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# Apple Supply Chain Screening in China:

Documenting workers' grievances using Social@risk™



Globalworks Lund AB

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# I. Introduction

The electronics sector in China plays a key role for the global supply of electronic appliances. The country assembles more than 50% of all mobile phones in the world, almost all printed circuit boards, and about two-fifths of all semiconductors.<sup>1</sup> Due to her dominance in electronics manufacturing, IT brands rely heavily on China's export manufacturing capacity. Apple's top-200 suppliers, for instance, operate about 350 factories in China as compared to about 60 in the US. High supply chain exposure to a single nation is owed to the country's sophisticated, large-scale production that is adaptive to changing technological requirements and cyclical demand at a price that few nations can compete with. Yet, being vested in Chinese manufacturing has a downside as it is associated with a high risk of violating labour and human rights. China denies workers the right to independent organising, curtails freedom of speech, and provides insufficient paths to claim rights and remedies. Until 2016, the International Trade Union Confederation (ITUC) listed China as one of the 10 worst countries in the world to work in.<sup>2</sup> And until today China persists in the second lowest category of the ITUC Global Rights Index, containing those countries where there is no guarantee of rights.<sup>3</sup>

## I.1 The information gap

The UN Guiding Principles on Business and Human Rights (UNGPs) expect corporations to ensure that they respect human rights within their entire supply chain. This obligation requires particular care when suppliers are located in countries where the government fails to protect labour and human rights. To this end multinational enterprises (MNEs) regularly deploy third-party ethical or social audits. Apple Inc., for example, is a member of the Responsible Business Alliance (RBA, formerly called Electronic Industry Citizenship Coalition), which promotes its Validated Assessment Program (VAP); an onsite audit following a specific protocol and methodology.<sup>4</sup> A VAP for a single factory site lasts 2-5 days and includes a document review, interviews with management and employees and a visual site survey.<sup>5</sup> After quality assurance, the findings are used to formulate corrective action plans (CAPs), that the supplier has to implement within a given period of time.

Social audits such as the VAP are the choice of the industry as well as the consultancies and NGOs that depend on them financially. Many independent labour organisations and researchers, however, believe that social audits have no real impact on working conditions. A recent academic article summarises:

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<sup>1</sup> <https://www.boyden.com/media/electronics-manufacturing-forever-chinas-7307706/index.html>

<sup>2</sup> <https://www.ituc-csi.org/ituc-global-rights-index-2016>

<sup>3</sup> <https://www.ituc-csi.org/ituc-global-rights-index-2020>

<sup>4</sup> <http://www.responsiblebusiness.org/vap/about-vap/>

<sup>5</sup> <http://www.responsiblebusiness.org/vap/about-vap/>

“For nearly two decades, workers’ rights and trade union organizations, scholars, and auditors themselves have documented the flaws of the audit regime; yet, corporations have done little to transform it. The problem is not one of finessing the institutional design or audit methodology, but rather relates to corporate power, politics, and profits.”<sup>6</sup>

In China, the imbalance between corporate power on the one hand and workers on the other is exacerbated due to political repression of independent unions, labour NGOs and human rights lawyers. In fact, there is little independent information available because access to factories is restricted. The glimpses we occasionally read about in the news, often are acquired at a high risk by labour activists investigating undercover. Wallraffing, it seems, is one of the few approaches that can provide a worker perspective on conditions inside the factories. To say the least, this is alarming given that global supply chains regularly make use of labour from countries repressing workers’ rights. There is an urgent need to re-think and revise this system. Change, however, must not be negotiated between brands and suppliers, or between business associations and regulators. Meaningful change needs to be led by workers and must be informed by their experiences and opinions. From this perspective, the first step towards a more just and sustainable system of production is obvious – we need to listen to workers’ voices.

## 1.2 Listening to workers’ voices

A report from September 2019, published by China Labour Watch (CLW), a US-based NGO, finds pervasive labour rights violations at the Apple supplier Foxconn in Zhengzhou. The CLW report lists 18 violations including forced labour, excessive overtime, unpaid overtime, insufficient protective equipment, unreported work injuries, verbal abuse, and violations of student workers’ rights.<sup>7</sup>

These findings stand in sharp contrast to Apple’s internal audits. In its 2020 sustainability report the company asserts that among 801 assessments the average score was 91 out of 100.<sup>8</sup> The following findings were made: “In 2019, the majority of labor and human rights violations found in assessments were related to working hours violations and improper provision of wages and benefits” [p. 103].

In 2017, Students and Scholars Against Corporate Misbehaviour (SACOM) published an investigative report “Apple Watch 3 – Exploit Student Workers Further”.<sup>9</sup> The report investigated the production site of Apple Watch 3 and at that time, Apple Inc. and the investigated supplier denied that there was a production relationship between them. In 2018, SACOM conducted an undercover follow-up, which

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<sup>6</sup> LeBaron, G., Lister, J. and Dauvergne, P., 2017. Governing global supply chain sustainability through the ethical audit regime. *Globalizations*, 14(6), pp.958-975.

<sup>7</sup> <http://www.chinalaborwatch.org/report/144>

<sup>8</sup> [https://www.apple.com/supplier-responsibility/pdf/Apple\\_SR\\_2020\\_Progress\\_Report.pdf](https://www.apple.com/supplier-responsibility/pdf/Apple_SR_2020_Progress_Report.pdf)

<sup>9</sup> [https://brotfueralle.ch/content/uploads/2017/09/Apple-Watch-3-Exploit-Student-Workers-Further\\_SACOM-20170921.pdf](https://brotfueralle.ch/content/uploads/2017/09/Apple-Watch-3-Exploit-Student-Workers-Further_SACOM-20170921.pdf)

established that the Apple Watch 4 was produced at the production site in question and that treatment of students failed to meet legal requirements as well as Apple's Supplier Responsibility Standards.<sup>10</sup> In response to this second report, Apple confirmed that the factory was a new supplier and stated that the factory had been checked three times between March and June. They argued that no student interns were found at those times.<sup>11</sup>

The gap between management orchestrated audits and activist devised investigations is worrisome. Can this be the result of different assessment methods? Which assessment is more credible? Do activist investigations overemphasize the experiences of a few or are company audits out of touch with working and living conditions at the bottom of the supply chain? Clearly, it is the workers' prerogative to speak about their situation at the factory. And irrespective of methods or standards, it is the workers' voices that matter for any meaningful assessment. Looking at undercover investigative reports on the one hand and Apple's sustainability report on the other, this is common ground. The former features workers' voices and personal experiences prominently, and the latter states "Direct feedback from supplier employees helps us to better understand their experience so we can work with suppliers to identify opportunities for improvement" [p. 17].

### I.3 Ethical principles

The here presented study is an effort to make more workers' voices heard. We listen to workers who write in social media about their working and living conditions, about grievances and problems, about issues and practices that other workers should know, and about their anger and fears.

The social media posts we are looking at are posted publicly and most of them are directed towards peers, i.e. other workers at the same factory. Therefore, many posts explicitly relate to a specific factory by stating the location in the text or by posting under site-specific internet forums. To gain trust and demonstrate authenticity, workers reveal details that only an insider can know, post pictures from the factory site, or show screenshots of their factory badges or other factory documents. At the same time, workers make sure that their personal identity remains unknown.

Engaging with complaints and grievances posted in social media needs to be grounded in ethical principles that protect the right to privacy and anonymity and ensure data integrity so that workers are

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<sup>10</sup> <http://sacom.hk/2018/10/23/investigative-report-apple-watch-series-4-still-failed-to-protect-teenage-student-workers/>

<sup>11</sup> <https://www.scmp.com/yp/discover/news/asia/article/3057839/apple-investigates-chinese-student-workers-forced-assemble>

not exposed to risks of repression or retaliation because of their social media posts. Our research, therefore, rests on three ethical principles:

Ethical Principle I: Workers' voices are only used to promote workers' rights and interests

When workers post publicly, they do not expect the information to remain private. But, at the same time, they have not provided permission to use this information beyond peer-to-peer exchange. We cannot ask workers for their informed consent, because actively contributing to an analysis on labour rights violations conducted by foreign researchers and NGOs may expose them to repression and punishment. Since workers cannot explicitly consent with the purpose of this study, we seek workers approval by consenting to promote their cause. The data we collect and its use, therefore, are only used to amplify workers' voices and promote workers' rights and interests.

By consequence, this report provides a worker's perspective, which may deviate from other information channels that are administered by brands and their associations or by suppliers and their factory managers.

Ethical Principle II: Workers' voices must not be traceable and workers' identities anonymous

To protect workers' privacy and anonymity, this report excludes any information that could allow back-tracing. In particular, we present only aggregated information, avoid direct citations, and censor personal information and traits in pictures. We seek to ensure transparency and accountability by documenting the link between individual posts to their aggregated representation through coding. The coding keys that connect individual posts with aggregated information are randomly generated, stored encrypted, and kept at a location separate from the database containing all social media posts.

Ethical Principle III: Workers' voices are the property of workers

Workers' posts belong to the workers who write them. Collecting and analysing them does not permit us to use them as if they were our private property. Data use, therefore, is strictly not-for-profit.

## II. Data and Method

Data collection and analysis for this report were conducted with Social@risk™, a framework for scraping social media in combination with qualitative content analysis and quantitative trend analysis. The following paragraphs account for statistical properties of the data sample and explain the analytical methods applied in this study.

### II.1 Data

**Distribution:** We collected 1,162 million posts from 71 forums where workers discuss labour issues. These 71 sources relate to 32 factories (for detailed list on suppliers see Appendix I). Figure 1 depicts the distribution of posts among these suppliers. Information on 10 suppliers generated about 86% of all posts in our database. We seek to mitigate this imbalance in the qualitative analysis with a close look at smaller suppliers (in terms of posts). We reference 264 posts in the qualitative analysis. Of them, 37.5% relate to suppliers that do not belong to the ten electronics manufacturers that are over represented in the sample. Figure 2 depicts the distribution of referenced post by topic. The chart shows that there is no systematic bias towards any of the two supplier groups. The topics are discussed further in section III.

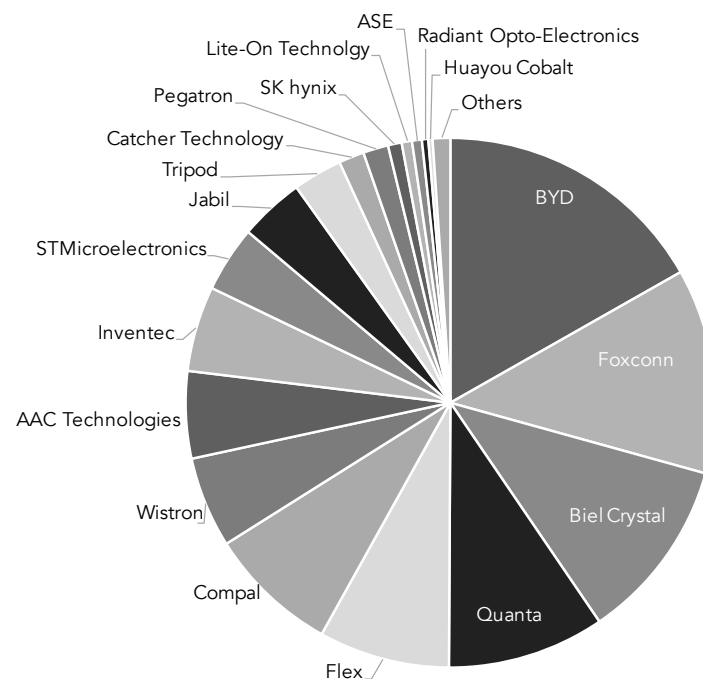


Figure 1. Distribution of posts by supplier

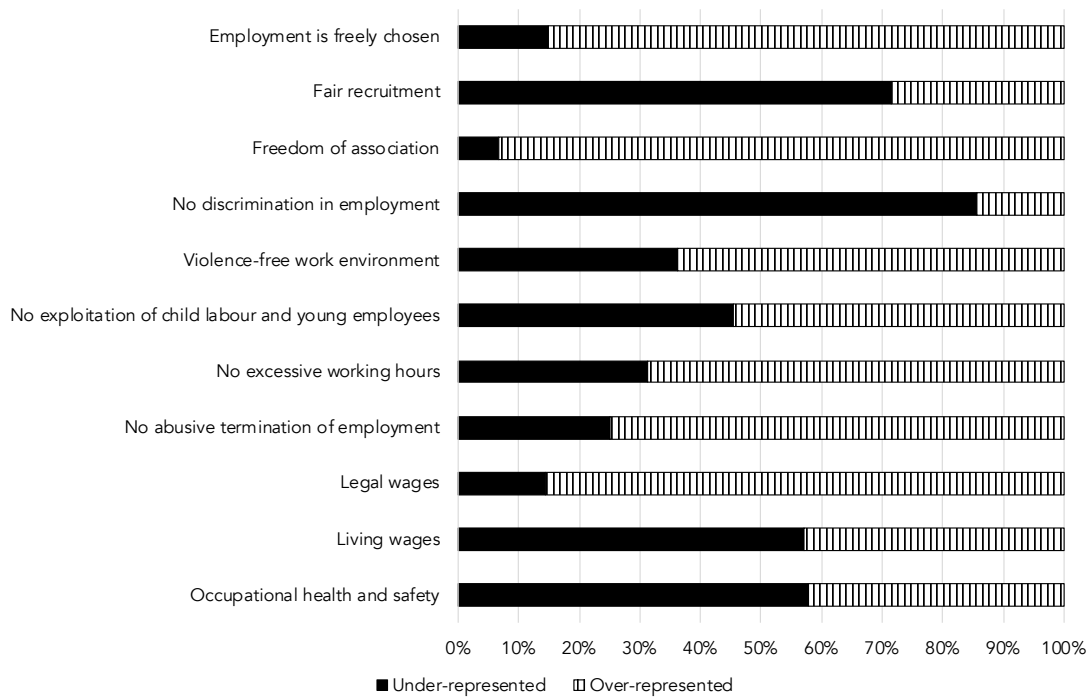


Figure 2. Distribution of posts by topic and supplier sample group

Sample definition: The *qualitative analysis* relies on 284.958 posts published between 1 January 2019 and 31 May 2020. To observe posting patterns and trends, we defined a longer observation period from 1 January 2016 and 31 May 2020 for a *quantitative analysis*. The quantitative sample contains 739.382 posts. The suppliers included in this study can be divided into eight groups (smelters and refineries, components, final assembly, printed circuit boards (PCB), semiconductors (SMC), metal, batteries, and plastics<sup>12</sup>). A detailed descriptive statistics on the qualitative and quantitative sample are enclosed as Appendix II.

## II.2 Identification of topics

We deployed a three-step procedure to identify labour and human rights related topics:

- (1) Identify terms and expressions that workers frequently use in social media to describe their problems. Significant keywords are selected through a word count based on all social media posts.

<sup>12</sup> Due to the low number of tagged posts in categories 'refineries and smelters', 'batteries', and 'plastics', we do not include them in the groupwise disaggregation.

- (2) Rank words according to their frequency and select those words that are relevant for labour issues. The resulting list consisted of about 150 terms.
- (3) Link keywords to eleven topics outlined in section III. Note that a keyword can be connected to multiple topics.

### II.3 Qualitative analysis

We identify grievances and rights violations with a qualitative analysis. Experts read and assess thousands of categorised posts in order to find relevant issues. The qualitative analysis rests on the principle that single voices matter because any injustice or violation calls for remedy.

But even though individual posts can provide important information, they could also contain incorrect claims or biased views. Therefore, to ensure that insights are relevant and robust, findings are presented within a broader context that features posts from different users making similar claims, posts from different users confirming a particular issue or practice, or posts from different users adding up to a pattern of rights violating practices. This approach ensures that we do justice to single voices and at the same time enhance the reliability of the findings. When robust and reliable claims point towards shared practices or cyclical/frequent grievance patterns, workers' voices can be used to make inferences about systematic rights violations.

We code each post that informs a qualitative claim. Numbers in brackets are references to these posts. The coding list is not part of the report. We keep them encrypted and separate from the raw database in order to ensure that single users cannot be traced even in case of a data breach on our server.

### II.3 Quantitative analysis

We deploy quantitative textual analyses assessing the relevance, and relative importance of posts relating to a specific labour issue. In particular, we use:

- (1) The number of posts belonging to a topic as a share of all posts. This number informs us about the relative weight of an issue in social media discussions.
- (2) The change of this share over time, which is a useful trend indicator.

In addition, we deploy sentiment analysis measuring negative perceptions. To this end we compute a negative sentiment ratio for each post. The ratio is calculated as the number of words with a negative connotation as a share of all words in a post.

The relative size of a topical discussion and negative sentiments attached to it provide feedback loops for the qualitative analysis: Is an observed trend connected to a higher social risk exposure? Does a rising share point towards new practices infringing on workers' rights? What are the most important factors explaining a rising or declining trend?



### III. Overview on findings

Findings in this study are presented under eleven topics: (1) Freely chosen employment, (2) fair recruitment, (3) freedom of association (FoA) and the right to collective bargaining, (4) no discrimination in employment, (5) a violence-free work environment, (6) no exploitation of child labour and young employees, (7) no excessive working hours, (8) no abusive termination of employment, (9) legal wages, (10) living wages, and (11) occupational health and safety (OHS). In addition to these 11 topics, we include a section on Covid-19 implications where warranted.

#### III.1 Qualitative textual analysis

Under each section, we present aggregated insights from a qualitative analysis. This is the core of our method, as it directly accounts for workers' voices. Because workers usually speak for themselves, their experiences and opinions are diverse. To avoid an arbitrary collection of posts, we construct each finding with posts from different social media users writing about similar experiences. This process of aggregating single voices into a collective voice does not add up to a representative statement, but it ensures that the violations and injustice described in this study reflect shared experiences demanding remedy and prevention. The following list is an overview on the qualitative findings for each section:

##### 1. Freely chosen employment

- Workers need approval from superiors to be allowed to resign
- Managers force workers to work overtime by threatening not to approve their resignation
- Managers do not process formal resignations
- Factories have quotas or queuing schemes for resignations
- Due to denied formal resignation workers leave irregularly and write in this context about wage deductions between 30-100% of last month's wage

##### 2. Fair recruitment

- Labour agents charge hidden recruitment fees labelled as management fees
- Workers are promised bonus payments, which they often do not receive in the end
- Workers are deceived with high wage rates, that are then lowered with all kinds of deductions
- Workers complain that it is impossible to hold agents accountable because they are sent back and forth between the agent that recruited them, the agency they signed their contract with, and the employer they work for
- Workers are exposed to harsh treatment and military style recruitment processes in order to get a job
- Recruitment can bind workers for several days without pay. During the recruitment period some workers are forced to buy all kinds of things from labour agents

##### 3. Freedom of association (FOA) and the right to collective bargaining

- Workers believe that the factory labour union and worker representatives side with managers rather than with workers
  - Sometimes workers cannot clearly differentiate between human resources departments and the labour union due to their close coordination
  - Workers complain about the labour union's lack of commitment to help with labour issues
  - Labour market turmoil due to economic slow-down allow the management to circumvent the labour union and instead negotiate eventual labour conflicts with local labour bureaus
- 4. No discrimination in employment**
- Recruitment advertisements suggest that some of Apples suppliers discriminate against ethnicity, sex, people from provinces with many Covid-19 cases, and individual appearance (tattoos, hairstyle, clothes)
  - Workers complain that they do not receive equal wage for equal work
  - Regular workers, dispatch workers, and outsourced workers do not have the same working conditions
- 5. Violence-free work environment**
- Workers report about violent behaviour of security guards and managers
  - Workers write about violent security guards
- 6. No exploitation of child labour and young employees**
- Student workers (interns and vacation workers) work long overtime hours, must attend meetings after their shift, and are denied breaks
  - During the Covid-19 outbreak, a student worker writes that the factory prevented him from leaving
  - Questions from student workers reveal that they are not informed at which factory they are going to work, or about working conditions
  - Student workers can only earn the contracted wage amount with overtime work – even though this is not allowed
- 7. No excessive working hours**
- During peak seasons employees work up to 140 overtime hours per month while the legal limit is 36 hours per month
  - Overtime work is not always voluntary. Workers refusing to work overtime are punished
  - Workers do not receive overtime pay for overtime hours
- 8. No abusive termination of employment**
- Factories register workers as 'detached' if they were not able to return to the factory due to travel restrictions during the pandemic
  - Factories seek to get rid of workers that were hired at high rates during a labour shortage in February 2020 and replace them with cheaper workers
  - During the economic slow-down in 2020, workers write that managers harass them to make them leave, and factories register workers as having left without informing them
- 9. Legal wages**
- Workers mention deductions for violating factory rules or work mistakes
  - Workers at two factories write about wage deposits
  - Workers complain about the use of overtime hours paid at a higher rate as compensation for vacation days and sick leave

- Workers did not receive wages during mandatory quarantine periods even though they were legally entitled to

#### 10. Living wages

- Unskilled and low-skilled workers do not receive a living wage. The basic wage for a regular 40-hour working week ranges between RMB 1800 and 2200. Living wage estimates by contrast range between RMB 3640 and 5670

#### 11. Occupational health and safety (OHS)

##### General complaints

- Workers write about tiredness and exhaustion due to the fast work pace, long working hours, many night shifts in a row, permanent switching between day- and night shifts
- Workers complain about foot and hand pain as a result of manual assembling
- Workers complain about waist and back pain due to unergonomic working positions
- Workers write about exposure to chemicals, and insufficient protection
- A worker writes that she has to work night shifts even though she is pregnant and handed in all required documents
- Workers write frequently about managers cursing and yelling at them for being too slow, for not reaching production targets, or just to vent their anger
- Workers complain about too little time to eat due to long queues, and work being resumed before the break is over
- Workers have difficulties to go to the toilet during working hours
- Workers write about four suicides between Sep. 2019 and March 2020
- An investigation report about a fatal accident states that a supplier to Apple is partially responsible

##### Covid-19 related complaints

- Workers are angered and stressed that implementation of Covid-19 measures rendered waiting times even more prolonged than usual. Every day workers have to spend hours standing to queue for food, for going to the toilet, for security checks, for getting on the bus, for entering the smoking area.
- During the Covid-19 outbreak isolation periods were shorter than required by regulations
- Living spaces and dorms were crowded
- Living conditions at the dorm are frequently described as not hygienic and sometimes even despicable
- Workers write that they are isolated from the outside world but that there is no effective separation between workers on duty and quarantined workers

### III.2 Quantitative textual analysis

#### Comparing the relative importance of topics

We complement qualitative insights with quantitative textual analyses. A first question we aim to answer is: How much is a topic discussed compared to other topics? We suspect that widely discussed topics affect a large number of workers, and by extension, mitigating such an issue will have a positive impact on many employees. Thus, the relative weight or size of a topic may inform a prioritisation of issues together with other factors such as the severity of a violation.

We measure the relative size of a topic with the number of posts belonging to it as a share of all posts categorised as belonging to at least one of the 11 topics. Figure 3 summarises the relative weight of eight topics since 2018. Three topics are not included because the issue is difficult to demarcate with keywords (living wage), workers are not the main source of information (discrimination), and issues overlap with another topic (free employment and no abusive termination of employment).

Figure 3 indicates that wages, recruitment, overtime work, and free employment dominated public social media discussions during the past three years. With the outbreak of the Covid-19 Pandemic, occupational health and safety emerged as a fifth major topic in 2020. What is more, the pandemic-induced economic slow-down pushed recruitment issues to become the single most important topic in 2020, while obstacles to resign (free employment) moved down to the second rank.

The detailed analysis in the following section provides further insights into the relative weight of each topic. We depict this measure per month for the period 2016 – 2020. The resulting trend charts allow us to make inferences about cyclical patterns, the emergence or decline of topics, as well as the occurrence of significant events.

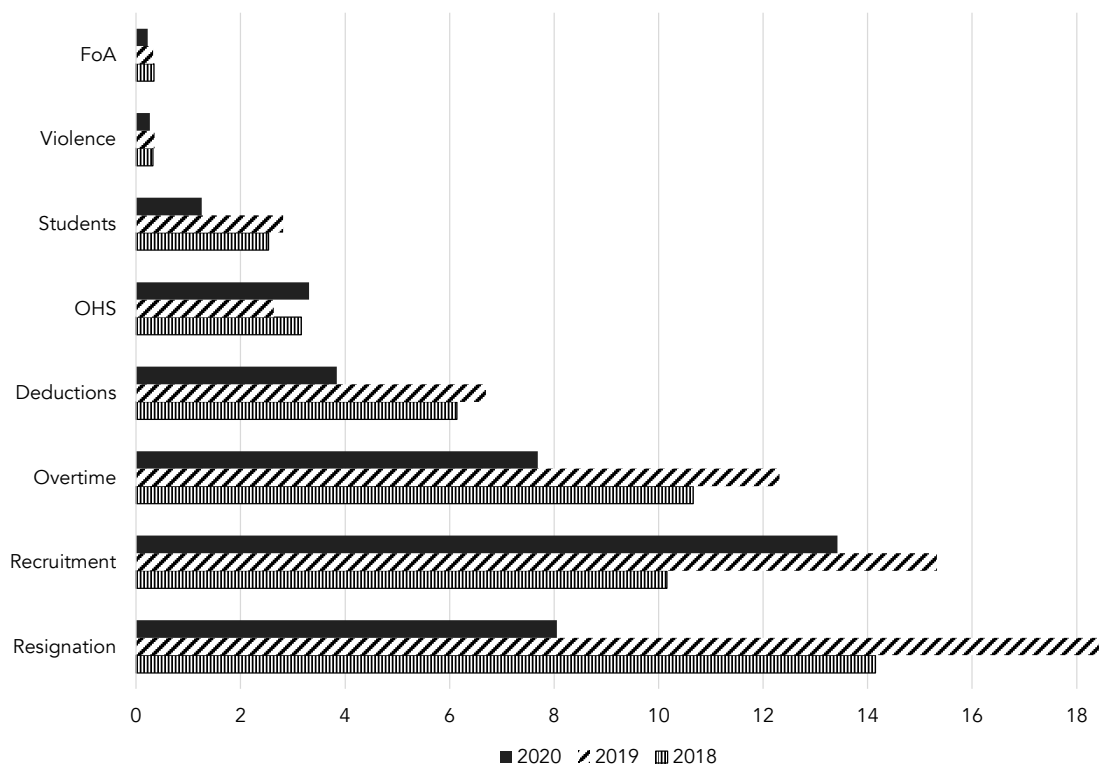


Figure 3. Relative importance of topics (percent of all posts per year)

In the following sections, we present topics disaggregated by supplier categories final assembly, components, printed circuit boards (PCB), metal, and semiconductors (SMC). Categories smelters and refineries, batteries, and plastics are excluded from this groupwise analysis because they entail less than

1000 relevant posts for the past five years, which is too little information for a disaggregated comparison. Furthermore, the disaggregated view is limited to topics that contain at least five posts per month and supplier category, i.e. resignation, recruitment, overtime, deductions.

### Comparing average negative sentiments related to topics

We want to find out to what extent workers perceive a topic as a problem. There are many reasons why employees communicate work-related issues in social media. They write to voice grievances, they write to inform and educate peers, and they write in order to get in touch with co-workers. Discerning problem perceptions within these different post types is an additional indicator on the relevance and urgency of a topic.

We capture problem perceptions with the negative sentiment ratio. For each post we calculate the number of words expressing a negative feeling divided by all words in that post. We then calculate averages by topic. The general negative sentiment ratio measures workers' common use of negative language irrespective purpose or type of post. We compare topic sentiments with this benchmark by calculating the average deviation. A high value indicates a comparatively strong negative sentiment.

Negative sentiments can be found in any text. We, therefore, need a benchmark that tells us whether workers express particularly strong negative feelings about a topic. To this end we use the general negative sentiment ratio, which is the average sentiment ratio of all posts including those that are not related to our eleven topics.

Figure 4 depicts the average negative sentiment ratio for the period Jan. 2016 – May 2020 by topic. Note that we excluded the topic violence because negative perceptions are inherent to it. We look instead at negative sentiments in posts mentioning managers and leaders because the qualitative analysis suggests that they are a source of violent behaviour and verbal abuse.

Figure 4 shows that problems to resign (freedom of employment) feature the strongest negative perceptions. Three additional issues, namely freedom of association, management, and occupational health and safety, are above the average negative sentiment for all posts. The general tone for posts on overtime, student workers, and recruitment, by contrast, is below general negative sentiments. Many posts in these categories deploy neutral expressions informing about work opportunities and employment conditions.

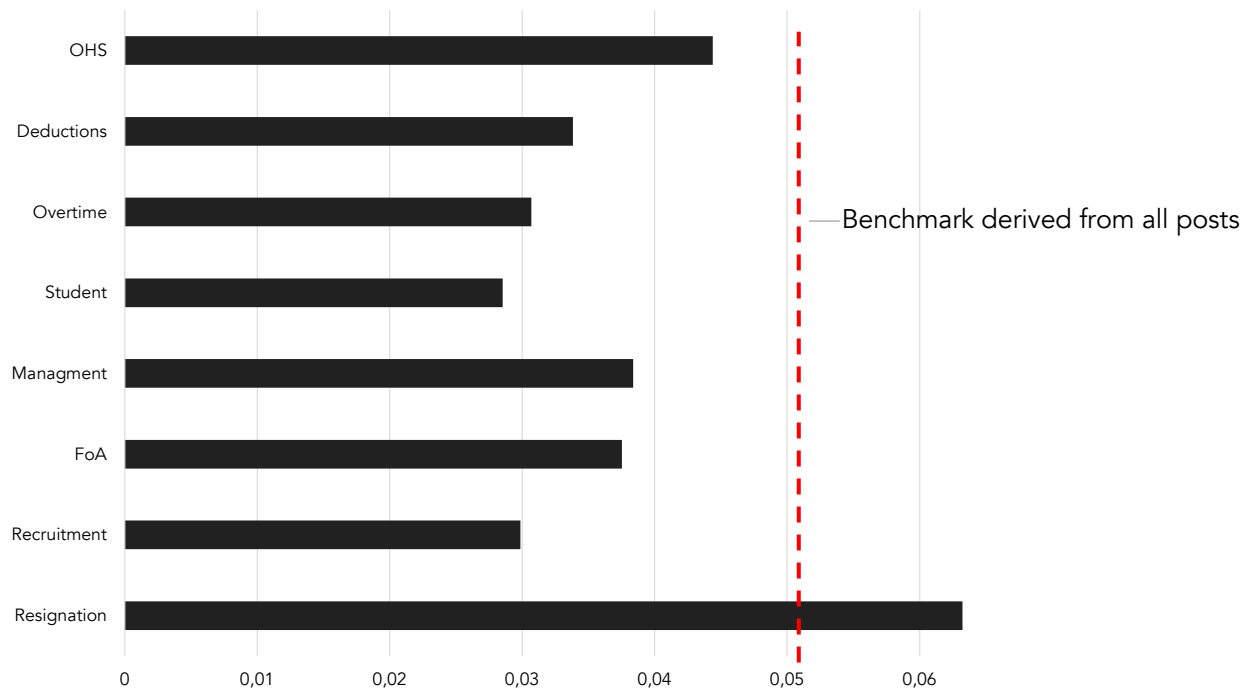


Figure 4. Comparison of average negative sentiment ratio by topic

The average negative sentiment ratio is a useful measure when many workers share similar perceptions. Yet, employees' experiences and opinions are diverse. Workers facing injustice probably feel strongly about it and the negative tone in their posts will deviate from the average negative sentiment. We need to find and amplify these voices because otherwise relatively neutral posts will smooth over their grievances. At the same time, emphasizing the negative perceptions of a few workers may give a distorted picture of the overall situation. We therefore need a measure that represents minority perceptions in relation to majority perceptions.

To capture the bandwidth of negative sentiments, we calculate the standard deviation, which measures the average deviation from the mean value. Thus, the bandwidth of negative sentiments tells us how far negative sentiments spread on average. Figure 5 depicts the average negative sentiment bandwidth for the period Jan. 2016 to May 2020 by topic. The figure shows that all topics seem to contain many posts expressing strong negative emotions.

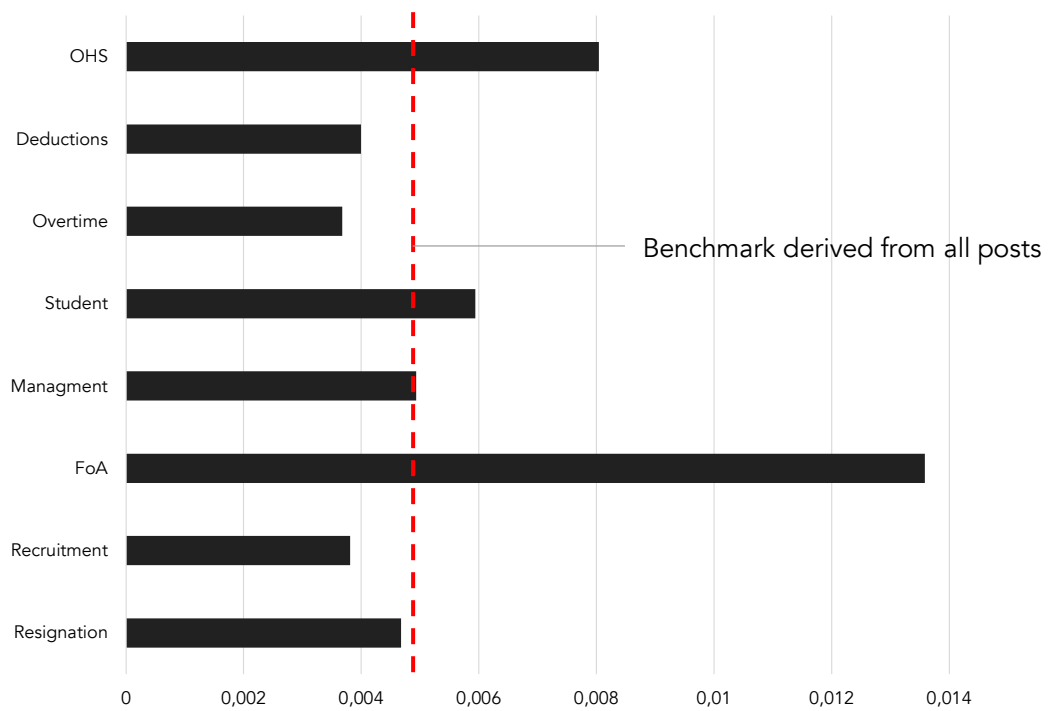


Figure 5. Overview of negative sentiment bandwidth (measured as standard deviation)

# 1. Employment is freely chosen

Article 37 Employment Contract Law of the PRC stipulates that workers have the right to resign after 30 days prior notice. During a trial period only 3 days prior notice is required.<sup>13</sup> A resignation does not demand consent or approval from the employer. Failure to process a resignation, and measures preventing workers from leaving after 30 days represent forced labour practices.

## 1.1 Forced labour

Workers state that it is difficult to resign formally as regulated in Chinese labour legislation [1]. Workers at various suppliers report about resignation quotas and queuing schemes for leaving regularly [2] [3] [4] [5]. A worker writes that he asked to resign for more than a month, but the leader wouldn't approve. He was told that the human resource department currently didn't grant resignations [6]. In the same vein, a user asks what to do if the foreman does not pass on the resignation? A worker responds that one has to resign with one-month prior notice. Whether one can leave after that period depends on whether nobody else is lining up for resignation [7]. Mentions of such schemes suggested that workers are denied a formal resignation process for 3 – 6 months due to quotas requiring no more than two or three workers turnover per month and department [8]. Other posts state that workers are told to wait for their turn or that quotas are reached already.

It is stated in social media posts, that formal resignations require approval from managers [6] [6] [9] [10] [11] [12]. As a result, workers face uncertainty whether or when they are permitted to leave. In this context an employee writes that she wanted to resign. The foreman told her that he cannot decide on this matter and took her to the main group leader. The group leader stated that it is not a suitable time to quit and he would have to consult with their manager. The worker was told that she would receive a response in the evening [13]. Managers mainly consider labour demand and do not take into account a worker's situation when making a decision. For example, a worker writes that he needed to resign during the trial period because he found a new job. The section chief, however, did not approve [14]. Another worker writes that an assistant signed his resignation form. However, one day before his departure the team leader told him that his resignation was cancelled and that he would have to stay for another month [15]. A worker states that managers ignore the employee handbook and deploy resignation as a means to exert power. He claims that when a team leader receives the resignation form it counts as accepted. However, the team leader might not process the form and threaten the worker to

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<sup>13</sup> [http://www.fdi.gov.cn/1800000121\\_39\\_2135\\_0\\_7.html](http://www.fdi.gov.cn/1800000121_39_2135_0_7.html)



tear it, when there is a conflict [16]. Another post states that managers threaten to withhold resignation forms when workers refuse to work overtime [17].

Because workers are denied a formal resignation process, they chose to ‘leave on their own’ (自离), which means that a worker does not show up for work and after three days he/she will be registered as ‘detached’. A detached worker will receive a text message asking him/her to formally complete their departure [18]. Workers leaving on their own most likely will have to accept a financial loss. The amount varies. Some posts mention a few hundred RMB [19] [20]. Another posts suggest a deduction of three work days [21]. Workers report between 30% and 100% of last month’s wage [16] [22]. ‘Leaving on one’s own’ has become a widely practiced form of resigning. It is frequently discussed among workers in social media; mainly because of the consequences such as wage deductions, and black listing, which excludes workers (temporarily) from re-employment [23] [24] [25] [26].

Workers intending to resign are sometimes exposed to worsening working conditions. A worker writes that he tried to resign one month ago, but still had to continue to work. When he announced that he would resign, he was transferred to another department and since then he had been sent around back and forth shifting between four different departments and six different team leaders [27]. Another worker writes that because of his resignation he is not allowed to work overtime [28].

### Focus Case: Fair resignation practices

At one of Apple’s suppliers, workers seem to face less obstacles to resign. The factory policy is that a worker employed for less than two months may leave after three days prior notice [29]. After the probation period of two months, a worker has to give 15 days prior notice. This means that the supplier’s internal regulation is more generous than the legal requirement stipulating 30 days [30]. Information on how to quit is explained on large posters (figure 6). Resignation is possible any day, resignation papers can be filed twice a week [31]. Workers do not need the signature of their respective line manager in order to resign, which is a major issue at many other factory sites [32]. Wages will be paid at the day of resignation [33].

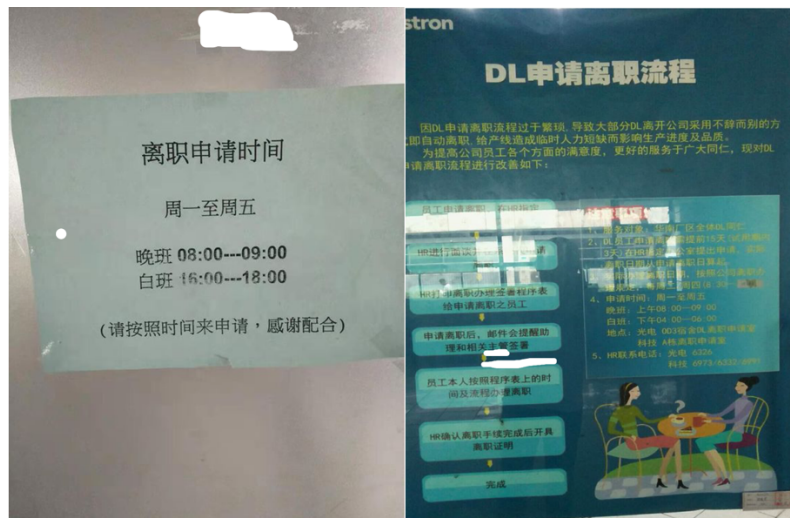


Figure 6. Information on when and how to resign

The supplier commits to pay wages without deductions when workers leave on one's own. In order to get paid, workers need to complete the formal resignation process first [34] [35]. Experienced workers inform in social media about how to proceed after an irregular exit. The screenshots in figure 7 depict a conversation between two workers providing instructions how to proceed – this type of text message conversations is frequently used as educational material.



Figure 7. Worker giving instructions how to proceed after leaving irregularly.

This focus case is not only an illustration of best practice but also how a crisis can revert progress. Due to the Covid-19 crisis, the supplier began to limit workers' freedom to resign. The company has now a maximum resignation rate. Previously granted vacations were cancelled [36] [37]. As a result, many workers left irregularly. In this context, some posts claim that workers did not receive full wages [38] [39]. A worker who formally resigned during that period, reports about a conversation he had with an

acting director (代主任). The director asked for the reason why he wanted to quit, yelled at him, and said that his behaviour embarrassed the director. He stated that the worker was not allowed to leave because he signed a three-year contract. When the worker responded that he quit in line with the labour law and the company's policies the director threatened him asking: "Do you know who I am? Do you still dare to talk to me like that?". The worker states that other managers did not support the acting director's behaviour [40]. Yet the incident illustrates that the current situation is tense, and workers may find it even more difficult to claim their legal rights.

## 1.2 Posting patterns and negative sentiments

Figure 8 depicts the monthly relative share of posts mentioning regular and irregular resignations. A few years ago (2016 and 2017) 'leaving the factory', was a cyclical issue. Two or three months ahead of Lunar New Year, when migrant workers begin to plan for returning to their hometowns and villages to be reunited with their families for about one week, discussions about resignation intensify. Since 2018, however, the distinct cyclical pattern disappeared while the monthly mentions rate remains around 15%, which exceeds all other topics. We observe a dramatic drop of mentions after the Covid-19 outbreak and the subsequent economic slow-down. Obviously, in the current economic climate workers are not concerned about obstacles to leave but about losing their jobs.

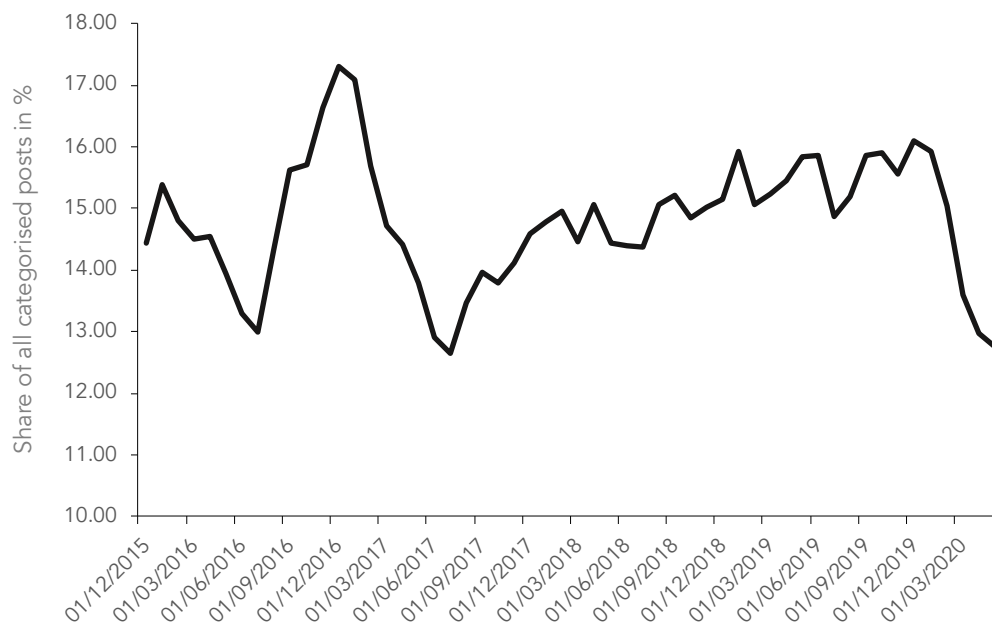


Figure 8. Mentions of 'leaving the factory'

In figure 9, mentions of 'leaving the factory' are disaggregated for five supplier categories. Like the general trend, the relative weight of this topic drops substantially in 2020. In previous years, resignations have been a major topic across all Chinese suppliers to Apple. However, discussions at printed circuit board suppliers are particularly widespread. 'Leaving the factory' is not only the most pervasive topic discussed in social media, but it is also the topic that features the highest negative

sentiment ratio, which is about double the general negative sentiment ratio (for details see appendix A.1).

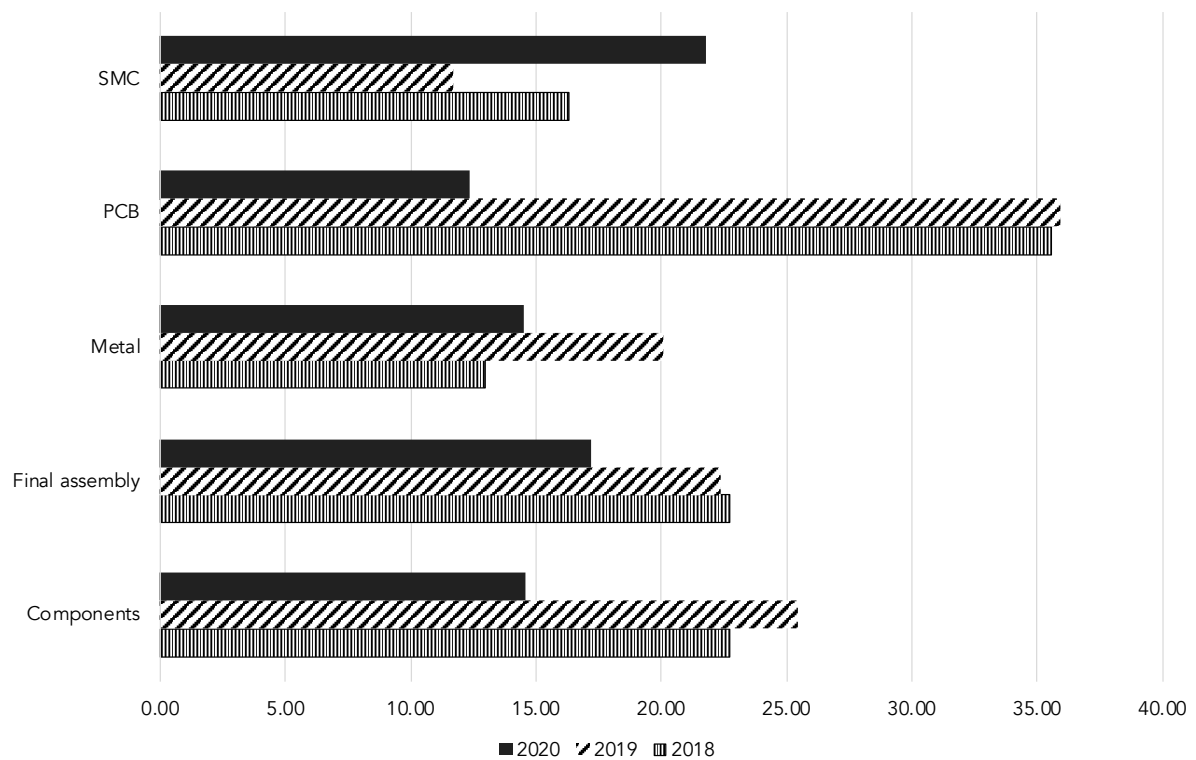


Figure 9. Mentions of 'leaving the factory' by supplier type – relative weight in %

## 2. Fair recruitment

Principle 7 of the ILO General Principles and Operational Guidelines for Fair Recruitment states that “No recruitment fees or related costs should be charged to, or otherwise borne by, workers or jobseekers”.<sup>14</sup>

### 2.1 Labour agents

Labour agents charge recruitment fees labelled as management fees [41]. Workers state that these management fees are a response to policy changes of a few suppliers paying dispatch labour fees only after a worker completed three months of work at the factory [42].

Workers, recruited via labour services, sign-up for a fixed period in order to be eligible for a bonus (返费) [43] [44]. The bonus may range between RMB 1000 – 3000 and represents about 50-150 percent of the base wage [45] [46] [47]. Without the bonus, wages are close to the legal minimum wage and considered to be too low [48]. Receiving a bonus, however, is difficult. A worker jokes that it is like a rainbow; you can see it but never hold it in your hands [49].

Social media posts state that labour agents lure workers into employment with promises of high bonuses when they stay for a minimum period. Workers claim that agents withhold these rewards. First workers get reassured that the bonus will be paid. Then the labour agent will postpone the payment. Eventually the worker will learn that there has been a mistake and therefore the company will not pay the bonus, or the bonus is a matter between the company and the worker, or the agent will not respond any longer [50] [51] [52] [53].

Figure 10 shows an example how workers are deceived. The worker asks when he will receive the recruitment bonus. The agent responds that the factory pays bonuses on the 10<sup>th</sup> each month and that he will get it with the wage payment. The worker states that this is not about the factory’s work bonus but about the recruitment bonus which the agent promised to pay, RMB 400 for the first month, RMB 800 for the second and third month and RMB 1000 for the fourth month. The agent answers that he/she never talked about recruitment rewards only about bonus payments at the factory [54].

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<sup>14</sup> [https://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/---migrant/documents/publication/wcms\\_536755.pdf](https://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/---migrant/documents/publication/wcms_536755.pdf)



Figure 10. Screenshot of a conversation between a worker and a labour

A worker's post reports that labour agents deceive workers when they commit for several months. He states that the labour agent receives RMB 600 per month as a bonus for a 6-month period. A regular agent, he claims, pays about RMB 500 per month to the worker. However, some agents announce high bonus payments of RMB 800 but pay them for two months only [55]. The problem of not receiving bonus payments has become so significant that workers seek to organize themselves and through a private WeChat group that provides daily updates on cheating cases [56].

Labour agents sometimes offer high wage rates but then come up with fees to reduce the hourly rate. For example, a labour agent stipulates in the contract that, if a worker resigns prior to the committed time period, the last month's wage rate will be reduced from RMB18 to RMB 12 [55]. Another post explains that agents sometimes offer wage rates such as RMB 20+5 instead of RMB25. RMB 5 are then withheld if the worker makes any mistake or if there is a conflict. The post corroborates that agents charge hidden recruitment fees naming them 'management fee', 'board and lodging fee' and/or 'insurance fee' [57]

#### Labour agents abusive side-line businesses

Workers are forced to buy various things from agents at a high price. A recruit observes while waiting for his interview that the agent sells blankets to each job seeker – several hundred a day [58]. Recruitment at other suppliers suggest that this has become a widespread means for agents to earn money. In this context a job seeker states that they all had to buy a blanket for RMB 100 – without

purchasing it they were not allowed to enter the dorm [59]. With respect to recruitment for yet another supplier, a worker provides the following account: He first had to pay RMB 15 for taking a picture, then he had to pay RMB 5 for copies, then he had to buy a blanket for RMB 100 since there were none at the dorm. He then had to pay an additional RMB 5 for more copies at the dorm. At the dorm there were no locks, so he had to buy two from the agent for RMB 10 each. In the morning of the interview he then had to pay RMB 5 for a cord to attach the company batch [60].

### Focus Case: Labour dispatch supply chain

Labour dispatch has developed into a complex supply chain that lacks oversight from suppliers and brands. A worker explains that there is a platform for small labour services, which is run by a large labour service agency. The large agency will supply dispatch workers to the factory. The small labour agents lure workers with high bonus payments, hourly rates, etc. The contract, however, is signed with the large labour agent. This contract does not refer to these promised payments. Therefore, it is almost impossible to secure a bonus. The worker writing this post describes his experience: The recruiting agent would tell him to talk to the agency's management. At the recruitment agency he would be told to talk to the large agency he signed the contract with. The large agency would explain that the contract clearly outlines responsibilities and that the worker should turn to the recruiting agency to settle additional claims. Also the supplier would deny responsibility stating that these matters need to be settled with the contracting labour agency [61]. The worker reporting about this back and forth eventually decided to resign; yet the contracting agency told him that he would have to complete a full month before he would be allowed to leave [62].

## 2.2 Harsh recruitment practices

At an Apple supplier, workers start off the day with a military style training period (figure 11) [63]. A user states that 80 applicants share dorm rooms intended for 40 workers [64]. After a harsh training period many job seekers have already left — without pay. Selection of workers continues even after recruitment. A worker states that he was required to fulfil hourly production quotas after three days. Those who didn't succeed and fell behind would get a 'ticket' (罚单). Once warned, pressure increased even more until the worker would leave voluntarily [65]. Other, unrelated posts corroborate this practice [66] [67].



Figure 11. Apple supplier military-style recruitment

### 2.3 Impact of Covid-19

The recruitment process can bind workers for several days without pay [58]. A worker states that he entered the bus of a dispatch labour agent on 13 March 2020 at 5 pm and arrived at the destination the next day at 12 pm. The new recruits got free accommodation at a hotel but had to pay for meals. They waited two days for an interview date. In the morning of 16 March the labour agent told the recruits to line up with their luggage. The applicant waited all day and at 3 pm he was told that the recruiter left for the day. The next day, he waited again with his luggage in a corner. At 3 pm he finally entered the factory for recruitment. It took four hours to measure his temperature, check for tattoos, and pass through facial recognition. The physical examination would take place the next day. All recruits were accommodated in a factory dorm; 12 job seekers in each room with 6 bunk beds.

The above account does not only suggest that job seekers have to shoulder high opportunity costs for getting employed. They are also exposed to serious infection risks in crowded spaces. Another social media post corroborates this observation. A worker writes concerned that the Covid-19 infection risk is high during the recruitment process because they have to stand in line for two hours and attend meetings with large groups [68].



### Focus Case: Working as a security guard

Security guards employed by suppliers either directly or through dispatch agencies are part of the Apple supply chain. However, the conditions shaping their recruitment and work environment gain little attention. In this focus case we provide insights from a security guard's first day at work [69]. The worker's account suggests that he was not informed about working and living conditions in a transparent manner. The conditions imposed on him and other security guards are alarming.

The worker was recruited in the morning, after an easy interview with the instructor. The same day, he started to work with the night shift starting at 6 pm. Before work, he and his newly recruited colleagues were asked to enter a bread delivery van, which took them to their dorm. They had to pay right away RMB 50 for electricity and water and buy a pair of used shoes for RMB 80. The instructor confiscated the new recruits' ID cards, claiming that it was a deposit for their uniforms. When they returned the uniform, they would get back their ID cards. The guards then had to pay an additional RMB 100 as a deposit for the dorm. The guard posted pictures documenting the environment they live in (figure 12).



Figure 12. Living conditions at a dorm for security guards

When the guard began his work at 6 pm. his mobile phone was confiscated, and he had to stand at a factory entrance measuring workers' temperature. He did not get any food until 4 am. At 7 am his shift ended. A senior security guard filmed him punching his card. He was told that without being filmed while punching, his working hours would not count and there would be no wage.

Because the guard's mobile phone charger was broken, he asked a group of security guards for the exact address of their dorm. The instructor came immediately and took him away from the group. The worker wondered why it is not permitted to ask colleagues for information. He just got as a response that this is not a place for chatting. The worker states that during his shift, the instructor distributed penalties (wage deductions) to 13 guards citing various violations of rules – even though the guards could not possibly know any rule since they did not receive any training.

## 2.4 Posting patterns and negative sentiments

Discussions about labour agents and finding a job follow a cyclical pattern (figure 13). Since 2017 the topic gains most attention in autumn until the end of the year. Discussions reach a low between March and May. One of the factors shaping this pattern are bonus payments, which, for many workers, become due in late summer and autumn. With the Covid-19 outbreak, finding a job advanced as the single most

important topic. As a result, there was no decline in recruitment mentions after Lunar New Year as in previous years.

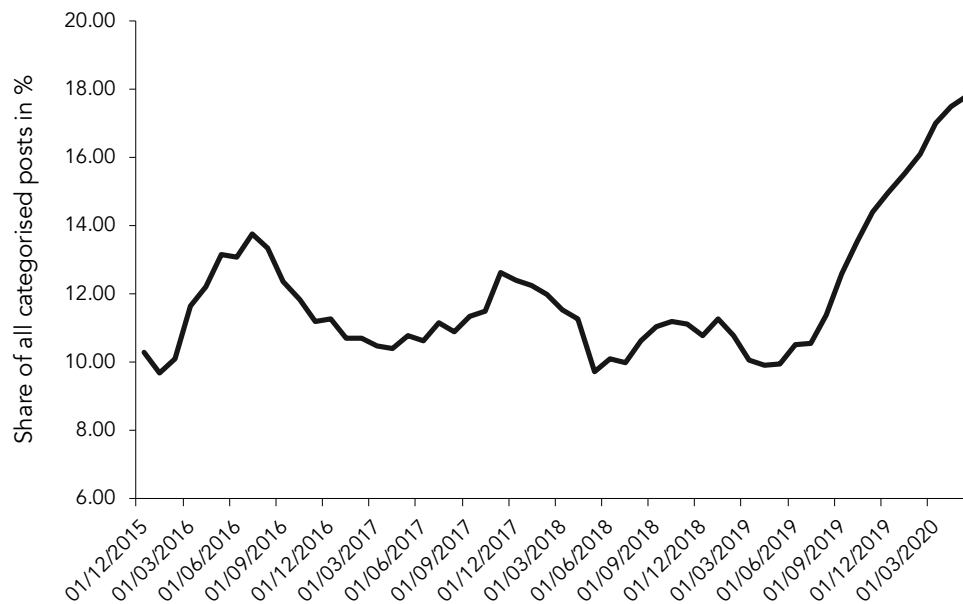


Figure 13. Mentions of agents and recruitment

The increasing weight of social media discussions on agents and recruitment since the Covid-19 outbreak does not affect all supplier types equally (figure 14). Workers at components and final assembly manufacturers seem to be most concerned while there are no significant changes at semiconductor manufacturers (SMCs). A possible reason for this difference is the global shortage of semi-conductors, which keeps SMC suppliers afloat. The negative sentiment ratio for agents and recruitment is quite similar to the general tone on the screened forums. Yet, negative-tone variations are comparatively strong indicating that this topic contains a substantial number of grievances and negative experiences (for details see Appendix A.2).

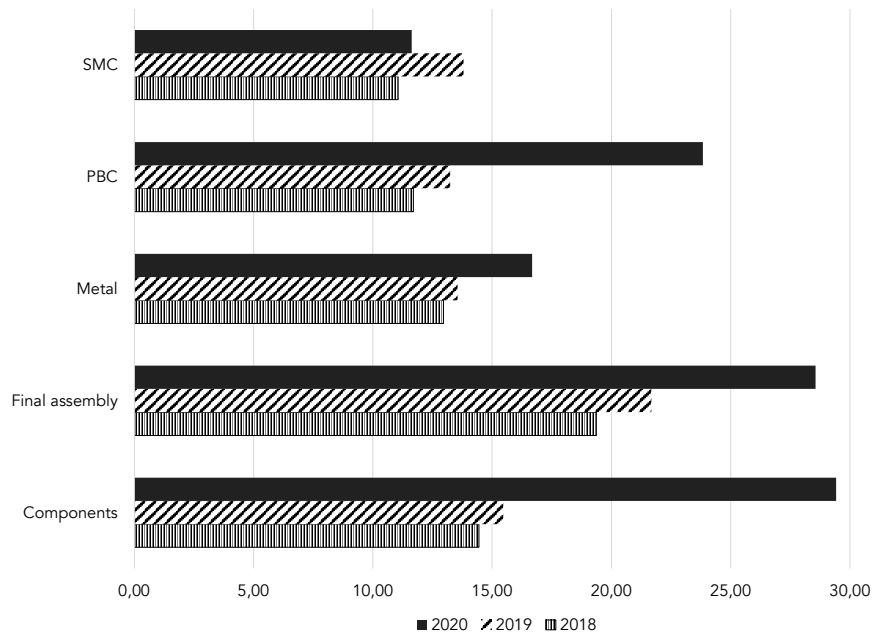


Figure 14. Mentions of agents and recruitment by supplier type – relative weight in %

### 3. Freedom of association and the right to collective bargaining

ILO conventions No. 87 and 98 protect workers' freedom of association and the right to collective bargaining. Chinese legislation is at odds with these conventions as workers are prevented from organising their rights and interests independently. Instead they have to rely on the state-controlled All-China Federation of Trade Unions (ACFTU) and government administrative departments such as the labour bureau for rights enforcement and bargaining. Company or factory level unions do exist in larger enterprises in China. Company level unions are run by a committee typically consisting of human resources staff, managers, as well as trusted and screened workers. Many factories have worker representatives and run nomination processes and elections. However, the tasks at their hands is usually organising birthday parties and events for workers. Where the factories have set up a collective wage bargaining process, it is normally only a formal matter and no actual bargaining takes place. If any raise in the basic wage or other income related changes will take place, it is announced and put forward by the human resources department.

#### 3.1 Independence of the labour union

Workers write that their company level unions collaborate with the factory management rather than the workers [70] [71] [72]. For workers, the difference between the labour union and the human resources department is not obvious. For instance, in a social media post, workers are asked to call a hotline in case they have a complaint. It is stated that the worker will contact the union with this hotline [73]. We checked the number and it turned out to be the workers' concern centre, which is run by the human resources department.

In a discussion on social media between workers, it appears that a particular supplier changes the structure from three 8-hour shifts to two 12-hour shifts. The management stated that the change provides workers with the opportunity to earn money by working overtime. It is claimed that worker representatives conducted a survey where 80% of the workers agreed with the measure [74]. Workers in social media doubt that workers were asked. They write that shifts are scheduled from 12.00 – 12.00, which makes them neither day nor night shifts, that workers spent 15 hours a day working and commuting to and from the factory, and that overtime still was restricted to 60 hours per month, and hence no additional income was generated [75] [76]. A worker writes that worker representatives either were siding with the management or naively agreed to the measure believing that it was in the workers' interest [77].

### 3.2 Protecting workers' rights and interests

Workers complain about the inaction of the union to mitigate unfair or harsh working conditions [78]. In this context a worker reports that he tried to fight a supplier's routine to compensate G2 hours (overtime paid at 1.5 times the regular wage rate) with extra vacation days during Lunar New Year. He consulted the local labour bureau, stating that compensation within a month was possible but beyond that time span it had to be negotiated. The worker went to the factory union, who apparently sided with the management stating that the factory cannot change practices just because of one worker's complaints [79].

A worker complains that a supplier declined her resignation during the Covid-19 crisis. The worker contacted both the workers' concern centre and the factory union but none of them would respond. The worker states that the labour bureau was the only helpful institution [80].

In August 2019, some employees went to the human resources department at a supplier to Apple protesting against a (disguised) lay-off of 250 workers who have been serving at the factory for more than 10 years. The post states that the protesters got beaten (figure 15) [81]. A follow-up post on this event claimed that the local labour bureau intervened and negotiated on behalf of the employees [82]. We found no workers mentioning the involvement of the company level union or district level union.



Figure 15. Protest layoffs at an Apple supplier

According to workers' posts there was a protest at another supplier to Apple in August 2019 [83] because the supplier attempted to decrease workers' wages [84]. We could not find any comments concerning the union's response or actions in this case.

### 3.3 Impact of Covid-19

Some suppliers adjusted to the declining demand by sending workers on long-term vacation. Compared to layoffs, this is not necessarily a favourable solution because it allows a company to avoid compensation negotiations based on Art. 41 of the Employment Contract Law. Workers write that the terms for work force adjustments are settled between labour bureaus and factories – without (visible) involvement of the trade union or worker representatives [85] [85].

Workers are concerned about a supplier to Apple sending them on compulsory long-term vacation until September 1<sup>st</sup> as a response to declining demand. While the supplier officially stated that it operates normally in China, a report says that many workers confirm that the four-month vacation is a fact. Apparently, workers sign confidentiality agreements giving them the choice to either receive RMB 6750 on May 12<sup>th</sup> and go on vacation until September 1<sup>st</sup> or accept a 40 hour week with a standard wage of RMB 2650 [85]. The one-time payment of RMB 6750 corresponds to the minimum wage of RMB 1800 per month. A post suggests that workers should go together, elect representatives and send an appeal to the supplier in order to let district, municipal, and provincial labour bureaus intervene and negotiate on behalf of the workers [86]. Again, workers do not mention the labour union.

At a another Apple supplier, a similar strategy is used. According to a worker's post on a complaint forum, the company is asking 1800 workers to transfer to another location or apply for long-term vacation. The worker received a reply from the Office of the Provincial Government suggesting that he should turn to the local labour bureau [87]. The labour union is not mentioned.

### 3.4 Posting patterns and negative sentiments

Workers do not talk much about strikes, protests, the labour union or collective bargaining in social media. Freedom of association, together with violence, has the lowest weight among the eight topics that we analyse quantitatively. Few mentions, however, do not necessarily imply that workers are not concerned or interested. Independent labour movements are severely repressed in China and, as the qualitative analysis showed, workers have little trust in their state-sanctioned representative – the All-China Federation of Trade Unions.

In November 2015, the Chinese Government embarked on a nation-wide, massive crackdown on labour NGOs and labour lawyers. Repression still continues rendering freedom of association a particularly sensitive topic. The posting pattern in figure 16 reflects a particularly low rate of mentions in the aftermath of the crackdown and a slight upturn since 2017. During the Covid-19 outbreak mentions declined once more. Since March 2020, collective action regained attention probably due to rising labour tensions during the economic slowdown. Negative sentiments are similar to the general level of

negative expressions on the screened forums. The bandwidth of negative expressions, however, is about five times larger than the general spread of negative sentiments. Thus, freedom of association figures as the most controversial topic analysed in this report (for details see Appendix A.3).

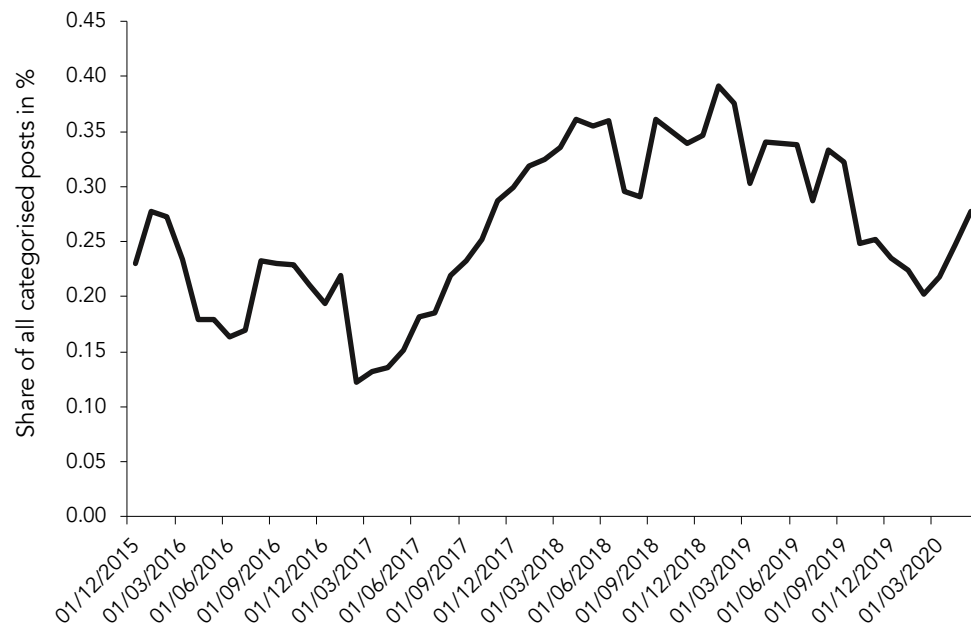


Figure 16. Mentions of unions and collective action

## 4. No discrimination in employment

Article 3 of the Employment Promotion Law stipulates that no worker seeking employment shall suffer discrimination on the grounds of ethnicity, race, gender or religious belief.<sup>15</sup> And, in response to the Covid-19 Pandemic, the People's Supreme Court reiterated that discriminating against workers from regions hard-hit by the disease, is illegal.<sup>16</sup> With respect to non-discriminatory treatment of employees, Article 46 of the Chinese Employment Contract Law stipulates that equal work must be remunerated with equal pay.<sup>17</sup>

### 4.1 Discriminatory recruitment practices

We find the following discriminatory requirements in job advertisements:

A job advertisement for one of Apple's supplier is looking for temporary workers. The announcement explicitly states that people from Xinjiang, Tibet, and the minorities Yi and Hui are not wanted. Furthermore people from Hubei, Jilin, Liaoning, and Heilongjiang are temporarily excluded from recruitment [88].

A recruitment post for regular workers aimed for another Apple supplier excludes temporarily people from Hubei province and Wenzhou prefecture. The same post also excludes job applicants with visible tattoos [89].

A third Apple supplier recruits regular workers but excludes applicants with 'weird hairstyles', 'shaved heads', 'bizarre outfits', 'tattoos', as well as Tibetans and people belonging to the Yi ethnic minority [90].

A recruitment post for a fourth Apple supplier states that the contingent for Uyghurs and people from the Hui minority is already full. In addition the post excludes workers with tattoos, and temporary workers who previously left on their own [41].

A fifth supplier to Apple recruits workers based on a gender quota 2:1 (men:women) [91].

- Two additional Apple suppliers recruit workers adopting a gender quota 1:1 [92] [93].

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<sup>15</sup> <https://www.ilo.org/dyn/natlex/docs/MONOGRAPH/76984/81380/F1735089926/76984.pdf>

<sup>16</sup> [http://www.chinahumanrights.org/html/2020/SOCIETY\\_0426/15036.html](http://www.chinahumanrights.org/html/2020/SOCIETY_0426/15036.html)

<sup>17</sup> <https://www.ilo.org/dyn/natlex/docs/ELECTRONIC/37357/108026/F1930029246/CHN37357%20Eng.pdf>



## 4.2 Discriminatory treatment of employees

A worker writes that there is a difference of more than RMB 500 for workers at the same line, and with the same position. Differences between lines, for the same position, he claims, are more than RMB 1000. He reports that none of the workers knows how wage levels are calculated [94].

A worker writes that summer vacation workers do not receive position allowances (岗位津贴) that regular workers receive [95].

A student worker states that he had the title “technician” but that he did not get a corresponding salary. During the first month, he claims, he went through training without any wage. During the second month he earned a wage of RMB 1500 and in the third month he received less than RMB 700 for regular work (40 hours and two days off per week) [96].

A post states that promotion for dispatch workers are delayed half a year compared to regular workers [97].

### Focus Case: Outsourcing

Many Apple suppliers use different forms of employment – regular (正式), dispatch (派遣), and outsourced (外包) [98]. Working conditions and pay may vary between different employment forms raising concerns of discriminatory practices.

A worker writes that at an Apple supplier about 90% of the workforce are dispatch or outsourced. He states that workers like him, seem not to belong to the supplier at all as they are employed by another company and even wear badges of another company. The worker describes a recruitment and training procedure lasting for 10 days without compensation. Workers under recruitment must attend a 4-day training period and pass a test (mainly memorizing) with a score of at least 90. Those who pass go on to an interview. The worker writes that one wrong sentence is enough to be required to leave. Workers who passed the interview are asked to pay dorm fees: water RMB 75, rent RMB 200, and deposit RMB 50. In addition, workers have to pay for electricity; RMB 1.2 per kwh (an air conditioner during the night requires about 15 kwh). The outsourcing company will then continue training for an additional week and there will be another examination. After that the worker is qualified to enter the workshop. A qualified worker will train the new recruits for 20 to 30 days. During the training period workers earn the supplier’s minimum wage of RMB 2480. After that period there will be another test. Those who do not pass have to leave [99].

Dispatch labour is governed by the Labour Contract Law. Labour outsourcing, by contrast, is based on the Contract Law with respect to the relation between the factory and the labour agent, and the Labour Contract Law with respect to the relation between outsourced workers and the labour agent. Labour outsourcing implies that a contract between the factory and the labour agent is defined in terms of

workload or output. Outsourced workers are managed by the labour agent, who defines working hours, pay, and all other labour related issues. This is different from dispatch work where the factory determines the employment conditions.<sup>18</sup>

Outsourcing may pose several concerns:

1. Because workers are governed under different human resource management entities, their working conditions might be different even though they perform the same task. Workers' posts indicate that this is the case indeed. Social media posts discuss different treatment with respect to leaving irregularly [100], being black-listed [101], deductions [102], and wage payments [98]
2. Because labour outsourcing is governed by contract law, restrictions on dispatch labour do not apply. Thus, the number of indirectly employed workers may exceed 10% (legal limit for using dispatch labour). Posts from workers at a supplier brand suggest that there could be entire departments including line leaders and managers that are outsourced [103] [104] [105]. Since outsourced workers are externally managed, their employment records most likely are not included in audits.
3. Workers do not always know whether they are dispatched or outsourced because some of the labour agents provide both services to the same supplier [105]. Workers may also have difficulties in discerning the consequences of different forms of employment [106] [107] [108].

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<sup>18</sup> For a legal explanation see for example <https://www.fatianshi.cn/knowledge/view?id=64f81238-b920-46ea-ba2d-fc0db14627e0>

## 5. Violence-free work environment

ILO conventions No. 155 and 190 require that employees shall not be subject to any harsh or inhumane treatment including sexual harassment, sexual abuse, corporal punishment, mental or physical coercion or verbal abuse, or the threat of such treatment.

### 5.1 Security guards

Workers report in social media about violence; about security guards beating workers [109], workers beating security guards [110], managers beating workers [111] [112], and managers using security guards to beat workers [113].

A worker writes that he saw security guards beating a worker in a small room when he passed by. The worker did not show any sign of resistance. At another occasion, he states, two discipline auditors stopped a worker who forgot to wear his hat and took him to the restaurant at the second floor where he got beaten [114]. The post mentions details about time, place, and name of the victim.

A worker writes that he was ‘wildly’ beaten by security at the factory gate [115]. A response, possibly from a security guard, addresses the worker stating, “you were beaten because you had no right to enter”. Apparently, the worker had no factory batch. The respondent continues “Ask yourself, why security guards are beating only you?” [116]

At another Apple supplier a worker writes that security guards perform forced body searches. Workers refusing to be searched are punished. For light resistance workers will not be allowed to work weekend overtime hours. Workers strongly resisting will be beaten [117].



Figure 17. Workers passing security at the factory gate

## 5.2 Management

A worker reports that, after a small conflict with a line leader, he was beaten by the latter. The management wouldn't allow police to enter the factory and instead ordered an internal investigation. Because there was no surveillance footage, the investigator said that there is nothing he can do. The worker was denied watching the surveillance footage, stating that he lacked the credentials. The worker asked in social media what he should do? Whether it makes sense to contact the labour bureau? [118].

A worker writes about an incident that involved more than ten team leaders punching and kicking a worker. Several hundred workers, the post claims, witnessed the beating. The section leader would run over but did not investigate the incident [114]. The post mentions details about time and place.

A worker asks peers to inform him about a complaint hotline at the supplier he is working at since he wants to report that managers are beating workers [119].

## 5.3 Posting patterns and negative sentiments

Mentions of violence has the second lowest weight among the eight topics we are analysing quantitatively, and feature a distinct cyclical pattern (figure 18). There are relatively few mentions during late summer when most seasonal and dispatch workers have left or not yet arrived. From this pattern we can infer that unexperienced workers face a relatively high risk of becoming victim to violence – probably because they are slower or make more mistakes compared to trained employees.

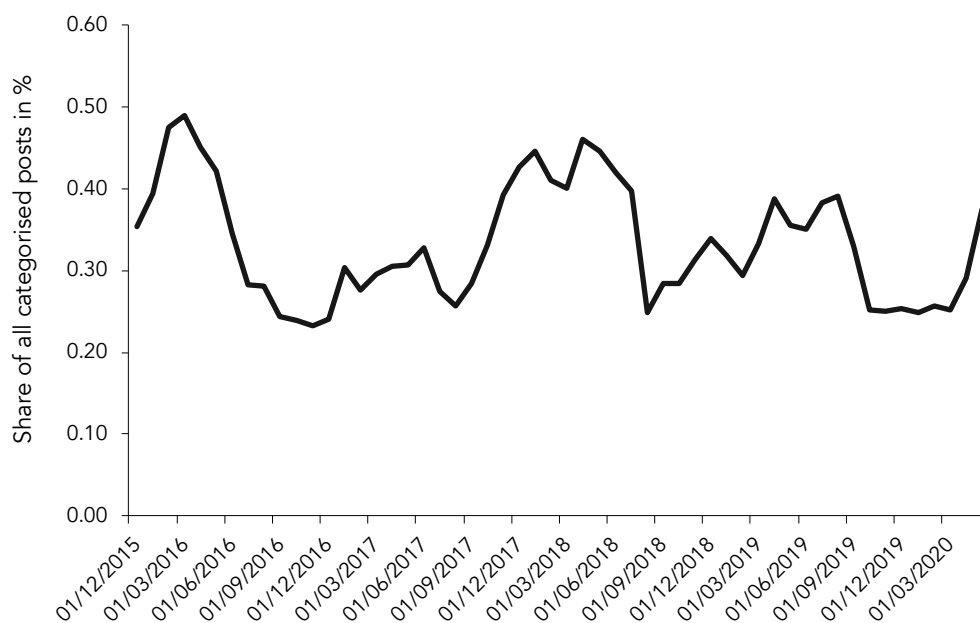


Figure 18. Mentions of violence

The qualitative analysis indicates that managers and leaders are a source of violence. We further explore this issue with a negative sentiment analysis. The negative sentiment ratio associated with posts speaking about managers and leaders is similar to the general negative tone. The bandwidth of negative sentiments, however, is up to four times larger than the general sentiment variation (for more details see Appendix A.4). The high spread indicates that there are many posts in this category that try to avoid negative words next to many other posts that use a lot of them.

## 6. No exploitation of child labour and young employees

ILO Conventions No. 138 and No. 182; as well as Art. 32 UN Convention on the Rights of the Child forbid exploitation of child labour. Special protections and rights apply to young employees under the age of 18. Furthermore, employers must not use student employees, interns, and apprentices in order to avoid obligations of labour and social security laws and regulations arising from regular employment relationships. Payment of wages and benefits to student employees, interns and apprentices must not be below those of other entry-level employees performing equal or similar tasks, unless otherwise permitted under domestic law.

### 6.1 Student workers: vacation work

A social media user, identifying himself as a student worker, reports about his experience. He states that student workers were assigned to the Apple Watch production. Because they had entered the factory only a few days ago, they did not perform their tasks very well. The group leader, therefore, cancelled the students' break (10 minutes), which meant that they had to work for five hours without going to the toilet or drinking water. The student worker writes that the air in the workshop was dry and their lips would start to bleed – but the group leader ignored it. The students were working night shifts from 21.00 to 9.00 the next morning. Each day, after twelve hours of work they had to attend a meeting, where the leader would yell at them. The meetings would last for about 30 minutes. The student reports that they got worn out shoes and the personnel told them that it did not matter. However, when they returned the shoes, they were charged RMB 35 because the shoes were worn out. They also got work clothes that were not clean but had to pay RMB 75 for cleaning when they returned them. The student writes that they also got a spoon to be used for their meals. The spoon had to be returned when resigning or they would get charged RMB 10 [114].

A student worker writes in February 2020 that he entered an Apple supplier through a labour outsourcing service during the winter vacation. However, when the Covid-19 outbreak was a fact, the supplier would not allow him to resign due to an emerging labour shortage. The student reports that he faced a desperate situation because his school resumed teaching online and there was no possibility for him to ask for a leave. Missing three lectures would disqualify him from taking the exam. The student states that his contract ended five days ago but he still was stuck. He writes that it was not possible to leave on his own since the dorm managers would physically stop people from leaving [120].

## 6.2 Student workers: internships and trial periods

Students write in social media that their respective schools send them to work at a supplier to Apple. In their posts they ask about the possibility to earn internal recommendation awards, working conditions, overtime and vacation during Lunar New Year [121] [122] [123] [124]. The posts indicate that students know little about their prospect workplace, which suggests that the school decides on their behalf. This violates the principle of freely chosen employment. Schools send students as interns even if their subject is not related to the company's sector or business. For example, a student from a foreign language college writes that he was assigned an internship at one of Apple's IT suppliers. The student did not receive any information about the internship beforehand [125].

At other suppliers, student workers perform overtime hours, which violates Chinese labour legislation. Sometimes students are not aware of these regulations. For example, a student states that the school provides information about their monthly wage, calculated as the equivalent to 27 working days plus performing overtime [126]. A student at another supplier states that interns work from 9 am to 9 pm but receive only a basic wage. Overtime hours are counted as obligatory overtime [127].

Workers write that a supplier aggressively recruits students without experience in order to receive a state subsidy of RMB 30.000-50.000, which will be awarded after three months [128] [129]. Students may also receive a subsidy after one year. However, many of the recruits are laid-off after three months [130].

## 6.3 Posting patterns and negative sentiments

Students frequently replace departing workers during winter and summer vacations. Mentions of student work and internships usually begin to rise around June and peak in December or January (figure 19). With the promulgation of the *Regulations on the Management of Vocational School Student Internships* in April 2016, the use of student labour was restricted to no more than 10 percent of the labour force at any unit or no more than 20 percent in any work position (Art. 10).<sup>19</sup> Since then, the number of mentions declined and the seasonal pattern is less distinct, even though still present. The Covid-19 outbreak hampered recruitment of student workers during the winter vacation 2019/20 inducing an additional decline in mentions. The negative sentiment ratio of posts related to student workers is somewhat lower than the general negative sentiment, while the bandwidth of negative

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<sup>19</sup> The entire legal text is available (in Chinese) at [http://www.moe.gov.cn/s78/A07/moe\\_731/201801/t20180112\\_324419.html](http://www.moe.gov.cn/s78/A07/moe_731/201801/t20180112_324419.html)

tonality is two to four times larger (for details see Appendix A.5). This confirms that there are grievance reports to be found among more neutral texts seeking to recruit and inform students.

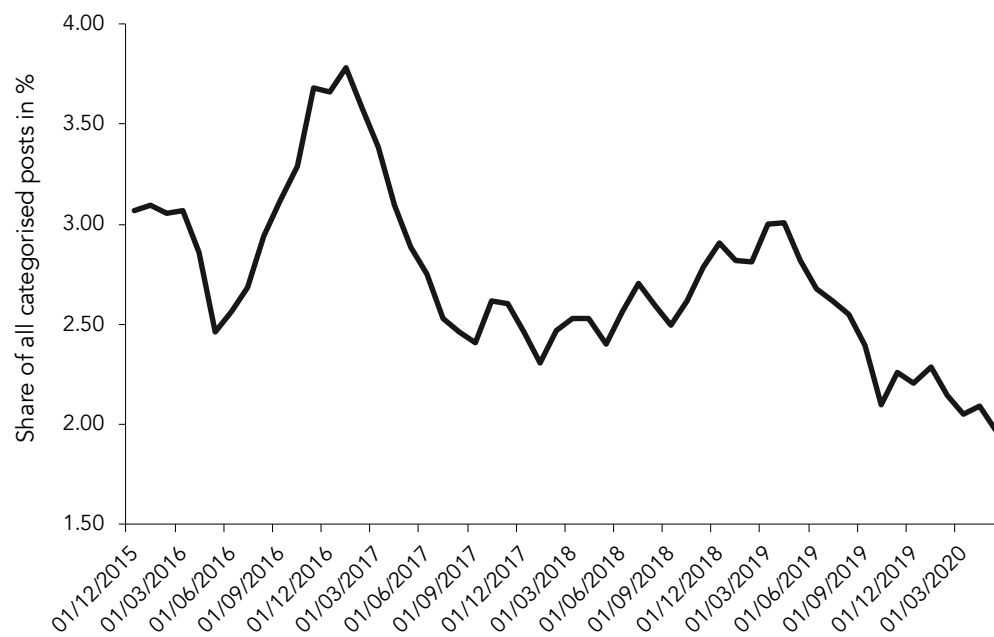


Figure 19. Mentions of student workers and interns



## 7. No excessive working hours

ILO convention No. 1 stipulates that workers must not be required to undertake excessive working hours. According to Chinese labour legislation a regular working week has 40 hours and employers cannot require workers to perform more than 48 hours per week. A worker must not work more than six days in a row without at least 24 consecutive hours off. Overtime has to be voluntary and compensated at a premium rate. Voluntary overtime cannot not exceed 36 hours a month.

### 7.1 Uneven distribution of overtime hours

Workers mention several reasons for an apparent uneven distribution of overtime allocation:

1. Overtime varies seasonally, which is related to global demand cycles. Workers, therefore, differentiate between busy seasons and low seasons [131].
2. Because overtime is closely connected to global demand, overtime varies most for workers directly involved in the manufacturing process. A worker's post explains that there is a difference between production lines, production support departments (close periphery) and production distant departments such as human resources, controlling, etc. (wider periphery). Overtime, the worker states, is highest and varies most in production. The close periphery features a similar pattern but at a somewhat lower amplitude. The wider periphery, by contrast, is characterised by relatively stable working hours [132]. Another, unrelated post states that overtime at the production lines amounts to 80 hours while the production periphery usually does not exceed 36 hours [133].

### 7.2 Voluntary and compulsory overtime

Worker's posts mention three different overtime concepts: voluntary overtime, compulsory overtime [134] [135], and obligatory overtime [136] [137] [138] [139]. In line with national legislation, voluntary overtime is paid at 1.5 times of the hourly wage on workdays, at 2 times on weekends, and at 3 times on statutory holidays. Compulsory overtime meets legal regulations on rate calculations but violates the requirement that no worker must be forced to perform more than regular hours. Obligatory overtime relates to extra work hours that are needed to fulfil a predetermined daily production target. Obligatory overtime violates both legal stipulations on higher wage rates and the voluntary nature of overtime.

The three types of overtime are related to each other. A worker writes that workers have to accept compulsory overtime. If they don't they won't get voluntary overtime [140]. Another worker states that their manager forces them to work overtime – if they would refuse, they were registered as absent from work [141]. Another post claims that workers can only register 36 overtime hours. All additional working time is counted as obligatory overtime [138].

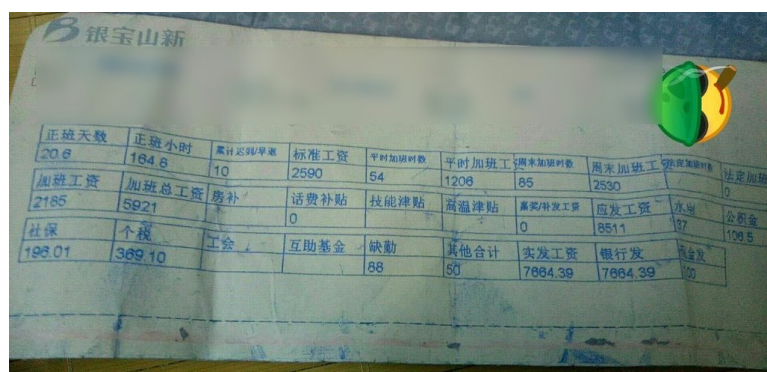
An employee claims that the majority of positions at his work place include obligatory overtime (compulsory extra work without overtime pay) [142]. For the same factory, two additional employees confirm that workers frequently work overtime without overtime pay [143] [144].

A worker writes that, during the summer season, overtime is mandatory. If one does not work overtime on Sunday it will be counted as absent from work [145]. Another worker states that he works from 7.30 am to 8.30 pm every day, which is calculated as two overtime hours [146].

A worker at a supplier to Apple claims that overtime is mandatory for ordinary workers (普工). Workers at the level of technicians or above, he writes, can work overtime voluntarily [97]. Other, unrelated posts, corroborate that overtime work is mandatory when the department is busy [147][148][149][150].

### 7.3 Excessive overtime

A photographed pay slip for a technical worker (higher wage than ordinary worker), shows that overtime can be excessive during the high season. The document accounts for 139 overtime hours during one month; 54 during regular work days and 85 during weekends (figure 20) [151].



正班天数	正班小时	累计加班/标准	标准工资	平时加班时数	平时加班工	周末加班时数	周末加班工	法定节假日加班工	法定节假日加班工
20.6	164.8	10	2590	54	1206	85	2530	0	0
加班工资	加班总工资	房补	话费补贴	技能津贴	高温津贴	福利/绩效奖金	应发工资	应发	公积金
2185	5921		0			0	8511	87	129.5
社保	个税	工会	互助基金	缺勤	其他合计	实发工资	银行发	实发	
198.01	369.10			68	50	7664.39	7664.39	100	

Figure 20. Pay slip of a technical worker

The screenshot of a worker's wage bill for November 2019 (figure 21) shows that he worked 92 overtime hours. The basic wage was RMB 1940, which is RMB 220 above the city's minimum wage. In addition, the worker received a food allowance of RMB 310. For 92 overtime hours the worker

received additional RMB 1817. After deductions for social insurance and water/electricity at the dorm the total pay-out was RMB 3641 [152].

收入		支出	
项目	金额	项目	金额
基本工资	1940	社保扣款	0
绩效工资	0	住房公积金	0
加班费	1817	个人所得税	0
生活津贴	0	房租	0
特殊津贴	0	水电费	0
技术津贴	0	电话费	0
伙食津贴	310	交通费	0
岗位津贴	0	伙食费	0
住房津贴	0	宿舍费	0
其他	0	其他	0
合计	3641	合计	0

Figure 21. Photographed screen of a pay slip

## 7.4 Restrictions on overtime

Workers write that overtime is strictly limited for Apple products [153] [154] [155] and less regulated for other brands sourcing from the same supplier [156] [157]. But there are also workers claiming that they perform many overtime hours at Apple lines [158] [159].

Because voluntary overtime is considered a benefit [132], some posts indicate that enforcement of legal limits is a problem rather than a right [153] [160] [161] [162]. Workers claim that it is necessary to have close ties with group and line leaders to receive overtime [163] or to circumvent overtime caps [164]. Social media posts mention caps at 36 hours per month [165] [166] or 60 working hours (incl. overtime) per week [167], which is in line with Chinese labour legislation. Other posts mention caps of 60 overtime hours per month [168] [169] [170] [171] [172]. The latter is in line with certain industry standards but violates Chinese laws.

## 7.5 Impact of Covid-19

For many workers the number of overtime hours decreased due to the Covid-19 outbreak [173]. A worker states that they are no longer allowed to report overtime. Instead, they have to compensate overtime with compulsory vacation days. However, when they are needed during these vacation days they have to make themselves available anyway [174]. In January, a worker reports that they had to perform obligatory overtime, i.e. extra work hours without pay [175]. Yet despite a general decline, some workers report excessive overtime hours during recent months.

## Months of excessive overtime

- A worker writes that he works six days a week, each day 11 hours. He can get additional overtime hours since the factory does not impose a cap [176].
- A worker states in May 2020 that he works four overtime hours every day [177].
- A worker reports that his line is not affected by the decline as he worked more than 130 overtime hours in April (the line mentioned was not producing for Apple) [178].
- A worker writes in February 2020 that he works 120 overtime hours per month [179].
- A worker states that he worked 110 overtime hours in January 2020 [180].
- A worker claims he works six days a week and four overtime hours each day (post from January 2020) [181].

## 7.6 Posting patterns and negative sentiments

Overtime is one of the most pervasive topics discussed in social media. The monthly share of mentions has been rising since 2016 and peaked in spring/summer 2019 (figure 22). The subsequent decline might be related to weakening consumer demand caused by the US-China trade war. The recent global economic slowdown is an additional factor contributing to fewer mentions of overtime. The negative sentiment ratio is similar to the general tonality while the bandwidth is larger (for details see Appendix A.6). Tonality variations remained high even during the economic downturn in 2020. This finding points towards conflicts over overtime pay as employers seek to reduce costs.

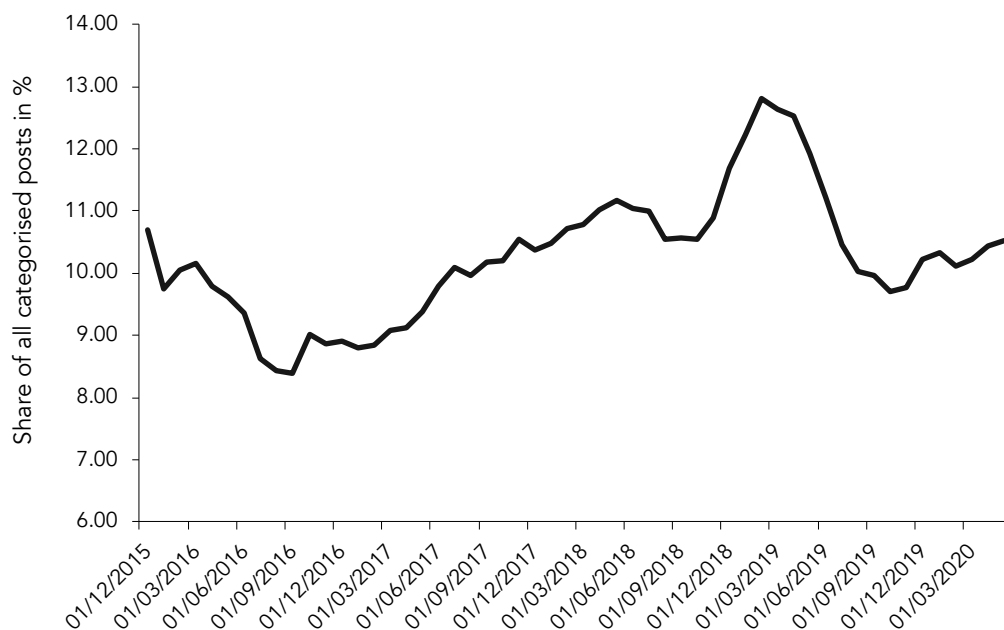


Figure 22. Mentions of overtime work

A disaggregation of mentions by supplier type in figure 23 shows that the annual average mentions rate remained relatively stable between 2018 and 2020. Against this general trend, overtime has become more of a topic for workers at printed circuit board suppliers and semiconductor (SMC) suppliers as there is a global shortage of these components.

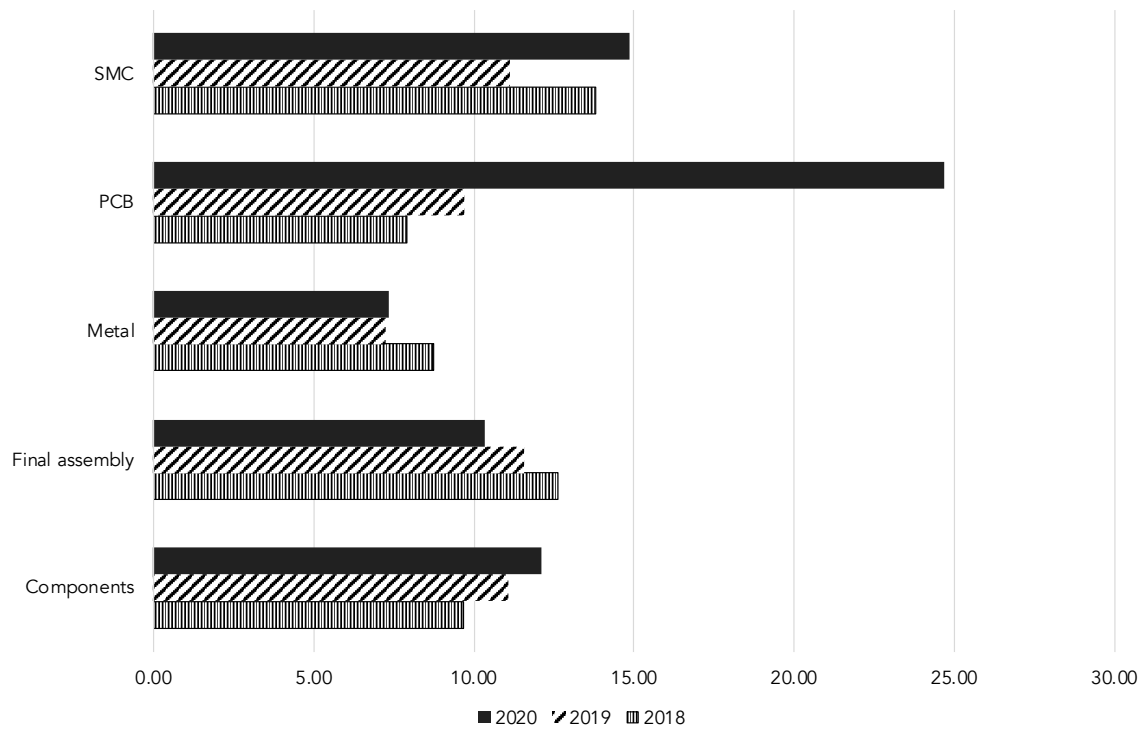


Figure 23. Mentions of overtime work by supplier group – relative weight in %

## 8. No abusive termination of employment

ILO Convention no. 158 requires that workers must not have their employment terminated unless there is a valid reason for such termination based on the capacity or conduct of the worker or on the operational requirements of the factory. With an emerging global economic slowdown because of the Covid-19 Pandemic there is a high risk that workers are discharged unlawfully.

### 8.1 Forced resignations

Due to travel restrictions and road closures many migrant workers were not able to return to their employers when factories began to resume production. By consequence, suppliers experienced a shortage of labour until the end of March 2020. Available workers were attracted with comparatively high hourly rates. Yet, when the pandemic hit demand increased in North America and Europe. Simultaneously, workers in China were able to return to factories and wage rates fell again. Some factories took advantage of the situation and sought to get rid of comparatively expensive workers by forcing them to resign. A worker writes that he and his colleagues were hired in March 2020 at an hourly rate of RMB 20-25. Workers entering the factory in April by contrast received only RMB 15-17. The worker states that the factory had no legal way to lay him off but instead did not allocate him any work shifts. He states that he worked only three days during April. Various leaders and managers would ask him and his colleagues each time if they would like to fill in the resignation form [182].



Figure 24. Workers returning to the factories during the Covid-19 pandemic

At another supplier, a worker reports that he was asked to leave on his own since he was not able to return due to road closures. He asked whether he could resign regularly. The response was that this is

not possible since there was no salary. The worker countered that there was a wage (a government subsidy of RMB 85 per day for the time of the extended Lunar New Year holidays). The worker asked if he could take leave instead. The reply was that he couldn't. The worker states that there was no other way than leaving on his own, which meant that the supplier would not pay the government subsidy of RMB 85 for 15 days [183].

A worker writes that his employing supplier began to register workers as 'detached' without informing them [184]. This practice would imply that workers are de-facto laid-off without compensation.

A worker writes on a complaint forum that managers at a supplier to Apple harass workers forcing them to resign. The worker states that he did not resign but that the management filled in a resignation form on his behalf, which left him with no compensation [185].

## 9. Legal wages

ILO Conventions no. 95, no. 131, no. 25 and no. 173 stipulate that, for their work, employees must receive the remuneration to which they are legally entitled. Wages must be in line with regulations on minimum wages and overtime pay. It is not permitted to use wage deductions as a disciplinary device.

### 9.1 Wage deposits

At an Apple supplier, workers give detailed accounts of how the factory manages wage deposits. 5-10% of a month's wage are deducted and returned as a performance bonus each year. This practice represents a de-facto wage deposit, which workers lose if they resign earlier [142]. Two other workers confirm a monthly deduction of 5% [186] [187]. Two more workers name a deduction of 10% [188] [189].

We find a similar, but even more detailed description of wage deposits for another supplier. According to the post there are two different wage settlements – one for temporary workers who are paid by the hour and another for regular workers with a monthly wage. With respect to temporary workers, 40 hours are deducted as a deposit. The deposit minus a loss/damage fee will be returned in the evening at 9.00 pm of the day following the workers' resignation (we find no information how the loss/damage fee is calculated). Wages for overtime on weekends will be kept until the 15<sup>th</sup> of the following month. If a worker does not stay for at least one month, these hours will be lost. Regular workers have to accept a deduction of 20 minutes per day as a deposit. This deposit will be settled the following month on the 25<sup>th</sup>. The regular wage is paid on the 15<sup>th</sup>. Deposits for temporary and regular workers are used to put pressure on workers. In this context the post states that resignations have to be approved by the line and team leader. When workers refuse to work overtime or have other conflicts the management has the authority to expel them, with the consequence that wage deposits will be lost [190].

### 9.2 Overtime pay

Workers complain about a suppliers' practice to deduct 62 hours (overtime hours paid at 1.5 times the regular wage rate) to compensate for extra vacation days during Chinese New Year. The posts state that the deduction scheme is applied to all workers. Employees who do not take leave during Chinese New Year will not be reimbursed [191] [192].

At another supplier, a worker writes that the company deducts weekend overtime hours to compensate for vacation days; even sick leave, he states, is compensated with overtime hours [193] [194].



### 9.3 Wage deductions for injuries

Workers discuss in social media the rules for work-related injury compensation. It is stated that the employer will deduct 50 performance points (about RMB 500) from a worker's wage account for each filed injury report [195] [196] [197]. This practice is problematic because it discourages reporting on work accidents and result in distorted statistical information about work safety. What is more, the practice requires from workers to estimate the severity of an injury, i.e. decide whether it is worth reporting. This may have serious consequences if the injury turns out to cause unanticipated damages/costs later on. The practice hits unskilled and low-skilled workers particularly hard given that the imposed deduction represents about 25% of a month's basic wage.

### 9.4 Fines as a disciplinary device

A worker describes how fines are used as a disciplinary device. He describes his first day at the night shift, starting at 8 pm. At 11 pm there was a one-hour break. Thousands of workers, he states, queued for food. The remaining time for eating was very short and those being late for work got fined. He goes on that dinner was the only occasion where workers could sit down. But because the canteen was overcrowded there were no chairs left. Workers who were too tired to stand, sat on the floor. The supplier, however, had a surveillance team taking pictures of those sitting on the floor. The picture was sent to the workers' mobile phone together with a fine of a few hundred RMB. In the worst case a worker could get fired [198].

A supplier, it is claimed, has surveillance personnel taking pictures of workers sleeping or playing on their mobile phones. Each rule offense is punished with a RMB 500 or 200 fine [142].

Workers write about list a of rules that lead to fines at an Apple supplier [199][200]. According to these posts, the supplier imposes deductions (see box on the following page).

## Rules that lead to fines at an Apple supplier

- Workers have to be present at the workshop at 6:55 am, those who are late 5 minutes will be penalized with RMB 10.
- Every day after work, the team leader will orderly release the team from the workshop. Those who leave the workshop early will be fined RMB 20 per time.
- Do not pull up the sleeves in the workshop. Offense is fined RMB 20 per time. Not wearing a mask is fined RMB 5, collar not in order is fined RMB 10.
- Playing on mobile phones or eating snacks in the workshop or locker room is fined RMB 50.
- Dropping glass on the floor leads to a penalty of RMB 5 per time.
- Leaving masks or headgears in the locker room are fined RMB 20 per time.
- Every time a worker enters or exits the workshop, he/she has to register. If the worker fails to register, he/she will be fined RMB 20 per time.
- It is not allowed to wear shoes in the hallway at the workshop. Offense will be fined RMB 20 per time.
- Refusal to promptly pay fines is punished with RMB 20.
- Staying in the locker room without reason for more than 10 minutes before the end of the shift is punished with RMB 20 per time.
- If a worker leaves during the shift, he/she must go to the team leader to obtain a departure form. Those who leave the job without a form more than 10 minutes early will pay RMB 50 per time.
- Workers must follow the company's requirement to wear factory clothes, and factory badges, no high heels, no shorts below 50 fen (about 17 cm) when entering the workshop. Offenders pay a fee of RMB 20 per time.
- When entering the dust-free workshop, strictly follow the dress code, do not wear jewelry. Violators pay a fee of RMB 50 per time.
- Do not bring a mobile phone into the workshop. Turn off the phone and store it in a personal locker before going to work. Offenders pay a fee of RMB 20 per time.
- Long nails are not allowed. The length of nails has to be less than 3 mm. Offenders are fined RMB 20.
- It is not allowed to leave the workstation during working hours; offenders pay RMB 50 per time.
- Sit upright, it is not allowed to play in the workshop, make trouble, scold, or make loud noises; offenders pay a fee of RMB 50 per time.
- Workers intimidating or insulting managers pay RMB 100. Managers insulting employees pay RMB 200 per time.
- It is forbidden to manipulate the machines.
- Strictly abide to work instructions and inspection standards. It is strictly forbidden to change equipment parameters and production data without permission. Violators shall pay RMB 100 per time.
- Raise safety awareness, do not operate in violation of regulations, otherwise work injury accidents will not be acknowledged.
- A leave request must be filed in accordance with the formal process for leave requests: First seek the consent of the team leader (except in special cases), then get the signature of the supervisor. Calling by phone and leaving requests on behalf of colleagues are invalid.
- It is forbidden to doze off and sleep during working hours. Offense is punished with a fee of RMB 200 per time.
- Protect the product, the cost for dropping a product during the production process will be deducted.
- Pay attention to physical health. It is strictly forbidden to bring food into the workshop. Offenders pay a fee of RMB 50 per time.
- Those who take company articles out of the workshop without permission are considered to have stolen and will be handed over to the factory management.
- Printed products cannot be put on top of each other. If they are found to overlap the worker is fined RMB 10 per piece.
- It is strictly forbidden to smoke in the workshop and toilet. Offenders shall pay a penalty of RMB 100.
- Do not place dust-proof clothing randomly when you go out. You must deposit it in a personal locker. Offenders pay a fee of RMB 50 per time.
- Workers must line up to commute to and from work and are not allowed to line up on behalf of another person. Both offending parties will be punished with a fine of RMB 200.
- If the workshop floor is not clean, the person in charge of the area will be punished with RMB 50 per time.
- Take good care of the company's property and avoid all destructive actions. Offenders will be punished RMB 100 per time and pay for the damage.
- Machines should be kept clean. Substandard products of the machine should be neatly placed on an empty plate in the assigned area. Do not place them randomly on the machine.
- Those refusing punishment will be severely disciplined and receive double penalties.

## 9.5 Impact of Covid-19

As a result of the economic slowdown, there is a risk that workers are forced into contracts that stipulate worsening conditions. In this context a group of workers exchange information about a large labour agent [201]. A worker writes that the labour dispatch agency unilaterally changed contracts. Employees recruited between 17. December and 7. January were offered a relatively high bonus pay of RMB 5 per working hour. Due to a decline in demand, this offer was changed in April 2020. Workers would only receive the bonus payment if they worked a predetermined number of hours, equivalent to 6 months of employment. If there was not enough work, the worker could be transferred. Workers not in agreement with the contract change were allowed to resign [202]. This policy essentially handed down economic risks to the individual worker. The labour dispatch agency's announcement caused several workers to protest online. Other workers involved in the discussion reported that the same dispatch agent had not paid wages at all at other locations [203].

The Infectious Disease Control Act and the Notice on Properly Handling Labour Relations during the Prevention and Control of Pneumonia Epidemic Situation of 2019-nCoV stipulates that where an employee is quarantined due to being diagnosed with 2019-nCoV pneumonia or under mandatory medical observation, and therefore cannot perform their job duties, employers must pay their salary during the quarantine period.<sup>20</sup>

In opposition to this requirement, a group of workers from Hubei, employed by an Apple supplier did not receive wages. A lawyer writes a letter to the company on behalf of the workers and posts it in social media. The letter states that workers from Hubei returned to the supplier's factory after the extended Lunar New Year holidays on 9 February. However due to quarantine regulations, the workers could not start work immediately. The supplier did not pay wages for the time after the extended holidays until the workers were able to enter the factory in March 2020 [204].

A worker states that workers returning to a supplier from outside the city had to be in quarantine for 14 days. The factory, however, would only pay the basic wage for 7 days. Workers from within the city that needed to be quarantined did not get any wage payment [205].

Due to regulations, workers returning to their workplaces in February and March had to live on campus and were not allowed to leave. A worker writes that originally the factory stated that the mandatory isolation period on campus would count as paid leave. Yet, the supplier announced later that from 1

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<sup>20</sup> <https://www.twobirds.com/en/news/articles/2020/china/a-brief-guide-in-responding-to-the-2019-novel-coronavirus-covid19-china>

March, the isolation period would be handled as unpaid leave [205]. The policy change was announced when workers were already locked down on campus.



Figure 25. Caricature "I am not ill! I want to work!" posted by a worker

As a consequence of the Covid-19 Pandemic, workers are exposed to increased economic risks. A worker from Hubei, employed at a supplier to Apple before the Covid-19 outbreak, writes in April that he returned to the factory. Yet because he had no health certificate, he was treated like a monster. He couldn't find work and slept at an abandoned construction site [206]. In February 2020, a worker writes that he was afraid to open the door because it might be the landlord. The worker states that he had no money left and desperately waits for the factory to reopen [207].

## 9.6 Posting patterns and negative sentiments

Deductions are widely discussed in social media. The monthly posting pattern of wage deductions and fines is cyclical and uninterrupted for the past five years (figure 26). There are regular peaks in late autumn and winter and annual lows in spring and early summer. The share of mentions shows a declining trend since 2018. Negative sentiments display a familiar pattern: An average negative tone similar to the general sentiment in combination with a relatively high tonality bandwidth (for details see Appendix A.7). Different from other topics, however, is a declining tonality bandwidth during 2020 indicating that there are comparatively little complaints about deductions in recent months. The reason for this outcome is probably related to the current wage structure. Usually, deductions are related to bonus payments and various subsidies. During the current economic slowdown these types of remuneration are put on hold. What remains is a basic wage, which is rarely subject to deductions because it tends to be close to the legal minimum wage, a benchmark that is comparatively strictly enforced in Chinese electronics manufacturing.

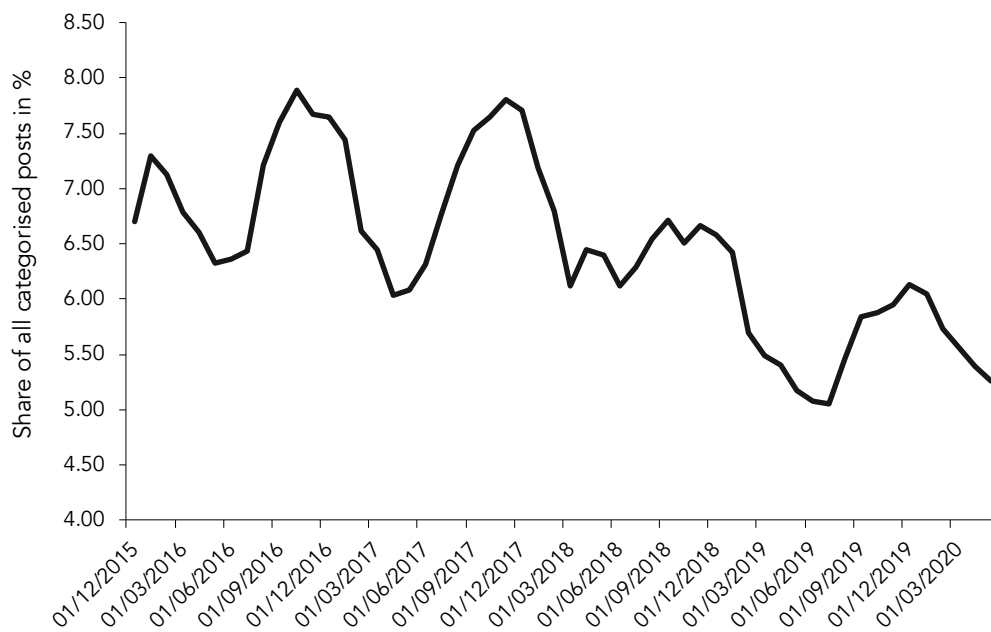


Figure 26. Mentions of wage deductions and fines

The disaggregated mentions share in figure 27 indicates that deductions are equally important across all types of suppliers. The only noteworthy deviation is a relatively high mentions-ratio at Apple's printed circuit board (PCB) suppliers in 2020. Increased attention might be caused by managers' attempts to reduce labour costs during the current economic slow-down. Yet, we have no information why workers at PCB suppliers mention this issue more often.

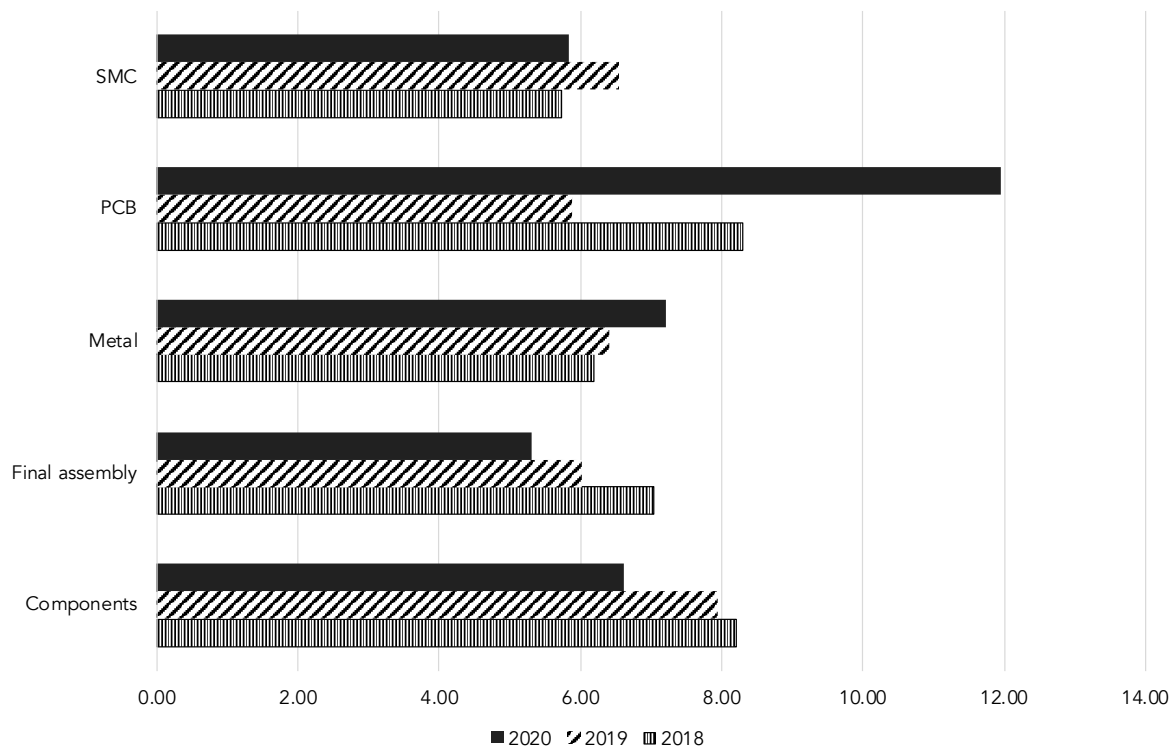


Figure 27. Mentions of wage deductions and fines by supplier type

## 10. Living wages

Art. 23 of the Universal Declaration of Human Rights states that workers should receive a living wage. A “living wage” is defined as a “take home” or “net” wage (excluding any taxes, bonuses, allowances, or overtime wages) earned during a country’s regular legal maximum work-week (not exceeding 48 hours), which is sufficient to pay for basic needs (housing, energy, nutrition, clothing, health care, education, potable water, childcare, transportation and provision for unexpected events) of the employees and their families and includes an additional 10% of the cost of basic needs as discretionary income.

### 10.1 Basic wage and minimum wage

We collected information from job advertisements and workers posts about basic wages for ordinary workers (普工) from 2016-2020. For each year we record a lower and an upper bound. In figure 28, we graph the resulting wage development together with the legal minimum wage standards for Chongqing and Shenzhen. The two locations are chosen because both are major electronics manufacturing hubs and at the same time represent a lower (Chongqing) and upper (Shenzhen) bound of minimum wages in China. The chart illustrates that basic wages develop in close relation to minimum wages.

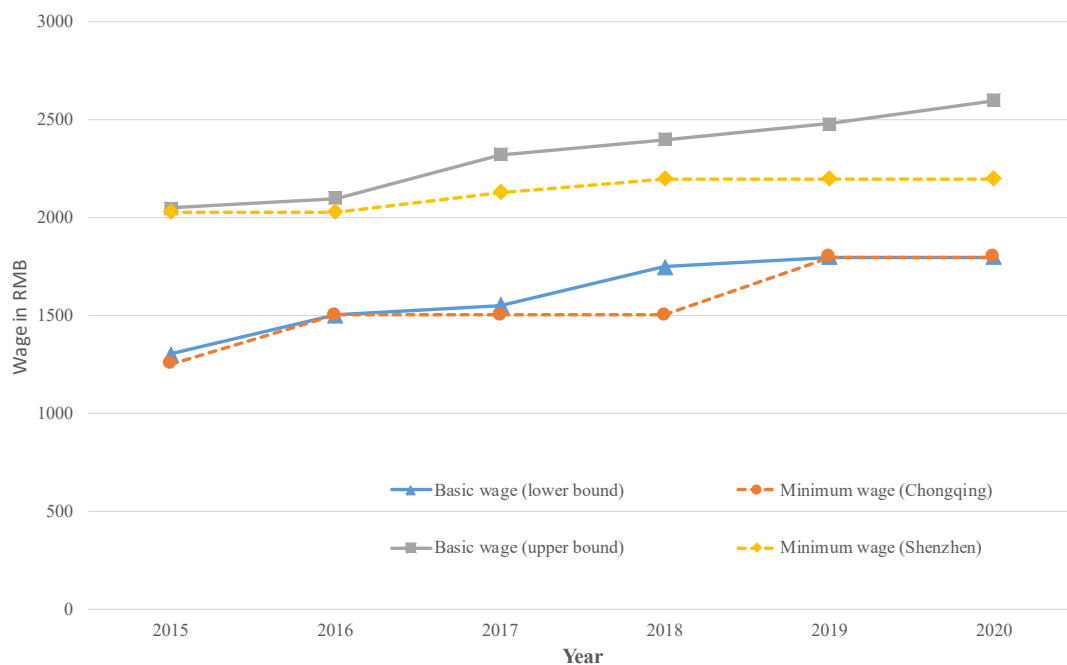


Figure 28. Basic wage and minimum wage for general workers (普工)

Basic wages deviate from living wages substantially. A worker details his immediate living expenses: RMB 390 for meals at the factory, RMB 110 for a bed in a dorm, RMB 100 for water and electricity, RMB 100 for one bottle of beverage each day, RMB 1000 for all other expenditures such as mobile phone, food, or daily necessities [208]. This calculation suggests that a basic wage is not enough to cover living expenditures, or health care for other family members and is insufficient to cover costs for children's education. From the information available, we can infer that low-skilled and semi-skilled workers cannot make ends meet with a regular working week despite living in overcrowded dormitories, eating substandard food in the factory canteen, and lacking proper amenities for personal hygiene.

## 10.2 Overtime as a vital wage component to make ends meet

The living wage foundation estimates that a standard family in China needs an income between RMB 3640 and 5670 to cover basic needs.<sup>21</sup> This means that many workers are forced to work excessive hours of overtime in order to earn a living. Because workers rely on overtime, total wages vary seasonally. For example, a worker explains that, during the high season, he can perform up to 80 hours of overtime. After deduction of social costs, a worker will earn in total between RMB 4000 and 4500 depending on the basic wage, which varies between RMB 2200 and 2600. During the off-season, he reports, his wage will be around RMB 3000 [131]. At another supplier, a worker reports similar numbers; about 70 overtime hours during the busy season and about 40 hours during the off-season [132]. In the same vein, a post states that there are about 80 overtime hours per month and the wage after deducting costs is RMB 3300-3700. During the high season, some workers can get more than 80 overtime hours and the wage can rise to more than RMB 4000 and even 5000 [172].

A worker reports his wage payments from July to December 2019 (figure 29). He states that he worked 10 hours a day, 60 hours a week, and did not take any leave [209]. This example illustrates that an employee performing the legal maximum hours of work might not reach the lower bound of a living wage every month and probably never the upper bound.

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<sup>21</sup> See: <https://wageindicator.org/salary/living-wage/china-living-wage-series-september-2019-country-overview>

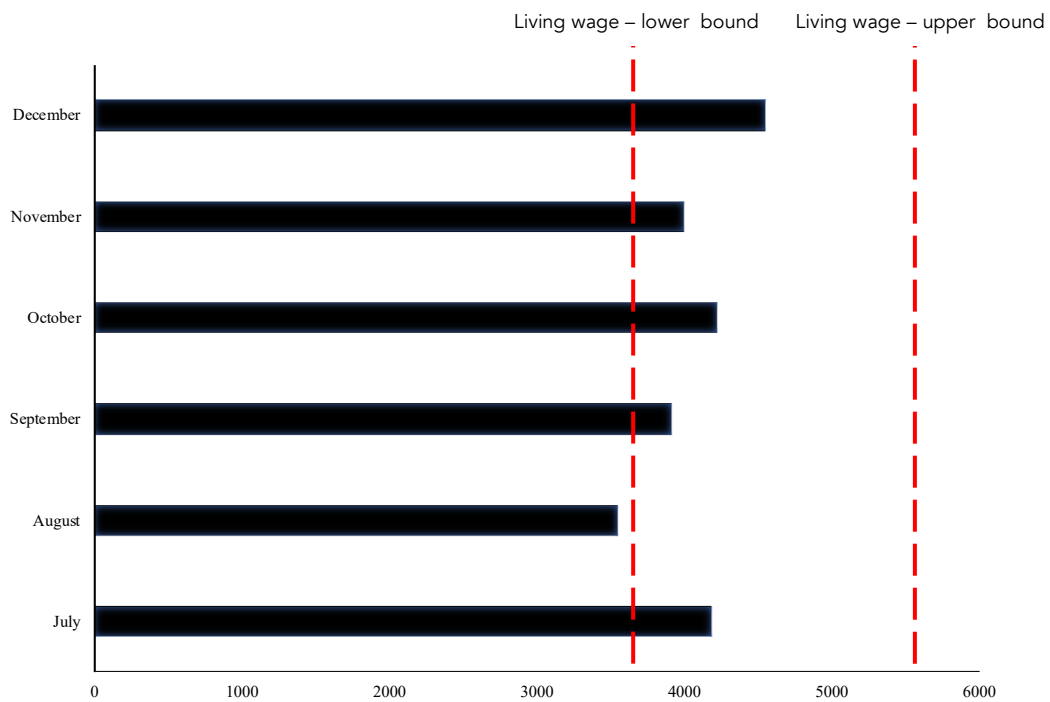


Figure 29. Gap between real wages and living wages

Wages for new, and unexperienced workers are lower than what the above-mentioned posts suggest because they are not allocated overtime hours. A worker reports that he entered the factory and was assigned to a line leader as a supervisor. The supervisor ignored him and did not match him with a more experienced worker for introduction. He was scolded for making mistakes, was not assigned overtime hours, and had to pay for the pieces that he broke [210].

### 10.3 Impact of Covid-19

Due to declining demand from brands, workers' total wages are close to basic wages for regular workers and may even slide below for temporary workers. A dispatch worker writes in April 2020 that they have 8 days of (compulsory) vacation and will work 40 hours per week for the rest of the month [211]. Workers at other suppliers report about a similar situation [212] [213]. A worker states that without overtime and compulsory vacation, her wage in April 2020 was RMB 1560, which is below the minimum wage [214].



## 11. Occupational health and safety

ILO Conventions no. 115, no. 119, no. 120, no. 136, no. 139, no. 148, no. 155, no. 161, no. 170, no. 174, no. 183, no. 187, and no. 190 set a framework for healthy and safe working conditions, in compliance with domestic and international labour standards, guaranteeing respect for employees' and communities' health and the environment.

### 11.1 Physically exhausting working conditions

Workers in the electronics manufacturing are tired due to long working hours [215]. A worker states that night shifts are particularly demanding and there is no food since only two windows in the canteen are open – too few for all the workers lining up [2]. Another worker complains about extreme tiredness since he worked 15 consecutive nightshifts each lasting for 12 hours. He states that he did not get a day off and the noise from factory horns and machines made it difficult to sleep during day-time [216]. Another post states that the injury rate at machines for metal forming, stamping, forging as well as surface and heat treatment is particularly high due to long working hours [217].

At another supplier to Apple, workers' schedules are constantly changed from day shift to night shift, which is described as extremely tiring [142]. Other posts confirm this practice [218], stating that shifting is necessary in order to earn a higher wage [219].

Workers complain about the fast pace of machines and belts [2] [215]. A worker states that many new employees leave as they cannot stand the stress. Experienced workers are regularly forced to replace them in addition to their own work. At the same time they are warned not to make any mistake [215]. A worker writes that work is exhausting because the belt moves fast, the line leader constantly orders them to work faster, the workshop is too warm and not air conditioned, there is dust in the air, and it is extremely noisy [220].

A female employee states that group and team leaders do not help out when workers need to go to the toilet, but that it is sometimes unbearable not to visit the restroom [221]. At another supplier, a worker writes that there is no time to go to the toilet and the production quotas are arbitrarily increased [222]. A worker at yet another supplier writes that going to the toilet must not take more than 10 minutes. When they have lunch they have to return to their work stations after 30 minutes and resume work before the break ends [223]. Another worker at the same supplier confirms that lunch breaks are less than an hour because the production belts were started 10 minutes earlier [224].

Workers report about foot and hand pain due to manual assembly work and prolonged standing [2] [225] [226]. An employee writes that her hands tremble at night when she tries to fall asleep [221]. Some workers complain about waist and back pain caused by unergonomic positions or movements [225]. A worker states that, at his workstation, he had the assembly line in front of him and the parts to be assembled behind him. During a shift he would turn his waist several thousand times. The pain would become unbearable and the waste still hurt even after two days in bed [227].

Some dorms are located far away from the factory – requiring workers to spend long hours on shuttle busses. A worker states that his dorm is 53 km away from the factory [228]. At another supplier, a worker writes that the dorm is at a long distance from the factory so that workers spend 12 hours at work even if they do not work overtime [142].

## 11.2 Exposure to chemicals and insufficient protection

Some workers are exposed to chemicals and possibly insufficient protection. An employee describes the carving workshop as full of fumes with a heavy smell. The ventilation system, he claims, is insufficient to clean the air. Workers do not wear gloves but regularly come into contact with a green cutting oil which causes heavy skin pain [229].

A worker writes that there is ammonia gas and heavy metal dust in the air causing harm to the body [230]. Everybody including the office personnel develops acne. This phenomenon is confirmed by several workers [231] [232] [218] [233].

A worker states that employees should wear work clothes, gloves, mask, safety shoes, protective glasses, and a hard hat. The mask, he claims, is only decoration as the nose is full of dust even when wearing it. The worker went to the section chief and applied to get a better mask – there was a long waiting list, however. The safety boots, the worker goes on, are in a concerning state as many of them are not insulated and leak. He writes that nobody is using protective glasses because they make it difficult to work and they are very uncomfortable to wear [234].

A female worker complains that she must do nightshifts even though she is pregnant. She states that she handed in all required documents, but all leaders and managers pretended not to know. Therefore, she wondered whether this was an attempt to make her resign [235].

A worker states that they are not allowed to take leave even when they are ill or exhausted and are punished when they become too slow [2]

### 11.3 Unhygienic living conditions

The living conditions at the dorm are not hygienic. A worker finds a dead rat on the blanket in the room he is supposed to live in (figure 30). He complains to the facility manager who is of the opinion that he is not responsible if previous dorm inmates leave things attracting rats [236].

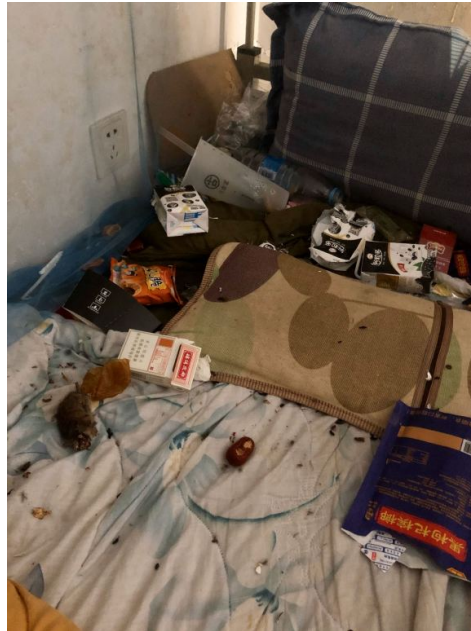
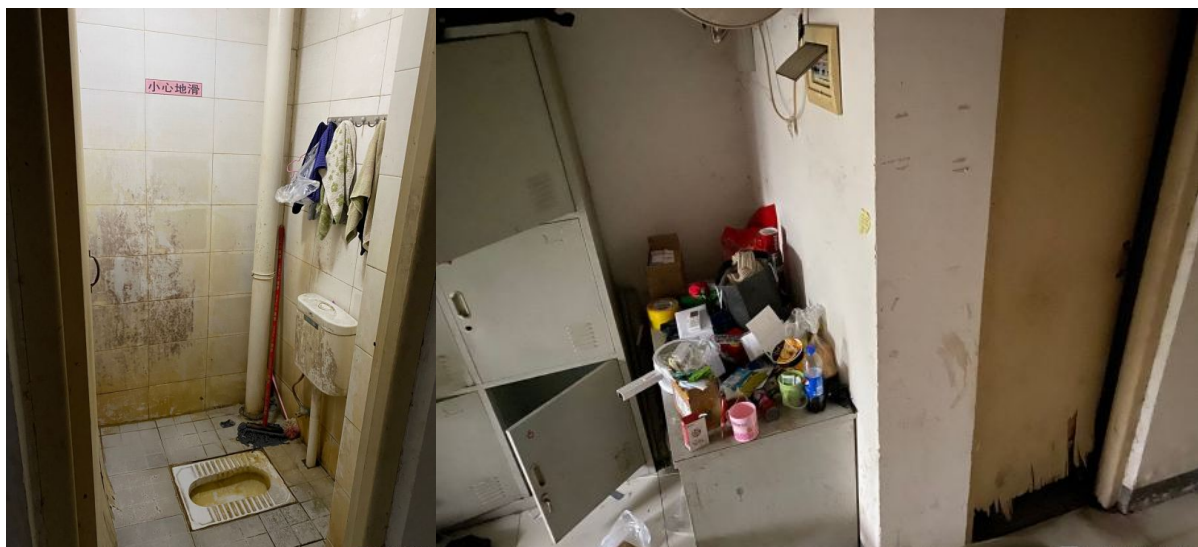


Figure 30. Unhygienic living conditions – a worker finds a dead rat in a bunk bed.

Workers occasionally post pictures documenting their difficult living situation at the dorm. We show some examples in figure 31. The living standard at dorms can vary substantially, even between different buildings at the same factory.



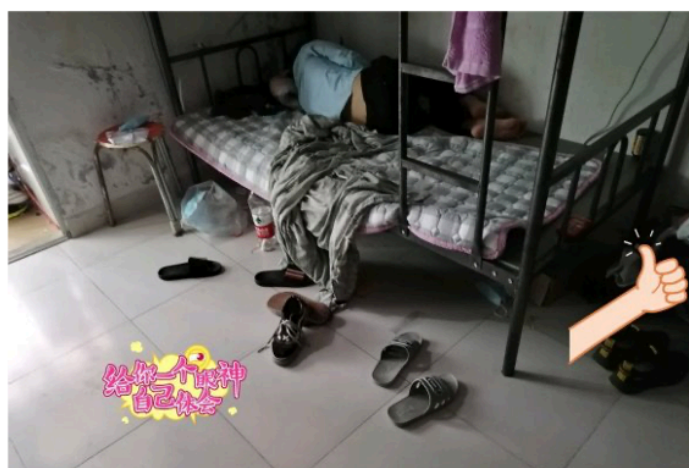
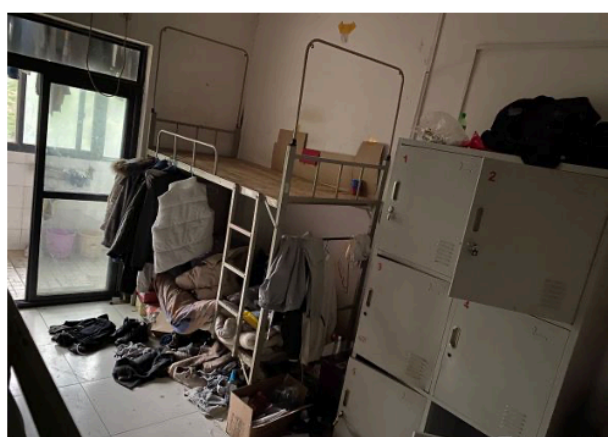
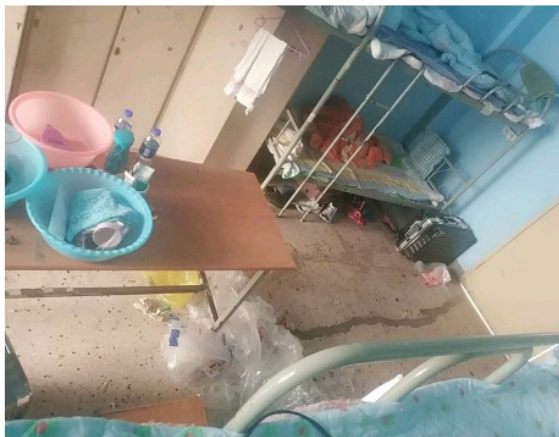
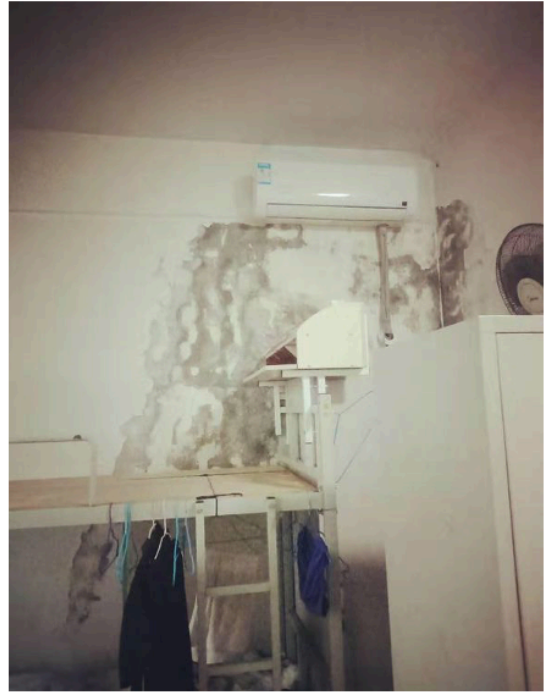


Figure 31. Living conditions at the dorm – pictures posted by workers

#### 11.4 Verbal abuse and harassment

Besides physical harm, workers are exposed to verbal abuse and harassment causing mental stress and depriving them of their dignity. Workers state that managers curse and yell at them [237] [238]. A worker writes that the yelling and cursing isn't the bad habit of a few leaders but a management mode of the entire workshop [239]. Workers are scolded for being too slow [240] [241], for not reaching their production target [223] or because leaders simply vent their anger [242].

A worker writes that the line leader is constantly yelling at them. When workers are too slow, there is no one to help out – there is only yelling and threats. The worker writes that she entered the workshop a few days ago but already witnessed several conflicts. At one occasion the line leader and a worker almost got into a fight. Several line leaders would come over to take turns in yelling and verbally attacking the worker [243].

#### 11.5 Queuing and waiting

A recurring issue causing stress and frustration for many workers are queuing and long waiting times. Workers have to queue for security checks, for punching time cards, for food, for going to the toilet, for the elevator, for the bus, and for smoking (figure 32) [245] [246] [247] [248] [249] [250] [251] [252].

Security checks can be particularly time consuming. A worker describes that they first have to check fingerprints, then they have to line up for the security check which takes about 40 seconds per person, after that they have to line up for a facial recognition check. After time extensive security screenings, workers have to queue again at the elevator [253].

Long queuing times for food infringe on workers' breaks. An employee writes that they have to stand in line for more than 30 minutes to get a meal; so that only 30 minutes are left for getting back and forth to the canteen and eating [27].

A worker writes that if one does not swipe the card at the dorm for five days it will expire. In that case one has to contact the facility manager, who will send an email to security. The process will last more than a day. The worker states that if one loses the card, neither the facility manager nor security will provide a new card and will not open the door, which means that a worker is locked out [244].





Figure 32. Queuing and waiting – a source for stress and frustration

## 11.6 Suicides

Workers report about several suicides committed by workers jumping from factory or dorm buildings.

### Suicides at factories

- A worker jumped from a dorm building on 13. March 2020 (figure 33, top-left) [254]
- A worker jumped from the 11<sup>th</sup> floor of a dorm building on 2. March 2020 [255]
- A worker jumped from a dorm building and dies on 27. Nov. 2019 (figure 33 – bottom) [256]
- A worker jumped from a factory building on 21. Sep. 2019 (figure 33, top-right) [257] [258]

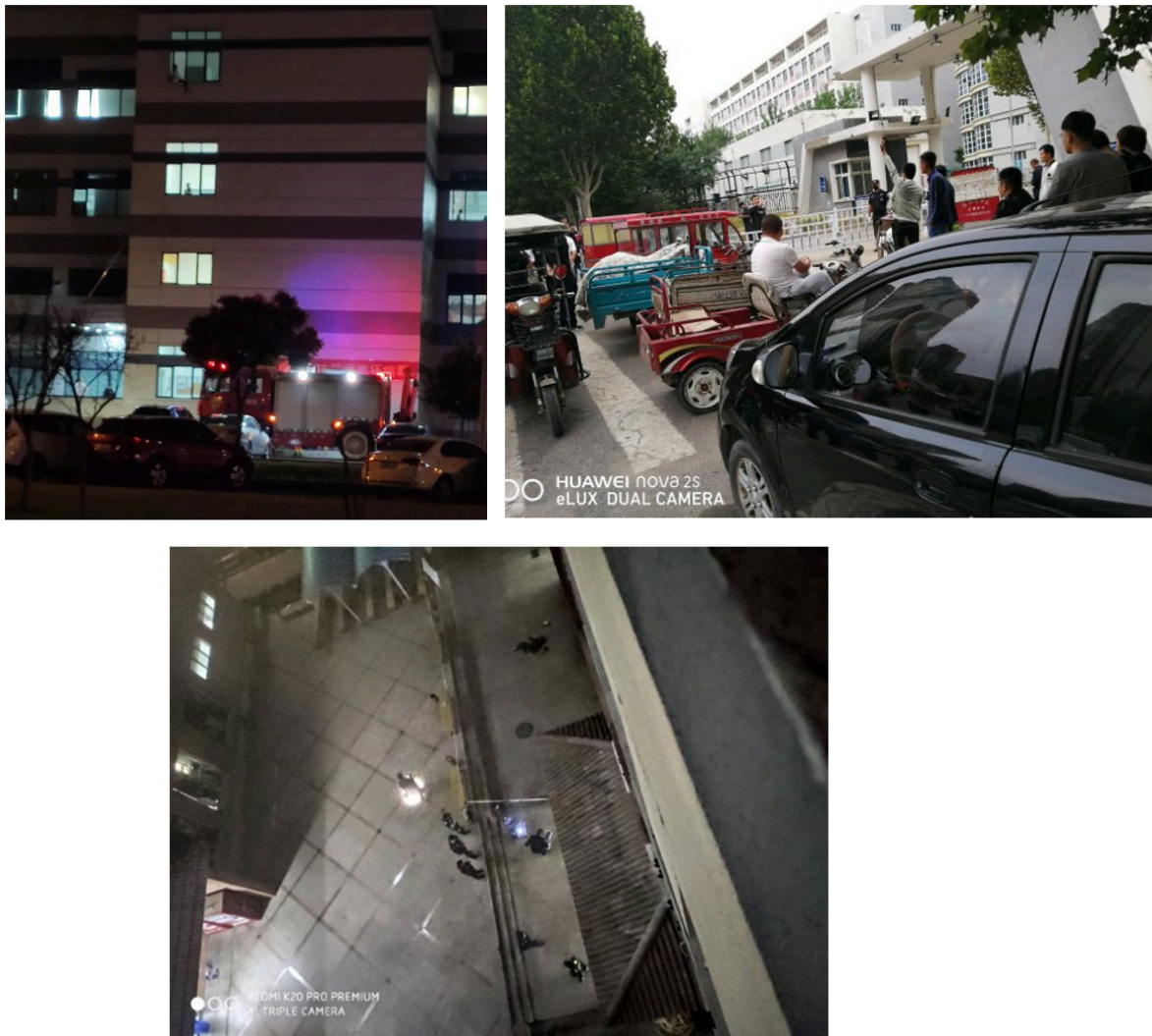


Figure 33. Pictures posted in connection with three suicides

## 11.7 Accidents

A municipal government publishes an investigation report about a fatal work accident occurring at a supplier to Apple. The report states that the supplier was partially responsible for the accident because it did not implement regular safety inspections, install appropriate safety equipment, conduct safety risk assessments, and train safety personnel properly [259].

A worker writes in March 2020 that his thigh muscles were badly hurt in an accident at work when he got squeezed by a car. The team leader told the worker to take leave for a day. The team leader did not report the accident [260].

A worker reports that he witnessed an accident where a colleague lost four fingers, when his hand was squeezed in a stamping machine. The incident happened in November 2019. There is no information whether the accident was reported [261].

## 11.8 Impact of Covid-19

According to regulations, returning workers from outside the province have to be isolated for 14 days, from within the Province for 7 days, and from within the city for 3 days. The isolation periods at a factory, a worker writes, were not compliant for workers from within the Province (5 days) and within the city (2 days) [205].

Living spaces at the dorms are crowded even during the pandemic. A worker writes that people from within the province and within the city were isolated together – 8 persons per room, 38 rooms on each floor – a crowded space with insufficient ventilation. Around mid-March the density was reduced to 5 workers per room [205]. Another worker at the same factory confirms that there were 8 persons per room during the pandemic [262]. At another supplier, a worker writes that the dorm is very crowded [263]. Another user, working at the same factory reports that there are 8 people in each dorm room [264].

Workers write that they were locked down in the factory area but that there was no effective separation between quarantined workers and those who are on duty. A worker reports that employees who did not leave during the Chinese New Year had to move to the factory campus and then could start to work. However on campus they were mixed with workers to be isolated [265]. Another post corroborates that workers were not separated at the dorm [264]. Workers at the same factory were angered by the fact that the regulation preventing workers from leaving the factory area was strictly enforced for lower tiers while higher ranking employees were allowed to commute between their homes and the factory [265] [266] [264].

At another supplier, a worker states that people from within the province and the city share one common shower room, canteen, and public space. Before 3 March 2020 publicly used spaces were shared with workers from outside the province as well. After the isolation period, workers from within the province and the city had to move from the 4<sup>th</sup> floor and below up to the 5<sup>th</sup> and 6<sup>th</sup> floor. The isolation floors had separate passages. However isolated workers and post-isolated workers shared restaurants and supermarkets [205].



A worker claims that factory managers demanded from them to fill in the voluntary health and travel declaration form in a way that ensures that they can return to work in time. Returning workers received two masks (without melt blown filter) per week. The central air condition system was switched on. Shuttle busses, canteens, dorms, and the workshops all were crowded [205].

Workers posted pictures documenting that they were exposed to a high risk of infection because it was difficult to avoid crowded spaces (figure 34).



Figure 34. Crowded places are hard to avoid and enhance infection risks

A worker writes that the dorm has no separate toilets, only public toilets. There is only one shower room for the entire dorm, which is locked during the pandemic. The worker states that he washes himself and his clothes once a week [267].

A worker writes in May 2020 that the workshop went back to a production mode where people stand close to each other. He also mentions that the factory does not monitor body temperatures any longer [268].

## 11.9 Posting patterns and negative sentiments

Mentions related to health and safety follow a cyclical pattern with relatively more mentions during spring and summer, when employment numbers peak (figure 35). During late autumn and winter, when many seasonal workers leave the factories, health and safety issues gain comparatively little attention in social media. Between 2016 and 2019, this posting pattern has been quite consistent even though with a slightly increasing level since 2018 and a less distinctive drop of mentions in winter 2019. Obviously, with the Covid-19 outbreak, health and safety has become a rising concern for workers, which is reflected in a steep rise of the mentions-ratio since January 2020. Negative sentiments related to occupational health and safety (OHS) are stronger and vary more than the general negative tone (for details see Appendix A.8). Both sentiment indicators display little variation since 2017, which implies that workers do not perceive improvements in this area.

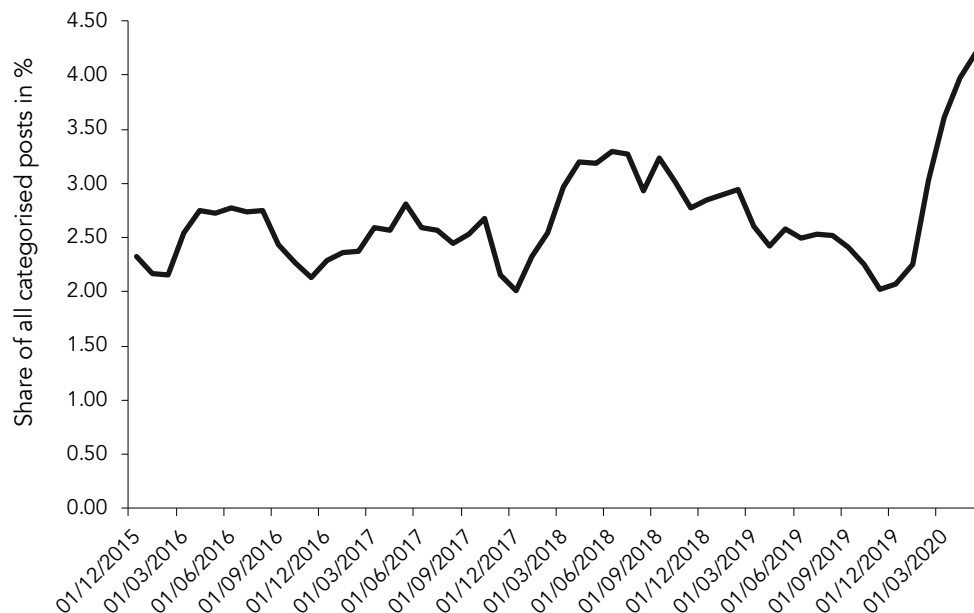


Figure 35. Mentions of health and safety

## 12. Report findings in context

In 2010, Scholars Against Corporate Misbehaviour (SACOM), a network of activists and academics in Hong Kong, investigated a Foxconn factory and found ten major labour rights violations (see below). One year later, in 2011, China Labor Watch, a Washington-based NGO, conducted a study on ten Chinese suppliers to Apple and other brands. The report showed that rights violations were not an unfortunate exception but inherent to the supply chain business model.<sup>22</sup> Since then, SACOM and CLW reaffirmed again and again similar rights violations in numerous studies. Scholarly work corroborates their insights. For example, in anticipation of the iPhone's 10<sup>th</sup> birthday in 2017, Jack Linquan Qiu published "Goodbye iSlave", analysing a decade of slave-like working conditions. And in 2020, Jenny Chan, Mark Selden, and Pun Ngai released "Dying for an iPhone" a book accounting for a decade of exploitative practices in Apple's supply chain.

### Labour rights violations listed in a SACOM report on Foxconn in 2010

- Workers' basic wage is just slightly more than the minimum wage and far below a living wage.
- Workers perform excessive work hours.
- Overtime is not voluntary.
- When workers reach the 'overtime limit', exceeding hours are not paid at a premium rate.
- Workers have to attend meetings every day and be at their workstations 15-30 minutes earlier.
- Work is monotonous and exhausting.
- Managers swear and yell at them to make them work faster.
- Mistakes or rules violations are punished with deductions.
- Security guards harass workers.
- Student workers have to perform meaningless internships at the factory and work overtime.

We compared the SACOM report from 2010 (the earliest comprehensive investigation available to us) with the findings in this report.<sup>23</sup> All of the violations revealed in 2010 are still present today. The only difference is that our report adds items to the list of rights violations, in particular denial to the right to resign as well as deceptive and abusive recruitment practices. The results stand in contrast to Apple's sustainability reports. The company conducts comprehensive surveys every year. The outcomes point towards constant improvement (figure 36) and register hardly any violation in 49 countries. Apple's 2020 Sustainability Report concludes from this: "*After 15 years of engagement and capability-building with our suppliers, Core Violations of our Code have become much less common. When a Core Violation does occur, we immediately enact our strict remediation processes to resolve the violation* (Apple Sustainability Report, 2020, p. 89)."

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<sup>22</sup> The full report is available at <http://www.chinalaborwatch.org/report/52>

<sup>23</sup> The full report is available at <http://sacom.hk/wp-content/uploads/2018/10/2010-Workers-as-Machines-Military-Management-in-Foxconn.pdf>

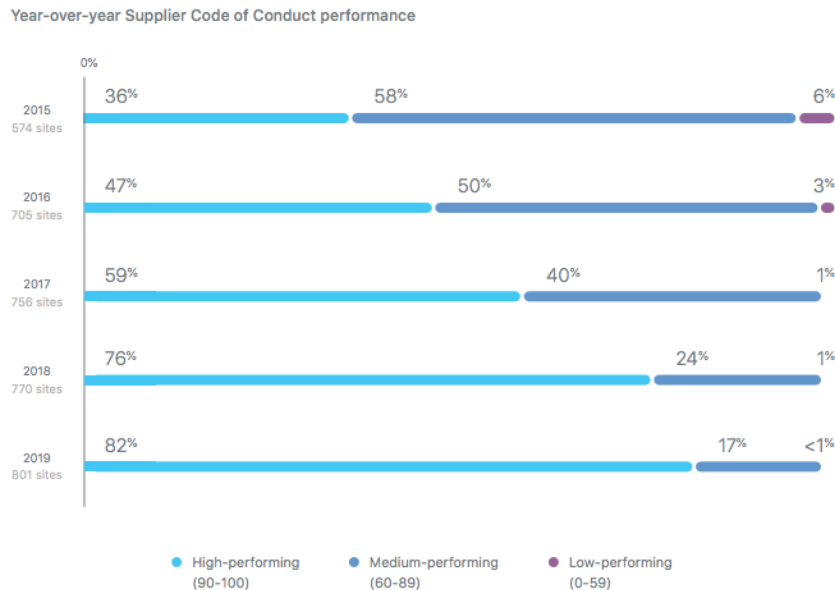


Figure 36. Apple's assessment results  
Source: Apple Sustainability Report, 2020, p. 100

Apple Inc. will probably not take any interest in the findings of this report. At least this is what experiences from recent cases suggests. When CLW wrote a letter to Tim Cook, the CEO of Apple, bringing to his attention evidence on labour rights violations at Pegatron, Apple's second largest supplier in China, the company responded: "We regularly audit Pegatron facilities and have investigated the incidents you list below, some of which date back several years and all of which we found to be untrue."<sup>24</sup> Two months later, however, when a Financial Times reporter got interested in the case, internal data seemed to confirm the problem.<sup>25</sup> Still, Apple considered the case an unfortunate exception where employees "went to extraordinary lengths" to cover up violations.<sup>26</sup> In the same vein, Apple has not acknowledged any evidence on Uyghur forced labour related to its suppliers insisting that the company has not found any trace. The Chair and Cochair of the US bipartisan and bicameral Congressional-Executive Commission on China, therefore, urged in a press statement "*The mounting evidence is beyond troubling. Despite persistent assurances from Apple that their supply chains were free of forced labor, we now have evidence that it is tainted.*"<sup>27</sup>

Apple Inc.'s lack of interest in human rights issues should not come as a surprise. After all, there is no business case for committing to decent work in China's politically repressive environment. Thus, until non-compliance with the UN Guiding Principles on Business and Human Rights becomes truly enforceable under civil and/or criminal law in the US and EU, capital markets will not constrain the

<sup>24</sup> <http://www.chinalaborwatch.org/newscast/699>

<sup>25</sup> <http://www.chinalaborwatch.org/newscast/702>

<sup>26</sup> <https://www.bloomberg.com/news/articles/2020-11-09/apple-suspends-new-business-with-pegatron-over-labor-violations>

<sup>27</sup> <https://www.cecc.gov/media-center/press-releases/chairs-issue-statement-about-forced-labor-in-apple%E2%80%99s-supply-chain-in>

company either. It is disheartening to see that evidence collected over the years has not made an impression on Apple's market value. Figure 37 shows that neither information about rights violations nor evidence on their persistence over time had any effect on Apple's commercial success story.

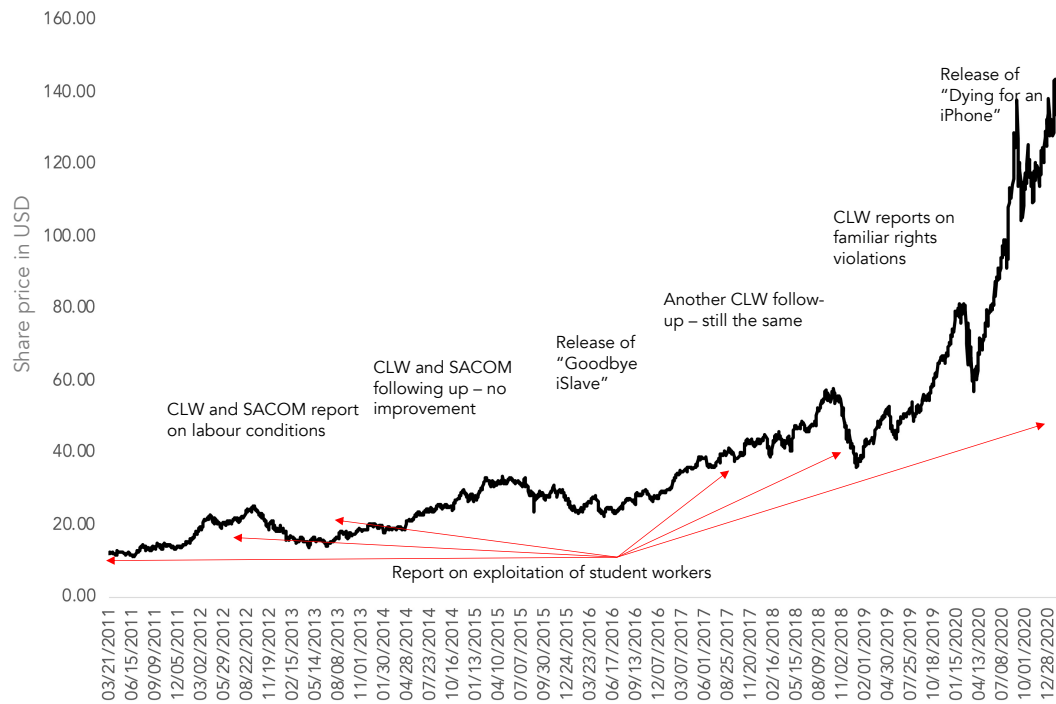


Figure 37. Reports on rights violations and Apple's market value

Sources: CLW reports are available at <http://www.chinalaborwatch.org/reports/brand/2> and SACOM reports are retrieved from <http://sacom.hk/category/campaigns/electronics/>, stock market data come from Nasdaq available at <https://www.nasdaq.com/market-activity/stocks/aapl/historical>

We still believe it is important and meaningful to document endemic and persistent rights violations. Without insights from watch organisations, activists, and scholars, Apple's narrative would remain unchallenged. This report offers a new method to gain independent insights and provides up-to-date information for assessing salient human rights risks in Apple's supply chain. This contribution is vital because China's leadership stepped up efforts to curb free speech. Increasingly, the Government extends its grip on dissent to Hong Kong where many labour NGOs have been active. SACOM might have become one of the victims as the organisation has not published anything on its website for more than three years. Critical research is needed more than ever, not least because a rising number of brands and retailers are prepared to endorse the country's oppressive labour regime in exchange for market access. Time will tell, whether mandatory human rights due diligence can turn the tide and render workers' voices more influential.

## Appendix I: Suppliers included in this study

Company	Factory site / general
AAC Technologies Holdings Incorporated	General
AAC Technologies Holdings Incorporated	Changzhou
Advanced Semiconductor Engineering Incorporated	General
Advanced Semiconductor Engineering Incorporated	Shanghai
Amphenol Corporation	General
AT & S Austria Technologie & Systemtechnik Aktiengesellschaft	General
Biel Crystal Manufactory Limited	General
Biel Crystal Manufactory Limited	Huizhou
BYD Electronic Company Limited	Huizhou
BYD Electronic Company Limited	Shenzhen
Catcher Technology	General
Catcher Technology	Suqian
Compal Electronics Incorporated	General
Compal Electronics Incorporated	Kunshan
Compal Electronics Incorporated	Chongqing
Compal Electronics Incorporated	Kunshan
Compal Electronics Incorporated (Huabao)	General
Compal Electronics Incorporated (Huabao)	Nanjing
Compal Electronics Incorporated (Keppel)	Nanjing
Diodes Incorporated	General
DSM Engineering Plastics	General
Flex Limited	General
Flex Limited	Donguan
Guangdong Ellington Electronics Technology Company Limited	General
Guangxi Yinyi Advanced Material Co	General
Hon Hai Precision Industry (Foxconn)	General
Huichang Jinshunda Tin Co	General
Inventec Corporation	General
Inventec Corporation	Shanghai
Jabil Incorporated	General
Jabil Incorporated	Chongzhou
Jabil Incorporated	Guangzhou
Jabil Incorporated	Chengdu
Jabil Incorporated	Wuxi
Lite-On Technology	General
Lite-On Technology	Guangzhou
Lite-On Technology	Changzhou



Luxshare Precision Industry	General
Luxshare Precision Industry	Quzhou
MinebeaMitsumi Incorporated	General
Pegatron Corporation	General
Pegatron Corporation	Shanghai
Quanta Computer Incorporated	Chongqing
Quanta Computer Incorporated	General
Quanta Computer Incorporated	Shanghai
Quzhou Huayou Cobalt New Material / Zhejiang Huayou Cobalt	General
Radiant Opto-Electronics	General
Radiant Opto-Electronics	Nanjing
Radiant Opto-Electronics	Wujiang
Radiant Opto-Electronics	Guangzhou
Samsung SDI. Company Limited	Tianjin
Shandong Zhaojin Gold and Silver Refinery Co. Ltd	General
SK hynix Incorporated	General
SK hynix Incorporated	Chongqing
SK hynix Incorporated	Wuxi
STMicroelectronics N.V.	General
TDK Corporation	General
TDK Corporation	Xiamen
TDK Corporation	Qingdao
Tripod Technology Corporation	General
Tripod Technology Corporation	Wuxi
Wistron Corporation	General
Wistron Corporation	Kunshan
Wistron Corporation	Zhongshan

## Appendix II: Dataset and Samples

Sample	No. of posts	No. of tagged posts	No. of users	Female users %
<b>Qualitative</b> (1 Jan. 2019-31. May 2020)	284.958	42.162	48.799	9,82
<b>Quantitative</b> (1 Jan 2016 – 31 May 2020)	739.382	106.348	119.438	12,09
Refineries and smelters	3.386	732	579	8,48
Components	156.298	26.448	27.598	9,38
Final assembly	375.467	57.233	60.172	11,53
PCB	24.874	3.559	4.600	10,43
SMC	47.093	6.514	6.887	9,82
Metal	132.264	11.175	19.244	8,92
Batteries	1.989	668	354	17,8
Plastics	25	19	4	0,00



## Appendix III: Details on sentiment analysis

### A.1. Resignation

Resignation is not only the most pervasive topic discussed in social media, but it is also the topic that features the highest negative sentiment ratio (figure A1.1). The negative tone is persistent over the years and about double the size of the general negative sentiment ratio. The negative sentiment bandwidth has been alternately expanding and contracting (figure A1.2), which might be caused by labour market fluctuations and suppliers production capacity.

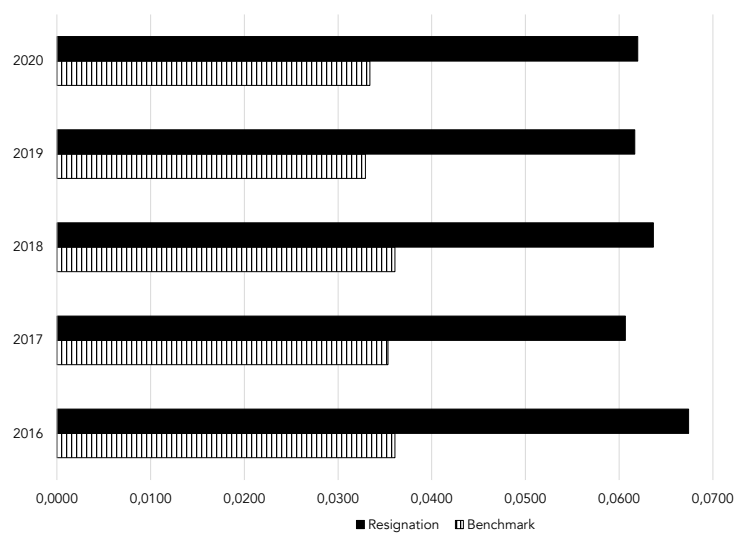


Figure A1.1: Mentions of 'leaving the factory' – negative sentiments ratio

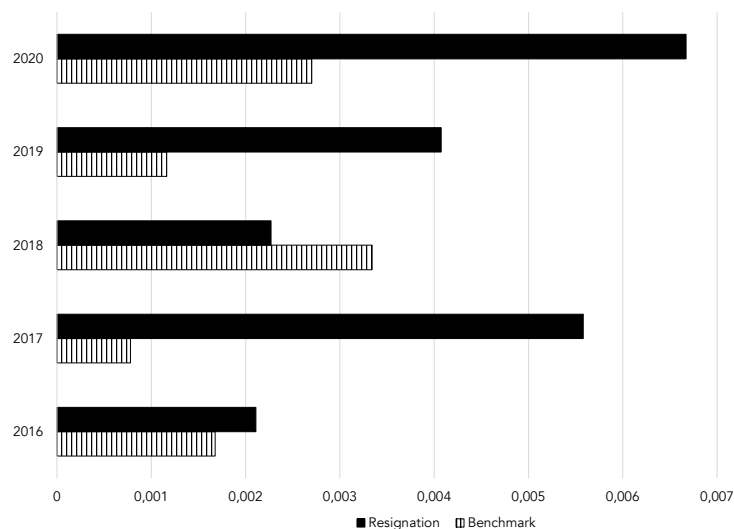


Figure A1.2: Mentions of 'leaving the factory' – negative sentiments bandwidth

## A.2. Agents and recruitment

The negative sentiment ratio in figure A2.1 is quite similar to the general tone on the screened forums. Yet, negative-tone variations (figure A2.2) are comparatively strong indicating that this topic contains a substantial number of grievances and negative experiences. In 2019, the tone-variations rose significantly but was interrupted in 2020, probably due to economic downturn following the Covid-19 outbreak. With economic recovery conflicts related to agents and recruitment are likely to return as a major issue for workers.

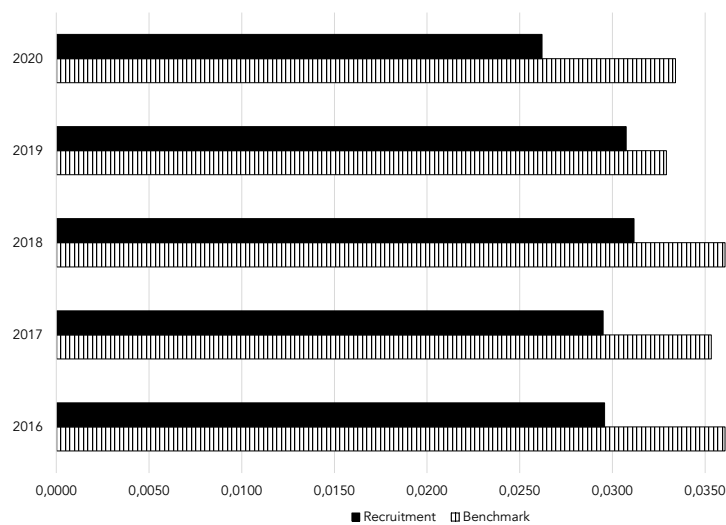


Figure A2.1: Mentions of agents and recruitment – negative sentiments ratio

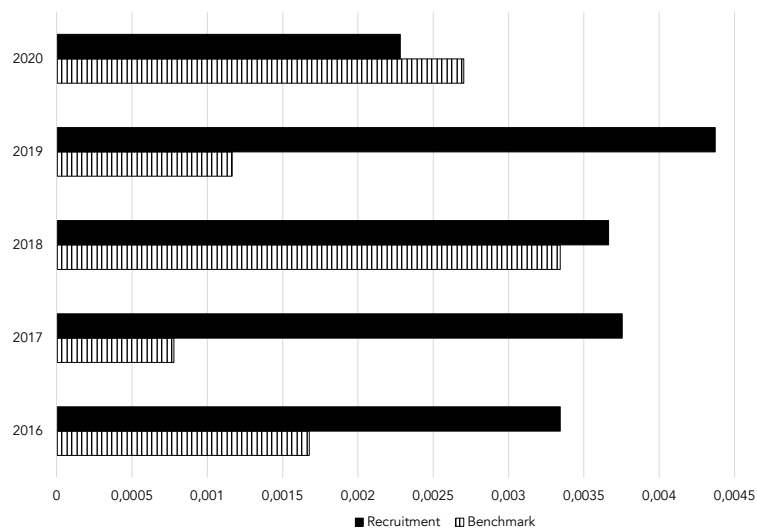


Figure A2.2: Mentions of agents and recruitment – negative sentiments bandwidth

### A.3. Freedom of association (FoA)

The general tone related to FoA-issues is similar to the general level of negative expressions (figure A3.1). Variations within this topic, however, are very large (figure A3.2). High volatility throughout the years indicates that freedom of association is a controversial topic in social media.

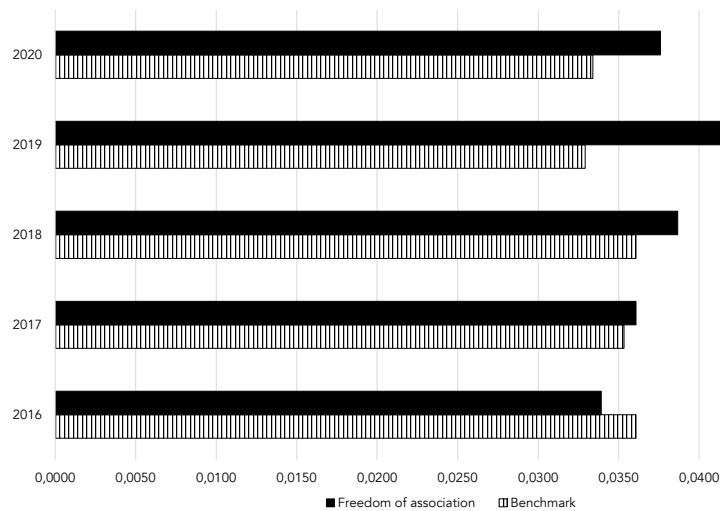


Figure A3.1: Mentions of unions and collective action – negative sentiments ratio

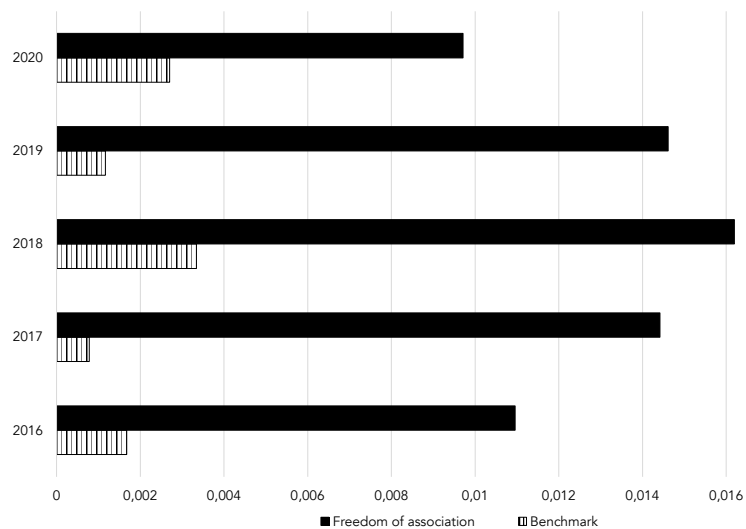


Figure A3.2: Mentions of unions and collective action – negative sentiments bandwidth

## A.4. Management

The negative sentiment ratio associated with posts speaking about managers and leaders is quite similar to the general negative tone (A4.1). The bandwidth of negative sentiments, however, has been up to four times larger than the general sentiment variation in recent years (figure A4.2). The strong variation of negative sentiments between posts relating to management issues is consistent with a pattern that we observe for many topics.

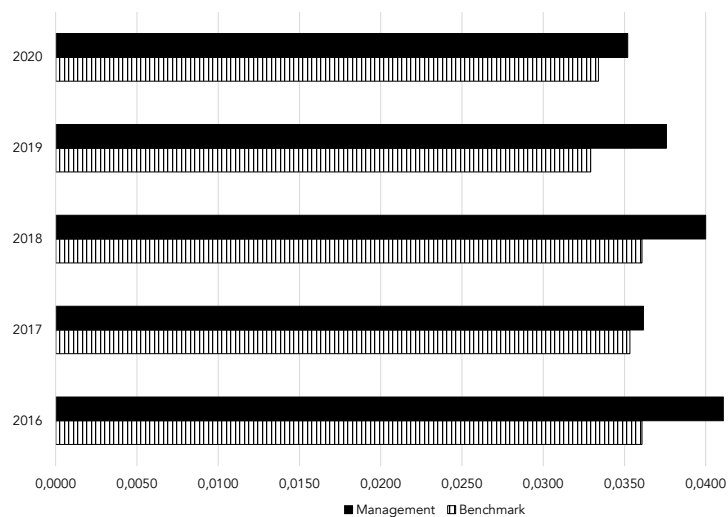


Figure A4.1: Mentions of managers and leaders – negative sentiments ratio

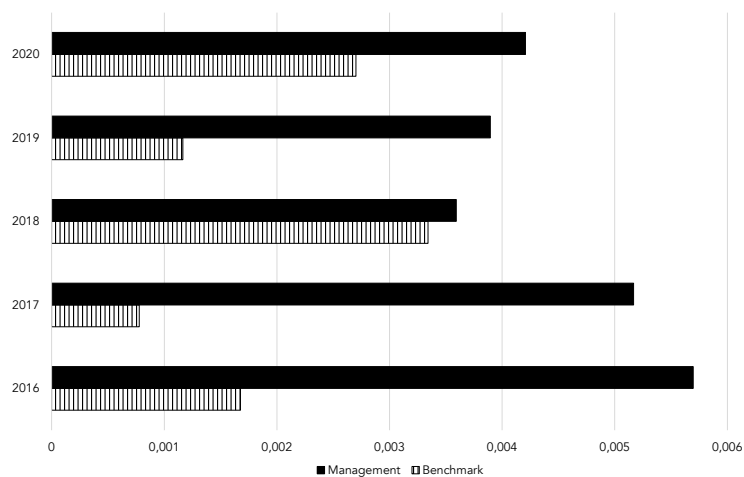


Figure A4.2: Mentions of managers and leaders – negative sentiments bandwidth

## A.5. Student workers

Posts mentioning student work and internships are less negative than the general negative tone (figure A5.1). However, the negative sentiment bandwidth is much larger (figure A5.2). This indicates that there is a substantial number of texts reporting on negative experiences, and unfair treatment next to posts informing about work opportunities and requirements. Strong negative tone variations have been persistent during the past years, which points to relatively little positive change in terms of students' perceptions.

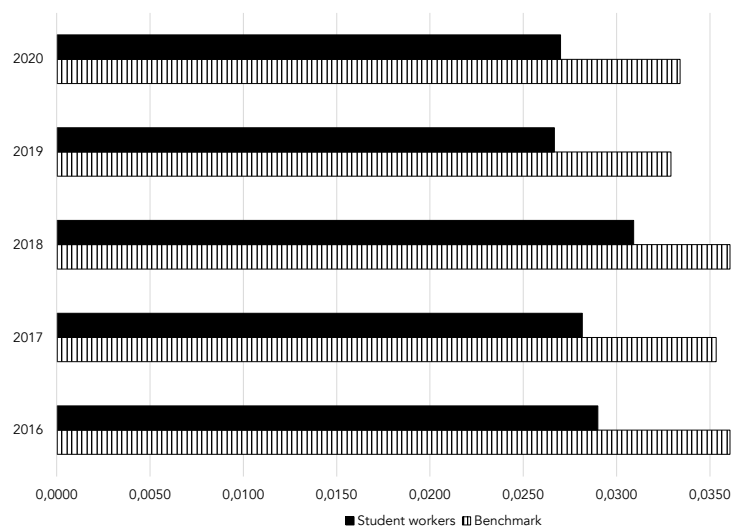


Figure A5.1: Mentions of student workers and interns – negative sentiments ratio

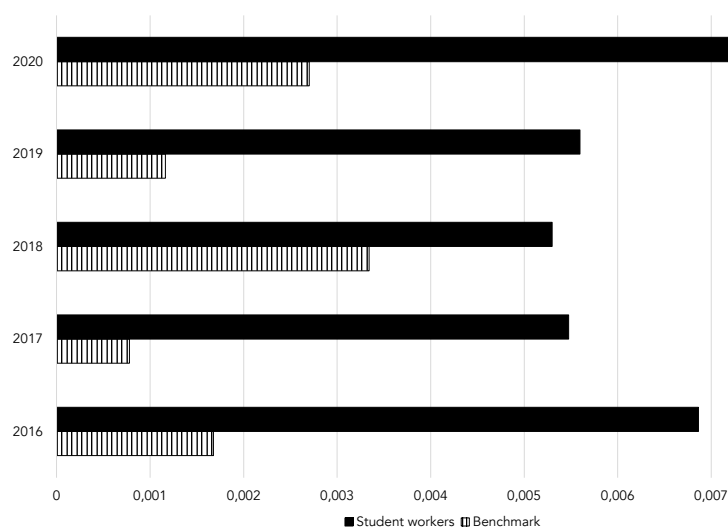


Figure A5.2: Mentions of student workers and interns – negative sentiments bandwidth

## A.6. Overtime

Negative sentiments attached to mentions of overtime are similar to the general tone (figure A6.1). Volatility, however, is higher than the average (figure A6.2) indicating that overtime is a double-edged sword. On the one hand it encompasses the chance to increase income and, on the other, overtime is a major cause for coercive practices and conflicts. The bandwidth of negative sentiments remained large even during the economic downturn in 2020. This finding points towards conflicts over overtime pay as employers seek to reduce costs.

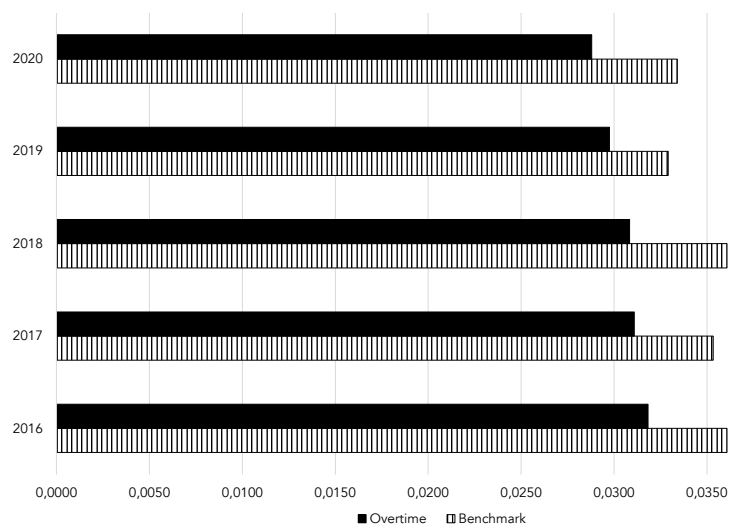


Figure A6.1: Mentions of overtime work – negative sentiments ratio

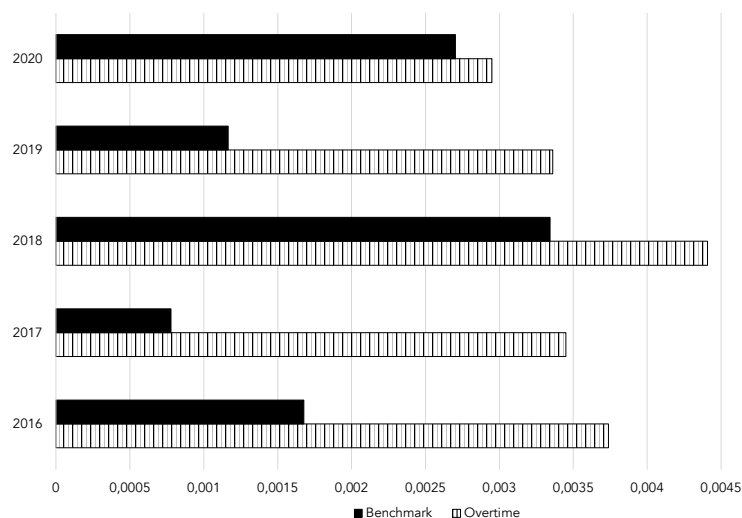


Figure A6.2: Mentions of overtime work – negative sentiments bandwidth

## A.7. Deductions

The topic deductions displays a familiar pattern: An average negative tone similar to the general sentiment (figure A7.1) in combination with a relatively high tonality bandwidth (figure A7.2). Different from other topics, however, is a declining tonality bandwidth during 2020 indicating that there are comparatively little complaints about deductions in recent months. The reason for this outcome is probably related to the current wage structure. Usually, deductions are related to bonus payments and various subsidies. During the current economic slowdown these types of remuneration are put on hold. What remains is a basic wage, which is rarely subject to deductions because it tends to be close to the legal minimum wage, a benchmark that is comparatively strictly enforced in Chinese electronics manufacturing.

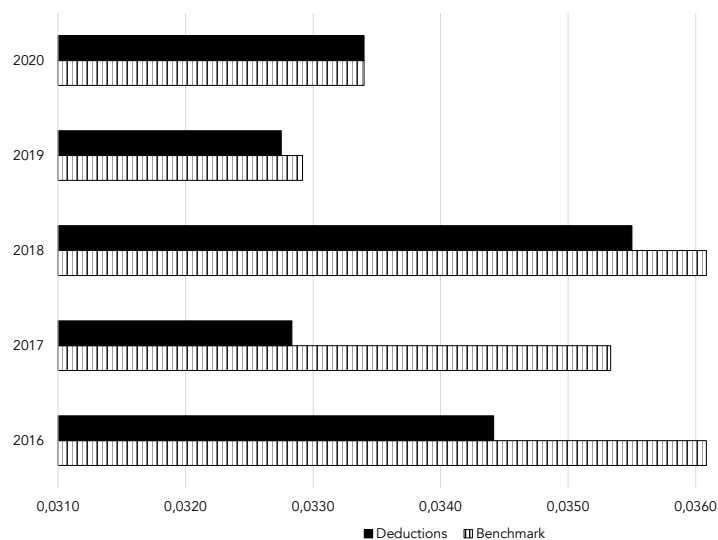


Figure A7.1: Mentions of wage deductions and fines – negative sentiments ratio

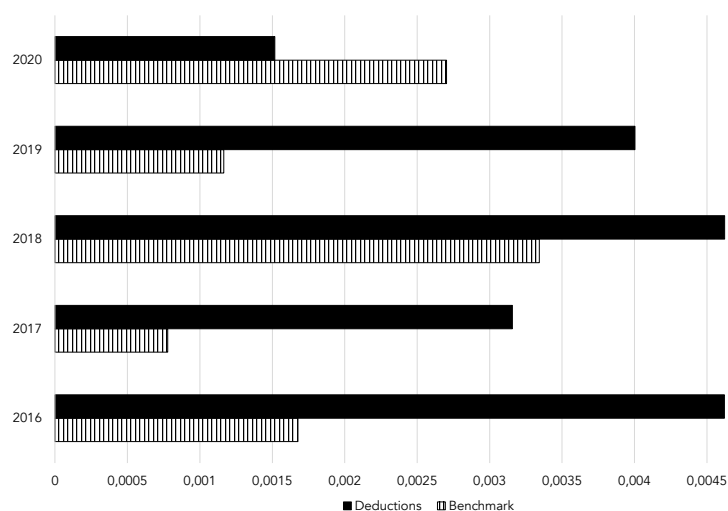


Figure A7.2: Mentions of wage deductions and fines – negative sentiments bandwidth

## A.8. Occupational health and safety (OHS)

Pain and illness severely impact workers' wellbeing. Health and safety, therefore, evokes strong emotional reactions, which is reflected in a negative sentiment ratio that is consistently above the general negative tone (figure A8.1). What is more, negative sentiments related to OHS vary more than the general negative tone (figure A8.2) indicating that workers have heterogenous perceptions. Both sentiment indicators display little variation since 2017, which implies that workers do not perceive improvements in this area.

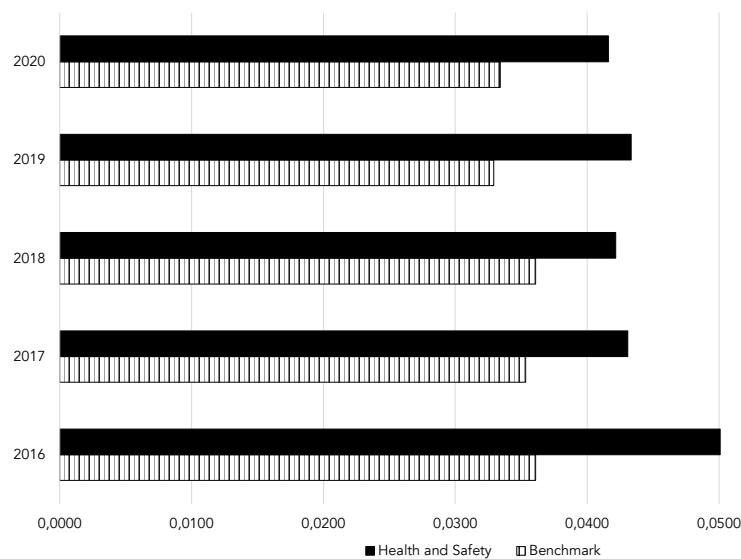


Figure A8.1: Mentions of health and safety – negative sentiments ratio

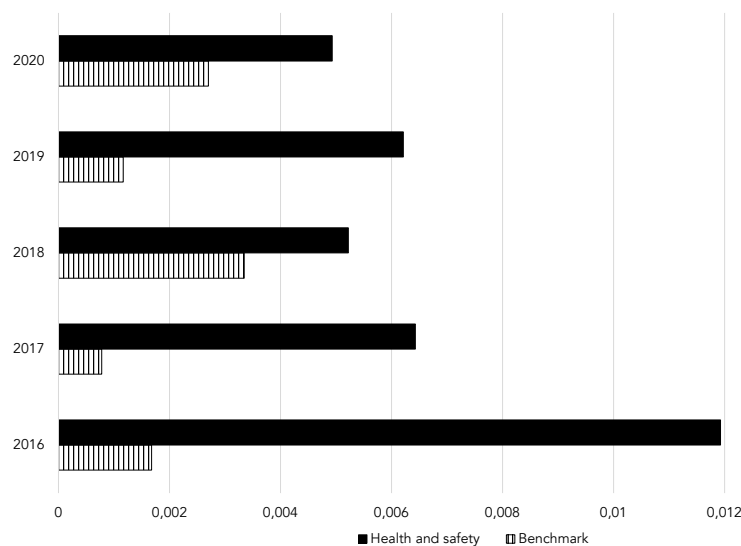


Figure A8.2: Mentions of health and safety – negative sentiments bandwidth