with VPD, perhaps because opportunity practices and VPD each tap into different motivational aspects, namely intrinsic and extrinsic motivation, respectively. (Messersmith et al., 2017).<sup>208</sup>

Let's now have a look at the different *players* in the rank-order tournaments.

### CEO and Top Management Team

In both the academic and political arena and in the media, the spread between the average CEO compensation and the average worker (not the lowest paid) compensation has been the subject of heated debate. In the U.S., the ratio has increased from 40:1 in 1982 to a staggering 331:1 in 2013 (AFL-CIO, 2014). The question is whether we can rationally explain such a difference. Or is it a matter of ethics only?

Two research findings about motivation and retention might seem counterintuitive: you will actually **demotivate your best performers** and **the turnover rates of your best-paid people will be higher** than for those paid a lower salary—this is especially true at the top of the organization (Messersmith et al., 2011):

1. When large pay differences exist **between TMT executives**, turnover among TMT executives is higher as well. Turnover becomes even more significant as the executives receive a smaller part of the total remuneration available to top management (e.g. the CEO receives a very large part).
2. Moreover, the greater the share of **variable pay** in the total remuneration, the higher the turnover intention. This indicates that people at top levels are risk averse too and prefer to have fixed pay rather than variable pay.
3. A counterintuitive finding is that if large pay differences between TMT executives exist, **those with a larger share of the total remuneration are more likely to leave the firm** than those with a lower share. The researchers state that whoever earns a lot has a lot to lose. Apparently, these people seek ways to safeguard their salary. The researchers propose several hypotheses to explain this counterintuitive fact. Perhaps the high salaries these people earn signal to other firms that they are indeed top performers, which is why other firms may make even better offers. If these people are truly talented, they will climb to the top much quicker, where they will receive a high salary. This gives them even more opportunities than lower performers to earn more in other firms. Another possible explanation is that when pay differences are small and the culture is egalitarian, a person who earns a little more than his colleagues feels overpaid and therefore obligated to stay with the organization. This way, he can try to implement improvements in an egalitarian environment and therefore compensate for his or her *'overpay'* Finally, the researchers do not rule out the possibility of an even simpler explanation: namely, people at the top of organizations maintain the strategy of *'grab the money and go.'*

<sup>208</sup> This study only dealt with South Korean firms. It remains to be seen if this will also be the case in other countries, as South Korea is known for its enormous cultural pressure on work performance, leading to a great deal of overtime and unhealthy workaholic behavior.

4. When these effects became visible at the top of the organization, **pay differences had even stronger negative effects at lower levels.**

These findings were partially replicated by Ridge and colleagues in 2017: they also found that pay dispersion among TMT members was related to higher TMT turnover. They judged that this result was consistent with social comparison theory, which posits that people might experience feelings of inequity. **On the other hand, they found that if there was a large pay disparity between the CEO and the other TMT executives, this correlated with lower executive turnover.** Ridge et al. interpreted this as a result that was consistent with tournament theory because the pay gap is a motivator. This hypothesis, however, was not originally formulated in the Lazear papers from 1981 and 1989. Other researchers such as Heneman, Lambert, and Zenger added this extra hypothesis later. I don't consider this to be an original aspect of Tournament Theory, as Lazear predicted better work and skill acquisition, not lower turnover. An earlier study by Ridge et al. (2015) demonstrated that individual preferences led to different responses. For example, younger TMT members made more pay comparisons than late-career executives, who valued job security and stability more. There are far more variables than in the original mathematical equation proposed by Lazear and Rosen in 1981.

If you thought the list of disadvantages in the previous paragraphs was complete, think again. Indeed, when Kini and Williams (2012) researched a large sample of organizations in the ExecuComp database (USA) over the period of 1994–2009, they found that larger CEO-TMT pay gaps encouraged **greater risk taking** among TMT members in the hopes of attaining the position of CEO. This also posed higher firm risks such as undertaking riskier investments and financial policies. Shi and colleagues (2016) found that the larger pay gap between the CEO and other TMT members was related to a **higher likelihood of securities fraud**, e.g. by falsifying information. Kilduff and colleagues conducted 4 experimental studies to test their hypothesis that if people viewed their competitors as rivals, this would lead to more unethical behavior. They found that people (1) find competition against their rivals more important to their self-worth, especially (2) if they compete with each other in repeated contests. They also found that *“rivalry led people to focus more on winning and outperforming their opponents, and less on the means to achieve these goals, thus leading to greater unethical behavior”* (2016, p. 1526). The title of their article says it all: **“Whatever it takes to win: rivalry increases unethical behavior.”**

Another (un)surprising finding is that U.S. companies headed by female CEOs have smaller pay gaps and yet still perform better. Therefore, Tournament Theory only seems to work for male CEOs (Vieito, 2012).<sup>209</sup> This finding doesn't contradict findings in female tennis, as although a tournament prize structure in tennis stimulates better player performance, the female tennis players of course only compete with other females. Moreover, in tennis tournaments, it is not clear whether it is the possible gain in WTA points or the financial incentive that does the job. Top players like Maria Sharapova only get about 10% of their earnings through prize revenues, while the other 90% consists of sponsorship contracts, participation fees, and appearance fees (Llorca et al., 2017).

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<sup>209</sup> This study used ExecuComp information from 1,500 public U.S. companies during the period from 1992 to 2004.

## Sales people

And what about sales? Although contests are often used in sales, the effects are not univocally positive. In general, participants put in more effort at the beginning of the contest, but this effort often soon dwindles. For example, Casas-Arce and Martínez-Jerez (2009) found in a sales contest of independent retailers<sup>210</sup> that tournaments could be less effective when:

- (1) the number of participants in the contest increased (as the incentives weaken, the efforts diminish);
- (2) the gap between the best and other participants in the contest broadened greatly: in this case the winners also decreased their efforts, not only those that were in trailing positions;
- (3) it is difficult to keep contestants motivated during the tournament, especially if it is over a long period. They conclude it is not clear whether effort is sustained over a long period of time.

Sales people who are *frequently* subjected to contests are likely to treat customers in a less customer-friendly manner. If this is accompanied by frequent shifts in priorities, it can also harm their motivation. However, if teams pursue team goals, then a team competition format does not harm customer orientation (Poujol & Tanner, 2010).

## What about corporate success?

The final verdict, however, should be whether vertical pay dispersion really does lead to better company performance, especially on the long-term. Generally speaking, the evidence is mixed. Some researchers (e.g. Beaumont & Harris, 2003; Shaw, Gupta & Delerey, 2002; Lin, Yeh, & Shih, 2013) suggest that situational factors might account for the mixed results.

So, how much confirmatory or refuting evidence is there? This is what I found in the peer-reviewed literature:<sup>211</sup>

- **Two studies found no correlations** (Conyon, Peck & Sadler, 2001; Rajgopal & Srinivasan, 2006).
- **Four studies sometimes found positive correlations** (Burns et al., 2013; Lee et al. 2008; Sanchez-Marin & Baixauli-Soler, 2015; Shaw et al., 2002), although these findings are very conditional. For example, Shaw et al. predicted that pay dispersion would lead to higher workforce performance if the workers executed independent work and if they received formal individual incentives. If the work is interdependent, they predict that pay dispersion will have a negative effect. In Spain, Gregorio Sanchez-Marin and J. Samuel Baixauli-Soler (2015) used a sample of large Spanish companies to test the hypothesis that vertical pay gaps motivate competition and lead to higher firm performance. The Spanish researchers analyzed data from 91 non-financial, listed Spanish companies spanning 2004 to 2012. They tested whether governance structures such as board monitoring and ownership structure would affect or show an interplay with CEO-TMT pay dispersion. They found that **the combination** of (1) a large pay gap between the CEO and other TMT members and (2) independent monitoring boards consisting of (3) a high proportion of independent directors was **positively correlated with firm performance**. To assess firm performance, three measures were used: IRR\_ROA (industry relative ratio of return on assets), IRR\_EPS (industry relative ratio of growth earnings per share) and IRR\_TOBINQ (Tobin's Q is the market value of common equity plus book value of liabilities, divided by the book value of total assets of the firm). Natasha

<sup>210</sup> They researched independent retailers and, for those retailers participating in the contest, an increase in sales effort of 24.5% was found in comparison to the sales prior to the tournament.

<sup>211</sup> I don't exclude that my overview is incomplete. The field is very scattered, and the definitions are sometimes vague. However, the list contains some studies that reviewed the literature in their theoretical considerations in the introductory sections of their article, so I guess I didn't miss a lot.

Burns and her colleagues found that steep tournament structures led to better performance in the U.S., but there is no relationship in the Nordic, Asian, and Middle Eastern regions. The researchers try to explain this finding through cultural differences: only cultures that value competition seem to benefit from tournaments (Burns, Minnick & Starks, 2013).

- **Nine studies, however, find a negative correlation with long-term company performance** (Carpenter & Sanders, 2004; Connelly et al., 2013; Connelly et al., 2016; Cowherd & Levine, 1992; Grund & Westergaard-Nielsen, 2008; Herrmann et al., 2004; Heyman, 2005; Martins, 2008; Winter-Ebmer & Zweimuller, 1999). Herrmann et al. (2004) used factor analysis to extract dimensions such as *corporate citizenship* and *job satisfaction* and compared them to dimensions of corporate success such as *sales growth* and *operational profit*. They concluded: “*strong performance orientation and internal competition, a marked formalizing of processes, and superficial inter-human relations proved negative for success*” (explained and cited in Schönborn, 2010; p. 236, who also found his findings corroborated with the Herrmann findings). Jeffrey Pfeffer and Bob Sutton had already warned that an organization would also lose when internal competition was high: “*When employees have to compete for the company carrot, only a few can win. That means everyone loses — Including the Organization*” (1999, title).

Since companies should be concerned with long-term profit, especially those that believe that employees really should work together, **the weight of the evidence points to negative effects in the long term**. I refer to the chapter on goal setting, where meta-analytic research also demonstrated that group goals were better for company performance than individual goals. The converging evidence points to the benefits of collaboration over competition, and hypercompetition in particular.

### **Is skill development a mediator?**

Another important question still remains: do executives really work harder and acquire greater skills, or do they just try harder to manipulate and game the system? In the peer-reviewed psychological literature I consulted, I found no evidence that creating internal competition by rank-order tournaments would lead to skill development. There is no good evidence on the mechanisms underlying the potential beneficial effects. On the other hand, there is much more evidence supporting the assumption that people will try to game the system.

### **Untrustworthy databases**

There is a serious problem however with a lot of these studies. They rely almost exclusively on the Standard and Poor's ExecuComp pay data base. The problem with this database is that often data are added afterwards ('backfilling'). The most backfilling concerns data about executives at firms with low salaries and high option compensation. This poses a serious risk that the effects of pay-for-performance or pay dispersion is biased (Gillan et al. 2017).

Tournament Theory Summary Table

| Positive Findings   | Negative Findings  | Source  |
|---|--|---|
| <p><b>Individual performance</b> shows higher positive <b>correlations</b> with pay dispersion than with equal compensation levels—at least <i>in the short term</i> and <i>for jobs with low interdependence</i>.</p>                      | <p>Pay dispersion within TMT shows a negative correlation with performance.</p>  | <p>Cappelli &amp; Cascio, 1991*; Ericksson, 1999; Kepes, Delery, &amp; Gupta, 2009*; Marginson &amp; McAulay, 2008*; Shaw, Gupta &amp; Delery, 2002</p> <p>Ensley et al., 2007; Fredrickson et al., 2010; Pfeffer &amp; Langton, 1993; Siegel &amp; Hambrick, 2005*</p>   |
| <p>At the TMT level, (1) a large pay gap between the CEO and other TMT members combined with (2) independent monitoring boards consisting of (3) a high proportion of independent directors is <b>correlated</b> with firm performance.</p> | <p><b>Overall vertical pay dispersion</b> (interrank pay dispersion) shows a <b>negative correlation with long-term company</b> performance.</p>   | <p>Kale, Reis &amp; Venkateswaran, 2009”; Misangyi &amp; Acharya, 2014”; Sanchez-Marin &amp; Baixauli-Soler, 2015</p> <p>Carpenter &amp; Sanders, 2004”; Connelly et al., 2016”; Cowherd &amp; Levine, 1992; Grund &amp; Westergaard-Nielsen, 2008”; Heyman, 2005; Martins, 2008; Winter-Ebmer &amp; Zweimuller, 1999</p> |
| <p>Large pay gap between the CEO and other TMT members reduces TMT turnover.</p>  | <p>Large pay gaps between TMT members lead to more managerial turnover.</p> <p>Large pay gap between the CEO and other TMT members is <b>correlated</b> with riskier investments and riskier financial policies.</p> | <p>Bloom and Michel, 2002; Messersmith et al., 2011; Ridge et al., 2017</p> <p>Ridge et al., 2017</p> <p>Becker and Huselid, 1992; Kini &amp; Williams, 2012; Siegel and Hambrick, 2005</p>   |

| Positive Findings  | Negative Findings  | Source   |
|--|--|--|
| <p>Vertical pay dispersion may lead to <b>sorting effects</b> in organizations with steep structures: those who think of themselves as highly talented seek out these organizations and quit less. However, the hypothesis is tested indirectly.</p> | <p>Some studies found no correlations between pay dispersion and poor performers quit rates.</p> <p>A meta-analysis showed that <b>increased turnover rates damage organizational (financial) performance.</b></p>   | <p>Conyon et al., 2001<sup>*</sup>; Gerhart &amp; Fang, 2015; Messersmith et al., 2017; Shaw &amp; Gupta, 2007<sup>*</sup> (but only if it was combined with good pay-system communication)</p> <p>Shaw &amp; Gupta, 2007<sup>*</sup></p> <p>Park &amp; Shaw, 2013<sup>*</sup></p> |
|  | <p>Large pay gaps lead to <b>more shirking</b> (counter the hypothesis in Tournament Theory).</p> <p>Moreover, large vertical pay gaps between the CEO and other TMT members sometimes motivate unwanted behavior, leading to outcomes opposite to what shareholders want.</p> | <p>Bloom and Milkovich, 1998; DeVaro &amp; Gürtler, 2015</p> <p>Henderson &amp; Fredrickson, 2001; Shi, Connelly &amp; Sanders, 2016</p>   |
|  | <p>High competition with external CEOs reduces (<b>causal effect!</b>) Corporate Social Responsibility.</p>  | <p>Chowdhury et al. (in press)</p>   |
|  | <p><b>Women</b> shy away from this kind of overt competition.</p> <p>Risk-averse employees are less responsive to this kind of incentive.</p>  | <p>Niederle &amp; Vesterlund, 2007</p> <p>Cadsby, Song &amp; Tapon, 2007, 2009</p>   |
|  | <p>Undesirable behavior such as sabotage, derogation of rivals, etc.</p>   | <p>Bose et al., 2010; Conrads et al., 2014; Garvey &amp; Swan, 1992; Harbring &amp; Irlenbusch, 2009; Hart et al., 2015; Henderson &amp; Fredrickson, 2001; Lazear, 1989, 2000; Main et al., 1993</p>  |

| Positive Findings | Negative Findings   | Source   |
|-------------------|---|--|
|                   | Illegal and unethical behavior such as fraud and violation of securities laws.  | Dyck, Morse, & Zingales, 2010; Gilpatric, 2011   |
|                   | <p>An increased risk of class action lawsuits</p> <ul style="list-style-type: none"> <li>• Can lead to executive turnover.</li> <li>• Can lead to increased cost of capital.</li> <li>• Can lead to drop in stock price.</li> <li>• Are generally attributable to top executives.</li> <li>• Are more likely if (1) the CEO-TMT pay gap is large, combined with (2) high participation in diverse businesses and (3) certain environments.</li> </ul> | <p>Niehaus &amp; Roth, 1999; Shi, Connelly &amp; Sanders, 2016</p> <p>Arthaud-Day et al., 2006</p> <p>Chava et al., 2010</p> <p>Francis et al., 1994</p> <p>Bainbridge, 2004; Larcker and Tayan, 2011</p> <p>Shi, Connelly &amp; Sanders, 2016</p> |
|                   | If there is a lot of randomness (e.g. environmental uncertainty and chance), the motivating effect diminishes; this is further exacerbated if the firm participates in many diverse businesses.   | <p>deVaro, 2006; Lazear &amp; Rosen, 1981</p> <p>Shi, Connelly &amp; Sanders, 2016</p>   |

Referring back to the 6 propositions from Lazear and Rosen's 1981 paper I listed at the beginning of this chapter, we can evaluate (in bold) the propositions (in italics) as follows:

- (1) "*pay-for-level-of-output is better than pay per hour*": **this is refuted**, as this is highly dependent on worker characteristics (e.g. anxious, risk-averse people) and contextual factors. Shirking may even increase under this condition;
- (2) "*competitive lotteries are sometimes even better*": TT alone does not offer this advantage. This is **only partially confirmed at the CEO-TMT level (and at the beginning of the TMT careers) if TT is complemented with a good monitoring mechanism (such as independent boards). It is not confirmed at other (lower) levels of the organizations;**
- (3) "*large salaries of executives will provide incentives for employees who are willing to work hard*": this is **only partially confirmed**. It also provides incentives for employees who are willing to cheat or to game the system;

- (4) “*The CEO-TMT pay gap will provide incentives for executives for skill acquisition*”: this has **not been investigated**. Sometimes there is better company performance but the mechanisms (mediators and moderators) are only assumed;
- (5) “*the prize reflects the past effort to perform well and to acquire the necessary skills*”: as far as I know, this has **not been investigated**. It is unclear what are the mediators and moderators of higher firm performance;
- (6) “*people (‘players’) who are risk-averse will select themselves out, while risk-preferring people will select themselves in, even if few win large prizes*”: **There is mixed evidence to confirm this sorting effect**. For example, Shaw and Gupta (2007) found no effect.

As noted, there are several problems with the research papers. Not only did researchers often use a **database that is likely to contain bias**, but most studies only used **one organization** to test their hypothesis. A third problem (maybe on a personal level) is that I simply trust research from business schools far less than I tend to trust independent research from universities. But even for the confirming evidence, I insist that we consider that the evidence is **correlational** in nature. Only a few studies have tested both causality or reverse causality. **As a result, it is very difficult to get absolute certainty about cause and effect and about generalizability to other industries and organizations**. The predictions of Tournament Theory are very fragmented and the findings often contradictory. Perhaps the reasons are simple: people react differently to pay dispersion and pay communication... because they have different personalities and motives.

**The empirical score for Tournament Theory with regard to teamwork: -3.** The research convincingly shows that rank order tournaments are detrimental to collaboration. This is especially worrisome as most organizations have interdependent jobs and company success depends on collaboration.

**The empirical score for Tournament Theory with regard to firm performance: -2.** The total weight of the evidence points to negative effects.

■ **How likely is it that Tournament Theory will ever prove to be valid?**

I hesitated a lot in my evaluation of this theory. Should Tournament Theory be considered a myth or is there some partial truth to it? Under very specific circumstances, TT could have beneficial effects for organizations. Tournament Theory can have a motivational effect at the highest level of an organization, and the benefits can outweigh the negative effects from envy and unhealthy internal competition. It remains to be seen, however, whether this benefit can ever benefit the whole profitability of the organization. For that reason, I decided to include it in the Partial Truths section, in spite of the fact that very little of it seems true.

Most scholars agree however, that **at lower levels of the organization**, such as the team level, more equal pay and less internal competition are needed. Indeed, theoretically, it is **unlikely** that internal competition will produce more benefits than costs for an organization as a whole. So far, the empirical findings have confirmed this. To understand why cooperation outperforms internal competition, we must take a real long-term perspective. The perspective of human evolution and how quickly important features can change over evolutionary time.

Evolutionary biologists and evolutionary psychologists have concluded that leadership in (human) social animals is needed for coordination of group efforts, to reduce internal conflict, and to prevent social loafing or free riding. Tooby, Cosmides, and Price (2006) wrote that

*“Multi-individual cooperation could not have been maintained over evolutionary time if free riders reliably benefited more than contributors to collective enterprises and so out-competed them. As a result, humans evolved mechanisms that implement an aversion to exploitation by free riding, and a strategy of conditional cooperation, supplemented by punitive sentiment towards free riders.”* (2006, p. 103)

That is why people have inherited an innate preference for equality and fairness (Gummerum & Keller, 2008), and why we only give our best effort if we think everyone is contributing and profiting evenly, or in other words, if we are conditional collaborators (Fehr and Gächter, 1999; Kurzban et al., 2001).

It is highly unlikely that this human feature can change in such a short time. We are not fruit flies, so our evolution occurs relatively slowly. It took 3.5 billion years for life to evolve from a single cell to the complex organisms now inhabiting our planet, including us. This is far beyond our grasp—we can deal with time scales of 100 years quite easily, but not with time scales spanning billions of years. Just to give you an idea: if we replace 3.5 billion years with km, we could compare the existence of life to 3,500 km. The last hundred years would represent 0.0001 km or a mere... 10 cm.

Fossil and DNA research has revealed that one of our ancestor species, *Sahelanthropus tchadensis*, can be found some 6 to 7 million years ago (this is the ancestor who *probably* had a common ancestor with the chimpanzee). 3.5 million years ago was the era of *Australopithecus afarensis* (‘Lucy’), who could already walk upright and had a toe that couldn’t grasp as tightly as the toes of the great apes. It is retrodicted that our ancestors already gradually started losing their body hair at that time. Many intermediate ‘species of humans’ had to evolve before *homo sapiens*, our species, gradually evolved from those early ancestors. The beginning of our era started some 300,000 years ago. But this is not a radical change because the timeframe of 300,000 years is arbitrary; there is no such thing as a ‘radical’ new species. Only over a period of thousands of years does one begin to notice a difference with the bare eye. With such slow evolution over an immense time scale, it is highly unlikely we will suddenly start interacting, communicating, leading, or following very differently from the past. If you look at the elections of presidents (like in the U.S.) we still see remnants of our past: in over 90% of cases, the tallest candidate wins the election, regardless of the political party. Frightening that we still use stone age decision-making rules when it comes to choosing our leaders.

But the point is: leadership developed mainly as a solution to diminish internal competition and conflict and to coordinate group effort. Internal conflict must have had negative consequences for group living and individual survival and reproduction. So, I wonder why anyone can really think that internal conflict—obviously created by internal tournaments, especially if the prizes are very high—can actually be good for a group or an organization. Don’t we have enough external competitors to fight with?

Unfortunately, the theory will not be buried any time soon. Not much should be expected of external advisors like compensation consultants and some ‘professors’ of business schools, as they make a living out of making these claims. Moreover, most of them have devoted their careers to defending their position—known as the *consistency effect*. A person who feels it in their hip pocket (i.e., income or research funding) may suddenly experience fits of insanity, confirmation bias, selective argumentation, and emotional hiccups. Only critical thinking and refutation can save us from the confirmation bias that leads us to think that internal competition and large pay gaps *must* be motivating.

### Why do people believe this theory can offer them valuable insights?

A lot of leaders hope for something else to alleviate them from their tedious task of being a leader. They have been looking for *substitutes for leadership* since the late 1970s (e.g. Kerr & Jermier, 1978). Wouldn't it be great if money could replace all the work of good leadership and management?

If people at the top of an organization believe that competition will pay off as does in sports—they seem to forget that only the happy few win—then they will create all kinds of contests, such as 'employee of the month,' sales contests, and relative or rank-order pay. Top managers like to compare themselves to top sportsmen and sportswomen and are often attracted to competition, perhaps because they already consider themselves the winners of the competition for the top positions. What they forget is that (a) they were competing for a much larger prize than the employees in the 'lower ranks' of the organization; that (b) these employees might not share the same drive and personality aspects as they do; and (c) that competition has detrimental effects on collaboration and that this is especially problematic if the work is highly interdependent.

Another reason for its popularity is probably due to the mere exposure effect. When writing the draft of this chapter, I checked the number of citations for the 1981 Lazaar & Rosen paper: it had reached a staggering 4,751 citations as of October 25, 2015. The theory is very popular, but also the subject of much criticism. Connelly et al. (2014) provided a graph that demonstrated how publications on tournament theory have exponentially risen since the year 2000. Contrast this with the finding that the more nuanced paper by Lazear (2000) has been cited less than half as often as the 1981 paper: only 2,002 citations.

There are certainly more reasons to explain its popularity, not in the least the fact that the idea emanated from value-laden research reflecting the individualistic and competitive North-American culture. This is not the only example of an American idea becoming mainstream in Europe and other continents. A lot of managerial 'inventions' stem from the U.S. For example, SMART goals, forced distribution (ranking) of annual appraisal scores, rank and yank: all were started under the reign of former GE CEO Jack Welch. They were *assumed* to be 'best practices.' Wall and Wood (2005) were some of the first to criticize bad research designs and unsubstantiated claims that are so often found in the academic literature on *Human Resource Practices*. Their criticism concerned 4 points:

1. the fact that it was often *presupposed* that so-called *high-performance work organizations* would lead to better business results. The study designs often steered towards confirmation, not falsification. They concluded that the evidence did not yet allow for such a conclusion and that competing hypotheses should be evaluated;
2. the tendency of HR scholars to present correlations as causal, where no such causality could be demonstrated: e.g. one title stated "*Technical and strategic human resource management effectiveness as a determinant of firm performance.*" Other examples of inappropriate wording include 'impact,' 'determinant,' and 'effect,' when causality was not demonstrated. To investigate causality, longitudinal studies are needed;
3. the tendency to group together individual practices or interventions into multi-component scales. This is akin to someone in medical research saying: 'medication has proven to be effective' instead of 'drug X has proven to be effective, and drug Z has not';
4. the predominant use of single-source measures: most information has been collected through questionnaires from the CEO or HRM manager who also reported on performance. Biased answers are not excluded.

This criticism did not prevent both American and European companies from blindly copy/pasting, as many companies in the field of human resources are very hype-sensitive and uncritical. Criticism hasn't prevented scholars from continuing to use causal language ('impact of') in their article titles, while only stating in their 'limitations' section of their article that the research design does not allow for causal interpretations.<sup>212</sup> So, **a lot of bad research is presented with attractive titles that lure you in** and make you believe well-established cause and effects paths were found.

In addition, employees themselves often contribute to perpetuating the myth: because of our tendency towards self-overestimation, everyone seems to think large pay gaps will benefit him or her more than others: 70 to 80% of people think they are among the top 25% of performers (for a discussion, see myth 20).

Finally, I want to raise one more hypothesis about the survival of this rank-order tournament meme: many economists and commercial companies have positioned themselves as salary experts. They defend views that a company must first choose between collaboration and competition and use salary design for 'sorting effects.' Most of them aren't even aware of the psychological research into the effects of pay and rewards. They don't seem to care but they sure do make a very good living.

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<sup>212</sup> For example, Kehoe and Wright: "*The **Impact** of High-Performance Human Resource Practices on Employees' Attitudes and Behaviors*" (title) versus "*the cross-sectional nature of the study does not allow for any conclusions regarding causal relationships*" (2013, p. 386).

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